

## Warning signs and lights for school buses

### 1. Purpose

To inform bus owners, operators and manufacturers of the requirements for the warning system that must be fitted to buses used for the conveyance of school children. These requirements apply in all areas across New South Wales.

### 2. Application

This technical specification is approved under Clause 94 of the Road Transport (Safety and Traffic Management) Regulation 1999 and applies to any bus (ie a motor vehicle built mainly to carry people that seats over 12 persons, including the driver) which:

- Conveys school children to or from school on weekdays between the hours of 7.00am to 9.30am or 2.30pm to 5.00pm; or
- Is used solely for the purpose of conveying children to or from school.

The requirements of this technical specification do not apply to a bus:

- That is operating on charter for a school excursion or being used for community service activities; and
- Where no individual fares are being directly collected or school passes used.

Buses are exempt from the front sign requirement described in 4.1 on page 2 if operating as a regular passenger service as defined in the *Passenger Transport Act 1990*, ie a service conducted according to regular routes and timetables, excluding a tourist service or a long-distance service.

### 3. Introduction

The warning system comprises signs, flashing headlights and wigwag lights that, when activated, warn approaching motorists that school children are boarding or disembarking from the bus. It is an offence for a driver to pass a bus at a speed more than 40 km/h if it displays signs as shown in Figures 3 and 4 on page 3, and if the flashing wigwag lights of the warning system are activated.

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**For bus owners, operators and manufacturers**

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**For further enquiries**

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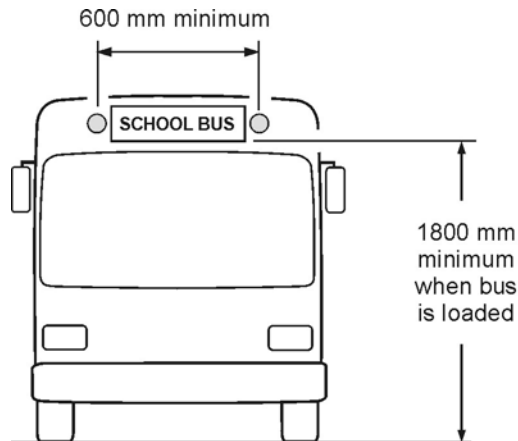
[www.rta.nsw.gov.au](http://www.rta.nsw.gov.au)

## 4. Signs

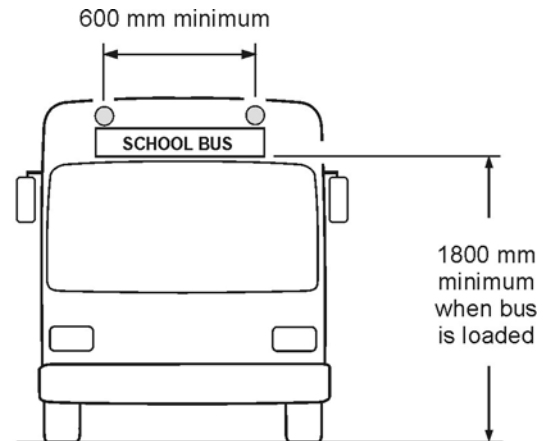
- 4.1 The words 'SCHOOL SPECIAL' or 'SCHOOL BUS' must be displayed on the standard destination sign at the front of the bus. If there is no destination sign present, a suitable high mounted 'SCHOOL BUS' sign must be displayed as shown in Figure 1 below. That sign must be mounted no lower than 1800 mm above the ground when the bus is loaded and must not interfere with the driver's vision.

FIGURE 1: LOCATION OF SIGNS AND WIGWAG LIGHTS – FRONT

### Preferred location

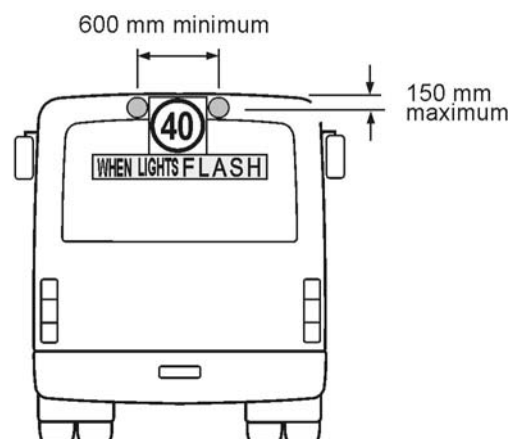
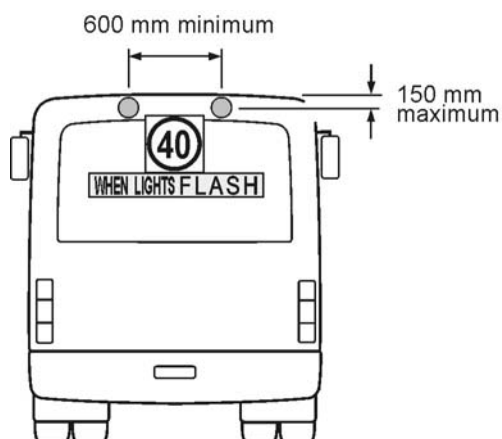


### Alternative location



- 4.2 Signs indicating '40 km/h' and 'WHEN LIGHTS FLASH' must be mounted high on the rear of the bus as shown in Figure 2 below.

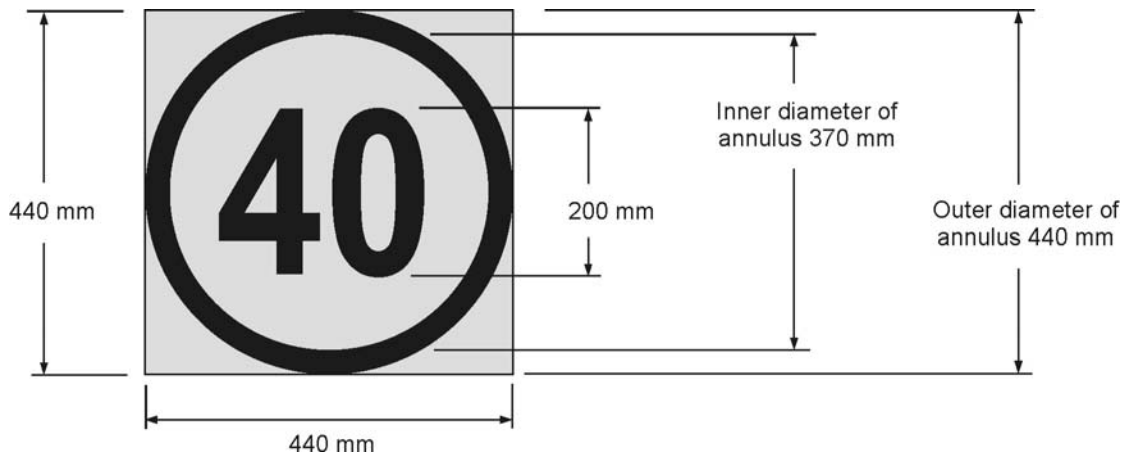
FIGURE 2: LOCATION OF SIGNS AND WIGWAG LIGHTS – REAR



- 4.3 Specifications for rear mounted '40 km/h' sign are shown in Figure 3 on page 3.
- Buses must display a rear '40 km/h' sign that complies with Australian Standard AS 1743 *Road signs - Specifications* ie black legend and lettering on white reflectorised background. The annulus around the '40 km/h' must be a red reflectorised symbol.

- When sufficient space is available at the rear of the bus, the '40 km/h' sign must meet the dimensions shown in Figure 3.
- If the space available means the '40 km/h' sign cannot meet the dimensions shown in Figure 3 it may be reduced proportionally to fit the available space, provided the outer diameter of the annulus is not reduced to less than 240 mm.
- The reflective material used must comply with the requirements of AS/NZ 1906 *Retroreflective materials and devices for road traffic control purposes - Retroreflective materials*, as amended.

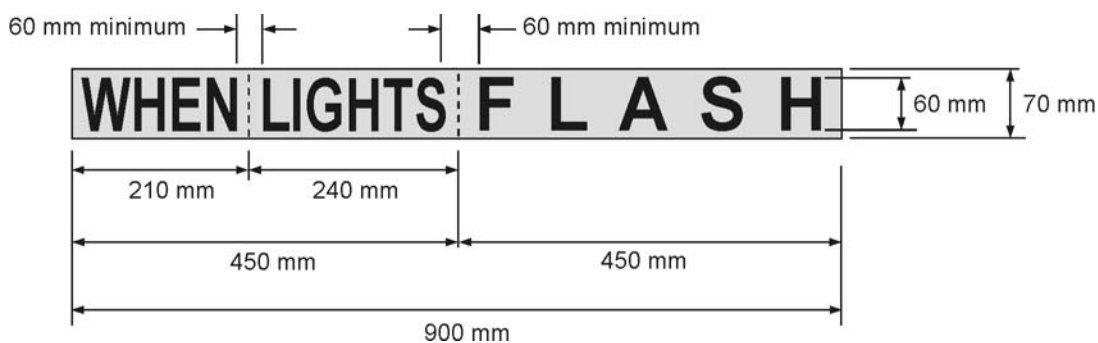
FIGURE 3: DETAILS OF '40 KM/H' SIGN



4.4 'WHEN LIGHTS FLASH' sign (see Figure 4 below).

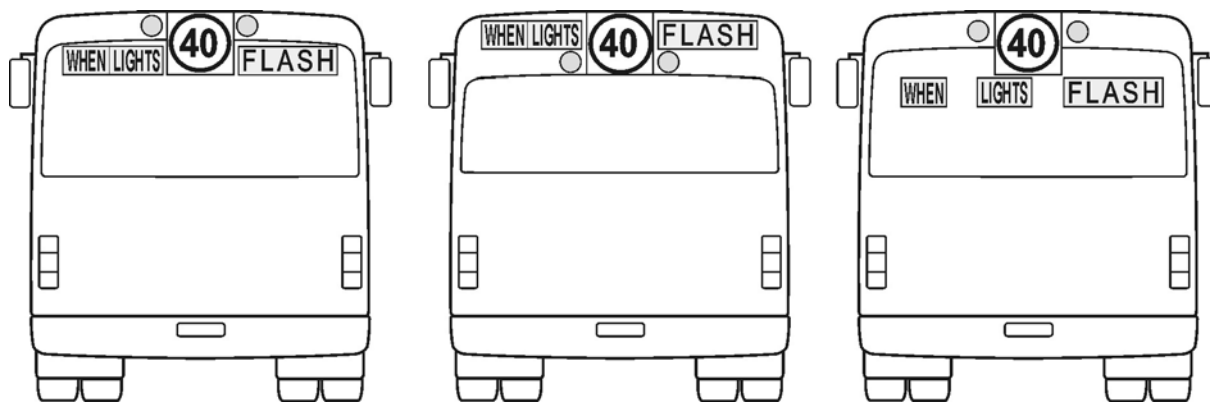
- The sign must use series D characters as described in AS 1744 *Forms of letters and numerals for road signs*. The words 'WHEN' and 'LIGHTS' must use narrow letter spacing as specified in AS 1744; the letters of the word 'FLASH' must be spaced evenly.
- To ensure legibility a minimum separation of 60 mm is required between each word.

FIGURE 4: DETAILS OF 'WHEN LIGHTS FLASH' SIGN/S



- The 'WHEN LIGHTS FLASH' sign may be separated and attached in alternative locations as shown in Figure 5 on page 4. It may be installed as:
  - Two: 'WHEN LIGHTS' and 'FLASH', or
  - Three signs: 'WHEN', 'LIGHTS' and 'FLASH',
 In either case, the dimensions of the individual signs must be the same as shown in Figure 4.

FIGURE 5: ALTERNATIVE LOCATIONS FOR 'WHEN LIGHTS FLASH' SIGNS



- 4.4 All signs must be placed on the bus so that their appearance (as shown in Figures 1 and 2 on page 2, and Figure 5 above), is not distorted when sighted by a person driving a vehicle approaching directly from the front or rear of the bus.
- 4.5 Signs must be placed on a contrasting background on the bus. The 'WHEN LIGHTS FLASH' sign/s require an additional 25 mm black surround on all sides if the bus's background colour does not provide a contrasting background.

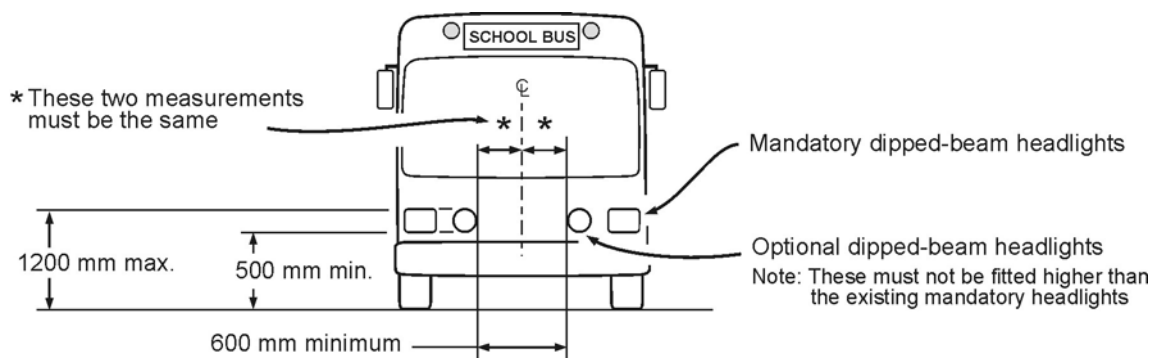
## 5. Wigwag light requirements and operation

- 5.1 Pairs of lights capable of flashing (wigwags) must be installed on the front and rear of the bus as shown in Figures 1 and 2 on page 2.
- 5.2 The front wigwag lights must be mounted symmetrically about the vertical centreline of the bus.
- 5.3 The front wigwag lights should be mounted along the horizontal axis of the sign. However, if this is not practical, they can be located immediately above or below the sign, provided that both lights are mounted at the same level and not closer than 600 mm as shown in Figure 1 on page 2.
- 5.4 The rear wigwag lights must be mounted symmetrically about the vertical centreline of the bus and no lower than 150 mm below the top of the bus as shown in Figure 2 on page 2.
- 5.5 The lens of each wigwag light must be no smaller than 7800 mm<sup>2</sup>, which equates to a minimum nominal diameter of 100 mm. Alternatively, a 100 mm square lens may be used.
- 5.6 The wigwag lights must emit an amber coloured light complying with ADR 6 *Direction Indicators*.
- 5.7 The intensity of the light emitted by the wigwag lights must comply with ADR 6 *Direction Indicators*.
- 5.8 When the wigwag lights are required to operate, they must activate automatically and within one second of any passenger door opening. The wigwag lights must then continue to operate while any passenger door is open and must continue to operate for 20 to 30 seconds after the passenger door/s are closed.
- 5.9 Each pair of wigwag lights must flash alternately with a frequency of 60 to 120 cycles per minute.
- 5.10 Strobe lights, which emit short bursts of light two to three times per flash, may be used as wigwag lights provided they meet all of the requirements outlined in 5.1 to 5.9 above.

## 6. Headlight requirements and operation

- 6.1 The bus's mandatory dipped-beam (ie low-beam) headlights, or an optional pair of dipped-beam headlights, must flash alternately, ie between the right and left headlights, whenever the wigwag lights are activated. They must:
- Flash only while a passenger door is open and the bus is stationary.
  - Cease flashing immediately when the passenger door/s are closed.
- 6.2 In addition to the requirements of 6.1 above, any optional pair of dipped-beam headlights fitted to the bus and used as flashing lights must:
- Be the same wattage as the bus's mandatory dipped-beam headlights.
  - Be fitted to the front of the bus as shown in Figure 6 below.
  - Not dazzle other road users either directly (oncoming vehicles) or indirectly through rear view mirror/s etc.
  - Not be strobe lighting.
- 6.3 Main-beam (ie high-beam) headlights must not be used as flashing headlights.

**FIGURE 6: LOCATION OF OPTIONAL DIPPED-BEAM HEADLIGHTS**



## 7. General requirements

- 7.1 An isolating switch must be installed that controls the operation of the flashing lights (headlights and wigwag lights).
- 7.2 The location of the signs or wigwag lights must not interfere with the operation of any passenger emergency exit. This may be achieved by cutting or scoring the sign such that it will tear if any force is applied to it. If the sign is cut the parts must be butted together without any gap between the pieces.