

Alpine area access for buses

Information Sheet

May 2022



Introduction

The Department of Transport has developed guidelines to support Victoria's alpine bus industry to continue to operate safely and efficiently in hazardous alpine areas.

This information sheet is intended to familiarise operators of three-axle buses (both controlled access and general access) with the new guidelines.

It should be read in conjunction with information supplied by the National Heavy Vehicle Regulator (NHVR).

A controlled-access bus means a bus, other than an articulated bus, longer than 12.5m but not more than 14.5m long.

From the beginning of the 2022 snow season, operators of controlled-access buses can travel on formerly prohibited alpine roads without a permit (also known as under notice) if as a minimum they have Three Peak Mountain Snowflake (3PMSF) winter tyres, driver training has been undertaken and certain conditions for tag axles are met.

This initiative is the first of its kind in Australia and will streamline operations for the industry while ensuring consistency in safety standards.

The relevant controlled-access bus network map can be viewed at <https://www.arcgis.com/apps/webappviewer/index.html?id=90d744481cd0404a864bc2bd55048997>

The relevant bus exemption notice has been modified and can be viewed at <https://www.nhvr.gov.au/files/c2019g00104-national-class-3-controlled-access-bus-exemption-notice-2019-no1.pdf>

This information sheet also introduces a requirement for three-axle general-access buses (up to 12.5m long) to have a fully compliant tag axle.

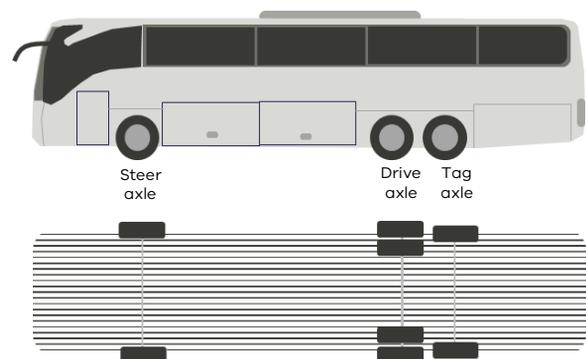


Figure 1: Three-axle bus configurations with a tag axle behind the dual-tyre drive axle.



Requirements for access

3PMSF winter tyres

Controlled-access buses fitted with 3PMSF winter tyres will be granted alpine access without the need for a PBS Level 1 assessment or a permit except where a non-compliant tag-axle-lift device is fitted.

General-access buses fitted with 3PMSF winter tyres will be granted alpine access without the need for a PBS Level 1 assessment except where a non-compliant tag-axle-lift device is fitted.

Driver training

Drivers of vehicles with more than 13 seats (including the driver) need a Hazardous Area Authority (HAA) to drive on alpine roads during snow season. To obtain an HAA, drivers must undertake a course by a VicRoads-accredited provider.

More information, including a list of training course providers, is at <https://www.vicroads.vic.gov.au/licences/licence-and-permit-types/authority-to-drive-in-hazardous-areas>

Conditions on liftable tag axles

A tag axle fitted to a three-axle bus must be:

- fitted by the original equipment manufacturer (OEM) or certified by an Authorised Vehicle Examiner (AVE)
- liftable

In the lifted position, the tag axle must not:

- apply a load on the drive axle that exceeds the manufacturer's rating
- apply a load on the drive axle that exceeds 30 per cent of the legal mass limit
- breach prescriptive dimension requirements such as rear-overhang (see figures 2 and 3); and the applicable suite of PBS Level 1 standards.

Why liftable tag axles are important in alpine access

In icy conditions, a disengaged (lifted) tag axle can:

- increase traction on the drive axle when chains are fitted
- improve manoeuvrability in tight turns by reducing the vehicle's effective wheelbase

Long-standing industry practice in Victorian alpine conditions has been to lift the tag axle to take advantage of these benefits.

How the benefits of liftable tag axles can be extended

Drivers only gain the benefits of liftable tag axles up to speeds of about 30kmh. Above this speed (and below 40kmh), most OEM tag axles are programmed to automatically engage (lower), denying the driver the benefits that two-axle operation delivers in icy conditions.

To extend the safety benefits of liftable tag axles, operators are encouraged to ask their OEM or AVE about the safety and feasibility of increasing the speed at which the tag automatically engages.

By increasing the engagement speed closer to or at 40kmh, drivers can operate their vehicle as a two-axle bus at normal alpine area speeds.

Requirements for access to alpine areas

Table 1: Summary of requirements for general-access buses operating in alpine areas

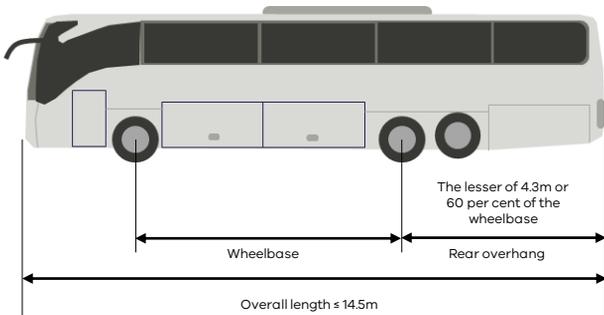
Tag axle type	Requirement	PBS assessment
OEM	Letter of compliance	Yes - static rollover threshold assessment only
Aftermarket	Certificate from AVE	Yes - static rollover threshold assessment only

Table 2: Summary of requirements for controlled-access buses operating in alpine areas

Tag axle type	Requirement	PBS assessment	Access
OEM with winter tyres*	Letter of compliance	Not needed	Under notice
Aftermarket with winter tyres*	Certificate from AVE	Mandatory	Permit required
OEM with normal tyres	Letter of compliance	Mandatory	Permit required
Aftermarket with normal tyres	Certificate from AVE	Mandatory	Permit required

*Minimum one 3PMSF winter tyre on each inside drive axle wheel

Figure 3: Rear overhang with tag axle lifted. In this instance, the rear overhang is calculated using the centre of the drive axle.



PBS Level 1 assessment

Where a three-axle bus is not fitted with 3PMSF winter tyres, the following PBS Level 1 criteria apply.

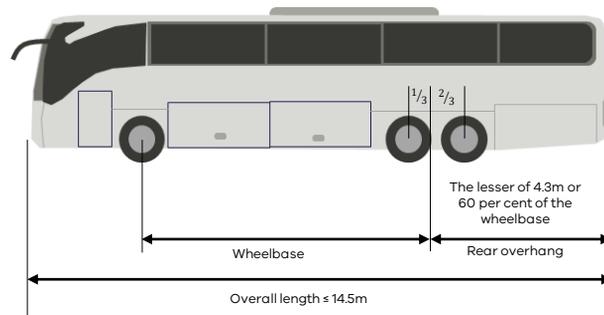
- Startability $\geq 15\%$,
- Gradeability $\geq 20\%$
- Manoeuvrability
 - Low speed swept path $\leq 7.4\text{m}$
 - Tail swing $\leq 0.3\text{m}$
 - Frontal swing $\leq 1.5\text{m}$
 - Steer tyre friction demand ≤ 0.8
 - Maximum kerb-to-kerb turning circle diameter 25m
 - Static roll over threshold $\geq .35g$

To better reflect icy conditions, the above standards should be assessed using a friction coefficient of 0.4.

Disabling aftermarket or modified tag-axle lift devices

Where liftable tag axles have been installed or modified without certification from the OEM or a certifying engineer, operators should consider removing or disabling the liftable axle.

Figure 2: Rear overhang with tag axle engaged. In this instance, the rear overhang is calculated using a line between the drive axle and the tag axle.



Breakdown and recovery

Bus breakdowns on narrow alpine roads cause significant disruption, particularly where buses are not fitted with appropriate tow hitches.

Operators must have a documented breakdown procedure, including pre-existing arrangements with a towing provider, and the bus must be fitted with a tow hitch appropriate for recovery by a range of vehicles in alpine conditions.

Two-axle buses

The requirements in this information sheet relating to 3PMSF winter tyres are also recommended but not mandated for two-axle buses operating in alpine conditions.

Further information

For a list of certified PBS assessors see <https://www.nhvr.gov.au/road-access/performance-based-standards/useful-contacts>

Further enquiries can be directed to heavyvehicles@transport.vic.gov.au

