



Hampshire
County Council

Economy, Transport and Environment Department

Technical Guidance Note TG12 - Signs and Bollards

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1. Policy / Approach

- 1.1. The use of signs and bollards within the highway in Hampshire must be in accordance with the current Traffic Sign Regulations and General Directions (TSRGD). Further guidance in the application of this Statutory Instrument is provided in the [Traffic Signs Manual](#) and [DfT Circular 01/2016](#).
- 1.2. Hampshire County Council (HCC) [Traffic Management Policy and Guidance](#) also details specific policies in relation to:
- Traffic Regulation Orders (TM1)
 - Speed limits (TM2)
 - Traffic signs and road markings (TM3)
 - Parking restrictions (TM4)
 - Movement restrictions (TM5)
- 1.3. Sign use shall be kept to a minimum to:
- Ensure signs are not overused (e.g. warning signs) which could then dilute their effectiveness (Refer to paragraph 1.6.2. Traffic Signs Manual Chapter 4).
 - Ensure the essential information portrayed by the signs are clearly displayed rather than being lost within a plethora of signage.
 - Avoid clutter.
 - Minimise maintenance costs.
- Redundant/unnecessary existing signs within a scheme extent shall be removed as part of the scheme.
- 1.4. Where traffic restrictions are proposed, associated Traffic Regulation Orders may be required. Refer to [Technical Guidance Note TG21 – Traffic Regulation Orders](#).

2. Definitions

AIB	Advanced Information Boards
AONB	Area of Outstanding Natural Beauty
CCTV	Closed Circuit Television
CHS	Circular Hollow Section Post
DNO	(a) a distribution network operator and/or (b) an independent distribution network operator within the meaning of Part 1 of the Electricity Act 1989 as amended by the Utilities Act 2000.
HCC	Hampshire County Council
PFI	HCC's Street Lighting Private Finance Initiative Contract with Tay Valley Lighting (Hampshire) Ltd
PIB	Permit Information Board
SIS	Scheme Information Sign
TSM	Traffic Signs Manual
TSRGD	The Traffic Signs Regulations and General Directions
VMS	Variable Message Sign
WBS	A circular hollow section post with a wide base

3. Technical Requirements

3.1. Design

3.1.1. Design of traffic signs must be in accordance with the TSRGD. Additional guidance is provided in the Traffic Signs Manual. See also HCC's [Traffic Management Policy and Guidance](#) which contains the following specific policies:

- TM1 - Traffic Regulation Orders
- TM2 - Speed limits
- TM3 - Traffic signs and road markings
- TM4 - Parking restrictions
- TM5 - Movement restrictions

Refer also to Appendix 12/1 in [HCC's Contract Specification](#).

3.1.2. Except where prohibited by Regulations or directed by HCC, all sign faces shall be manufactured from RA2 reflective material having a photometric performance and minimum coefficients of retro-reflection complying with the requirements set out in National Annex NA of BS EN 12899-1:2007 and shall have a manufacturer's warranty of at least 10 years.



Signs less than 1.1m² in area shall not be made from aluminium (excluding double sided end mounted finger post signs).

3.1.3. R3B Microprismatic sign face materials shall only be specified for use following an assessment of its suitability for the location proposed, with the use of this material limited to street lit areas where it is considered that higher reflectivity sign face materials are deemed necessary for safety reasons. Only microprismatic materials with a European Technical Assessment issued after testing in accordance with the European Assessment Document may be specified.

3.1.4. Where new movement restrictions are to be implemented, consideration should be given to only providing a single terminal sign except where compliance with the restriction is expected to be poor or where it is assessed that two signs are needed to ensure drivers are aware of the restriction (this is particularly important for 'no entry' and 'one way' signage). In the past it was necessary for many regulatory signs to be provided in pairs at the start of the restriction, but changes to TSRGD mean this is no longer a requirement (except for speed limits in some circumstances). The primary concern when determining how many and where regulatory signs should be positioned will relate to how clear they are to road users to enable them to understand and be aware of the restriction. In deciding whether to reduce terminal signing provision, the following factors could be taken into account:

- turning angles
- junction layouts
- one way traffic conditions
- sign mounting height

Drivers should be able to see all relevant signs before starting to turn at a road junction.

- 3.1.5. For Speed Limit signs refer to TSM Chapter 3 paragraph 8.2.2. There is no longer a requirement to use pairs of signs at the change in speed limit. However, in most situations it is recommended that two signs are provided, particularly on motorways and rural dual carriageway roads. Any decision to use a single sign shall be underpinned by a robust risk analysis. Where a single sign is to be used this could be supplemented by a speed limit road marking (see 8.18.1 TSM Chp 3). Where the speed limit changes to the national limit, two signs are likely to be required as there is no appropriate road marking and repeater signs are not used where there is no street lighting.
- 3.1.6. In TSRGD, the requirement for a sign and marking to be used together has been removed in some cases. For example a mandatory cycle lane or a 'permit holders only' parking bay only need to be shown by a road marking where they operate at all times.
- 3.1.7. Warning signs are to be used sparingly. Overuse can dilute their effectiveness. They should only be used where there is a specific safety issue or hazard, not to sign readily apparent conditions or routine features of the road, such as bends and junctions where such features are clearly visible, e.g. on the approach to traffic signals or new side-road junctions.
- 3.1.8. A roundabout warning sign shall only be used where there is not a map-type advance direction sign or in cases of limited visibility, unusual layouts or high-speed approaches.
- 3.1.9. Attempts should always be made to attach signs to suitable existing street furniture rather than erect a new post. Where posts are used, it may be more appropriate to mount several signs on the same assembly rather than individual posts (except for tourist signs, where it can be advantageous to mount them separately due to businesses changing over time). Refer to Section 6.3 in TSM Chapter 1 for guidance on the mounting of multiple signs on a support structure including which signs are permitted to be mounted together and in which order.
- 3.1.10. Signs attached to lamp columns shall not be greater in area than 0.3m² to prevent damage to the column, unless the column has been specially manufactured to take greater loads. A protective band shall be used as detailed in [Technical Guidance Note TG13 – Street Lighting](#) and the Standard Details for lighting columns.
- 3.1.11. If possible, signs should be located so they are not immediately in front of the window of a residential property nor located in front of an historic or

locally important building, monument or structure in such a way that would detract from its appearance.

- 3.1.12. Obsolete/redundant signs and posts should be taken down when other highway schemes are being implemented in the locality.
- 3.1.13. Permanent Vehicle Activated Signs typically display a sign that approaching drivers would recognise from the Highway Code (such as a bend or junction warning sign) or a reminder of the speed limit. Following Department for Transport advice, these signs shall only be used where there is a measured casualty problem and where there are no other suitable engineering measures – therefore such signs shall only be installed with the agreement of the HCC Casualty Reduction Team. The signs are expensive to install and maintain. They require an electricity supply or can be solar powered, depending on the location. Standard static signs shall accompany permanent vehicle activated signs in case the activated sign fails to work. Refer also to TM3 Supporting Information.
- 3.1.14. In Conservation Areas and the New Forest National Park, sign posts and the back of the sign shall be painted black (BS4800 00-E-53 powder coated) to minimise the visual impact of the sign and match existing street furniture. Posts and sign back painting shall be factory-finished. If externally lit, the lantern shall be colour matched .

Use of Backing Boards

- 3.1.15. The distinctive circular or triangular shape of regulatory and warning signs, which can give instant meaning to road users, may be lost if grey or yellow backing boards are used.
- 3.1.16. Yellow backing boards shall only be used for school warning signs, at locations with a history of accidents or where a busy or dark background/overhanging trees makes it difficult to see the sign. Existing signs with such backing boards within the scheme extents should be reviewed as part of any improvement scheme (for Developer led schemes, HCC will undertake this review if needed).
- 3.1.17. Grey backing boards can be used to highlight the start of a speed limit or other restriction where compliance is poor or at locations where the sign will not stand out because of the background. It may be more appropriate to use a larger size sign without a backing board.
- 3.1.18. Fluorescent yellow backing boards shall only be used at locations where there has been a pattern or cluster of injury accidents as part of an accident reduction scheme.
- 3.1.19. Further guidance on the use of backing boards is provided in TSM Chp 3 8.14.

Direction Signs

- 3.1.20. Grey backing boards are sometimes necessary to group together several direction signs. However, this can result in a large structure that dominates the street scene. This should be avoided in environmentally sensitive, rural and conservation areas, where it may be more appropriate to use individual flag-type signs.
- 3.1.21. To help reduce the overall size of the sign, distances on flag-type direction signs should be omitted unless absolutely necessary. This shall not apply to traditional fingerpost signs.
- 3.1.22. In rural locations and National Parks, end mounted signs should be considered. End mounted signs are also used for the direction signing of cycle and/or pedestrian routes. Refer to Standard Details [HCC11/C/180](#) and [185](#) and the associated [Notes for Guidance](#).
- 3.1.23. For Traffic Information and Car Park Occupancy Variable Message Signs refer to TG4-3 - CCTV, VMS and Journey Time Monitoring.
- 3.1.24. For School Crossings (including flashing amber lights), refer to TM3 Supporting Information and the [Standard Detail Notes for Guidance](#).
- 3.1.25. Use of Tourist, Visitor Destination and Community Destination signage shall be in accordance with TM3 Supporting Information.
- 3.1.26. For sponsorship of roundabouts, Neighbourhood Watch signs and advertising boards (A boards), refer to the local District Council.

3.2. Illumination of Signs

- 3.2.1. Illumination of signs must be in accordance with TSRGD which removed the requirement to directly light many signs, making them less intrusive, as well as reducing energy usage, light pollution and maintenance costs.
- 3.2.2. In general, signs that are required to be lit externally in a street-lit area are:
 - Terminal speed limit signs on A class roads.
 - All other regulatory signs except speed limit repeater signs, cycle signs and signs within a 20mph limit.
 - Warning signs for low headroom (applies even in a 20mph limit/Zone).
 - Warning and regulatory signs at level crossings.
 - Motorway entry, exit and gantry-mounted signs.
- 3.2.3. Any removal or installation of illuminated signs must be undertaken by a suitably qualified contractor with the deaccrual/accrual process being followed and all required documentation and certification being provided. Refer to [Technical Guidance Note TG13 – Street Lighting](#).
- 3.2.4. Where existing signs within the extents of a scheme are already externally illuminated, the designer shall check TSRGD to establish whether the signs are still required to be illuminated. If external illumination is no

longer required, the electrical supply should be disconnected (by a suitably qualified contractor), lantern removed and the post capped. Details shall be provided on the scheme drawings and a schedule detailing which signs are to be de-accrued from HCC's Street Lighting PFI Contract.

- 3.2.5. Internally illuminated bollards are no longer required unless there is a site-specific safety issue that needs to be addressed. Self-righting bollards shall be used in the majority of locations and shall be retroreflective only.
- 3.2.6. The numbering specification for illuminated furniture mounted in footways should be consistent with Standard Detail [HCC11/L/075](#). The HCC Street Lighting Client team should be contacted for advice on numbering systems for individual roads or major routes to ensure tie-in to existing inventory.
- 3.2.7. Refer to the [Commuted Sum Policy](#) for sums due for illuminated signs.

3.3. Keep Left Sign Use

- 3.3.1. The 'Keep Left' signs to diagram 610 must be illuminated in accordance with TSRGD, which means that, if the refuge is located within a 'system of street lighting', the high-level signs must be illuminated. Where "Keep Left" signs to Diagram 610 are located on self-righting reflective bollards, these no longer need to be externally lit.
- 3.3.2. Standard Detail drawings HCC11/C/075, 080 and 085 detail different pedestrian refuge layouts and are only appropriate for the use on roads with a speed limit of 40mph or less. For roads with a speed limit of 50mph or greater, a specific detail shall be prepared. Consideration shall be given to the use of passively safe signage in accordance with [Technical Guidance Note TG14 – Road Restraint Systems and Passive Street Furniture](#).
 - [Detail HCC11/C/075](#) should be used when the refuge is located on an unlit road, except when located in a junction bellmouth.
 - [Detail HCC11/C/080](#) should be used when the high-level 'Keep Left' signs are required and the refuge is located within 50 metres of a system of street lighting.
 - [Detail HCC11/C/085](#) should be used when the refuge is located within 50 metres of a system of street lighting and does not require high-level 'Keep Left' signs, including when located in a junction bellmouth. This detail should also be used when the refuge is located within a junction bellmouth on an unlit road.
- 3.3.3. High-level 'Keep Left' signs shall be provided on all refuges in non-street lit areas, unless there is a practical reason for not doing so, such as on a wide load route. Any decision not to provide high-level signage shall be considered as part of road safety audit process.
- 3.3.4. Refuges located within a junction bellmouth will not normally require high-level 'Keep Left' signs.

- 3.3.5. If the refuge is to be located within a street lit, low speed environment where the risk of overtaking is low, then it may be appropriate to omit the high-level 'Keep Left' signs as shown in detail HCC11/C/080. It is however recommended that the signs should be provided in more rural locations where there is a higher risk of the low-level bollards becoming covered in detritus making them less conspicuous.

3.4. Solar Powered Bollards and Signs

- 3.4.1. Solar panels for the illumination of signs or bollards shall be avoided where possible as the batteries require regular replacement. Failure of the batteries in the units could result in the sign/bollard being un-lit. Large solar panels are also unlikely to be appropriate for use in sensitive areas due to their visual impact. A DNO mains power supply should be used.

3.5. Sign Mounting, Posts and Foundations

- 3.5.1. For standard traffic sign assemblies and associated foundation details, refer to [Standard Detail HCC11/C/155](#) and the associated [Notes for Guidance](#). This Standard Detail provides detailed foundation dimensions for a variety of standard sign sizes mounted on 76.1mm and 88.9mm circular hollow section (CHS) posts or 76.1mm and 88.9mm circular hollow section wide based posts (WBS) for illumination.
- 3.5.2. All other post sizes, types and foundation sizes shall be designed in accordance with BS EN 12899-1:2007 or BS EN 12767:2007 for passively safe sign posts, using appropriate computer software and with reference to [IHE Sign Structures Guide 2021](#). For HCC-led schemes, advice regarding the design of large foundations may be sought from the Engineering Consultancy Structures Group.
- 3.5.3. Signs should be located to minimise the risk of impact from errant vehicles where possible. For all schemes a risk assessment shall be undertaken to establish the risk level and suitable mitigation measures incorporated into the design where there is a risk of impact. The designer shall assess the risk in accordance with [TG14 – Road Restraint Systems and Passive Street Furniture](#), including careful consideration of the risk of secondary incidents occurring. The designer must fully consider the associated health and safety risks (as required by the Construction Design and Management Regulations) and cost implications of safe inspection, maintenance and repair of any system of protection proposed (e.g. High containment kerbs, passive posts or vehicle restraint system). For most signs where there is a risk of impact, passively safe posts are likely to be the most appropriate solution.
- 3.5.4. The minimum horizontal clearance from the edge of the signs to the edge of the carriageway shall be 0.5m.

- 3.5.5. The minimum mounting heights from the underside of the lowest sign to the ground level shall be as detailed in the following table, See also 3.5.7.

Location	Minimum Mounting Height (metres)
On verge with no footway	1.5
At a junction on a splitter island	2.0
Above or within 0.5m of a footway	2.3*
Above or within 0.5m of a cycleway	2.4*

* The exception being parking restriction plates which may be mounted at 1.5m where the sign is parallel to the footway

- 3.5.6. Sign posts shall be placed a minimum of 0.5m from the edge of a cycleway. In order to highlight the presence of posts in or within 0.5m of a footway to visually impaired pedestrians, a 150mm deep self-adhesive white band shall be applied at between 1.4m and 1.6m above ground level. The band shall be in a class RA1 or RA2 retroreflective material to BS EN 12899-1:2007 with the ends of the band secured to resist removal. For further guidance refer to DfT's 'Inclusive Mobility' document.

- 3.5.7. In the New Forest, the verge is generally Crown Land and not Highway. Mounting heights of signs should be as follows. In all cases, the Verderers, Forestry England and the New Forest National Park Authority shall be consulted.

Location	Minimum Mounting Height (metres)
On wide verge where walkers, cyclists and/or accompanied horses can pass without the sign obstructing their view or path	1.5
On narrow grass verge where walkers, cyclists and/or accompanied horses may pass	2.1
All warning signs at junctions	2.1

- 3.5.8. The top edge of signs should be flush with the top of the post they are attached to.
- 3.5.9. The minimum number of posts should be used to mount a sign, subject to constraints such as wind load, foundations and passive safety guidelines. Resistance to twisting of signs on single posts or lighting columns should be checked. Support arrangements utilising single posts shall be tested and at the end of the test, the residual deflection of the sign by reason of permanent set or slippage shall not exceed 5 degrees.

- 3.5.10. Cantilever sign post brackets may be used when mounting large signs above footways, to help keep a clear space for pedestrians.
- 3.5.11. Any road signs, whether illuminated or non-illuminated, that are proposed to be mounted on existing street lighting columns require prior approval from HCC's PFI contractor. SSE must be contacted for permission at tpa@sse.com. For fixing specification see [TG13 - Street Lighting](#) Section 3.27n.

3.6. Temporary Signs

- 3.6.1. For "new road layout ahead" style signs, a 'remove by' date must be placed on the back of the sign.
- 3.6.2. Temporary signs are often not necessary at all. The designer should consider their use carefully rather than routinely placing them as part of implementing schemes. These signs are often of only limited use to someone using a stretch of road for the first time. Local drivers are likely to have seen the scheme being implemented and will therefore be aware of the changes to the road layout already.
- 3.6.3. Scheme Information Signs (SISs) shall be used to either Standard Detail [HCC11/C/160](#) or [HCC11/C/165](#) as directed in the [Notes for Guidance](#) at all HCC-led works. These boards shall not be used for Developer-led schemes.
- 3.6.4. Yellow Advanced Information Boards (AIBs) are only to be used where there will be disruption to the normal flow of traffic (e.g. by use of temporary traffic signals or other form of lane closure). They will normally be erected 1 to 2 weeks before work starts on site. The blue Scheme Information Signs shall be erected at the same time as any yellow AIBs. Refer to Standard Detail [HCC11/C/170](#) and the associated [Notes for Guidance](#).
- 3.6.5. Permit Information Boards (PIBs) must be displayed at all works within the highway with the issued permit number clearly displayed. For HCC-led schemes, they should be in accordance with Standard Detail [HCC11/C/175](#). The HCC logo shall not be used on Developer-led schemes. There shall be one PIB sign on each main approach to the site in question and maintained for the duration of the works.



Failure to display suitable PIBs will result in Fixed Penalty Notices being issued. Refer to [Technical Guidance Note TG22 – Temporary Traffic Management](#).

- 3.6.6. All SISs, AIBs and PIBs shall be positioned so as not to obstruct the passage of traffic, including pedestrians. Where signs are to be mounted above a footway, or where permitted, on a lighting column, they shall have a minimum vertical clearance of 2.3m (2.4m for cycleways). A minimum horizontal clearance of 0.5m shall also be provided from the edge of the

trafficked carriageway. Where the width of footway is such that this would cause an obstruction, the sign shall be located at the rear of the footway.

- 3.6.7. Signs shall not be situated where they can cause obstruction of visibility from side roads or private vehicular accesses, or obstruct visibility to regulatory, warning or other permanent traffic signs.
- 3.6.8. All SISs, AIBs and PIBs, plus any temporary posts, shall be removed on completion of the works.
- 3.6.9. Refer also to [Technical Guidance Note TG22 – Temporary Traffic Management](#).

3.7. Bollards

- 3.7.1. See Section 3.3 above regarding use of reflectorised bollards at pedestrian refuges and traffic islands.
- 3.7.2. Generally the use of other types of bollards should be limited as far as possible as they create a significant maintenance liability.
- 3.7.3. Other bollards that are approved for use within the adoptable highway (when their use is absolutely essential) are as detailed in Standard Detail [HCC11/C/135](#) and the associated [Notes for Guidance](#). All such bollards will incur Commuted Sums - Refer to the [Commuted Sum Policy](#).
- 3.7.4. Any plastic bollard specified for normal use shall be black in colour with a RA2 to BS EN 12899-1 or equivalent 150mm wide red and white reflective band at the top and 20mm lower band (or RB3 (microprismatic) for extra conspicuity). For extra conspicuity the designer may also specify the use of a RA2 to BS EN 12899-1 yellow reflective sleeve for all or part of the bollard.
- 3.7.5. Where bollards are required to protect areas considered to be vulnerable i.e. to protect a piece of vulnerable infrastructure, to prevent a potential terrorist related incident etc., consideration should be given to installing anti-ram bollards that comply with the requirements of PAS 68.
- 3.7.6. The use of "emergency access only" routes should be minimised, with suitable access provision being available through the proposed carriageway network. However, where "Emergency Access Only" routes are unavoidable, removable bollards shall be used to prevent use by other motorised traffic (i.e. a socketed plastic bollard to Standard Detail HCC11/C/135).

4. Further Support

- 4.1. Should you have a specific query or feedback about any of the content of this Technical Guidance Note, please send an email to Technical.Guidance@hants.gov.uk with the start of the email title as “TG12 –”
- 4.2. Should you have a query about applying this to your particular project, please contact:
- the Design Check Engineer dealing with your S278 or S38 application (if you are a Developer or Developer’s Consultant)
 - the Technical Guidance Note Specialist(s) (if you are a working within Hampshire County Council)
- 4.3. Associated Technical Guidance Notes
- TG4-3 - CCTV, VMS and Journey Time Monitoring
- TG13 – Street Lighting
- TG14 – Road Restraint Systems and Passive Street Furniture
- TG21 – Traffic Regulation Orders
- TG22 – Temporary Traffic Management