



Department of the  
**Environment**  
www.doeni.gov.uk

## **Technical Specification**

### **Requirements for warning signs and lights on school buses**

#### **1.0 Introduction**

This technical specification sets out the requirements for warning signs and lights on school buses in Northern Ireland (NI).

Warning signs and lights are intended to warn passing motorists of the possibility of children in the area around a bus stopped at the roadside.

#### **2.0 Application**

The signs and lights detailed in this specification must be fitted to all buses being used to provide 'school' services<sup>1</sup> i.e. those provided by the Education and Library Boards, private operators, schools and Translink for the main purpose of transporting children to and from school. All required signs and lights must be fitted by **1 September 2012**.

The type of system to be fitted to each bus will be determined by the following:-

<sup>1</sup> School services are provided by Translink, the Education and Library Boards and private operators. 'School service' is defined as, 'a service which operates during term time only to carry a child to or from his school-

(i) or to a place within the vicinity of his school on a day before he has attended school on that day; or  
(ii) from a place within the vicinity of his school on a day after he has finished attending school on that day.

**(a) Buses first used<sup>2</sup> prior to 1 May 2011**

**Buses will be required to meet a minimum specification which will allow a range of fitting and technical options as set out in paragraph 3.0 (a) below.**

**(b) Buses first used from 1 May 2011**

**Buses will be required to meet a higher specification as set out in 3(b) below.**

### **3.0 System Specification**

**(a) Buses first used prior to 1 May 2011**

**(i) Bus capacity >16 seats (excluding driver)**

#### **1. Fitting of warning signs and lights**

- two warning lights and a warning sign must be fitted to the front and rear of the bus so as to be plainly visible to road users ahead of the bus and to the rear of the bus.
- the warning lights must be fitted:
  - in alignment with the sign;
  - on each side of, and the same distance from the centre of, the sign;
  - with the edge of the sign not more than 200mm from the nearest point on the illuminated area of the warning lights;
  - so that no part of the bus obstructs the light displayed.
- if additional text is also used in conjunction with the signs and lights, the lights must be fitted either side of both the text and sign, with the edge of the sign or text on each side not more than 200mm from the nearest point on the illuminated area of the warning lights.

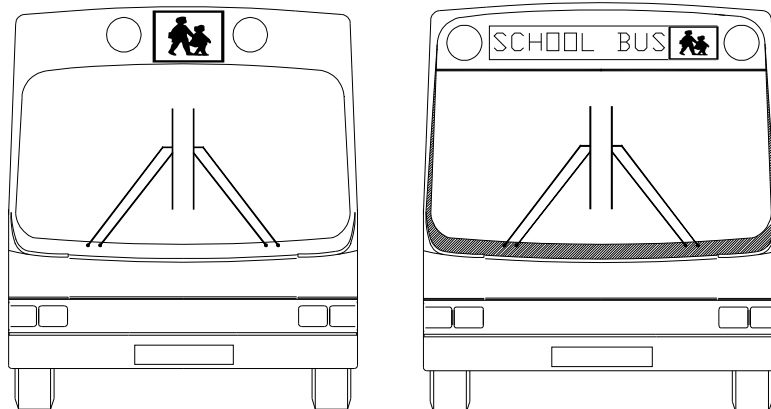
<sup>2</sup> The term 'first used' is in accordance with the meaning set out in regulation 2(4) of the Motor Vehicles (Construction and Use) Regulations (Northern Ireland) 1999

- the only additional text permissible is ‘SCHOOL BUS’, ‘SCHOOL’, the route number or school name. If the school name is used it must be displayed alternatively, and with equal timing, with the text ‘SCHOOL BUS’ or ‘SCHOOL’. Such additional text must be at least 200mm in height and can be either upper or lower case;
- the centre of the signs and lights must be positioned not less than 1500mm or more than 3500mm from ground level.
- the warning lights must be fitted so that they will operate independently of any other lights on the bus.
- Provided the above requirements are met, the sign and lights may be fitted where practicable on each bus e.g. in a destination panel, in the body of the bus, in a roof pod or in the front or rear window etc. Examples of allowable locations are shown in **Figure 1** below.

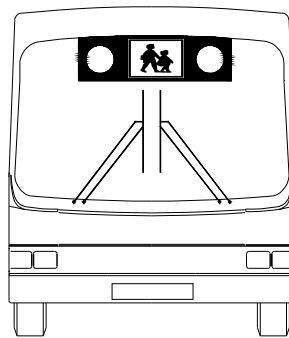
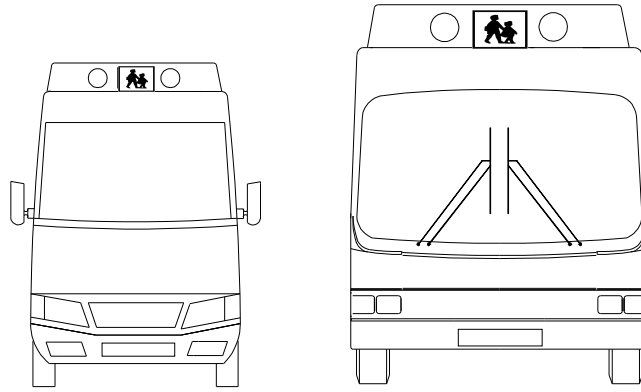
N.B. if the sign and lights are to be fitted on the front or rear behind glass, the glass must be clear and not tinted. In addition, no part of the signs and lights must encroach more than 40mm into the swept area of the wipers or have any detrimental impact on the driver’s forward vision or exterior mirror view.

**Figure 1 – Examples of Allowable Locations**

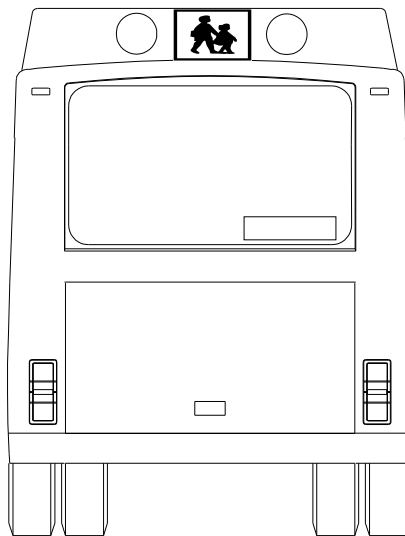
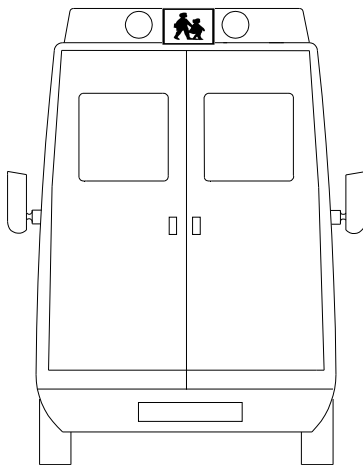
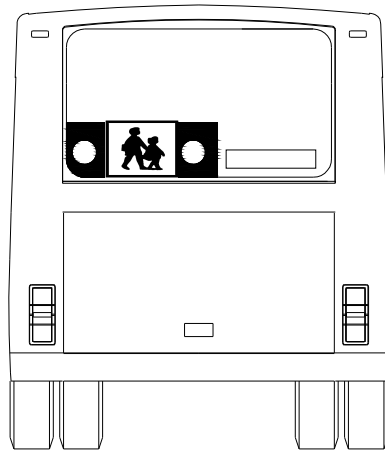
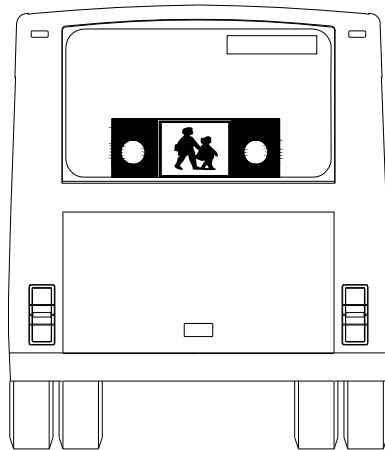
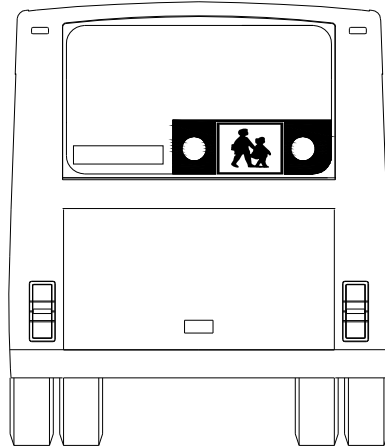
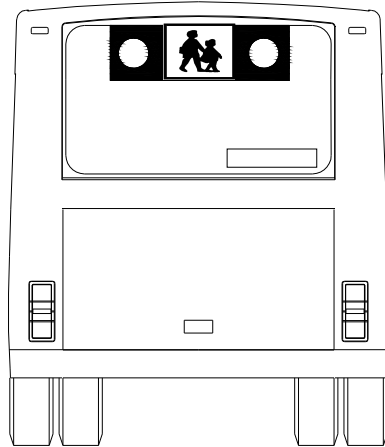
**Front**



School Bus Warning Signs and Lights – Regulatory Impact Assessment

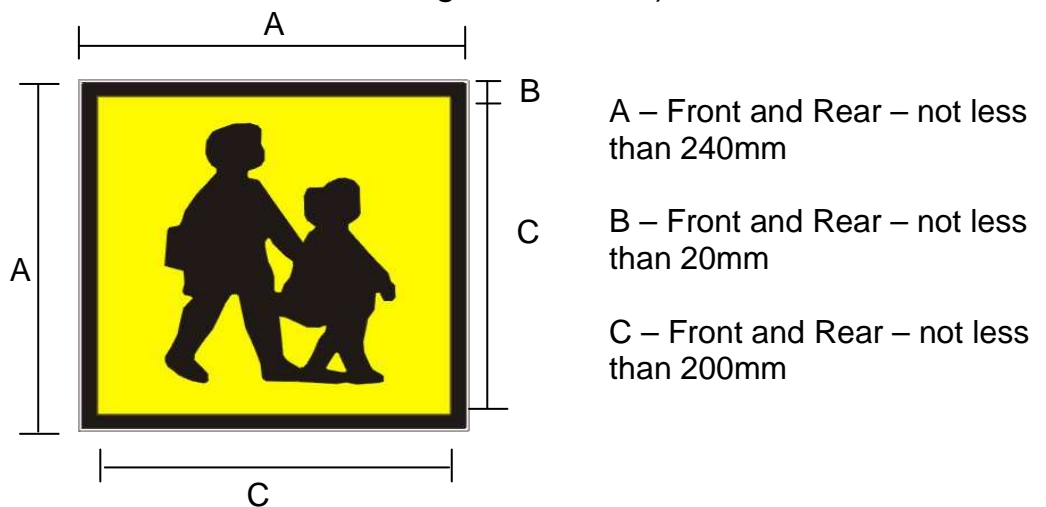


Rear



## 2. The warning sign must:

- be at least 240x240mm in size, including the border;
- display the 'schoolchild' pictogram as shown in **Figure 2** below;
- have an illuminated yellow or amber background with the pictogram and border black;
- emit a light of luminous intensity of not less than 4 candela and not more than 60 candela measured in the reference axis; (N.B. If Light Emitting Diodes (LEDs) are to be used the maximum pitch must be 12mm, horizontally and vertically. It is accepted that if LEDs or similar technologies are used to create the pictogram it will not be a solid image as shown.)



**Figure 2 – Illuminated School Bus Sign**

## 3. The warning lights must:

- have an amber illuminated area of at least 7850mm<sup>2</sup> i.e. 100mm diameter;
- have horizontal angles of visibility of 80° outwards and 45° inwards and vertical angles of visibility of 15° above and below the horizontal;
- each be a single intensity lamp which complies with the flash rate and luminous intensity set out in United Nations Economic Commission For Europe (UNECE) Regulation 65 'Uniform Provisions Concerning the Approval of Special Warning Lamps for Motor Vehicles' for Category X lamps<sup>3</sup>;

<sup>3</sup> Reg 65 and its amendments are available at the following website:  
<http://www.unece.org/trans/main/wp29/wp29regs61-80.html>

- flash in such a manner that one light is always shown when the other is not shown i.e. 'wig-wag' operation.

## **(ii) Bus capacity 9-16 seats (excluding driver)**

Where practicable the specification set out at 3 (a) (i) above should be adhered to, otherwise a roof bar as specified below must be used.

### **1. Fitting of roof bar**

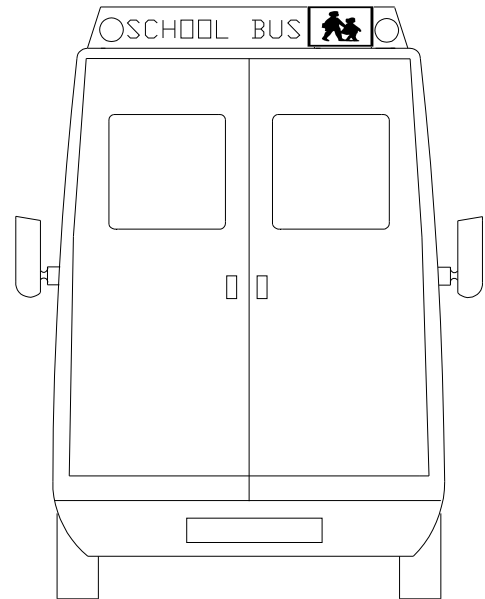
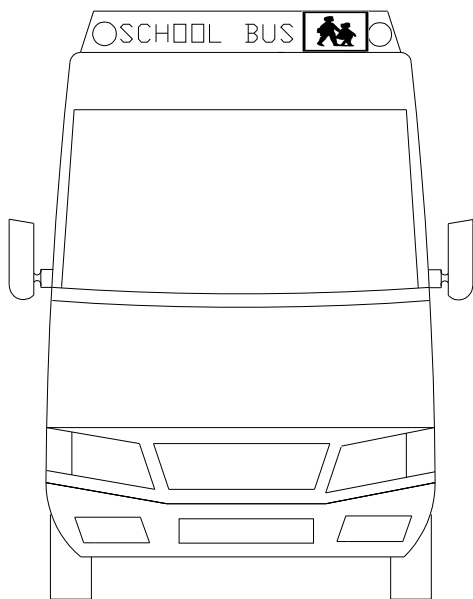
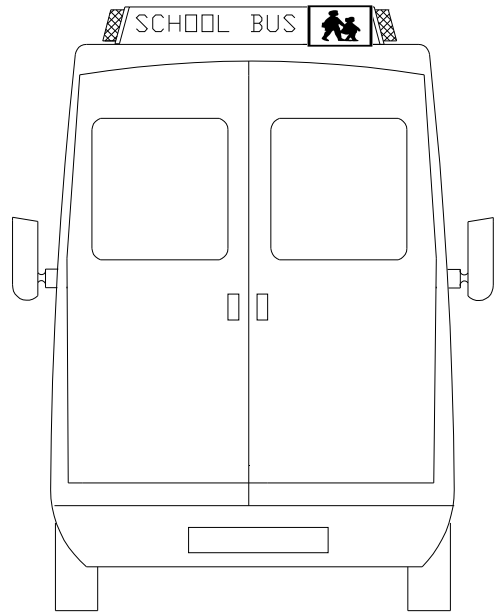
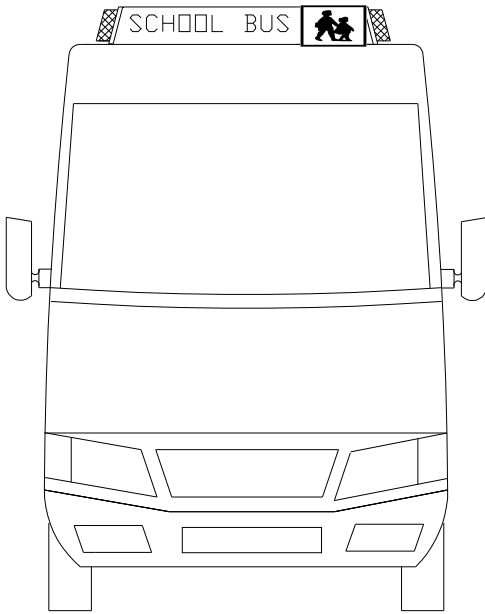
- a roof bar, displaying warning lights, a warning sign and appropriate text, must be fitted on the bus so as to be plainly visible to road users ahead of the bus and to the rear of the bus.
- The roof bar must be fitted using a taxi-style detachable arrangement or a permanent roof pod. Examples are shown in **Figure 3** below.
- If the bus length is greater than 5500mm or the bus height is greater than 2300mm then 2 roof bars must be used, displaying to the front or rear as appropriate. Otherwise, 1 roof bar is permissible, displaying both to the front and rear.

### **2. Roof bar(s) must:**

- display two warning lights, a 'schoolchild' pictogram sign and the text 'SCHOOL BUS' both to the front and rear;
- be at least 1000mm in length, excluding the lights;
- not exceed the width of the bus;
- incorporate a 'schoolchild' pictogram sign with a minimum size of 120mmx120mm i.e. in Figure 1 A=not less than 120mm, B=not less than 10mm, C=not less than 100mm;
- incorporate the text 'SCHOOL BUS' to the left of the sign using with a minimum font height of 110mm;
- have an illuminated yellow or amber background with the pictogram, border and text black;
- use warning lights as specified in 3 (a) (i) above. The lights must be fitted at each end of the roof bar, displaying both to the

front and rear, or, alternatively, on each side of the bar, forward or rearward facing as appropriate (as shown in **Figure 3** below);

- have the sign, text and lights in alignment ;
- have the lights either side of the sign and ‘SCHOOL BUS’ text;
- have the lights fitted so that they will operate independently of any other lights on the bus.



## **Figure 3 – Roof Bar Examples**

### **(b) Buses first used from 1 May 2011**

The specification as set out in 3 (a) (i) and (ii) above will apply but with the following additional requirements.

#### **(i) Bus capacity >16 seats (excluding driver)**

**1. The warning sign (and any additional text used) may either be:**

- illuminated by bulb, or
- illuminated by LEDs, (N.B. if LEDs are used the maximum pitch must be 12mm, horizontally and vertically); and
- when the (bulb lit or LED) sign is switched off the symbols and text must not be visible.

**2. The warning lights must:**

- be circular in shape;

#### **(ii) Bus capacity 9-16 seats (excluding driver)**

**1. The roof bar must:**

- use warning lights which are circular in shape. The lights must be fitted on each side of the bar, forward or rearward facing as appropriate;

## **4.0 Operation**

The sign must be illuminated at all times when children are being carried to and from school on a bus operating as a 'school' service (as defined in paragraph 2.0 above).

The flashing warning lights must be activated while children are getting on or off the bus, and between 4 and 8 seconds after the door is closed.

**(a) Bus capacity >16 seats (excluding driver) and**

A 3 position switch must be fitted, with driver selection as follows:

1. Off
2. Door control: sign illumination on continuously, warning lights on when door opens; warning lights off 4-8 seconds after the door closes
3. On: Illumination and warning lights on

**(b) Bus capacity 9-16 seats (excluding driver)**

Where practicable the specification set out at 4.0 (a) above should be adhered to, otherwise operation as specified below must be used.

A 3 position switch must be fitted, with driver selection as follows:

1. Off
2. On: sign illumination on continuously, warning lights off
3. On: sign illumination and warning lights on

A delay must be built into the system so that the warning lights will continue to flash 4-8 seconds after they are switched off.

All buses must also have a visible or audible operational tell-tale that allows the bus driver to be aware that the warning lights are on.

## **5.0 Offences**

It is an offence to illuminate the sign when the bus is not being used on a 'school' service.

It is an offence to activate the flashing warning lights when children are not boarding and alighting, outside of the circumstances outlined in paragraph 4.0 above.