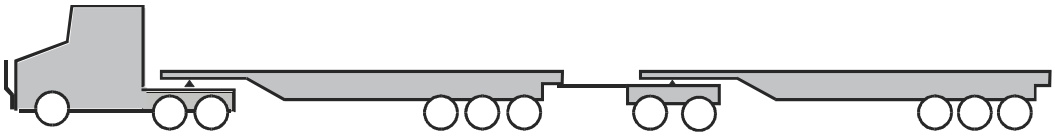
Government of South Australia
Department for Transport, Energy and Infrastructure

MR 418 1 1/05

This Information Guide should be read in conjunction with the Code of Practice for Road Trains.

# Information Guide for Road Trains



November 2005

Road Trains exceed the mass and dimension limits at which heavy vehicles have general access to the road system.

This Information Guide provides information about the operation of Road Trains in South Australia.

# Contents

# Contents (contd)

# What the terms mean

***Approved Route Network for Road Trains/Converter Dollies*** consists of four separate sets of maps that show the approved routes Road Trains/Converter Dollies can travel on when operating at General Mass Limits (GML) and Higher Mass Limits (HML)

***General Access Vehicle (GAV)*** is a vehicle that:

- operates within the axle mass limits specified in Table 1 of the *Road Traffic (Mass and Loading Requirements) Regulations 1999;* and
- operates within the mass limits relating to axle spacing in Section 3, Table 2, *Road Traffic (Mass and Loading Requirements) Regulations 1999, and* does not exceed:
    - a height of 4.3 metres;
    - a length of 19 metres; or
    - a total mass of 42.5 tonnes;
- and is not a Controlled Access Bus.

***General Access Mass Limits*** means the:

- defined axle mass limits of Table 1 of the *Road Traffic (Mass and Loading Requirements) Regulations;*
- mass limits relating to axle spacing in Section 3, Table 2 of the *Road Traffic (Mass and Loading Requirements) Regulations 1999;*

but does not include any mass limits specified for a Controlled Access Bus, Articulated Bus, Road Train or B-Double.

***General Access Dimension Limits*** means the:

- dimension limits as specified in Division 2 – Dimensions of Part 7 Vehicle Configurations and Dimensions of the *Road Traffic (Vehicle Standards) Regulations 1999;*

but does not include any dimensions specified for a Controlled Access Bus, Articulated Bus, Road Train or B-Double.

***Higher Mass Limits (HML)*** means axle group mass limits that are higher than the General Mass Limits (GML) specified in the *Road Traffic (Mass and Loading Requirements) Regulations 1999*, at which approved vehicle combinations can operate, if fitted with certified Road Friendly Suspensions.

***Mass Management Scheme*** means a scheme that is recognised by Transport Services Division as meeting the requirements of the mass management module of the National Heavy Vehicle Accreditation Scheme (NHVAS).

***National Heavy Vehicle Accreditation Scheme (NHVAS*)** is the comprehensive accreditation package that was approved by the Australian Transport Council on 14 November 1997.

***Restricted Access Vehicle (RAV)*** means a vehicle that exceeds either the general mass or the general access dimension limits contained in the Road Traffic Act 1961 and can only travel on approved routes.

***Road Friendly Suspension*** means a suspension system that has been certified as meeting the performance criteria set out in the (Federal) Department of Transport & Regional Services (DOTARS) Vehicle Standards Bulletin 11 - Certification of Road Friendly Suspension Systems, April 1999.
DOTARS web address: **www.dotars.gov.au**

# Introduction

**Using this Guide**

This Information Guide provides the reader with general information about the operation of Road Trains in South Australia. It assists Road Train owners, operators and drivers by consolidating the rules and specifications that generally apply to Road Trains, as detailed in the Road Traffic Act and Regulations.

This Guide also includes information on the eligibility requirements for operating Road Trains at Higher Mass Limits and how to apply for Mass Management Accreditation. Mass Management Accreditation is required if one or more of the trailer portions of the Road Train is fitted with a tri-axle group.

**The road system in South Australia**

The standard of the road system in South Australia varies significantly from area to area. For example, main highways and key arterial roads are designed to carry large and heavy vehicles, while other roads provide access to residential areas and are generally only designed for light vehicles.

**Heavy vehicle operating categories**

Due to the variation in road system standards and carrying capacity, the *Road Traffic Act 1961* specifies two categories under which heavy vehicles operate on South Australian roads. The two categories of operation are:

- General Access Vehicles
- Restricted Access Vehicles

General Access Vehicles (GAVs) are vehicles that operate within specified mass and dimension limits contained in the Road Traffic Act and Regulations. These limits provide general protection for the whole of the road system in South Australia and allow GAVs to operate on the road network without any route or time restrictions other than locally imposed controls, such as load limits on bridges.

The Restricted Access Vehicles (RAVs) category allows larger and heavier vehicles to operate on South Australia's road system, but restricts access to approved routes that have been designed with the strength and capacity to cater for this size of vehicle. Road Trains are classified as RAVs.

**Road Trains**

A Road Train is a vehicle combination made up of a prime mover towing two semi-trailers known as a double road train or a prime mover towing three semi-trailers known as a triple road train.

The first semi-trailer is connected to the primemover by fifth wheel coupling.. The subsequent semi-trailer/s are supported by a converter dolly which is coupled to the trailer in front by a drawbar and tow coupling.

Road Trains are classified as RAVs and are only permitted to travel on approved routes. Road Train combinations include:

- articulated vehicles towing converter dollies;
- short double Road Trains;
- double Road Trains;
- triple Road Trains;

The approval to operate a Road Train is provided by a Notice of Approval and Exemption published in the South Australian Government Gazette entitled "Operation of Road Trains in South Australia", which is updated from time to time.

# Introduction (Contd)

**Approved routes**

The map book titled “Approved Route Network for Road Trains” is made up of four parts:

- Part 1 – approved route network for Road Trains operating at GML
- Part 2 – approved route network for Road Trains operating at HML
- Part 3 – approved route network for Converter Dollies operating at GML
- Part 4 – approved route network for Converter Dollies operating at HML

To determine the Higher Mass Limits (HML) route network for Road Trains, an operator must refer to Part 2 of “The Approved Route Network for Road Trains” map book. For further information, please refer to the section on Higher Mass Limits in this Guide.

The “Approved Route Network for Road Trains” map book may contain special conditions relating to travel on particular roads and bridges as well as turning requirements. It is periodically updated as new routes are added, or routes that are no longer appropriate are deleted.

**Operating conditions**

To protect the environment and road system, as well as ensure the safety of vehicle operations and other road users, further operating conditions can be specified in addition to the requirements of the *Road Traffic Act 1961* and Regulations. These additional conditions are detailed in the “Code of Practice for Road Trains”, which must be carried by drivers when operating Road Train combinations.

**Documentation**

This Information Guide should be read in conjunction with the booklets ‘Code of Practice for Road Trains’ and the “Approved Route Network for Road Trains” map book.

Copies of this Information Guide, the Code of Practice and the Approved Route Network for Road Train map book and all documents mentioned in this Guide are available on DTEI’s website at:

**www.transport.sa.gov.au**

or alternatively, from DTEI’s Vehicle Permits Team, Regency Park. Telephone 1300 882 249 Facsimilie (08) 8348 9551.

# Route Networks

**Approved routes**

Road Trains can only operate on routes and under conditions that have been approved by the Minister for Transport or a Delegated Officer such as the Executive Director, Transport Services Division. The approved routes are detailed in the "Approved Route Network for Road Trains" map book.

This map book is updated periodically and the latest version can be found on Transport Services Division's website at:

**www.transport.sa.gov.au**

It is the operator and/or driver's responsibility to ensure sure that they are operating on the current approved route network.

**Higher Mass Limits**

Where approved to operate at HML, a Road Train can only operate on routes and conditions as specified in Part 2 of the "Approved Route Network for Road Trains" map book. For further information, see the section on Higher Mass Limits.

**Damage to roads and works**

Section 106 of the Road Traffic Act requires that the Police, Transport Services Division or Office of Public Transport be informed if a vehicle causes damage to roads, bridges, culverts, roadside fittings.

Where damage has been caused by a particular vehicle, the cost of any repairs to roads or property can be recovered from the driver, or the owner or operator of the vehicle.

# Medical Examinations

The general community expects drivers of heavy vehicles to meet high health standards. This increases the safe operation of Road Trains and enhances the safety for all users of the road network.

**Road Train operation between Port Augusta West and Northern Adelaide**

Where a Road Train is being operated on routes between Port Augusta West and Northern Adelaide on National Highway 1, including Northern Adelaide Routes and depots, the driver must undergo and pass a medical examination, in accordance with the document entitled *"Medical Examinations for Commercial Drivers"* published by DOTARS and the National Transport Commission.

Payment for the examination is the driver's responsibility.

**Medical Certificates**

On completion of the medical examination, the doctor must issue the driver with a medical certificate. The medical certificate is valid for a certain period of time, depending on the driver's age. For drivers aged:

- 49 and under, the certificate is valid for a period of up to 3 years providing there has been no change in medical condition from the date of the examination;
- over 50, the certificate is valid for a maximum period of 12 months.

When operating Road Trains on the above routes, drivers are required to carry their current medical certificate with them at all times.

# Medical Examinations (Contd)

**Certificate of Fitness**

If drivers do not have a current medical certificate, then they must obtain a blank Certificate of Fitness – Heavy Vehicle Drivers (MR215A) from a Customer Service Centre and take this form to the medical examination for the doctor to complete. *"Medical Examinations for Commercial Drivers"* has an example of an appropriate medical certificate; any certificate that is consistent with this example will be acceptable.

If drivers cannot meet the medical requirements, a doctor may recommend:

- issuing a conditional licence; or
- removing the heavy vehicle class from the licence; or
- that a driver's licence be suspended.

**Examinations for other purposes**

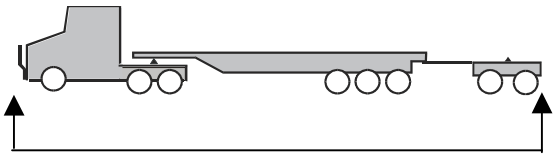
Where drivers have already passed an examination for other purposes within this time period, for example, Dangerous Goods Licence, a copy of this certificate or a duplicate must also be carried at all times.

# Dimension Limits

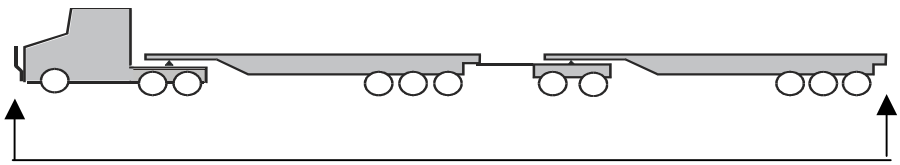
When operating on the road network, specific dimension limits apply to Road Trains. These limits ensure the safety of all road users, the efficient operation of vehicles and also allow free flow of traffic on the road system. The limits also ensure that there is minimal wear and tear on roads, or damage to roadside furniture such as signs and traffic lights. Owners, drivers and/or operators are required to ensure that their Road Train complies with the dimension limits specified in the Code of Practice.

**Length of combination**

A Road Train combination, including any bull-bars and load, must not exceed the following dimensions:

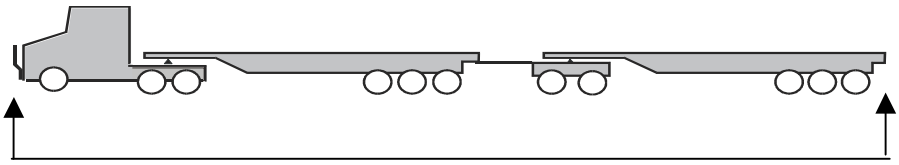


Articulated vehicle towing a converter dolly
maximum 25 metres

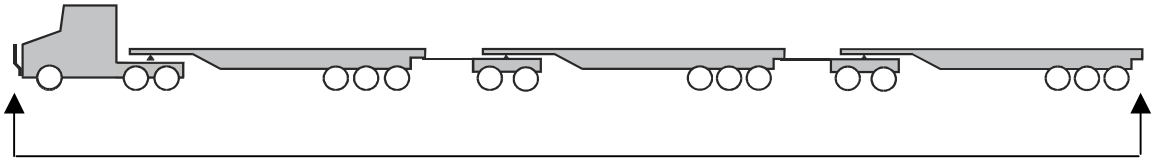


Short double Road Train
minimum 30 metres and maximum 32 metres

# Dimension Limits (contd)



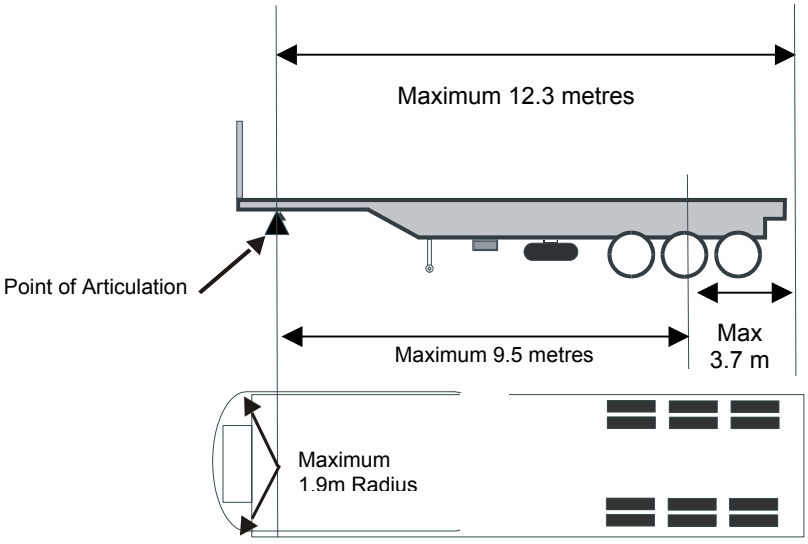
Double Road Train
minimum 32 metres and maximum 36.5 metres



Triple Road Train
minimum 36.5 metres and maximum 53.5 metres in length

**Trailer length**

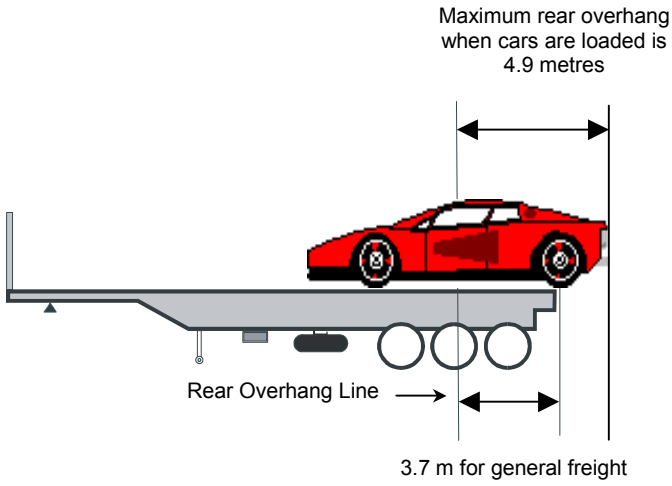
A Road Train trailer cannot exceed the limits shown on the following diagram:



# Dimension Limits (contd)

**Rear overhang on trailers**

Rear overhang on a Road Train trailer cannot exceed the following dimensions:

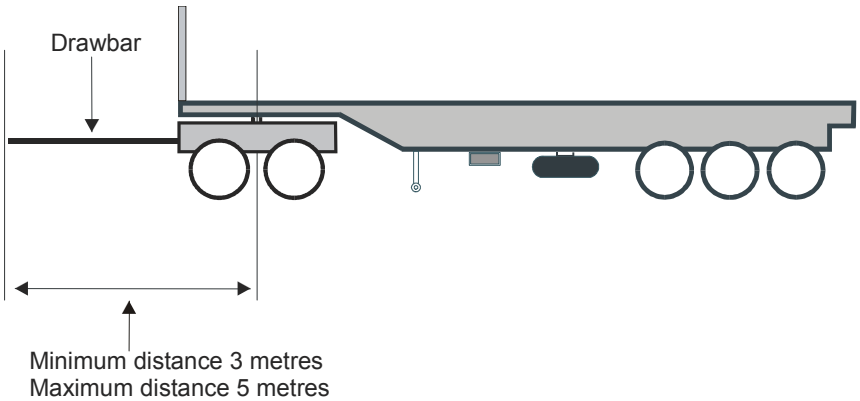



When carrying cars, the rear overhang can be up to 4.9 metres, but the road train combination must comply with all other specified dimension limits. i.e. maximum overall length for Double Road Train 36.5 metres; Triple Road Train 53.5 metres.

When carrying general freight, the rear overhang of a semi trailer must not exceed the lesser of 60% of the distance between the point of articulation at the front and the rear overhang line; and 3.7 metres.

**Trailer drawbar length**

The distance between the coupling pivot on the drawbar of a dog trailer or converter dolly and the centre of the front axle group or single axle group of the trailer cannot exceed the following dimensions:



# Dimension Limits (contd)

**Height**

Where a Road Train is carrying:

- *Baled wool*;

  - shall not be loaded more than four layers high;
  - the maximum constructed height cannot exceed 4.3 metres, but the trailers can be loaded to 4.6 metres high;

- *Cars* - the maximum constructed height cannot exceed 4.3 metres, but the trailers can be loaded to 4.6 metres;
- *Cubic Freight* – maximum constructed height cannot exceed 4.6 metres, however the GCM is reduced and other conditions apply – refer to **Clause 15** of the Code of Practice for Road Trains.

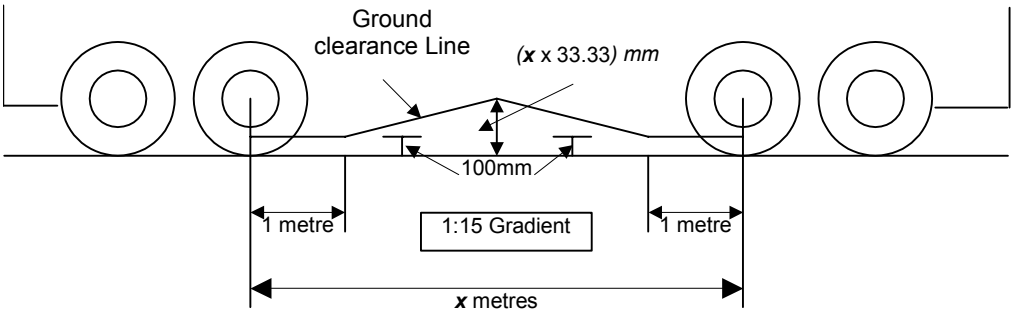
- *General freight* - the maximum overall height cannot exceed 4.3 metres;

- *Livestock* - the maximum loaded and constructed height cannot exceed 4.6 metres.

- *indivisible transportable building* – the maximum constructed height cannot exceed 4.3 metres, but the trailers can be loaded to 4.85 metres.

**Ground clearance**

The body of a Road Train must be above the ground clearance line as shown in the diagram below:



# DIMENSION LIMITS (CONTD)

**Width**

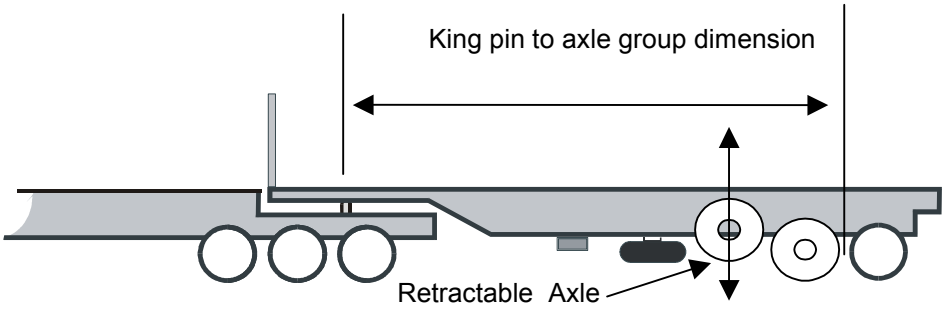
The maximum width of a Road Train cannot exceed 2.5 metres. If, however, the Road Train is carrying an indivisible item on the Stuart Highway between Port Augusta and the SA/NT Border, Old Woomera Road and Madland Street at Port Augusta and Stuart Highway to the Olympic Dam Mine via the Pimba/Olympic Dam Road and Olympic Way, it cannot exceed the following dimensions:

- a double Road Train - 3.5 metres; and
- a triple Road Train - 3.1 metres.

These dimensions do not include clearance lights, mirrors, tyre pressure gauges, central tyre inflation systems or anti-skid devices.

**Retractable axles**

The dimension limits for a vehicle with a retractable axle must be worked out as if the retractable axle does not exist when it is lifted off the ground. For example, where either the front or rear axle of a tri-axle group is retracted, the centre of the group is measured between the centres of the two axles remaining on the ground as shown in the following diagram:




# Mass Limits

Total vehicle mass and axle group mass limits apply to Road Trains when operating on the road network. These limits ensure protection of the road and bridge system and the safe operation of vehicles.

You can operate a double Road Train up to a Gross Combination Mass (GCM) up to 79.7 tonnes (General Mass Limits) if the steer axle is rated at 6.7 tonnes* or GCM up to 79 tonnes (General Mass Limits) if the steer axle is rated at 6 tonnes.

You can operate a triple Road Train up to a Gross Combination Mass (GCM) up to 116.2 tonnes (General Mass Limits) if the steer axle is rated at 6.7 tonnes* or GCM of 115.5 tonnes (General Mass Limits) if the steer axle is rated at 6 tonnes.

# Mass Limits (contd)

* The mass on the steer axle of a Road Train registered prime mover can be increased from 6.0 tonnes to 6.7 tonnes subject to the axle having the rated capacity and the tyre section width being at least 375 mm. This concession is only available on approved road train routes.

**Vehicle Design Limits**

Heavy vehicles are designed to carry a specified maximum load and must not be operated above the Gross Vehicle Mass (GVM), the Gross Trailer Mass (GTM), or the Gross Combination Mass (GCM) specified by the vehicle manufacturer.

Operating within these limits ensures that the vehicle or combination will always steer and stop safely and will not overstress or overload vehicle components such as tyres, brakes and steering mechanisms.

The GVM, GTM and the GCM for a vehicle are specified on the Certificate of Registration.

**General mass limits**

When the Road Train is operating at general mass limits, the axle loads must not exceed the limits shown in the table below:

TABLE 1

| Description of axle or axle group | Mass limit (tonnes) single axle or axle group |
|---|---|
| ***Steer Axles*** | |
| Single steer axle | 6.0 |
| Single steer axle - Prime mover registered as Road Train with wide single tyres ie tyre section width being at least 375mm | 6.7 |
| ***Single Axles Non-Steering*** | |
| Single axle fitted with dual tyres | 9.0 |
| Tandem axle group fitted with dual tyres | 16.5 |
| ***Tri-axle Group*** | |
| Tri-axle group with either single tyres with section width of at least 375mm, dual tyres, or a combination of those tyres | 20.0 |

**Axle spacing and mass requirements**

Bridges and other road structures need to be protected from damage by heavy vehicles. The mass limits applied to a heavy vehicle are crucial to preventing this damage.

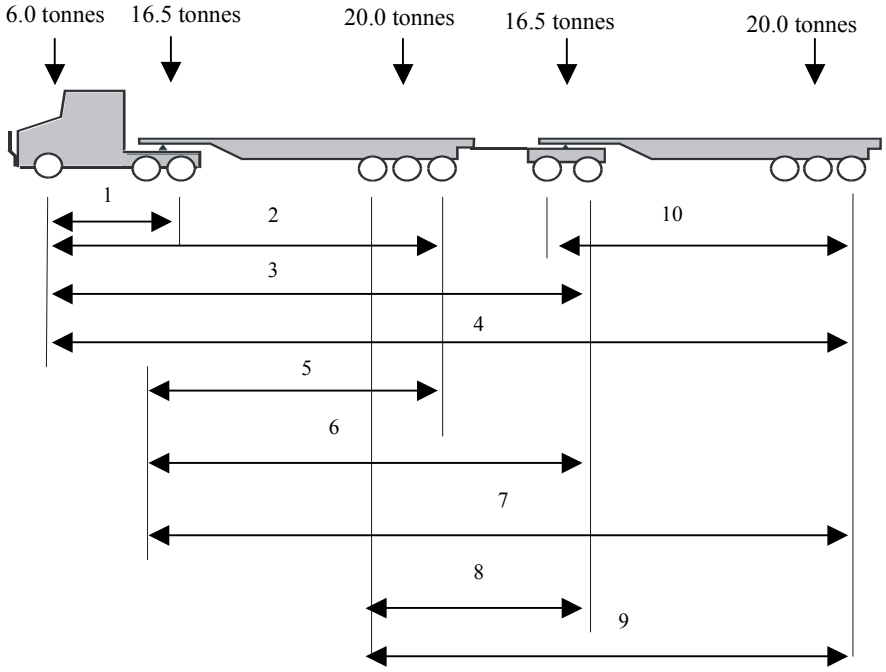
The Road Traffic Act has specified an axle spacing formula that all heavy vehicles must comply with to make sure that damage to road and bridge structures does not occur.

# Mass Limits (contd)

**Using the Axle Spacing Mass Formula**

The formula relates to the distance between the centres of the furthest axles of any two adjacent axle groups or combinations of axle groups.

In the case of a Road Train, the relevant dimensions are shown on the diagram, detailed in Table 2 and explained in the numbered items below:




Note: Numbers on diagram above relate to the numbered paragraphs below.

Examples below are based on the axle mass limits shown above.

1. As the maximum combined mass of the two axle groups included within the arrow is 22.5 tonnes, the distance between the two furthest axles can be less than 3.7 metres. However, a minimum distance applies between the two closest axles of these two groups – refer to the 2.5 metre rule on Page 19.

2. If the combined mass of the three axle groups included within the arrow is 42.5 tonnes, the distance between the two furthest axles must not be less than 10.0 metres.

3. If the combined mass of the four axle groups included within the arrow is 59 tonnes, then the distance between the two furthest axles must not be less than 15.7 metres.

4. If the combined mass of the five axle groups included within the arrow is 79 tonnes, then the distance between the two furthest axles must not be less than 22.2 metres.

5. If the combined mass of the two axle groups included within the arrow is 36.5 tonnes, then the distance between the two furthest axles must not be less than 8.0 metres.

# Mass Limits (contd)

6. If the combined mass of the three axle groups included within the arrow is 53 tonnes, then the distance between the two furthest axles must not be less than 13.5 metres.

7. If the combined mass of the four axle groups included within the arrow is 73 tonnes, then the distance between the two furthest axles must not be less than 20.2 metres.

8. If the combined mass of the two axle groups included within the arrow is 36.5 tonnes, then the distance between the two furthest axles must not be less than 8.0 metres.

9. If the combined mass of the three axle groups included within the arrow is 56.5 tonnes, then the distance between the two furthest axles must not be less than 15.0 metres.

10. If the combined mass of the two axle groups included within the arrow is 36.5 tonnes, then the distance between the two furthest axles must not be less than 8.0 metres.

**Axle Spacing and Mass Formula Chart**

Road Trains must comply with the axle spacing and mass limits that are shown in the following charts:

TABLE 2

| PRIME MOVER AND 1 SEMI-TRAILER | | | | |
|---|---|---|---|---|
| **Minimum distance in metres** | **Maximum mass limit in tonnes** | | **Minimum distance in metres** | **Maximum mass limit in tonnes** |
| Under 3.7 | Refer to the 2.5 metre rule* | | 6.8 | 33.0 |
| 3.7 | 23.5 | | 7.0 | 33.5 |
| 3.8 | 24.0 | | 7.2 | 34.0 |
| 4.0 | 24.5 | | 7.3 | 34.5 |
| 4.2 | 25.0 | | 7.5 | 35.0 |
| 4.3 | 25.5 | | 7.7 | 35.5 |
| 4.5 | 26.0 | | 7.8 | 36.0 |
| 4.7 | 26.5 | | 8.0 | 36.5 |
| 4.8 | 27.0 | | 8.2 | 37.0 |
| 5.0 | 27.5 | | 8.3 | 37.5 |
| 5.2 | 28.0 | | 8.5 | 38.0 |
| 5.3 | 28.5 | | 8.7 | 38.5 |
| 5.5 | 29.0 | | 8.8 | 39.0 |
| 5.7 | 29.5 | | 9.0 | 39.5 |
| 5.8 | 30.0 | | 9.2 | 40.0 |
| 6.0 | 30.5 | | 9.3 | 40.5 |
| 6.2 | 31.0 | | 9.5 | 41.0 |
| 6.3 | 31.5 | | 9.7 | 41.5 |
| 6.5 | 32.0 | | 9.8 | 42.0 |
| 6.7 | 32.5 | | 10.0 | 42.5 |

# Mass Limits (contd)

TABLE 2 (Continued)

| 2ND SEMI-TRAILER | | | | |
|---|---|---|---|---|
| **Minimum Distance in metres** | **Maximum Mass Limits in tonnes** | | **Minimum Distance in metres** | **Maximum Mass Limits in tonnes** |
| 10.2 | 43.0 | | 16.3 | 61.5 |
| 10.3 | 43.5 | | 16.5 | 62.0 |
| 10.5 | 44.0 | | 16.7 | 62.5 |
| 10.7 | 44.5 | | 16.8 | 63.0 |
| 10.8 | 45.0 | | 17.0 | 63.5 |
| 11.0 | 45.5 | | 17.2 | 64.0 |
| 11.2 | 46.0 | | 17.3 | 64.5 |
| 11.3 | 46.5 | | 17.5 | 65.0 |
| 11.5 | 47.0 | | 17.7 | 65.5 |
| 11.7 | 47.5 | | 17.8 | 66.0 |
| 11.8 | 48.0 | | 18.0 | 66.5 |
| 12.0 | 48.5 | | 18.2 | 67.0 |
| 12.2 | 49.0 | | 18.3 | 67.5 |
| 12.3 | 49.5 | | 18.5 | 68.0 |
| 12.5 | 50.0 | | 18.7 | 68.5 |
| 12.7 | 50.5 | | 18.8 | 69.0 |
| 12.8 | 51.0 | | 19.0 | 69.5 |
| 13.0 | 51.5 | | 19.2 | 70.0 |
| 13.2 | 52.0 | | 19.3 | 70.5 |
| 13.3 | 52.5 | | 19.5 | 71.0 |
| 13.5 | 53.0 | | 19.7 | 71.5 |
| 13.7 | 53.5 | | 19.8 | 72.0 |
| 13.8 | 54.0 | | 20.0 | 72.5 |
| 14.0 | 54.5 | | 20.2 | 73.0 |
| 14.2 | 55.0 | | 20.3 | 73.5 |
| 14.3 | 55.5 | | 20.5 | 74.0 |
| 14.5 | 56.0 | | 20.7 | 74.5 |
| 14.7 | 56.5 | | 20.8 | 75.0 |
| 14.8 | 57.0 | | 21.0 | 75.5 |
| 15.0 | 57.5 | | 21.2 | 76.0 |
| 15.2 | 58.0 | | 21.3 | 76.5 |
| 15.3 | 58.5 | | 21.5 | 77.0 |
| 15.5 | 59.0 | | 21.7 | 77.5 |
| 15.7 | 59.5 | | 21.8 | 78.0 |
| 15.8 | 60.0 | | 22.0 | 78.5 |
| 16.0 | 60.5 | | 22.2 | 79.0 |
| 16.2 | 61.0 | | | |

# Mass Limits (contd)

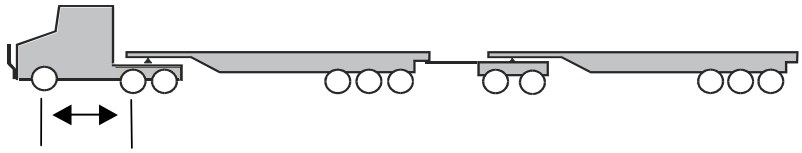
TABLE 2 (Continued)

| 3RD SEMI-TRAILER | | | | |
|---|---|---|---|---|
| **Minimum Distance in metres** | **Maximum Mass Limit in tonnes** | | **Minimum Distance in metres** | **Maximum Mass Limit in tonnes** |
| 22.3 | 79.5 | | 28.5 | 98.0 |
| 22.5 | 80.0 | | 28.7 | 98.5 |
| 22.7 | 80.5 | | 28.8 | 99.0 |
| 22.8 | 81.0 | | 29.0 | 99.5 |
| 23.0 | 81.5 | | 29.2 | 100.0 |
| 23.2 | 82.0 | | 29.3 | 100.5 |
| 23.3 | 82.5 | | 29.5 | 101.0 |
| 23.5 | 83.0 | | 29.7 | 101.5 |
| 23.7 | 83.5 | | 29.8 | 102.0 |
| 23.8 | 84.0 | | 30.0 | 102.5 |
| 24.0 | 84.5 | | 30.2 | 103.0 |
| 24.2 | 85.0 | | 30.3 | 103.5 |
| 24.3 | 85.5 | | 30.5 | 104.0 |
| 24.5 | 86.0 | | 30.7 | 104.5 |
| 24.7 | 86.5 | | 30.8 | 105.0 |
| 24.8 | 87.0 | | 31.0 | 105.5 |
| 25.0 | 87.5 | | 31.2 | 106.0 |
| 25.2 | 88.0 | | 31.3 | 106.5 |
| 25.3 | 88.5 | | 31.5 | 107.0 |
| 25.5 | 89.0 | | 31.7 | 107.5 |
| 25.7 | 89.5 | | 31.8 | 108.0 |
| 25.8 | 90.0 | | 32.0 | 108.5 |
| 26.0 | 90.5 | | 32.2 | 109.0 |
| 26.2 | 91.0 | | 32.3 | 109.5 |
| 26.3 | 91.5 | | 32.5 | 110.0 |
| 26.5 | 92.0 | | 32.7 | 110.5 |
| 26.7 | 92.5 | | 32.8 | 111.0 |
| 26.8 | 93.0 | | 33.0 | 111.5 |
| 27.0 | 93.5 | | 33.2 | 112.0 |
| 27.2 | 94.0 | | 33.3 | 112.5 |
| 27.3 | 94.5 | | 33.5 | 113.0 |
| 27.5 | 95.0 | | 33.7 | 113.5 |
| 27.7 | 95.5 | | 33.8 | 114.0 |
| 27.8 | 96.0 | | 34.0 | 114.5 |
| 28.0 | 96.5 | | 34.2 | 115.0 |
| 28.2 | 97.0 | | 34.3 | 115.5 |
| 28.3 | 97.5 | | | |

# Mass Limits (contd)

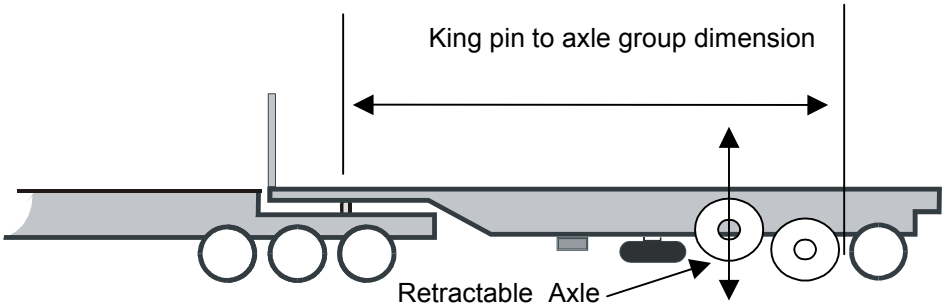
**The 2.5 metre rule**

The total mass of a vehicle or a combination, and any load, must not exceed 15 tonnes if the distance between 2 axles that are not part of the same axle group is less than 2.5 metres.



**Retractable axles**

The mass limit for an axle group that includes a retractable axle must be worked out as if the retractable axle does not exist when it is lifted off the ground. For example, a tandem axle is considered to be a single axle when the retractable axle is lifted off the ground, and a tri-axle is considered to be a tandem axle when the retractable axle is lifted of the ground.



# Registration Requirements

**Charge Codes**

Under the *Motor Vehicles Act 1959*, heavy vehicles are registered under a Charge Code that relates to their size and mass. The Charge Code determines the registration fee payable.

The prime mover portion of the Road Train is registered under one of the following Charge Codes:

| Vehicle Configuration | Charge Code |
|---|---|
| 2 axle prime mover hauling 2 or 3 trailers | LP2 |
| 3 axle prime mover – hauling 2or 3 trailers | LP3 |

Semi-trailers must be registered under the following Charge Codes:

| Trailer Configuration | Charge Code |
|---|---|
| 1 axle trailer | T1 |
| 2 axle trailer | T2 |
| 3 axle trailer | T3 |

A DTEI or Service SA Customer Service Centre can provide further information on Vehicle Registration Categories.

# Maintenance, Accreditation and Inspections

**Vehicles registered in South Australia**

Road Trains that are registered in South Australia are required to either operate under an approved Maintenance Management Scheme or complete an annual vehicle inspection.

All Road Trains must display the appropriate current Accreditation Label or DTEI inspection label on each vehicle unit.

**Vehicles registered in other States or Territories**

Road Trains that are registered in New South Wales, Victoria, Tasmania, Queensland or Western Australia do not need to show South Australian labels or undergo any inspections that are over and above those required in the home state.

A Road Train that is registered in the Northern Territory is required to:

- display South Australian inspection labels; or
- display Northern Territory inspection and rating labels; or
- be accredited under a Maintenance Management Scheme and display the appropriate Accreditation labels.

# Maintenance, Accreditation and Inspections (contd)

**Vehicles travelling between Port Augusta West and northern Adelaide**

All units in a Road Train combination travelling on National Highway 1 between Port Augusta West and northern Adelaide must be accredited under a Maintenance Management Scheme and display a valid Accreditation label.

**Inspection labels**

Accreditation labels or DTEI inspection labels must be fixed to all units of the Road Train combination.

Inspection labels affixed to all units of the Road Train combination must be in a clean and legible condition.

# Higher Mass Limits

Higher Mass Limits (HML) aims to promote efficiency of the road freight task in South Australia by allowing certain vehicles to carry heavier loads.

Technological improvements in heavy vehicle design have resulted in suspension systems being developed that significantly reduce the dynamic effect of heavy vehicle axle loads on the road surface. These specially designed suspensions are known as Road Friendly Suspensions and have been certified by the (Federal) Department of Transport and Regional Services (DOTARS).

Road Trains that are fitted with certified Road Friendly Suspensions can operate at HML without causing any greater damage to the road system than a Road Train fitted with normal suspension operating at GML.

**Configuration Eligibility**

Where the prime mover part of a Road Train is fitted with a tandem drive axle, the trailers are fitted with either tandem or tri-axle groups and the converter dolly is fitted with a tandem axle group, the combination is eligible to operate at HML, provided it complies with the specified requirements and conditions.

Where the Road Train is fitted with at least one tri-axle group, the vehicle combination must be accredited in a Mass Management Scheme to be eligible to operate at HML.

If the prime mover part of a Road Train is fitted with a single drive axle, it is not eligible to operate at HML. If the trailer portions, however, are fitted with either a tandem or tri-axle group, the combination is eligible to operate at HML, providing it complies with the specified requirements and conditions. The total mass cannot exceed 42.5 tonnes.

**Road Friendly Suspension**

To be eligible for HML, vehicles must be fitted with certified Road Friendly Suspensions. Information on the certification of Road Friendly Suspensions is detailed in the (Federal) Department of Transport and Regional Services - Vehicle Standards Bulletin 11 – Certification of Road Friendly Vehicle Suspension Systems, April 1999.

**Routes**

Where a Road Train is approved to operate at HML, it can only be driven on routes specified in the relevant part of the “Approved Route Network for Road Trains” map book.

# Higher Mass Limits (contd)

The approved route network is updated from time to time and it is the owner, driver and/or operator's responsibility to ensure that they are operating on the current approved Road Train route network.

**Applications for new routes**

The approved route network is frequently changing to meet freight movement requirements, reduce wear and tear of the road system and continue improvements. As a result, the network is continually being updated as new routes are added and routes that are not longer suitable or required, are removed. DTEI gives preference to applications that enhance the efficiency of the freight task whilst providing maximum benefit to the wider community.

**Higher axle mass**

Axle groups fitted with Road Friendly Suspension can operate up to:

17.0 tonnes - tandem axle group fitted with dual tyres
22.5 tonnes - tri-axle group fitted with dual tyres

The increase in gross combination mass is listed below:

| | **Statutory Axle Mass Limits** | **Operating at Higher Mass Limits** |
|---|---|---|
| Double Road Trains | 79.7 tonnes * | 85.7 tones * |
| Triple Road Trains | 116.2 tonnes * | 125.2 tonnes * |

*This figure includes a mass of 6.7 tonnes on steer axles of appropriate prime movers with steer tyres of at least 375mm section width.

**Mass Management Scheme**

The Mass Management Scheme is a national scheme that makes sure operators who benefit from operating at HML do so under quality management principles.

The Scheme provides for:

- improved compliance with mass limits;
- assurance of responsible loading behaviour;
- assurance that HML vehicles travel only on approved routes; and
- improved productivity and safety through the adoption of Quality Assurance management practices.

# Higher Mass Limits (contd)

**Mass Management Accreditation Scheme labels**

The following are examples of the national accreditation labels.


Prime Mover Label


Trailer Label

**Road Trains registered in other States or Territories**

HML schemes also operate in other States and Territories, with these schemes being similar to that applying in South Australia. In accordance with mutual recognition principles, vehicles accredited under approved HML schemes in other States and Territories are eligible to operate in South Australia.

These vehicles must, however, operate under the terms and conditions of the "Code of Practice for Road Trains" and only travel on the approved HML route network, as specified in the 'Approved Route Network for Road Trains' map book.
HML is also available for vehicles registered under the *Interstate Road Transport Act 1985* provided they:

- comply with that Act; and
- are accredited in an approved Mass Management Accreditation Scheme for vehicles fitted with tri-axle groups; and
- travel only on approved routes
- Record the axle and gross mass, route details on the HML Route Compliance Certificate, sign and date; and
- Carry the HML Route Compliance Certificate in the vehicle when operating at HML; and
- Produce the HML Route Compliance Certificate if requested by an enforcement authority

# The Australian Road Rules

The Australian Road Rules contains all the rules with which drivers must comply. Some of the important rules that apply to Heavy Vehicles and Road Trains are as follows:

**Speed-limits**

The speed limit for Road Trains on open roads is 90 km/h.

The general speed limit in built-up areas throughout the State is 50 km/h unless otherwise sign posted. However, there are some zones where the speed limit is less than 50 km/h.

**Using low gear**

If a “TRUCKS & BUSES MUST USE LOW GEAR” sign is displayed on a length of road, the driver of a truck or bus must use a gear that is low enough to limit the speed of the vehicle without having to continually use the primary brake.

**Overtaking**

In order to avoid a collision or an obstruction, a vehicle overtaking or passing another vehicle must not return to the marked lane or line of traffic where the other vehicle is travelling, until there is sufficient distance.

While a vehicle is being overtaken, it must not increase its speed.

The “Do Not Overtake Turning Vehicle” sign can be legally enforced. If, for example, a vehicle displaying this sign is indicating a left turn, and the turning vehicle is not close to the left hand kerb of the road, other drivers cannot overtake on the left, even if they are in another lane.

**Multi-lane roads**

On multi-lane roads where the speed limit is higher than 80 kilometres an hour, vehicles must keep to the left, even when there is no sign saying ‘Keep left unless overtaking’. The right lane can only be used to avoid an obstruction or traffic congestion, or when overtaking or turning right.

If a vehicle is in the left lane at the end of a two-lane section, it must give way to other vehicles in the right lane.

**Restrictions on stopping and parking**

Vehicles must not stop on a length of road in a built-up area for longer than an hour, unless there is information, a traffic control device or local law that allows a longer period. If dropping off or picking up goods, however, the vehicle can stop for longer than one hour, but not any longer than is necessary for the task.

When operating on a length of road that is not in a built-up area, drivers can only stop on the shoulder of the road.

**Lights and warning devices**

A vehicle with a GVM over 12 tonnes cannot be driven unless it is equipped with at least 3 (three) portable warning triangles. The driver must produce the warning triangles if asked by a police officer or other authorised person.

# The Australian Road Rules (Contd)

If some or all of any load being carried falls-off the vehicle, or if a driver stops on a road and the vehicle is not visible for at least 200 metres in all directions, the driver must position the warning triangles so that:

- one triangle is at least 50 metres, but not more than 150 metres in front of the vehicle or fallen load and one is placed likewise but behind the vehicle; and
- one triangle is placed to the side of the vehicle or load to give adequate warning to other road users.

**Keeping a safe distance**

Drivers must keep sufficient distance between the vehicle travelling in front and their vehicle in order to stop safely and avoid a collision. Vehicles must not unreasonably obstruct the path of other vehicles.

Any vehicle that is longer than 7.5 metres must keep the required minimum distance from other vehicles, unless driving on a multi-lane road or any length of road in a built-up area, or overtaking. The minimum distances are:

- for a long vehicle in a road train area – 200 metres;
- for a long vehicle in another area – 60 metres.

# Further Information

**Heavy Vehicle Mass Management Scheme**
DTEI – Safety and Regulation Division
Heavy Vehicle Accreditation Team
Telephone: (08) 8260 0005
Facsimile: (08) 8260 0435

**Higher Mass Limits**
DTEI – Safety and Regulation Division
Vehicle Permits Team
Telephone: 1300 882 249
Facsimile: (08) 8348 9551

**Approved Route Networks**
DTEI – Transport Services Division
High Productivity Freight Team
Telephone: (08) 8343 2002
Facsimile: (08) 8343 2875

**Australian Road Rules**
Reference - Transport Services Division document titled "*The Driver's Handbook*" available from DTEI and Service SA Customer Service Centres. Telephone:13 10 84

Website: www.transport.sa.gov.au