

Route Assessment Guidelines

13.7m Long Bus



Operations on safe and suitable routes

A 13.7m long bus is a rigid bus that exceeds 12.5m in length but is not longer than 13.7m.

A 13.7m long bus can operate on roads in South Australia subject to the following requirements:

- 1.1 Prior to commencing a journey the owner/operator/driver must determine that the proposed route of travel is safe and suitable for use of a 13.7m long bus by using these Route Assessment Guidelines published on the DPTI website.
- 1.2 The driver adheres to any local load or mass limit that may apply, and complies with any conditions or restrictions for 13.7m long buses and operates in accordance with the Australian Road Rules.
- 1.3 To determine suitability of a proposed route the owner/operator/driver must also, where appropriate consult with the road manager responsible for the care and maintenance of the particular road.

Principles for operation and route assessment

- 2.1 The maximum overall length of buses that have general access to the road network in South Australia is 12.5m.

- 2.2 While the transport efficiency gains from the use of these higher capacity buses offer undoubted advantages, these buses require more road space than standard length buses and, as such, are not suited for access to all roads.

- 2.3 The overall length, forward projection and rear overhang and consequent swept path characteristics are not always readily apparent to other road users such as motorists, cyclists and pedestrians. It is essential therefore that, routes for the operation of these buses be selected so as to minimise risk to other road users and property.

Dimension Limits

- 3.1 A 13.7m long bus must not exceed the following dimensions:

- Total length – 13.7m
- Forward projection – 2.4m
- Wheelbase – 8.3m
- Rear overhang – 3.7m
- Total length if towing a trailer – 19m

Mass restrictions

- 4.1 Axle mass limits and gross vehicle mass (GVM) limits for a 13.7m long bus are identical to those for other heavy vehicles. However, a 13.7m long bus must not operate on a route where the GVM of the bus exceeds the mass limit of a bridge or any section of road on that route. For example, a 13.7m long bus with a GVM of 15.0 tonnes cannot operate on a local road having a load limit of 4.5 tonnes.

Further information

Call: DPTI Vehicle Permits - 1300 882 249

Visit: www.sa.gov.au/heavyvehicles

Email: dpti.vehiclepermits@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure

Vertical Geometry

- 5.1 The extended front and rear overhang of a 13.7m long bus, combined with road sections having severe vertical geometry (summit or sag curves) may occasionally result in a bus grounding on the road surface. This can potentially occur at high speeds in combination with dynamic suspension movements or in low-speed manoeuvres over sudden changes in grade (e.g. into driveways).
- 5.2 Such grounding can damage both the bus and the road surface and could lead to loss of control. Route Assessment must include a check that grounding will not occur.

Vehicle Swept Path Requirements

- 6.1 Not all parts of the road system are designed or constructed to the same geometric standard. The ability of the existing road network to cater for the turning movements of heavy vehicles is therefore a major factor on the way these vehicles are permitted to operate.
- 6.2 The swept path template for a 13.7m long bus is included in Appendix A.
- 6.3 A 13.7m long bus must not operate on any route where, in making a turn at an intersection, any part of the bus encroaches onto:
- The opposing traffic side of an unbroken centre-line
 - The opposing traffic side of a road centre-line (broken or not marked) except where the risk is assessed as low
 - Any footpath area

- 6.4 No part of the swept path of a 13.7m long bus, including the forward project or the inside swept path, may encroach on any part of a median or traffic island, where it:
- Is frequented by pedestrians
 - Has signs or traffic signals erected
- 6.5 A 13.7m long bus shall not encroach onto any roundabout central island, except in the following circumstances:
- On the annulus or collar of the central island of a roundabout, where the collar is designed to be mountable for this purpose; or
 - Where the central island itself has been designed to be mountable.
- 6.6 In addition to the on-road constraints, parking facilities for 13.7m long buses also have to be carefully checked.

Examples include bus parking bays or areas and hotel access ramps. Buses in these and similar situations must not impact on the free movement of other road users when picking up, setting down, waiting or when parked.

Arterial Roads

- 7.1 Arterial roads are normally designed to ensure adequate movement of a legal length prime mover and semi-trailer combination. Except for the forward projection, the turning path of a 13.7m long bus will fit within the turning path of a normal six-axle prime mover and semi-trailer combination. Compared to these vehicles, the swept path of the forward projection of a 13.7m long bus can be up to 900 millimetres for the minimum on-road turning radius of 12.5m.
- 7.2 Arterial roads are usually classified as State roads under DPTI's administrative arrangements. However, no State road should be assumed to be suitable for the operation of 13.7m long buses. Further, DPTI reserves the right to declare any part of a State road, under

Further information

Call: DPTI Vehicle Permits - 1300 882 249

Visit: www.sa.gov.au/heavyvehicles

Email: dpti.vehiclepermits@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure

the care and management of the State Government as unsuited to 13.7m long bus operations where those operations would fail to meet the requirements of these guidelines.

Local Roads

- 8.1 Geometric constraints on local roads limit the turning movements of large buses, semi-trailers and the like.
- 8.2 Local roads are normally designed for smaller vehicles. Generally the design vehicle is a 12.5m rigid vehicle rather than the prime mover and semi-trailer combination used to design arterial roads.
- 8.3 The swept path of the forward projection of a 13.7m long bus can be up to 400mm wider than that of a 12.5m rigid bus/truck. The inside of the swept path for the bus can be up to 1100mm wider than that of the 12.5m rigid bus/truck. These differences are based on the minimum on-road turning radius of 12.5m.
- 8.4 Many Councils have implemented traffic calming schemes. The schemes are designed to limit the speed of traffic by use of tightly constrained road geometry and devices such as roundabouts, road humps, raised platforms, road narrowing, slow points and the like. Roads containing these devices are not intended for use by large vehicles on a regular or frequent basis.
- 8.5 The bus must be able to negotiate any road hump, raised platform, slow point or other traffic calming device without making bodily contact with the device, road surface or a roadside object.

Bus Zones

- 9.1 Many bus stops and bus zones have been fixed on the basis of the length and manoeuvrability of standard length buses. These may be inadequate to fully accommodate a 13.7m long bus without obstructing traffic. This is particularly the case where the bus zone includes an indented bay.

- 9.2 For all proposed routes, an assessment must be made of the adequacy of bus stops and bus zones (with or without indented bays) to safely accommodate the bus without obstructing other traffic.

- 9.3 A 13.7m long bus typically needs additional bus zone length to pull up clear of traffic due to the extra vehicle length and greater swept path requirement. The assessment of the adequacy of bus zones must take into account the longer dwell time of 13.7m long buses and the possible use of the same bus zone by other bus services. The bus zone should be of sufficient length to accommodate more than one bus (including one or more 13.7m long buses) where concurrent use is likely.

- 9.4 When a 13.7m long bus leaves a bus zone, the rear tailswing in a sharp turn can catch pedestrians unaware as it encroaches onto footpath areas. This can be a particular problem where a bus zone is located on the approach to an intersection on a multi-lane road and requires an abrupt departure from the bus zone, to move to the median lane for an immediate turn to the right at the intersection.

- 9.5 The swept path templates (Appendix A) must be used to assess the adequacy of the geometry of an indented bus bay or the length of a bus zone. As minimum, use left and right 13.75m turning radii on entry and right and left 11.25m radii on exit with a 5m straight section between the reverse turning radii.

- 9.6 For pedestrian safety, the front overhang and rear tailswing must not encroach over the footpath area by more than 350mm when the bus pulls into or departs from a bus zone.

Local Roads

- 10.1 Travel is not permitted on roads under the care and control of the City of West Torrens except for roads specified in 10.3.
- 10.2 Roads under the care and control of DPTI are not included in the City of West Torrens Restricted Area (refer to 10.4).

Further information

Call: DPTI Vehicle Permits - 1300 882 249

Visit: www.sa.gov.au/heavyvehicles

Email: dpti.vehiclepermits@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure

10.3 The following roads have been approved for travel in the City of West Torrens Council:

- Manchester Street, Pymbrah Road, Birmingham Street and Rail Terrace, Mile End South
- Everard Avenue, Kent Road and Ashford Road, Keswick
- Andy Thomas Circuit and Sir Richard Williams Avenue, Adelaide Airport

10.4 The following roads are not included in the City of West Torrens Restricted Area:

- Tapleys Hill Road
- Marion Road
- South Road (no left turn from South Road into Everard Avenue)
- Henley Beach Road
- Burbridge Road, Sir Donald Bradman Drive
- Richmond Road
- Anzac Highway
- Cross Road
- James Congdon Road, East Terrace
- Airport Road, Brooklyn Park
- Holbrooks Road, Underdale
- Rowells Road, Lockleys

Further information

Call: DPTI Vehicle Permits - 1300 882 249

Visit: www.sa.gov.au/heavyvehicles

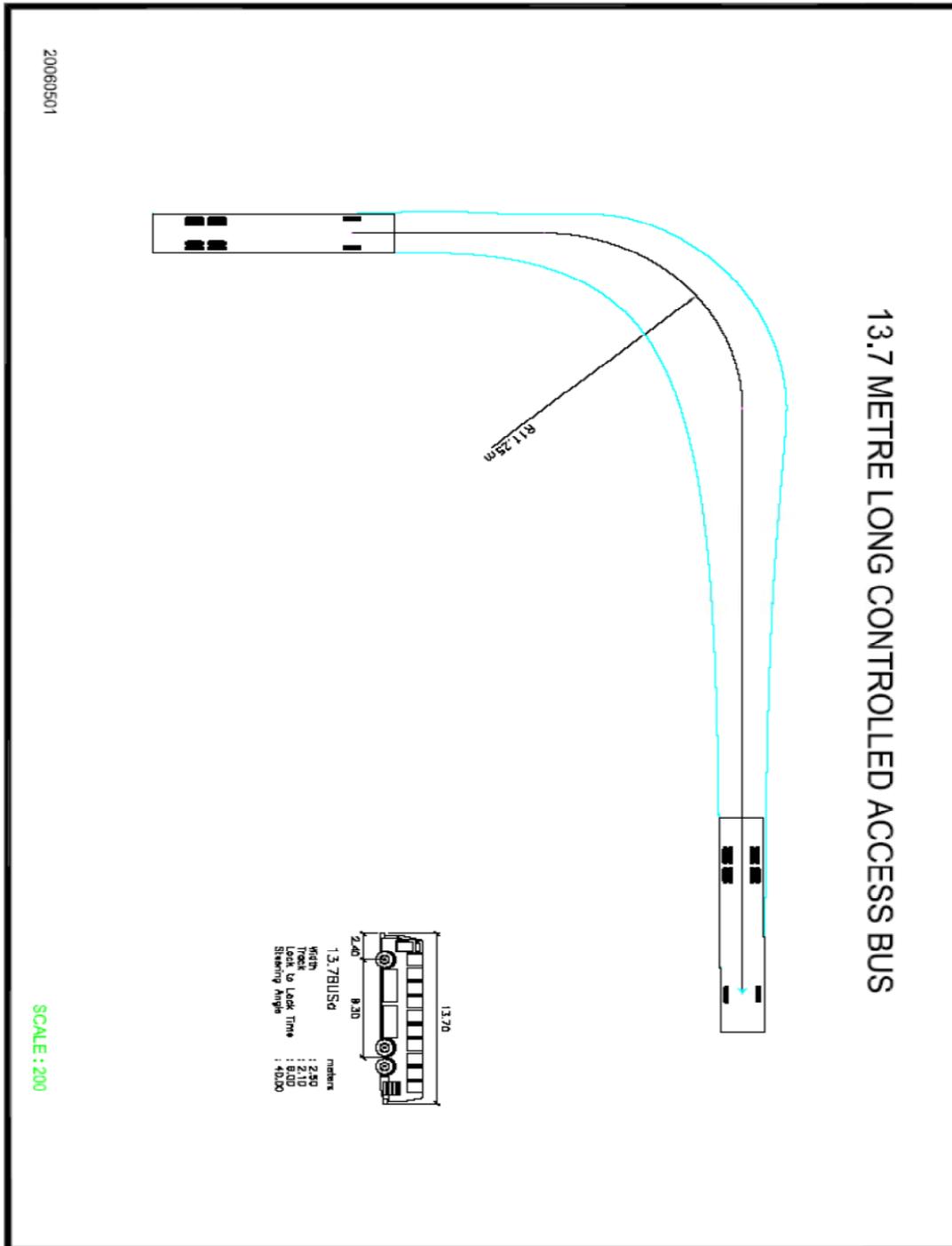
Email: dpti.vehiclepermits@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure

APPENDIX A



Further information

Call: DPTI Vehicle Permits - 1300 882 249

Visit: www.sa.gov.au/heavyvehicles

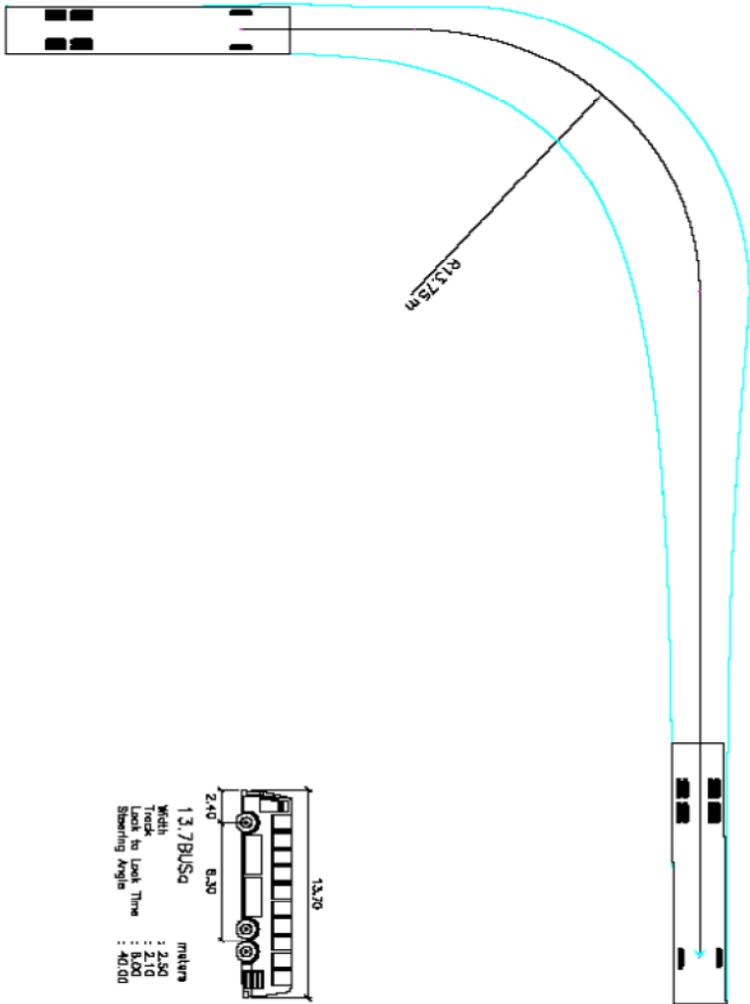
Email: dpti.vehiclepermits@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure

13.7 METRE LONG CONTROLLED ACCESS BUS



20060501

SCALE : 200

Further information

Call: DPTI Vehicle Permits - 1300 882 249

Visit: www.sa.gov.au/heavyvehicles

Email: dpti.vehiclepermits@sa.gov.au



Government of South Australia

Department of Planning,
Transport and Infrastructure