

Is your passenger service vehicle compliant?

Heavy passenger service vehicle signage and other requirements



OUR PURPOSE

CREATING TRANSPORT SOLUTIONS FOR A THRIVING NEW ZEALAND



NZ TRANSPORT AGENCY
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NZ Transport Agency (NZTA)

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Every endeavour has been made to ensure the information provided in this handbook is correct. In the event of any discrepancy between this publication and legislation, legislation will prevail. The NZ Transport Agency does not accept liability for any consequences arising from the use of this document.

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Introduction

The aim of this guide is to assist large passenger service vehicle (PSV) owners and operators to meet their legal operating obligations. It's a guide only and not an exhaustive list of requirements – these are detailed in the relevant legislation. People applying the guidance in this booklet must also ensure they meet the requirements of all relevant legislation and regulations.

A number of issues relating to large PSV interior and exterior signs have been identified at roadside inspections carried out by the NZ Transport Agency (NZTA) transport officers and NZ Police. Further issues, including other interior and exterior defects in relation to the PSV Rule, have also been detected during fleet reviews and audits carried out by NZTA staff.

The information in this booklet is current as at July 2013.

WHAT DOES THE LAND TRANSPORT ACT SAY?

Section 30A(1)(a) of the Land Transport Act 1998 states that the holder of a transport services licence (TSL) must ensure that every vehicle operated under the TSL is maintained in a 'fit and proper' condition and that the requirements of any relevant legislation are met.

The requirements must be met at all times the vehicles are being operated on public roads and, as such, the operators have a legal obligation to maintain their PSVs to a roadworthy, fit and proper condition continuously.

(Land Transport Rule - Passenger Service Vehicles 1999, also applies for the compliance of individual components.)

VEHICLE INTERIOR

Most issues identified involve interior signage and exits. The most common issues include:

- signage for emergency controls for power operated doors (PSV Rule 2.2(6) & (7))
- signage on emergency exits. (PSV Rule 5.3(1) & (3))
- signage on dedicated emergency exits (DEE) (PSV Rule 5.3(2))
- dedicated emergency exit door operating and alarm testing procedure
- power operated door closing force (PSV Rule 2.2(2))

- glass breaking device (hammer) and associated buzzer (PSV Rule 5.4(2)(c) & (d))
- different methods of breaking dedicated emergency exit glass (PSV Rule 5.4(2)(c))
- requirements for dedicated emergency exits (PSV Rule 5.4(2) and 5.5)
- number of emergency exits required (PSV Rule 5.2(1))
- unrestricted window opening (PSV Rule 6.15(2))
- fire extinguisher requirements (PSV Rule 6.2(12) to(17)).

SIGNAGE ON POWER OPERATED DOORS

Refer to PSV Rule 2.2(6) and (7)

A heavy passenger service vehicle that entered service on or after 1 July 2000 and that has a door which is controlled from the driver's seat must have emergency controls that can be operated in an emergency when the vehicle is stationary. These controls must be fitted on or next to the door both inside and outside the vehicle.

The controls must have easy to understand operating instructions fitted next to them, both inside and outside the vehicle.

(Land Transport PSV Rule 1999 Section 2.2(6))



Door operating instructions (inside) by the door.



The red knob releases door operating pressure to open door from inside (and outside) in an emergency.

Emergency exit means:

- a door used for the entry and exit of the occupants and, for this purpose, a door of double width is a single emergency exit
- the access between the front and rear sections of an articulated bus
- the stairway from the upper deck to the lower deck
- a dedicated emergency exit.

SIGNAGE ON EMERGENCY EXITS

Refer to PSV Rule 5.3(1) and (3)

A clear instruction sign for opening the exit must be displayed, both inside and outside the vehicle, on or next to every:

- (a) power-operated passenger entry and exit door, and
- (b) dedicated emergency exit.

The instruction sign above must include:

- (a) the words 'Emergency Door Control' for power operated passenger entry and exit doors in letters which are at least 10mm high, and
- (b) words (10mm high) or drawings that identify the exit, and clearly identify and describe or illustrate its operating mechanism.



Operating instructions (outside) on a power operated door used as an emergency exit.



Emergency exit sign with 75mm high letters (must be both inside and outside). No contrasting band required. In this instance, glass breaking instructions incorporated.

DEDICATED EMERGENCY EXITS (DEE)

Refer to PSV Rule 5.3(2)

A dedicated emergency exit is a door, window, hatch or other opening that is designed and constructed solely to provide an exit in case of an emergency. A DEE is not used under normal operating conditions.

A dedicated emergency exit must have;

- a coloured band on the inside frame, at least 20mm wide, which contrasts with the background, or
- signs on the exit, both inside and outside the PSV, with the words 'Emergency Exit' in letters which are **at least** 75mm high.

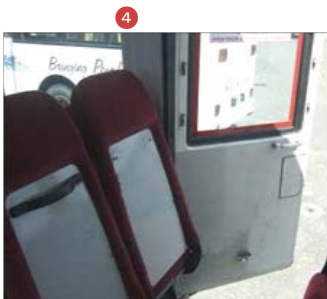
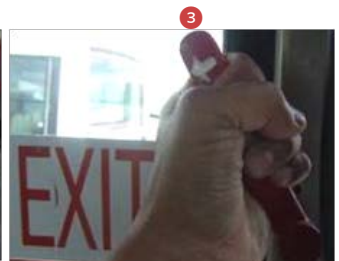
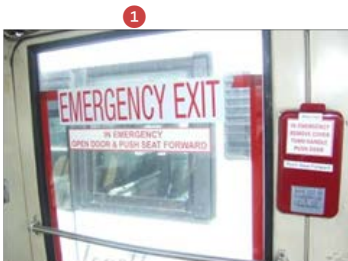


Emergency exit sign with (75mm high), glass breaking device (hammer) and instructions affixed inside.



Emergency exit sign less than 75mm high displayed inside with a 20 mm wide contrasting band around.

DEE door operating and alarm testing procedure



1. Dedicated EE door on right rear of PSV.
2. Remove cover. Alarm must work. Push contact switch to ensure alarm turns off.
3. Turn lever and open door while pushing contact switch. Alarm must work.
4. Tilt seats to clear exit.
5. Push door contact switch to ensure alarm turns off.
(Alarm must work when either switch is released).

This type of dedicated emergency exit door is usually located at the right hand rear of the PSV, especially on Japanese used imported buses. This exit door is connected to an audible alarm to warn the driver if the door/handle is opened or tampered with. The alarm is triggered by two contact switches.

The first switch activates the alarm when the red door handle cover is removed as shown in figure 2.

The second switch that also activates the alarm is located at the door jamb which is accessible only when the door is open (figure 5).

To test the operation of the door alarm and the contact switches the steps below should be followed.

1. Remove cover and ensure the alarm operates.
2. Push the contact switch by the door handle to turn the alarm off (figure 2).
3. While pushing the contact switch open the door by turning the handle.
4. When the door is opened the alarm should sound once more.
5. When the door contact switch is pushed in (figure 5), the alarm should turn off. At this point ensure both contact switches are pushed-in.
6. When the contact switches are released alternately the alarm must operate. This exercise indicates that the contact switches are activating the alarm as intended.

POWER OPERATED DOOR CLOSING FORCE (PSV Rule 2.2(2))

This rule requires that the opening and closing force of the door, or its method of operation, must be unlikely to injure or trap any person.

A power operated door may be deemed acceptable if:

- the door is located at the left front of the vehicle within the driver's direct line of sight, and is opened and closed by means of a driver operated control, or
- if the door automatically opens when it meets an obstruction, and remains open until being closed using the driver operated control, or
- in the event that the door closes onto part of a person, the person can readily remove the trapped part.

GLASS BREAKING DEVICE (HAMMER) AND ASSOCIATED BUZZER

Refer to PSV Rule 5.4(2) (c) and (d)

A breakable glass dedicated emergency exit must have a glass breaking device for breaking the glass which must be;

- on or next to the glass on the inside of the vehicle, and
- if the device is readily removable there must be an audible or visual alarm system that alerts the driver if the device is removed or tampered with.

Note: it is acceptable to have a lashing attached to the hammer and the body (for example, a small chain or cord) provided there is sufficient length to allow for the hammer to be used for its intended purpose.



Glass breaking device (hammer) securely fitted next to the breakable glass.



Remove device (hammer) to ensure alarm operation.



When the button is pushed-in, the alarm must stop.

Note: The green lights are not a legal requirement.

Different methods of breaking dedicated emergency exit glass



Push the red button to break glass..



Two handles fitted on either side to pop the glass out.

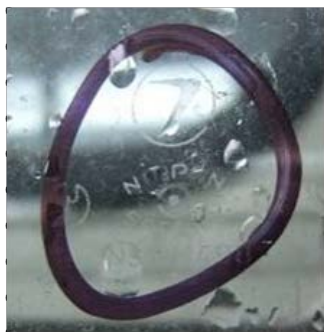
Note: Check the operation of an emergency exit only if it can be done without causing damage.

REQUIREMENTS FOR DEDICATED EMERGENCY EXITS (DEE)

Refer to PSV Rule 5.4(2) and 5.5

The following requirements must be met when using a door, window or a hatch as a dedicated emergency exit.

- The glazing of a breakable-glass DEE must be made of readily breakable toughened safety glass as specified in the Land Transport Rule: Glazing, Windscreen Wipe and Wash, and Mirrors 1999, and must not be laminated.
- The minimum dimensions of a DEE doorway must be at least 1200mm high and 500mm wide.
- A DEE which is a window or a hatch must have no dimension less than 500mm, and the free area of the opening must be at least 0.35 metre squared.



A toughened breakable safety glass indicated by the markings that are circled for easy identification.

NUMBER OF EMERGENCY EXITS REQUIRED

Refer to PSV Rule 5.2(1)

If the compartment of a PSV accommodates:

- 26 or fewer persons – at least TWO emergency exits required
- more than 26 persons – at least THREE emergency exits required
- more than 35 persons and the vehicle entered service as a PSV in New Zealand on or after 01 September 1999 – at least FOUR emergency exits required.

5.2 (3) Dedicated emergency exits:

- must be provided for as many different surfaces as is practicable, and
- must not be on the left-hand side of the PSV if the vehicle has less than 3 dedicated emergency exits.

UNRESTRICTED WINDOW OPENING

Refer to PSV Rule 6.15(2)

A window opening next to a passenger seat and below 610mm above the uncompressed seat cushion, or below 1.5m above the floor if there is no seat next to that window, must be restricted so that a sphere of 125mm diameter cannot be passed through that part of the opening.



The window opening is restricted to no more than 125mm.

FIRE EXTINGUISHER REQUIREMENTS

Refer to PSV Rule 6.2(12-17)

A PSV that has more than 12 seating positions must be equipped with fire extinguishers appropriate to:

- the size of the vehicle
- the materials used in the construction of the vehicle, and
- the type of fuel used.

Every passenger compartment that has more than 12 seating positions must have at least one fire extinguisher.

A fire extinguisher must be:

- inspected regularly as is appropriate for the particular make and model of fire extinguisher and the date of the inspection must be recorded on or near the fire extinguisher, and
- sealed so it is clearly apparent if it has been discharged and needs recharging or replacement.

One of the fire extinguishers must be located near the driver and must:

- be clearly visible to passengers, or
- have clearly visible signage that indicates its location to passengers.

If a fire extinguisher is located within a closed container, the container must:

- have a cover that is readily removable or breakable by a passenger, and
- clearly display instructions that explain how to access the fire extinguisher in an emergency, and
- enable a driver to confirm that the fire extinguisher is present by:
 - › being sufficiently transparent to enable a clear view of the fire extinguisher, or
 - › being equipped with an audible or visual alarm system that alerts the driver if the extinguisher is not in place when the vehicle's engine is running.

Clear and simple operating instructions, in English or with pictorial symbols, must be attached to each fire extinguisher.



Fire extinguisher located between the front door and the driver's seat visible to passengers.



Fire extinguisher located by the driver's seat is seen by passengers when boarding.

OTHER ISSUES IDENTIFIED

Other non-compliant interior issues identified include:

- panel nearby stairwell (PSV Rule 2.4(5)(b))
- guardrail nearby stairwell (PSV Rule 2.4(5)(c))
- handrails, handholds and handgrips (PSV Rule section 6.9)
- windscreen glazing (damage and vision) (Glazing, Windscreen Wipe and Wash and Mirrors Rule 2.2)
- windscreen equipment (demisters and sun-visors) (PSV Rule 6.10)
- seats and seat anchorages. (Land Transport Rule: Seats and Seat Anchorages 2002)
- interior lighting (PSV Rule 6.15(3))
- reversing warning (PSV Rule 6.15(4))
- school bus signage (Land Transport : Rule Traffic Control Devices 2004)
- engine compartment fire (PSV Rule 6.2)
- advertising and anti-graffiti overlays on dedicated emergency exit glazing (PSV Rule 5.4(2))
- certificate of loading (COL) (PSV Rule section 9)
- heavy PSV towbar (Heavy Vehicles Rule 4.4(5) and PSV Rule 6.13(1))
- more common faults identified.

PANEL NEAR STAIRWELL

Refer to PSV Rule 2.4(5)(b)

A heavy PSV must be fitted with a panel to prevent the feet of seated passengers from protruding into any near by stairwell or ramp. This panel should be properly secured and in good condition.



Panel fitted on the left hand side of the stairwell in front of the seat.

GUARDRAIL NEAR STAIRWELL

Refer to PSV Rule 2.4(5)(c)

A guardrail or equivalent item must be fitted:

- to the rearward side of any stairwell or ramp, if passengers can stand or sit behind the stairwell or ramp, and
- to the forward side of the stairwell or ramp if there is a rearward- or sideways-facing seat in front of it, or if passengers can stand in front of it.

The guard rail must be properly secured.



Guardrail (and panel) located between the stairwell and the front of the seat.

HANDRAILS, HANDHOLDS AND HANDGRIPS

Refer to PSV Rule 6.9

Handrails, handholds, and handgrips required by the PSV rule must be of adequate strength for their foreseeable use and be securely attached.

In a motor vehicle which entered service as a passenger service vehicle in New Zealand on or after 1 July 2000, the cross section of:

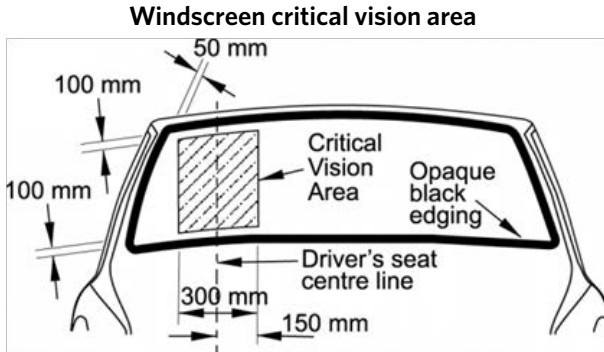
- the handholds on doors and seats may have a minimum dimension of 15mm if one other dimension is at least 25mm, and
- all other handholds must have no dimension smaller than 20mm or greater than 45mm.

WINDSCREEN- DAMAGE WITHIN THE CRITICAL VISION AREA (CVA)

Refer to Glazing, Windscreen Wipe and Wash and Mirrors Rule 2.2(1) (d)

A windscreen must not have scratches or other defects that unreasonably impair the driver's vision through the glazing or compromise the strength of the glazing.

The critical vision area (CVA) of a windscreen (see below) must not be damaged (apart from scratching and surface pitting that does not affect the driver's vision, such as small stone marks).



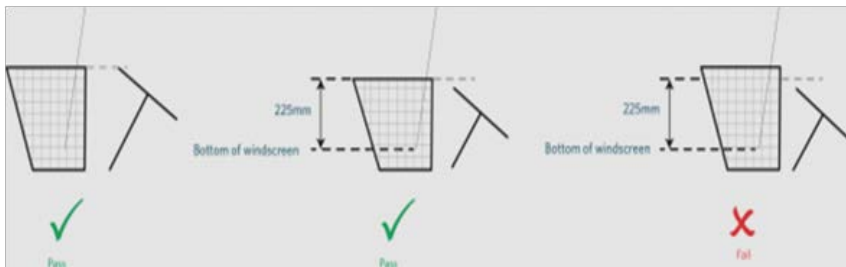
Note: The upper and lower boundaries of the CVA of a heavy PSV must be taken as:

- Upper boundary: The lower of 100mm from the edge of the glazing or 900mm from the top of the uncompressed seat cushion.
- Lower boundary: The higher of the top of the uncompressed seat cushion or 100mm from the bottom of the windscreen.

WINDSCREEN - WIRE-MESH WINDSCREEN STONEGUARD FITTED TO A HEAVY PSV

A wire-mesh windscreen stoneguard must not:

- have the top edge **both** above the top of the steering wheel in its highest adjusted position **and** above 225mm measured from the bottom edge of the windscreen, or
- have a mesh size smaller than 12mm (see note below), or
- make it difficult to access the windscreen for cleaning.



Note: Objects, whether functional or otherwise (for example signage or badges) must not be attached to a wire-mesh windscreen stoneguard.

WINDSCREEN EQUIPMENT (DEMISTERS AND SUNVISORS)

Refer to PSV Rule 6.10(1)

The front windscreen and side windows used by the driver must be equipped with effective demisting equipment, adjustable from the driver's seat.



Demister controls within driver's reach.

Sunvisors

Refer to PSV Rule 6.10(2)

The windscreen must be fitted with a sunvisor or sunvisors adjustable from the driver's seat.



The sunvisor for the driver's use must be securely fitted and be able to maintain its adjusted position.

SEATS AND SEAT ANCHORAGES

Refer to Land Transport Rule: 2.2 General Safety Requirements Seats and Seat Anchorages 2002

- Seats and seat anchorages must be securely attached to the motor vehicle's structure.
- The driver's seat and its anchorages must be designed, constructed and maintained to enable the driver to have proper control of the motor vehicle.
- The driver's seat must be adjustable to ensure the driver has access to the driving controls. (Refer to PSV Rule 4.3(3))



Driver's seat must be adjustable.



Passenger seats must be properly secured

INTERIOR LIGHTING

Refer to PSV Rule 6.15(3)

Interior lights must be positioned so that they adequately illuminate doorways, aisles and steps without interfering with the driver's vision when the doors are closed.



Adequately illuminated interior lighting.

REVERSE WARNING

Refer to PSV Rule 6.15(4)

A heavy PSV that can carry more than 12 persons that entered service on or after 1 July 2000 must be fitted with a device that operates when the reverse gear is engaged and the engine is running, and which gives an audible and visible external warning when the vehicle is reversing.

SCHOOL BUS SIGNAGE

Refer to Land Transport Rule: Traffic Control Devices 2004

A motor vehicle that is being used as a school bus must display on the outside of the vehicle a 'SCHOOL BUS', 'SCHOOL' or a pictorial 'CHILDREN SIGN' with or without flashing lights, at both the front and the rear. (Refer to Section 4.4(14))

Schools may display a '**KURA**' (Māori for school) sign on a school bus, but they **must** also display an approved internationally recognised pictorial school sign which clearly identifies the vehicle as a school bus to all road users. The law currently allows for the use of such a pictorial sign.

A sign must be mounted:

- at the rear, with its lower edge not less than 1.5m from the ground in the centreline, or to the right of the centreline, of the school bus when it is facing forward (applicable to 'SCHOOL' and 'SCHOOL BUS' signs)
- at the front, so as to be visible to road users approaching the vehicle from the front and on the opposite side of the roadway.



Sign clearly visible to approaching vehicles.



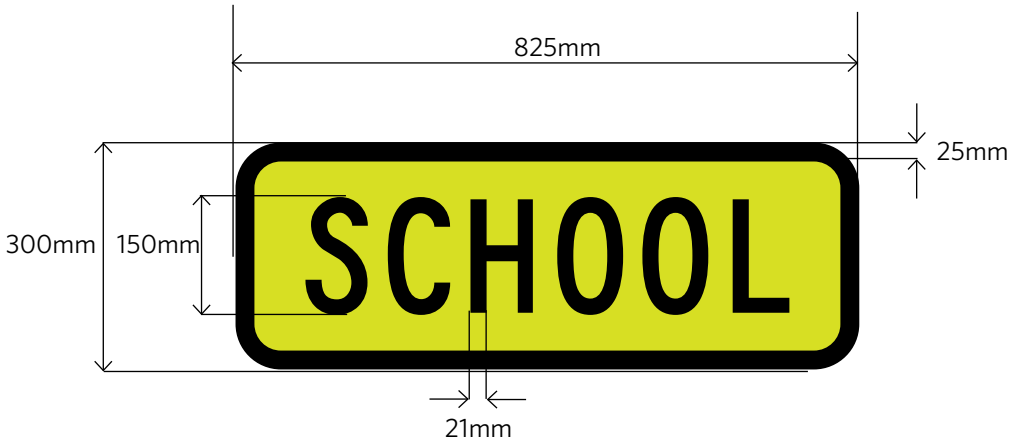
Rear sign above 1.5m from the ground.



Pictorial school sign: symbolic children sign with flashing lights front and rear.



The dimensions of the school sign



Note: The width and the height of the 'SCHOOL BUS' sign must not be less than 1200mm x 400mm respectively.

The dimensions of the symbolic children sign plus flashing lights



The flashing lights must not be operated:

- more than 20 seconds before the bus stops for the purpose of children alighting or boarding, or
- more than 20 seconds after the bus has moved away from the place at which it stopped.

SHAPE & SIZE	Rectangle 570 X 500mm
BACKGROUND	Black
BORDER	None
SIZE OF SYMBOL	450 X 400mm
COLOUR OF SYMBOL	Yellow - green (RF)
FLASHING LIGHTS	Yellow (lit) or if forward facing, white (lit) in the top left and right of the sign with an effective diameter of 90mm
OPERATION	Flash alternately at a rate of 1 Hertz (1 flash/second) only when bus stopped to pick up and drop off children.

When a passenger service vehicle is not being used for transporting school children, the signs must not be displayed. (Refer to section 4.4(16))

The dimensions of the symbolic children sign



SHAPE & SIZE	Rectangle 570 X 500mm
BACKGROUND	Yellow - green (RF)
BORDER	Black 20mm
SIZE OF SYMBOL	400 x 360mm
COLOUR OF SYMBOL	Black

ENGINE COMPARTMENT FIRE (Refer PSV Rule 6.2)

A few incidents of buses catching fire, especially buses with mid and rear mounted engines, have been reported in the past. Investigations have identified the following causes that were contributing factors in these incidents:

- dirty and oily engine compartments
- lack of air ventilation to the engine compartment due to clogged vent holes
- untidy electrical wiring harnesses that may short circuit
- unprotected battery terminals.

The engine compartment must be lined with, or made of, fire resistant material. Regular steam cleaning would be a good option to keep the engine compartment tidy which is paramount to maintain the PSV to a safe operating state.

The NZTA and the New Zealand Bus and Coach Association have produced two brochures to assist bus or coach drivers and operators keep themselves and their passengers safe. *Coach safety on the Milford Road* and *Preventing bus and coach fires* are available on the NZTA website at www.nzta.govt.nz/resources/bus-coach-safety/index.html.



Fire started in the engine compartment.

ADVERTISING AND ANTI-GRAFFITI OVERLAYS ON DEDICATED EMERGENCY EXIT (DEE) GLAZING

(Refer to PSV rule 5.4(2)(b))

The legal requirements affecting overlays applied to the glazing of dedicated emergency exits require that 'the glass must not be modified, covered or treated in a way which might adversely affect the breakability or the removal of the glass'. A strategy is currently being developed to ensure compliance with the legal requirements when overlays are applied to DEE glazing.

It should be noted that, as overlays are not a legal requirement, operators have the responsibility to prove that any overlays fitted to the glazing of a DEE comply with requirements.

CERTIFICATE OF LOADING (CoL)

(Refer to PSV Rule section 9)

Page two of the Certificate of Loading for a PSV shows the details of the maximum number of passengers the PSV is able to carry legally. If the vehicle is permitted to carry standing passengers, the maximum number of standees is also included in the CoL. The vehicle details included in the CoL must match the vehicle.

Note: It is the operator's (including the driver) responsibility to ensure the maximum allowable mass (weight) on axle sets under the Vehicle Dimension and Mass Rule is not exceeded.

Page 1:

NZ TRANSPORT AGENCY EBG239

ISUZU JOURNEY BUS

Maximum Permissible Loading in Kg

Tare 09710 GVM 15100 GCM 17100

RTW 04920

Page 2:

NZ TRANSPORT AGENCY EBG239

Maximum number of Passengers (excluding Driver):

	Adult	Secondary	Intermediate	Primary
Seated	044	or 044	or 065	or 065
Standing	015	or 015	or 017	or 017

CoL showing maximum number of seated and standing passengers the PSV can legally carry.

HEAVY PSV TOWBAR

Refer to Heavy Vehicle Rule 4.4(5) and PSV Rule 6.13(1)

A passenger service vehicle must not tow heavy trailers (a trailer with a GVM exceeding 3,500kg). A towbar fitted to a heavy PSV on or after 1 April 2006 for towing a light trailer must comply with NZ standard 5467: 1993 Code of Practice for Light Trailers. The towbar must also have a certification plate or label attached to it permanently.



A light towbar fitted to a heavy PSV.



Towbar certification plate showing details.

MORE COMMON FAULTS IDENTIFIED



Unmarked dedicated emergency exit.



Pull ring gone missing.



Instructions incomplete/not clearly legible.



Damaged energy-absorbent material at seat backrest.



Damaged and missing handholds.