

Standards for School Bus Warning Signs and Warning Lights

Part 4 of schedule 1 of the *Transport Operations (Passenger Transport) Standard 2010* requires operators of school services to comply with specified vehicle requirements relating to warning signs and warning lights to be fitted to a school bus.

To meet this standard, the following requirements must be complied with for buses used to provide school services. The principle purpose of the warning signs and warning lights are to warn passing motorists of the possibility of school children in the area of a bus stopped at the roadside.

A person must not drive a school bus unless it is fitted with warning signs and warning lights.

The Queensland Bus Industry Council (07) 3397 1700 or the Queensland School Bus Association (07) 3376 3140 may be contacted for details of current suppliers of suitable lights and signs.

Definitions

A **school bus** is a bus being used to provide a school service outside or partly outside a defined urban area, even though the bus may be used for other purposes at other times.

A **defined urban area** is:

- the area of the City of Brisbane under the *City of Brisbane Act 2010*; or
- an area for which a service contract is required under section 42 of the *Transport Operations (Passenger Transport) Act 1994* for the provision of road-based general route services that are not:
 - school services only; or
 - services only for the carriage of eligible school students.

School bus to be fitted with warning signs and warning lights

All buses meeting the definition of school bus (whether entering service or already in service in Queensland) must be fitted with the warning signs and warning lights required under the *Transport Operations (Passenger Transport) Standard 2010*. However, this does not apply to school buses that, immediately before 1 October 1999, complied with the *Traffic Regulation 1962* schedule 1 section 18B as it was then in force and continue to comply with that section as though it were still in force today.

Number and location of warning signs

A school bus must have two warning signs, one fitted at the front of the bus and another at the rear of the bus. The signs may be fitted on the inside or the outside of the bus but each must be visible from outside the bus. A warning sign may be fitted on the inside of the bus only if the sign:

- is as visible as; and
- is the same colour as; and
- is not significantly dimmer than:

it would be if it were to be fitted on the outside of the bus at the front or rear of the bus. For example, a warning sign fitted behind a clear back window.

Content, size, shape and materials of warning signs

A warning sign on the front of a school bus must display:

- the words SCHOOL BUS in capital letters at least 100 mm high; or
- the required image.

A warning sign on the rear of a school bus must display the required image.

required image means an image of two children in the same proportions as the children in AS 1743 (Road Signs—specifications), image W6-3, with the image of the taller child at least 230 mm high.

A warning sign displaying the required image must:

- be a rectangular shape: and either
 - if any of the warning lights are on the warning sign, at least 550 mm wide and 400 mm high in the vertical plane; or
 - otherwise, at least 400 mm wide and 250 mm high in the vertical plane; and
- have a black border; and
- have black graphics; and
- be coated, other than over the border or graphics, with retro-reflective material that:
 - is yellow; and
 - is of class 1 or 2 as described in AS 1906 (Retro-reflective Materials and Devices for Road Traffic Control Purposes); and
 - complies with AS 1906.

Warning signs may be fitted permanently to the bus or to a backing allowing them to be detached or folded.

The minimum heights of the various signs described above are based on the sign mounted vertically. To allow for most buses with sloping panels and windscreens, signs made to the above minimum dimensions are permitted on surfaces which are up to 15° from vertical.

Buses with surfaces sloping greater than 15° in the area the sign is to be mounted will require a separate mounting surface, or the sign may still be fitted flush to the surface if it is made taller to effectively achieve the above minimum heights vertically.

Figure 1- Minimum size image signs with and without lights on the sign

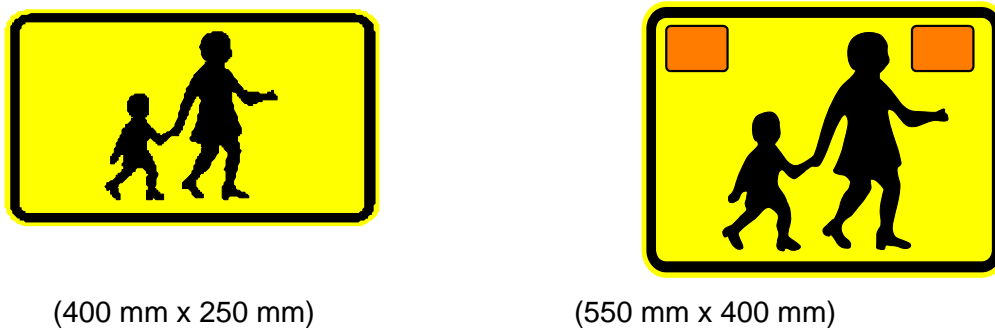
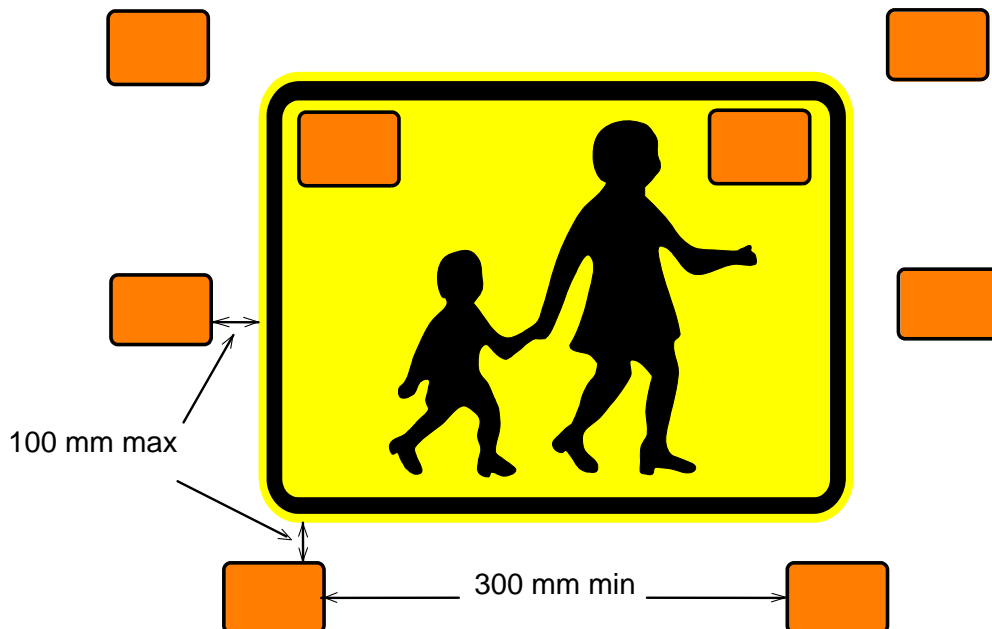


Figure 2 - Alternative light to sign positions



Number and location of warning lights

A school bus must have a pair of warning lights:

- one of which is fitted at the front and the other of which is fitted at the rear of the bus on the inside or the outside of the bus; and
- each of which is visible from outside the bus.

However, a warning light may be fitted on the inside of the bus only if the light from the warning light is the same colour as, and not significantly dimmer than, it would be if the warning light were to be fitted on the outside of the front or the rear of the bus. For example, a warning light fitted behind a clear windscreen.

The warning lights must be fitted:

- on the left and right side of, and the same distance from, the centre of the warning sign that is on the same end of the bus as the light; and
- so they are at least 300 mm apart; and
- so no part of the bus (including parked or operating windscreen wipers) obstructs any of the light displayed by them:
 - within an arc, in the horizontal plane, from 30° to the left to 30° to the right of the centre of each light; or
 - within an arc, in the vertical plane, from 10° above to 10° below the centre of each light; and
- so the lens of each light is not over 100 mm from the warning sign that is on the same end of the bus as the light.

However, a warning light on an end of the bus may be on the warning sign that is on the same end of the bus if the words or image on the sign are not obscured.

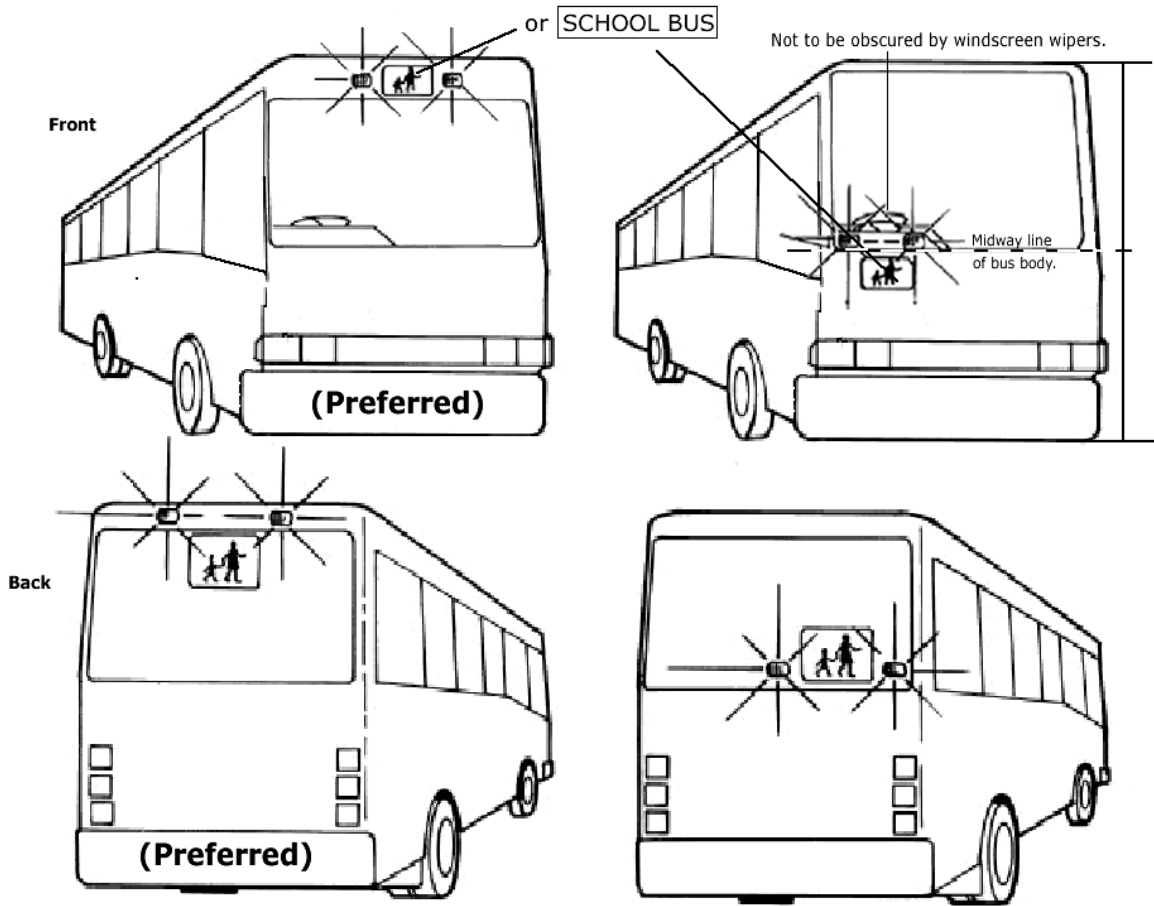
Warning lights on the same end of the bus must be fitted:

- at the same height; and
- as high as practicable; and
- so no part of the lens of each light is lower than midway between the highest and lowest points on the body of the bus, at that end of the bus.

If the centres of warning lights on the same end of the bus are less than 1.8 m above ground level, no part of the warning lights, or warning sign, on that end of the bus may be on the left side of the bus.

The driver's vision must not be obscured and emergency exit operation must not be hindered by the fitting of the warning signs and warning lights.

Figure 3 - Examples of allowable locations of lights and signs



Lens and light of warning lights

Each warning light must:

- have a lens with an effective lit lens area of at least 60cm²
- emit a yellow light that has been tested under the test procedure stated in the third edition ADR 6/00¹ and found to have a luminous intensity of at least the amounts mentioned in Table 1 when measured at the angles mentioned in the table
(Note: Indicator lights complying with ADR 6/00 are unsuitable for use as warning lights because the luminous intensity levels in the table are much brighter than the level required for an indicator light to comply with ADR 6/00.)
- emit about the same amount of light as the other warning light of the pair
- be aimed so the beam from the light is focused parallel to the road and parallel to the longitudinal centre line of the bus
- be built and adjusted so it can not dazzle the driver of another vehicle.

¹ third edition ADR 6 means a national standard incorporated in the document described as the Australian Design Rules for Motor Vehicles and Trailers, Third Edition. The Australian Design Rules were published by the federal Office of Road Safety and are available for purchase from the Commonwealth Department of Transport and Regional Services

Table 1

| Luminous intensity of warning light in candela | | | | | | | | | |
|---|------------------------|------------------------|------------------------|-----------------------|----------|----------------------|-----------------------|-----------------------|-----------------------|
| Vertical Axis | Horizontal Axis | | | | | | | | |
| | -30⁰ | -20⁰ | -10⁰ | -5⁰ | 0 | 5⁰ | 10⁰ | 20⁰ | 30⁰ |
| 10⁰ | | | | 50 | 80 | 50 | | | |
| 5⁰ | | 180 | 320 | 350 | 450 | 350 | 320 | 180 | |
| 0 | 75 | 450 | 1,000 | 1,250 | 1,500 | 1,250 | 1,000 | 450 | 75 |
| -5⁰ | 40 | 270 | 450 | 570 | 600 | 570 | 450 | 270 | 40 |
| -10⁰ | | | | 75 | 75 | 75 | | | |

Operation of warning lights

A school bus must:

- have a visible or audible signal that tells the bus driver when the warning lights are on; and
- be fitted with a switch that allows the driver to turn all warning lights fitted to the bus on simultaneously, or off simultaneously, from the driver's normal driving position.

The warning lights must operate automatically when a door on the bus opens, and continue to operate while a door is open and for at least 10, but not more than 20, seconds after all the doors of the bus have closed, unless the bus's driver has turned the warning lights off.

When operating:

- the warning lights on the same end of the bus must flash alternately; and
- the warning lights must emit regular flashes of yellow light at a rate of at least 90, and not over 180, flashes a minute.

Non-school bus optional warning signs or lights for school students

A bus used to provide a public passenger service, other than a school bus, may be fitted with optional warning signs and lights to warn passing motorists of the possibility of school students in the area of the bus stopped at the roadside.

Any optional fitting of warning signs and warning lights must be in accordance with the specified requirements in the *Transport Operations (Passenger Transport) Standard 2010* that have been outlined in this information bulletin.

Use of warning lights – picking up or setting down school students

The Transport Operations (Road Use Management – Road Rules) Regulation 2009 requires the driver of a vehicle, whether or not a school bus, that is fitted with the warning lights and warning signs under the *Transport Operations (Passenger Transport) Standard 2010*, to signal the driver's intention to stop to pick up or set down children.

The driver must:

- activate the warning lights at least five seconds before the vehicle stops;
- keep the warning lights activated while the vehicle is stopped; and
- keep the warning lights activated for at least five seconds after moving off.

While the driver has to switch the lights on, the driver normally does not have to switch the lights off due to the automatic function described on page 6. However, the lights may have to be reactivated if the driver delays moving off after closing the doors.

The driver of a vehicle fitted with warning lights must ensure they are not activated, other than as required above, at any time when the vehicle is on a road, unless the driver has a reasonable excuse.

Additional information

The information contained in this bulletin has been produced as a guide to assist in the understanding of the legislation and policy. Clarification of any information in this bulletin may be obtained from The Department of Transport and Main Roads by contacting your local Passenger Transport office of the Department.

This bulletin is an interpretation of the relevant Acts, Regulations and Standard and should not be used as a reference to a point of law.

Copies of the *Transport Operations (Passenger Transport) Act 1994*, *Transport Operations (Passenger Transport) Regulation 2005* and *Transport Operations (Passenger Transport) Standard 2010* can be purchased from GoPrint.

The legislation may be viewed on the internet at www.legislation.qld.gov.au. Additional information about public passenger services is available on the Department of Transport and Main Roads internet site at www.tmr.qld.gov.au/information_bulletins.