



From mountain to sea

Illumination of traffic signs

Guidance

July 2018



Contents

1	Introduction	3
1.1	Legal and policy background	3
1.2	General	3
<hr/>		
2	Illumination of signs	4
2.1	Risk assessment and departures from standard	4
2.2	Materials	4
2.3	Direct Illumination	4
2.4	Existing signs	4
<hr/>		
3	Mandatory Requirements	5
3.1	Speed limit signs	5
3.2	Other signs	6
<hr/>		
4	Bollards	9
4.1	Retroreflective self-righting bollards	9
4.2	Existing bollards	9

1 Introduction

1.1 Legal and policy background

The sign illumination requirements set out in the *Traffic Signs Regulations and General Directions 2016* (TSRGD 2016) are more relaxed than those in its predecessor, TSRGD 2002. Regulation 8 of TSRGD 2016 introduces a default lighting position requiring all upright signs to be reflectorised or illuminated throughout the hours of darkness by internal or external lighting. This default position applies to all traffic signs except where specifically stated otherwise.

From an asset management viewpoint, reflectorised signs are preferable to illuminated signs, being less expensive to install and maintain and incurring no ongoing energy costs. Where signs are directly illuminated, externally illuminated signs are preferred to internally illuminated ones being less prone to vandalism and, if illuminated, more conspicuous when the direct illumination source fails to function. For similar reasons, retroreflective self-righting bollards (RSRBs) are preferred to all forms of internally-illuminated traffic bollards.

This guidance document sets out how and when traffic signs shall be illuminated across Aberdeenshire's road network. Adherence to this guidance should ensure compliance with the legal requirements and help achieve best value in providing appropriate illumination.

This guidance note supersedes Roads Policy Note 3.

1.2 General

The following principles shall apply to all upright traffic signs on Aberdeenshire's roads:

- **All traffic sign faces shall be made from a retroreflective material** (see 2.2 for details and exceptions)
- **Signs shall only be directly illuminated if so prescribed in this guidance document**
- **Where signs are to be illuminated this shall be by direct external illumination** (see 2.3)
- **Traffic bollards shall be of the non-illuminated, retroreflective self-righting type** (see Section 4)
- **Any exception to the above principles shall be viewed as a departure from standard** (See 2.1).

References to a lit road in this document shall be taken to mean any part of a road where there are at least 3 lamps, lit by electricity, provided for the purposes of illuminating the road, and placed no more than 185 metres apart.

The images in the tables of this document are provided for ease of reference only. The illumination requirements for each listed sign shall apply to all permitted variants of that item and not just to the pictured variant.

2 Illumination of signs

2.1 Risk assessment and departures from standard

As stated earlier, adherence to this guidance should ensure compliance with the legal requirements and help achieve best value in providing appropriate illumination. The tables in section 3 list instances where signs must have direct illumination however there may be some situations where safety-critical traffic signs are sited where they may not receive adequate illumination from headlamps, and it may be necessary to provide direct lighting regardless of the regulatory requirements. Such situations might include signs mounted unusually high above the level of the carriageway, on the off-side of the road or at the entrance to a side road.

Designers should carry out a risk assessment considering the implications of drivers failing to see the sign at night and whether the safety benefit gained through illumination justifies the additional environmental and financial costs involved.

Before introducing direct illumination where it is not mandatory, designers should consider if a satisfactory solution can be achieved by relocating or repositioning the sign, or by using a higher grade of retroreflective material. New road layouts should be designed to minimise the need for sign illumination.

Any proposal to directly light a traffic sign when such illumination is not mandatory shall be considered as a departure from standard. Applications should be made to the Roads Policy and Asset Manager through the Roads Standards Group.

2.2 Materials

Class RA2 reflective sheeting (BS EN 12889-1:2007) should be used for most traffic signs including those shown in tables 3.1 and 3.2 and all circular and triangular signs.

Class RA1 reflective sheeting may be used for other non-critical traffic signs while non-reflectorised material can be used for signs positioned parallel to the street (e.g. some waiting-restriction signs) or signs for pedestrians only.

2.3 Direct Illumination

Where required, direct illumination shall be by means of an external signlight positioned above the sign. LED technology shall be used to minimise running costs and the level of lighting shall be adequate for all signs mounted on the same post.

2.4 Existing signs

Where illuminated signs are to be repaired or replaced and do not require to be illuminated, they should be replaced with a non-illuminated retroreflective sign. The electrical supply shall be disconnected at the supply origin, the signlight removed, internal cables recovered and the termination point marked "ABANDONED CABLE" where appropriate. Holes in the pole should be plugged to prevent corrosion and Confirm and GIS updated.

3 Mandatory Requirements

3.1 Speed limit signs

The signs shown in Table 3.1 **must** be illuminated only when the sign:

1. Is a terminal sign;
2. Is erected on an A Class road; **and**
3. Is erected on a lit road within 50 metres of a street-lighting column.

Repeater signs and those on B Class, C Class or unclassified roads should not be illuminated.

Table 3.1 Speed limit signs

Speed limit signs				
				
TSRGD Dia. No. 670 Sch.10, Pt.2, Item 1	TSRGD Dia. No. 671 Sch.10, Pt.2, Item 2	TSRGD Dia. No. 672 Sch.10, Pt.2, Item 3	TSRGD Dia. No. 673 Sch.10, Pt.2, Item 4	
				
TSRGD Dia. No. 675A Sch.10, Pt.2, Item 6	TSRGD Dia. No. 675B Sch.10, Pt.2, Item 7	TSRGD Dia. No. 676 Sch.10, Pt.2, Item 8	TSRGD Dia. No. 674 Sch.10, Pt.2, Item 5	

Provision 3 of Part 3 of Schedule 10 of TSRGD 2016 requires that two or more of these signs placed at, or near, the same point for the same purpose must, if they are terminal signs, be illuminated by the same method. If a departure from standard was granted for illuminating a speed-limit sign in a situation where illumination was non-mandatory, all speed-limit signs (including those mounted back-to back) at that point of the road would need to be illuminated by the same method.

3.2 Other signs

The signs shown in Table 3.2 **must** be illuminated only when the sign:

1. Is erected on a lit road within 50 metres of a street-lighting column; **and**
2. Is erected on a road with a speed limit of 30mph or greater.

Table 3.2 Other signs

Other signs				
				
TSRGD Dia. No. 770 Sch.2, Pt.2, Item 51	TSRGD Dia. No. 771 Sch.2, Pt.2, Item 52	TSRGD Dia. No. 779 Sch.2, Pt.2, Item 54	TSRGD Dia. No. 782 Sch.2, Pt.2, Item 55	TSRGD Dia. No. 530A Sch.2, Pt.4, Item 2 See Note (1)
				
TSRGD Dia. No. 531.1A Sch.2, Pt.4, Item 3	TSRGD Dia. No. 531.1A Sch.2, Pt.4, Item 3	TSRGD Dia. No. 629.2A Sch.2, Pt.4, Item 5 See Note (1)	TSRGD Dia. No. 501 Sch.2, Pt.6, Item 1	TSRGD Dia. No. 632 Sch.3, Pt.2, Item 5
				
TSRGD Dia. No. 615 Sch.3, Pt.2, Item 9	TSRGD Dia. No. 617 Sch.3, Pt.2, Item 11	TSRGD Dia. No. 619 Sch.3, Pt.2, Item 12	TSRGD Dia. No. 622.1A Sch.3, Pt.2, Item 13	TSRGD Dia. No. 622.2 Sch.3, Pt.2, Item 14

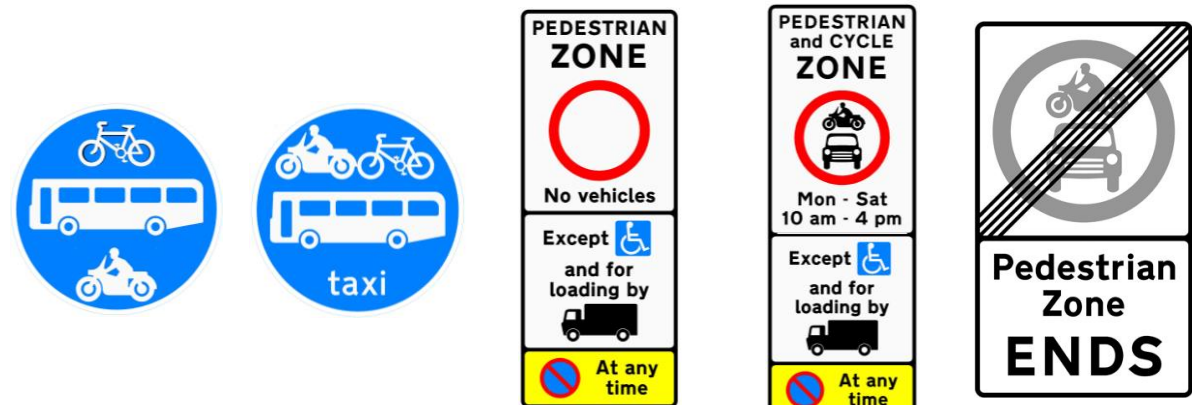
Table 3.2 (contd.)



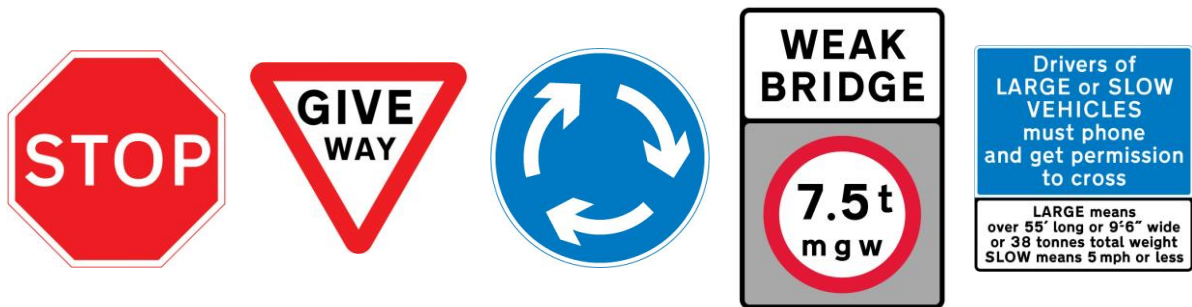
TSRGD Dia. No. 622.4 Sch.3, Pt.2, Item 15 TSRGD Dia. No. 622.8 Sch.3, Pt.2, Item 16 TSRGD Dia. No. 952 Sch.3, Pt.2, Item 17 TSRGD Dia. No. 619.1 Sch.3, Pt.2, Item 18 TSRGD Dia. No. 622.7 Sch.3, Pt.2, Item 19



TSRGD Dia. No. 619.2 Sch.3, Pt.2, Item 20 TSRGD Dia. No. 629.1 Sch.3, Pt.2, Item 25 TSRGD Dia. No. 629A Sch.3, Pt.2, Item 26 TSRGD Dia. No. 953 Sch.3, Pt.2, Item 33



TSRGD Dia. No. 953A Sch.3, Pt.2, Item 34 TSRGD Dia. No. 953B Sch.3, Pt.2, Item 35 TSRGD Dia. No. 618.3B Sch.8, Pt.2, Item 1 TSRGD Dia. No. 618.3C Sch.8, Pt.2, Item 2 TSRGD Dia. No. 618.4A Sch.8, Pt.2, Item 3



TSRGD Dia. No. 601.1 Sch.9, Pt.2, Item 1 TSRGD Dia. No. 602 Sch.9, Pt.2, Item 2 TSRGD Dia. No. 611.1 Sch.9, Pt.2, Item 6 TSRGD Dia. No. 626.2A Sch.9, Pt.4, Item 2 TSRGD Dia. No. 784.1 Sch.9, Pt.4, Item 4

Table 3.2 (contd.)

				
TSRGD Dia. No. 606 Sch.3, Pt.2, Item 1 See Note 2	TSRGD Dia. No. 609 Sch.3, Pt.2, Item 2 See Note 2	TSRGD Dia. No. 610 Sch.3, Pt.2, Item 3 See Note 2	TSRGD Dia. No. 614 Sch.3, Pt.2, Item 6 See Note 2	TSRGD Dia. No. 612 Sch.3, Pt.2, Item 7 See Note 2
				
TSRGD Dia. No. 613 Sch.3, Pt.2, Item 8 See Note 2	TSRGD Dia. No. 642 Sch.3, Pt.2, Item 4 See Note 3	TSRGD Dia. No. 616 Sch.3, Pt.2, Item 10 See Note 2	TSRGD Dia. No. 652 Sch.9, Pt.4, Item 5 See Note 4	TSRGD Dia. No. 611 Sch.11, Pt.2, Item 73 See Note 2

Notes: (additional criteria)

- (1) Speed limit criterion does not apply to Diagrams 530A and 629.2A if mounted on a bridge or other structure.
- (2) Does not require to be illuminated if mounted on a self-righting bollard.
- (3) Only to illuminated when used as a terminal sign.
- (4) Only to be illuminated if within 50m of any junction with another road from which traffic can approach it.

4 Bollards

4.1 Retroreflective self-righting bollards

Non-illuminated RSRBs shall be used where it is necessary to mount a sign on a bollard or to have a traffic bollard with a blank aspect.

RSRBs shall comply fully with the requirements for **Type A** within BS 8442:2015 and shall be passively safe with a rating of **100/NE/4** in accordance with BS EN 12767:2007.

White bollards shall be used in urban areas and black in rural areas. Rear reflective panels are generally not required.



4.2 Existing bollards

Where illuminated bollards are to be repaired or replaced and do not require to be illuminated, they should be replaced with a non-illuminated RSRB. The electrical supply shall be disconnected at the supply origin, and Confirm and GIS updated.