



Government of **Western Australia**  
Public Transport Authority



**PUBLIC TRANSPORT AUTHORITY**  
**SCHOOL BUS VEHICLE SPECIFICATIONS**  
**Version 18.2**



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## GLOSSARY

The table below outlines standard terms used throughout this document and their definition.

Term	Definition
ADR	Australian Design Rules.
Authority	<b>THE PUBLIC TRANSPORT AUTHORITY OF WESTERN AUSTRALIA</b> , a body corporate established under section 5 of the <i>Public Transport Authority Act 2003</i> (" <b>Authority</b> ")
DoT	Department of Transport
ISO Standard	International Organisation for Standardisations

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# 1. VEHICLE CLASSES AND PASSENGER CAPACITY

These specifications apply to A, B, C, D, F, G, H Class School Buses, and any other Classes to which the Authority from time to time determines:

- **Class A.** School Bus is a vehicle with a maximum passenger seating capacity of 28 adult seats with no primary conversion, with a service life of 12 years.
- **Class B.** School Bus is a vehicle with a maximum passenger seating capacity of 43 adults, with a service life of 17 years.
- **Class C.** School Bus is a vehicle with a maximum passenger seating capacity of 57 adults and a maximum of 83 primary Students (as advised by the Authority), with a service life of 17 years.
- **Class D.** School Bus is a vehicle with a maximum passenger seating capacity of 15 adults, with a service life of 12 years.

## Classes of School Bus (4 Wheel Drive Vehicles)

- **Class F.** School Bus is a vehicle with a maximum passenger seating capacity of 17 adults, with a service life of 10 years.
- **Class G.** School Bus is a vehicle with a maximum passenger seating capacity of 25 adults, with a service life of 10 years.
- **Class H.** School Bus is a vehicle with a maximum passenger seating capacity of 44 adults, with a service life of 15 years.

# 2. GENERAL

## 2.1 School Bus must be fit for use and licensable

Every vehicle used as a contract School Bus must be roadworthy, appropriate to the conditions under which it will be driven, comply with all applicable acts, Australian Standards, ADRs, ISO Standards and all specifications set out below relevant to the particular vehicle and its safe operation, and be licensed or licensable for use in Western Australia. If there is any inconsistency between this specification and any applicable Act, Standard or ADR then the Act, Standard or ADR will prevail.

## 2.2 Seatbelts mandatory on new School Buses

All seats on new school buses must be ADR 68 compliant seats (i.e. passenger and driver seats), fitted with lap-sash seat belts.

## 2.3 Fire Suppression System

From 1 July, 2014 each Education Support, and wheelchair enabled Bus, must have installed an engine fire suppression system. The system must comply with Australian Standard AS 5062:2016.

Once installed, the fire suppression system must be service at least annually also in accordance with Australian Standard AS 5062:2016

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### **2.4 School Bus must be approved before use on Service**

Prior to being used on a contract school bus service (Service), each School Bus must be inspected and approved by a vehicle inspector authorised by the Department of Transport (DoT Inspector) as acceptable for use on the Service, and the Contractor will, at the Contractor's expense, make the School Bus available for inspection at an authorised vehicle inspection centre.

### **2.5 Items may not be fitted to or removed from School Bus without Authority's Approval**

No item, including any item classified as an accessory, may be fitted to or removed from a School Bus unless the Contractor has applied in writing to the Authority to have the item fitted or removed and the fitment or removal has been approved by a DoT Inspector.

### **2.6 Authority may amend Specification**

The Authority reserves the right to amend this specification, and will give Contractors not less than 1 months' notice in writing if it does so, unless the amendment relates to a matter of safety such as to require immediate action, in which case the Authority may amend the specification and verbally advise Contractors of the amendment.

## **3. STANDARD SPECIFICATION OF SCHOOL BUS**

### **3.1 Engine**

The School Bus must be diesel powered (minimum Euro5 emission standard where applicable).

### **3.2 Air Conditioning**

All school buses purchased after 1 July 2010 must be air conditioned.

### **3.3 Brakes**

An audible warning device indicating low system vacuum/air must be fitted in addition to the requirements of any relevant ADR.

Note: Due to low voltage output on the new Toyota Commuter 300 series (June 2019) the audible warning device is exempt on this vehicle. As the vehicle is fitted with a visual warning system (as standard), and as per ADR 35/00 requirements, the vehicle must have braking capabilities albeit with higher brake pedal pressure in the event of vacuum failure.

### **3.4 Wheels and Tyres**

All wheels must be fitted with steel-belt radial-ply tyres of a load or ply rating not lower than that set by the manufacturer.

Re-treaded tyres must not be used on any class of School Bus.

### **3.5 Indicators Side Markers**

From 1 July 2019, all new Class B and Class C buses shall be fitted with an additional set of indicator markers on the side of the bus so that other road users travelling alongside the bus can see the bus indicating to change lanes.

These additional side indicator markers shall be installed in accordance with ADR 13 and Road Traffic Vehicles Regulations 2014 (WA).

### 3.6 Colours and Markings

The School Bus must be painted with a high-grade baked enamel finish as approved by the Authority as follows:

- (a) all solid areas above the lower edge of the passenger compartment windows must be white;
- (b) all solid areas below the windows must be in a colour matching Readymix Orange and must be relieved by a strip painted in a colour matching Hawthorn Green not less than 50 mm and not greater than 150 mm in width running longitudinally around the vehicle.
- (c) The following paint codes apply to a school bus.

PPG	Akzo Nobel - Sikkens
Readymix Orange – ADD8	School Bus Orange – FLAU-2064
Hawthorn Green – AEE7	Hawthorn Green – FLAU-6169
Ice White – KMV2	New Build White - FLAU-4198

### 3.7 Exterior Signage –All Decals to be UV Rated

- (a) Other than as provided in this item, no symbols or markings may be placed on the outside of the School Bus without the prior approval from the Authority.
- (b) The words 'SCHOOL BUS' and 'CAUTION' must be displayed in Hawthorn Green or black lettering mounted on a white background not less than 100 mm in height at the front and rear of the vehicle. The "CAUTION" must be located as high and as central as practical and the "SCHOOL BUS" must be central as low as practical on the white portion. **(Fig 1&2)**
- (c) Symbolic 'child crossing' signs must be positioned as far to the right as practicable and must also be displayed at the front and rear of the School Bus, and located in a position designated by a DoT Inspector. **(Fig 1, 2, 3,4 &5)**
- (d) The Contractor's name, address and telephone number may be placed on the front right- hand side of the School Bus in Hawthorn Green or black letting provided the lettering is no more than 50 mm high.
- (e) A radio call sign may be placed on the rear right-hand side of the School Bus provided it is in black or white lettering no more than 100 mm high.
- (f) Disability access signs are permitted where required.
- (g) Internal top step must have '**Caution Step**' sign in lettering not less than 25 mm in size with durable 3erspex clear covering.
- (h) **DO NOT OVERTAKE TURNING VEHICLE** signage, for Class B, C, G and H vehicles, must be 300 x 400mm, be manufactured from Class 400, Class 1A or UNECE R70 material and conform to the Cat 34A and 34B design as depicted in Vehicle Standards Bulletin (VSB) 12 – National Code of Practice, Rear Marking Plates. Class 2 plates already fitted to vehicles are being phased out gradually and the fitting of new Class 2 plates to a vehicle after 31 December 2020 is prohibited.
- (i) These signs must be mounted just above the rear bumper on the left and right hand sides of the vehicle. **(Fig 5)** Alternatively chevron markings complying with the Road Traffic Code may be fitted.



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- (j) **100 SPEED LIMITED** signage must be placed on or just above the rear bumper in a central position for vehicles fitted with speed limiter.
- (k) At completion of a School Bus contract all School Bus signage must be removed.



Fig 1



Fig 2



Fig 3



Fig 4



Fig 5

**3.8 Passenger Doors**

- (a) The School Bus may not have external plug type forward opening doors.
- (b) If the School Bus has seating capacity for more than 24 adult passengers, passenger entry door must have a door-sensitive safety edge.
- (c) All passenger doors must be capable of operation by the driver from the normal driving position.
- (d) All entry doors held in the closed position by air pressure or electrical means must have an external and internal visual release control to allow for manual opening in an emergency.  
“D” class commuter to be fitted with auto entrance door for all models manufactured from 2016 onwards.
- (e) The release control must be located as close to the door as possible and be clearly labelled.

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- (f) All entry doors located to the rear of the Driver must have an 'open position' audible warning device fitted to operate when the emergency brake is in the released position.

The School Bus passenger door located to the rear of the Driver, does not need an 'open position' audible warning device if:

- (i) The door can only be operated (opened) when the vehicle is in the "Park" position, and
- (ii) There is an interlock system which locks the vehicle in "Park" so it cannot move when the door is in the "Open" position.
- (g) Door steps shall be guarded where there may be potential to fall through side gaps. (Fig 6).



Fig 6

### 3.9 Under-floor Storage Bins

Under-floor storage bins are allowed provided that they do not affect gross vehicle mass or reduce the seating capacity of the School Bus.

### 3.10 Under Floor Storage Bins – Safety System – Vehicles registered on or after 01 January 2021

The following applies for new Class B and C vehicles where under floor storage bins are available for the purpose of accommodating passenger luggage with a first vehicle registration on or after 1 January 2021. These requirements do not apply to storage areas designed for the purpose of carrying equipment associated with the operation of the vehicle such as tools, spare wheels and fire extinguishers and the size of the storage compartment is impractical for the purpose of transporting luggage. For Class B or C vehicles where there are under floor storage bins doors a safety system must be fitted. This requirement does not apply to short term services of 12 months or less.

- (a) The safety system that meets the following requirements is to be fitted:
- (i) A driver warning system with visual alarm indicating when a luggage door is open.
- (ii) A brake system to stop the bus from moving or stop if already moving.

- (b) The luggage door safety system will operate:
  - (i) Without any driver intervention.
  - (ii) Whenever the engine ignition key is in the 'ON' position.
- (c) The luggage door safety system will deactivate when the bus is travelling above the pre-set speed.
- (d) The luggage door safety system must incorporate a 'maintenance isolation' switch to enable the system to be deactivated and allow a vehicle to be driven, under controlled conditions, to a place of repair.
  - (i) The maintenance isolation switch must be concealed behind a panel that is not accessible from the driving position.
  - (ii) From 1 July 2022 a warning light and audible alarm is to be fitted to indicate the maintenance switch has been activated when the ignition is on to alert the driver.
- (e) The luggage door safety system must also feature a tamper-resistant 'emergency override' switch to allow a vehicle to be driven to a safe location in the event of an emergency.
  - (i) The emergency override switch must be accessible from the driving position and must return immediately to the off position on release to deactivate the override function.
  - (ii) Activation of the emergency override switch will produce a visible and audible alert to the driver.
- (f) Until all luggage doors have closed, the door brake system will prevent movement of the bus by:
  - (i) Mechanically or electronically securing the engine in idle mode.
  - (ii) Applying the brakes on at least one axle or by locking the driveline.
- (g) The luggage door safety system will only release the door brake system, after:
  - (i) The doors have fully closed.
  - (ii) The handbrake is released.
  - (iii) A secondary activation of either the foot brake or the engine accelerator is applied.
- (h) The door brake system used to control the bus brakes or driveline retarding device will be designed so it doesn't activate while the bus is travelling in excess of the pre-set speed.
  - (i) Pre-set speed – is the speed set (nominally up to 10 km/h) that influences the control of various subsystem functions of the luggage door safety system
- (i) The luggage door brake system will be designed to hold a stationary bus on a 12 per cent gradient while fully laden.
- (j) The luggage door brake system should be capable of stopping a bus travelling under the pre-set speed smoothly without locking the wheels and within a reasonable distance.
- (k) The accelerator control system will only release after the luggage doors have fully closed and after a secondary activation of either the foot brake or the engine accelerator
- (l) The visual indicator for the driver warning system will be located in the area of the driver's normal controls and be marked with or display the words 'LUGGAGE DOOR ALARM'.

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- (m) A sticker (or stickers) will be affixed to the side window next to the driver similar to the example below.



### 3.11 Under Floor Storage Bins – Audible and Visual Alarm – Vehicles registered prior to 01 January 2021.

The following applies for new Class B and C vehicles where under floor storage bins are available for the purpose of accommodating passenger luggage registered prior to 01 January 2021. These requirements do not apply to storage areas designed for the purpose of carrying equipment associated with the operation of the vehicle such as tools, spare wheel and fire extinguishers and the size of the storage compartment is impractical for the purpose of transporting luggage. From 1 July 2021 for all Class B or C vehicles where there are under floor storage bins doors an audible and visual alarm must be fitted. This requirement does not apply to short term services of 12 months or less.

- (a) An alarm that meets the following requirement is to be fitted:
- (i) A driver warning system with audible and visual alarm indicating when a luggage door is open.
- (b) The alarm will operate:
- (i) Without any driver intervention.
  - (ii) Whenever the engine ignition key is in the 'ON' position.
- (c) The alarm must incorporate a 'maintenance isolation' switch to enable the system to be deactivated and allow a vehicle to be driven, under controlled conditions, to a place of repair.
- (i) The maintenance isolation switch must be concealed behind a panel that is not accessible from the driving position.
  - (ii) From 1 July 2022 a warning light and audible alarm is to be fitted to indicate the maintenance switch has been activated when the ignition is on to alert the driver.
- (d) The visual indicator for the driver warning system will be located in the area of the driver's normal controls and be marked with or display the words 'LUGGAGE DOOR ALARM'.
- (e) A sticker (or stickers) will be affixed to the side window next to the driver similar to the example below.



### 3.12 Emergency Exits

All equipment supplied for the breaking of emergency glass windows must be securely attached to the School Bus and have audible warning devices fitted to warn the Driver if they are dislodged.

### 3.13 Fire Extinguisher

- (a) School Buses must contain efficient and operational fire extinguishers of a type conforming to AS 2444 (20B minimum rating, fitted with hose), which must be stored securely in an accessible location and its location notified by appropriate signage.
- (b) Class A and D minimum one extinguisher, all other bus classes - two extinguishers<sup>1</sup>.
- (c) Fire extinguishers must be inspected in accordance with Australian Standards (AS 1851) and passed and date stamped by an organisation competent and authorised to provide appropriate certification.

### 3.14 First Aid Kits and Safety Triangles

The School Bus must contain a first aid kit or kits appropriate for the services being operated, as determined by a risk assessment conducted by the school bus Contractor. The kits must be stored in an enclosed cabinet or storage location which displays appropriate signage and is in an area which a first aid kit or kits is readily accessible and immediately available. The Table below lists the items that, as a minimum, should be contained within a first aid kit on the School Bus. Each first aid kit and its contents must be maintained and any item that has an expiry date can only be kept in the first aid kit when it is within that specified date.

- Class A, D and F to have 2 First Aid Kits and 5 Safety Triangles.
- Class B, C, G and H to have 3 First Aid Kits and 6 Safety Triangles.

Safety Triangles are to be readily accessible and immediately available in an event that they are required.

**First Aid Kit Contents**

Qty	Item	Qty	Item
1	Instructions for providing First Aid including CPR Flow Chart	3	Rolls of stretch bandage, 7.5 cm in width and not less than 1.5 m in unstretched length.
1	Pencil and note pad.	1	Roll of stretch bandage, 10 cm in width and not less than 1.5 m in unstretched length.
1	Resuscitation face mask	1	1 Pair of rust-resistant scissors.
5 Pairs	Disposable nitrile examination gloves (latex free)	1	Non-stretch, hypoallergenic adhesive tape, not less than 2.5 cm in width and not less than 2.5 m in length.
5 Packs	Sterile cotton gauze swabs in packs of no more than 3, each 7.5 cm x 7.5 cm in size.	6	Safety pins, approximately 40 mm in length.
8	Plastic squeeze bottles containing approximately 15 ml of sterile, normal	1	Sterile wound dressing comprising a sterile cotton wool and gauze pad

<sup>1</sup> Where the vehicle is fitted with an engine fire suppression system, only one portable fire extinguisher is required.

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	saline solution.		attached to a gauze roll bandage, complying with BPC (1973) Standard Dressing No 13.
10	Isopropyl alcohol swabs.	1	Sterile wound dressing comprising a sterile cotton wool and gauze pad attached to a gauze roll bandage, complying with BPC (1973) Standard Dressing No 14.
1 Pack of 50	Individually wrapped sterile adhesive dressing strips, assorted widths.	1	Sterile wound dressing comprising a sterile cotton wool and gauze pad attached to a gauze roll bandage, complying with BPC (1973) Standard Dressing No 15.
10	Splinter probes, single use, disposable	1	Sterile combine dressing, not less than 9 x 20 cm in size.
1	Pair of rust-resistant tweezers / forceps.	3	Individual plastic bags, each approximately 150 mm x 200 mm in size with clip seal.
1	Antiseptic liquid/spray 50ml	2	Triangular calico or cotton bandage, each edge not less than 90 cm in length.
6	Individually packed, sterile, non-adherent wound dressing/pad 5 x 5 cm (small)	1	Instant ice pack
3	Individually packed, sterile, non-adherent wound dressing/pad 7.5 x 5 cm (medium)	1	A Sachet containing at least 10 mL of a product effective in the relief of irritation caused by stings or bites.
1	Individually packed sterile non-adhesive wound dressing/pad 10 x 10 cm in size.	3	Individual disposable hand towel, or tissues in a pocket size pack.
3	Rolls of stretch bandage, 5 cm in width and not less than 1.5 m in unstretched length.	1	Disposable aluminium foil blanket, not less than 1.3 m x 2 m in size.

### 3.15 Electrical

The School Bus must be fitted with an audible reverse warning buzzer, and high-level roof-mounted clearance/stop and direction indicator lights, mounted as close as possible to the outside edge of the body.

### 3.16 External Roof Racks

The School Bus must not be fitted with external roof racks.

### 3.17 Frontal Impact Protection Bars

Bull bars, Roo bars or Nudge bars must not be fitted to School Buses that service

metropolitan Schools and associated routes. Permission to fit a bar for other services must be approved by the Authority.

### 3.18 Corrosion Prevention

All school buses purchased after 1 July 2014 must have corrosion/rust protection applied to the chassis and body.

### 3.19 Driver's View

#### Drivers Position

The driver must have adequate visible, audible and physical access to the passenger compartment for monitoring and interaction particularly in the case of an emergency within the cabin.

- (a) The Driver, when in his/her normal driving position, must have an adequate view of passenger access doors and approaches, including the first 2 windows to the rear of the entry door.

### 3.20 Passenger Seats and Seatbelts

- (a) All passenger seats must face the direction of travel and be at least 300 mm wide and not able to be reclined.
- (b) Where seats are raised to allow for stepped floors no seat cushion height may exceed 150 mm above the seat cushion height of the seat directly in front.
- (c) If the School Bus is fitted with seatbelts for use by passengers, the seatbelts must be of a lap-sash type (ADR 68/00) with retractor and fitted in accordance with all relevant ADRs.
- (d) If the School Bus is fitted with seatbelts for use by passengers, it must have an interior sign fitted that is visible to all passengers and which displays the words **'FASTEN SEATBELTS WHILST SEATED'** (or similar) and the sign must:
  - (i) if fitted to a School Bus with seating capacity for more than 24 adult passengers, must be a flashing sign that flashes no more than 30 seconds after the door is closed; and



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- (ii) if fitted to a School Bus with seating capacity of up to 24 adult passengers, must be illuminated or made of a reflective material. (Fig 7)



Fig 7

### 3.21 Regulation Card

A card showing the rules for bus travel approved by the Authority must be prominently displayed in the School Bus in a card holder designed for that purpose.

### 3.22 Number of Passengers

- (a) Where the vehicle is exclusively licensed for use as a school bus there is no requirement to display the number of passengers the vehicle is permitted to carry.
- (b) If the school bus is used for charter work or work that is not specifically related to the execution of the service (ie licensed as an omnibus) then these requirement must be adhered to in accordance with the Road Traffic (Vehicles) Regulations 2014.

### 3.23 Communications Equipment

- (a) The School Bus must be fitted with a functioning mobile telephone with 'hands-free' kit, two-way radio or equivalent communications device approved by the Authority, which must be switched on whenever students are being transported.
- (b) If the School Bus transports Students to education support facilities, it must have a functioning mobile telephone with 'hands-free' kit, which must be switched on whenever students are being transported.

### 3.24 Luggage Racks

Luggage racks inside the School Bus are not permitted where the School Bus is a dedicated Education Support Bus above the location of the wheelchairs access (wheelchair tracking fitted)

All luggage racks must meet appropriate ADR requirements.

### 3.25 Closed Circuit Television(CCTV)

As a general rule CCTV Systems are not to be installed on School Buses. The installation of a CCTV System on School Buses will be determined solely by the Authority in order to rectify systemic behavioural issues from the student cohort. The requirement of CCTV will be approved for a particular period.

An internal camera connected to a visual display (monitor) is permitted on a School Bus for the purpose of providing the driver with a view of the cabin area. These systems must not be capable of connection to any recording device.

### 3.26 Child Safety Alarm (CSA)

From 1 July 2013 all new School Buses must be fitted with a Child Safety Alarm (CSA).

- (a) The CSA system is to:
  - (i) Be hardwired from vehicle ignition circuit.
  - (ii) Always be powered from the vehicle battery<sup>2</sup>.
  - (iii) The system must activate<sup>3</sup> after no more than five (5) minutes of operation<sup>4</sup> or immediately once the passenger door has been opened or closed (where this option is utilised).
  - (iv) Not have an ability to be overridden by the operator.
  - (v) Deactivated only after the disabling switch is actioned.
  - (vi) For a dedicated CSA system (not the vehicle horn) the audible alarm is to operate at a minimum, emit 95 decibels.
- (b) The disabling switch:
  - (i) Must be located inside the vehicle and behind the rear most passenger seats in such a position that it requires the driver to walk along the aisle to the very rear of the vehicle to deactivate the system.
  - (ii) Can be either a button or a key configuration and must have a delay so that the system it can be deactivated by the driver before it alarms<sup>5</sup>.
  - (iii) There may be a delay of up to 30 seconds before the alarm sounds in order to provide time to conduct an inspection and disable the alarm.
- (c) An audible alarm must be fitted that:
  - (i) Is hard wired into the vehicle where it must alarm/sound when the engine ignition switch is turned off or vehicles batteries isolated and the disabling switch has not been actioned.
  - (ii) The audible alarm can be either the vehicle horn or sound emitted from the child safety alarm.
  - (iii) The audible alarm must be loud enough for a person to hear it from a distance of up to 10 metres.
  - (iv) If there is a tone immediately after switching the vehicle off once activated to alert the driver to complete a child check, this alarm does not need to be a minimum of 95 decibels. However, the system must be connected to secondary child alarm that emits an audible alarm at a minimum of 95 or is connected to the horn if the battery were isolated.

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<sup>2</sup> If separate battery isolation switch is fitted child check alarm must be supplied from battery positive.

<sup>3</sup> Activating makes the child safety system operational. When active the system will require a child check to be completed when the ignition turned off.

<sup>4</sup> A five minute delay enables the driver to move the vehicle short distances without having to do a child check where entry to the vehicle is via a driver's door, most likely found on D and A Class vehicles.

<sup>5</sup> System will either have a separate alarm or will sound the vehicles horn.

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- (v) When there is not a tone immediately after switching the vehicle off once activated to alert the driver to complete a child check, and the audible alarm sound is emitted from the child alarm (not the horn) it must, as a minimum, emit 95 decibels.
- (d) If the CSA has a service override switch:
  - (i) The service override switch is only to be activated when the bus is being serviced or repaired;
  - (ii) When switched on, an alarm or message, alerts the driver at intervals no greater than every 60 seconds that the service override switch is activated;
  - (iii) The alarm or message will continue to play regardless of both ignition and battery isolation switches.
  - (iv) The only way to stop the service message or alarm is to reactivate the child safety alarm.
- (e) The operating procedure for the CSA system must be located within the School Bus, be clearly legible and readily accessible to the driver to enable the driver to test and deactivate the alarm system as required.

## 4. WHEELCHAIR BUSES

As of 1 January 2016 wheelchair enabled buses shall be configured to have low floor ramps for access and egress without the need for a hoist wherever practicable.

The Authority may approve exclusions where the nature of the terrain for pick up and drop off does not provide safe and adequate access for a low floor bus, such as poorly formed roads or stopping points that are not conducive to ramp access.

All Wheelchair buses must comply with the [Disability Standards for Accessible Public Transport 2002](#) (as amended) made under the *Disability Discrimination Act 1992* and the relevant Australian Standards reference within these specifications.

### 4.1 Seating

- (a) Construction or alteration of a vehicle to carry wheelchairs and/or occupant restraint systems must provide the maximum normal seating compatible with the number of wheelchair and restraint positions required.
- (b) Seats and restrained wheelchairs must be facing in the direction of travel.

### 4.2 Wheelchair Hoist

All work must be in accordance with:

- (a) AS/NZS 3856.1:1998 Hoists and ramps for people with disabilities – Vehicle-mounted.
- (b) the School Bus Specifications;
- (c) the WA Road Traffic Vehicles Regulations 2014;
- (d) The operating system must have provision for manual operation in the event of failure of the primary functions.
- (e) Vehicles purpose built for the installation of a wheelchair lift must have a duplicate set of batteries secured and housed in a compartment with an access hatch.
- (f) The batteries must be identical and interchangeable with those supplied by the vehicle chassis manufacturer.
- (g) The duplicate battery set must be charged by the vehicle engine charging system through a commercially procurable battery isolating device designed for the purpose. This must be arranged in such a manner as not to affect the normal vehicle operation.

### 4.3 Wheelchair Hoist – Safety System – Vehicles registered on or after 01 January 2023

- (a) The safety system that meets the following requirements is to be fitted where a wheelchair lift is fitted:
  - (i) A driver warning system with visual alarm indicating when a wheelchair door is open.
  - (ii) A brake system to stop the bus from moving or stop if already moving when a wheelchair door is open.
- (b) The wheelchair door safety system will operate:
  - (i) Without any driver intervention.
  - (ii) Whenever the engine ignition key is in the 'ON' position.
- (c) The wheelchair door safety system will deactivate when the bus is travelling above the pre-set speed (nominally up to 10 km/h).
- (d) The wheelchair door safety system must incorporate a 'maintenance isolation' switch to

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enable the system to be deactivated and allow a vehicle to be driven, under controlled conditions, to a place of repair.

- (i) The maintenance isolation switch must be concealed behind a panel that is not accessible from the driving position.
- (ii) A warning light and audible alarm is to be fitted to indicate the maintenance switch has been activated when the ignition is on to alert the driver.
- (e) The wheelchair door safety system must also feature a tamper-resistant 'emergency override' switch to allow a vehicle to be driven to a safe location in the event of an emergency.
  - (i) The emergency override switch must be accessible from the driving position and must return immediately to the off position on release to deactivate the override function.
  - (ii) Activation of the emergency override switch will produce a visible and audible alert to the driver.
- (f) Until the wheelchair door has closed, the door brake system will prevent movement of the bus by:
  - (i) Mechanically or electronically securing the engine in idle mode.
  - (ii) Applying the brakes on at least one axle or by locking the driveline.
- (g) The wheelchair door safety system will only release the door brake system, after:
  - (i) The door has fully closed.
  - (ii) The handbrake is released.
  - (iii) A secondary activation of either the foot brake or the engine accelerator is applied.
- (h) The door brake system used to control the bus brakes or driveline retarding device will be designed so it doesn't activate while the bus is travelling in excess of the pre-set speed.
  - (i) Pre-set speed – is the speed set (nominally up to 10 km/h) that influences the control of various subsystem functions of the luggage door safety system
- (i) The wheelchair door brake system will be designed to hold a stationary bus on a 12 per cent gradient while fully laden.
- (j) The wheelchair door brake system should be capable of stopping a bus travelling under the pre-set speed (nominally up to 10 km/h) smoothly without locking the wheels and within a reasonable distance.
- (k) The accelerator control system will only release after the wheelchair door has fully closed and after a secondary activation of either the foot brake or the engine accelerator
- (l) The visual indicator for the driver warning system will be located in the area of the driver's normal controls and be marked with or display the words 'WHEELCHAIR DOOR ALARM'.

### 4.4 Notices

- (a) A notice must be displayed on the inside of the wheelchair lift door, printed clearly with all instructions for the safe use and operation of the lift and must include instructions for manual operation in even of failure of the primary operations.
- (b) The notice must be protected by a durable perspex covering.

### 4.5 Wheelchair Tracking/Mount Points and Restraints

All wheelchair tracking/mount points and restraints must be compliant with AS/NZS 10542.1 2015 Technical Systems and Aids for People with Disability – Wheelchair Tiedown and Occupant – Restraint Systems

- (a) Wheelchair tracking and mount points:
  - (i) For Education Support buses heavy duty floor-fitted tracking/mount points is to be fitted to both sides of the wheelchair area of the vehicle (where wheelchairs will be located) in accordance with the manufacturer's instructions.
  - (ii) For Mainstream buses where wheelchair access is required, heavy duty floor-mounted tracking/mount points is to be fitted to allow up to two wheelchairs to be secured in the passenger area of the vehicle in accordance with the tracking manufacturer's instructions.
  - (iii) For each wheelchair required as part of the wheelchair capacity of the vehicle, the minimum length of track allocated to each wheelchair space must be 1500mm from the front anchor point to the rear anchor point.
  - (iv) Anchor points to be clearly marked on the tracking surface so as to allow wheelchair clear space requirements as specified in AS/NZS 10542.1.
  - (v) The tracking to be clearly marked to allow correct seat spacing, as specified in the ADR, when normal seats are fitted.
  - (vi) As of 1 July 2013, all vehicles must be fitted with 17 mm structural ply flooring.
- (b) Wheelchair restraints:
  - (i) Wheelchair-tiedown and occupant-restraint system (WTORS) are a complete restraint system for wheelchair-seated occupants comprised of equipment for wheelchair tiedown and a belt-type occupant restraint. These are the only systems to be fitted.
  - (ii) Only four-point strap type tiedowns are to be used unless otherwise approved by the Authority.
  - (iii) Restraints are to be matched to the type of wheelchair tracking/mount points fitted and have a rating of between 120kg – 150kg as appropriate for the wheelchair being transported.
  - (iv) There is to be sufficient quantity of restraints for the wheelchair capacity of the vehicle.

## School Bus Specifications

<b>Version</b>	<b>Date</b>	<b>Description of Change</b>
16	November 2021	Paragraph 2.26, Child Safety Alarm, updated to provide for a service override switch where fitted.
17	March 2022	Edit to clarify maximum passenger numbers for class of bus. Paragraph 2.9, Passenger Doors updated to provide for vehicles where audible warning is not required where an interlock system is fitted.
17.1	April 2022	Insert of paragraph 2.11€. Additional clarity of location of emergency override switch location and type. Amended Paragraph 2.8 (h) – Exterior Signage. Changes to clarify Rear Marking Plate requirements
18.0	August 2022	Multiple formatting changes, clarification for maintenance isolation switch on luggage bin doors, clarification standard for child safety alarm and wheelchair systems
18.1	February 2023	Minor change to 3.26 (e) Child Safety Alarm to remove the requirement for the CSA instructions to be affixed to the vehicle.
18.2	September 2023	Inclusion of the location of 'Caution School Bus' signage for Mercedes Sprinter at Paragraph 3.7 3.14 Changes to First Aid Kit contents requirements 4.5(b)(iii) Wheelchair restraint rating