Dear Sir/Madam

REVISION OF THE TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS

1. The Secretary of State has laid before Parliament new Traffic Signs Regulations and General Directions 1994 (SI 1994/1519) which will come into operation on 12 August 1994. The new instrument supersedes the Traffic Signs Regulations and General Directions 1981 and all its subsequent amendments and also the Traffic Signs (Speed Limits) Regulations and General Directions 1969 as amended. Speed limit signs are now to be prescribed in the main traffic signs instrument. Copies of the new SI are available from HMSO, price £24.50p each.

2. A guide to the main provisions of the new Traffic Signs Regulations and General Directions is contained in the Annexes to this Circular. A wider range of warning and regulatory signs is prescribed, as are the road works signs previously introduced in Chapter 8 of the Traffic Signs Manual, thus reducing the need for special authorisations. The system of directional signing has been modified to place greater emphasis on colour coding of the signs to indicate the status of the route. A much wider range of permitted variants allows more flexibility in designing directional signs to meet local needs, while maintaining a nationally consistent system. The illumination requirements for green background primary route signs are relaxed, allowing engineers to decide whether to illuminate or reflectorise the signs according to local conditions.

3. The changes resulting from the introduction of the new Traffic Signs Regulations and General Directions are expected overall to have nil net costs and manpower implications for local authorities up to 1997/98 and will represent a reduced burden thereafter. Extensive consultations, including the local authority associations, were carried out before the new instrument was finalised, and the views of consultees have been taken into account as far as possible.
4. Could you please bring this Circular to the attention of the Chief Surveyor or Engineer, the Chief Financial Officer, the Chief Legal Officer and the Traffic Management and Traffic Signs sections of your authority. All these need to be aware of its contents. Where Planning or Leisure Services Departments have responsibility for the promotion of tourism, the Circular should also be brought to their attention as the revised Regulations prescribe a range of tourist attraction signs.

Yours faithfully

R M KIMBER
Assistant Secretary
Driver Information and Traffic Management Division

Telephone enquiries about the content of this Circular should be made to Driver Information and Traffic Management Division, Traffic Signs Branch (071-276 6545).

Enquiries about distribution should be made to NGM Division (071-921 4702).

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SUMMARY OF MAIN CHANGES TO THE TRAFFIC SIGNS AND GENERAL DIRECTIONS

Changes to improve ease of use

1. A number of changes have been made in the order and presentation of the Regulations and Directions which are aimed at helping the use to find information within the document more easily. These include:
   
   * Regrouping the Regulations and Directions into a more logical sequence with greater use of headings and tables.
   
   * Regrouping and partial renumbering of diagrams.
   
   * Each diagram in the new regulations is accompanied by a cross-reference table. The table includes references to regulations, directions, other diagrams, permitted variants and illumination requirements (see Regulation 7).
   
   * The contents of the Directions, as well as Regulations, are now listed individually in the “Arrangements of Instrument” section at the beginning of the document.

Speed Limit signs

2. For the first time speed limit signs have been incorporated into the main Traffic Signs Regulations and General Directions (Regulation 5, Schedule 2 diagrams 670 - 675 and Directions 8 - 10).

Section 36 of the RTA 1988

3. The application of Section 36 of the Road Traffic Act 1988 has been extended to the prohibition of U-turn sign, the mini-roundabout signs, green arrow light signals, mandatory height restriction signs and yellow box junction markings (Regulation 10).

Permitted Variants

4. A greater range of permitted variants is now prescribed, particularly for directional signs. Details of permitted variants are set out in Schedule 16 and the cross-reference table under each diagram.

Illumination of signs

5. The detailed illumination requirements for all types of sign are now set out in tabular form Schedule 17, with cross-references in the table under each diagram.

New colours for temporary signs

6. Temporary signs can now be blue on white as well as existing colours. Maximum size of lettering has been increased. Police signs appealing for accident information are now included. (Regulation 41).

Warning Signs

7. A wider range of warning signs are now prescribed. These include new signs for junctions on bends, flexible and paved chevrons, bridge parapet markings, overhanging buildings, arch bridges, cattle crossings, migratory toad crossings, ducks, farm traffic, ice, soft verges, helicopters, gliders, side winds, military vehicles and slow lorries (Schedule 1).
**Regulatory signs**

8. New regulatory signs are prescribed. These include a new design of school crossing patrol sign, signs for pedestrian zones, prohibitions on motorcycles and ridden horses, weak bridges, low bridges, a wider range of signs for waiting restriction, parking bays and taxi ranks, signs for school entrances, a new symbolic sign giving advance information on restrictions ahead, and signs for 20mph zones (Schedule 2).

**Level crossing signs and signals**

9. New level crossing warning signs, wig wag signals with chequered borders on the backing boards, and a new pedestrian light signal are now prescribed. (Schedules 3, 8 and 9).

**Other informatory signs**

10. New signs have been prescribed in Schedule 4 for:

   * pedestrian subways and footbridges (new symbolic designs)
   * escape lanes,
   * hospitals with or without accident and emergency facilities
   * commercial vehicle check-weighing sites, and
   * vehicle testing stations and motorcycle test centres
   * junctions with lane gain and lane drop.

**Bus, tram and cycle facility signing**

11. Signs for bus, tram and pedal cycle facilities are now grouped together in Schedule 5. The white on blue round symbolic “buses only” sign is prescribed for the first time; there is also a corresponding “trams only” sign. Bus lane signs now have white borders as for other blue signs. Additional cycle facility signs are prescribed. Contra-flow lane signs have been brought into line with European practice (Schedule 5). Changes have been made in the definitions of “bus” and “coach” and the bus symbol to correspond to the definitions of public service vehicles in the Transport Act 1985 (Regulations 22-24). These changes do not come into operation until 1 January 1997 to allow local authorities time to change their traffic regulation orders accordingly. Revised interim definitions are also prescribed. Annex I to this Circular gives more details on signing bus facilities.

**Road markings**

12. New and revised provisions in respect of road markings include:

   * A tighter lower limit (10%) has been imposed on the variation of dimensions for road markings (Regulation 12).
   * More road markings are now required to be reflective (Regulation 20).
   * Lane and centre line markings and parking bay markings have been rationalised and defined more clearly (Schedule 6).
   * A wider range of hatched markings, advisory keep clear markings for private drives, and raised rib markings for edge lines are now included (Schedule 6).

**Road studs**

13. Specifications for road studs have been changed in line with current standards (Regulation 29).
Directional Signing

14. A number of significant changes to directional signs are included in the new Regulations. These include:

* The principle of colour coding by type of route is extended so that directional signs on a route will have the appropriate background colour for that route (regardless of the status of the destinations), and green and white panels will be incorporated into advance direction signs in a similar way to the way in which blue “motorway” panels have been used up until now. Flag type signs will be in the colour appropriate to the route they are pointing towards.

* Integration of warning/regulatory signs as symbols will be allowed on a greater range of directional signs (including stack and flag type signs) to give advance information on hazards or restrictions.

* Blue-bordered local direction signs will be abolished. Local and non-primary routes will both be signed with black-bordered white background signs.

* White on brown tourist attraction signing is prescribed.

* The use of junction nameplates is encouraged for major junctions on all-purpose roads.

* A modern replacement for the traditional fingerpost sign is prescribed for use on minor rural roads.

* Greater flexibility is allowed in the design of pedestrian and footpath signs.

* The choice of whether or not to illuminate green background signs is now left to the engineer.

* Symbolic motorway diversion signs are prescribed for the first time.

(The signs are illustrated in Schedule 7 to the Regulations; advice on their design and use is contained in separate booklets entitled “The Design and Use of Direction Informatory Signs” and “Directional Informatory Signs: Interim Design Rules”, available from HMSO.)

Tourist attraction signing

15. Regulation 4 defines a “tourist attraction”. This allows for recognition by either the local authority or the Tourist Board. The definition specifically excludes establishments which have retailing or catering as their main purpose, but would cover sports or entertainment venues if the local authority or Tourist Board so wished. Part III of Schedule 7 prescribes a range of white on brown signs for tourist attractions corresponding to the principles of Circular Roads 1/91. A range of symbols for use on white on brown signs is prescribed in Schedule 14. Other symbols may be used, subject to prior approval by the Department of Transport. (Once the Department’s approval has been given to a new design of tourist attraction symbol, that symbol may be used at other locations without the need for individual authorisations.) Further advice on the outcome of the recent reviews of tourist and commercial direction signing will be issued separately.

Services signing

16. A new range of signs for various types of services is prescribed (Schedule 7, Parts IV and X). Those on motorways can include the operator’s name and the price of petrol as well as a standardised range of symbols. On all-purpose roads the services signs are colour coded to match the directional signs, except that signs to local services in by-passed communities are now white on blue. (Annex J gives more detail on services signing.)

Boundary signs

17. More flexibility is allowed in the design of boundary signs (Schedule 7, Part V).
Car Park and Park and Ride Signs

18. A wider range of car part signs is prescribed including variable message signs and signs to “Park and Ride” facilities (Schedule 7, Part VI). The use of orange and brown colour coded signs to denote short and long stay car parks is NOT prescribed, but remains available on special authorisation. However, the worded legends, “Long stay” and “Short stay” are included in a range of worded supplementary legends now prescribed. The total number of spaces in a car park may be shown in the bottom left hand corner of the blue “P” patch.

Traffic light signals

19. The uses of the different types of traffic light signals are now defined in regulation 30. Diagrams in Schedules 8 and 9 have replaced detailed worded descriptions of light signals. Cycle signals and tram signals are now prescribed as are audible and tactile signals for pedestrians.

Lane control signals

20. Lane control signals have been changed to prescribe a green downward pointing arrow for “lane open” and a diagonal white arrow for “change lanes”. The lane control advance signs are now grouped in Schedule 10 with the lane control signals. (Regulation 34 and Schedule 10).

Use of matrix signs and signals

21. Use of “motorwarn” signals, and matrix signs and signals is now permitted on all-purpose dual-carriageway roads as well as on motorways (Regulations 35 and 36 and Schedule 11).

Road works signs

22. Road works signs have now been extensively revised and many new contra-flow signs prescribed in line with Chapter 8 of the Traffic Signs Manual. Signs for use on vehicles in mobile lane closure systems are prescribed for the first time. (Schedule 12). Colours and sizes for bases of cones are prescribed. Flat traffic delineators and rotating amber reflector devices are now prescribed for use in specified situations. (Regulation 44 and Schedule 12, Part II.)

Signs for use on Police and Road works vehicles

23. Signs which can be attached to Police and road works vehicles are now specified (Regulation 14).

Warning Flags

24. Warning flags may no longer be used (Regulation 42).

Use of school crossing patrol lights

25. School crossing patrol lights can now be used on automatic timers without a Patrol or other responsible adult being present (Regulation 39).

Cattle crossing warning lights

26. New warning lights are prescribed for cattle crossings (Regulation 40 and Schedule 9).

Variable message signs

27. Variable message signs are specifically prescribed (Regulation 46) for the first time, including the principle of colour inversion, where the technology employed requires a light symbol on a dark background, and a list of approved worded legends is given in Schedule 15. Special alphabets to be used where the standard Transport alphabets cannot be displayed are prescribed in Part V of Schedule 13. The diagrams illustrate examples of variable message sign faces for pedestrian zones and for directions to alternative car parks.
Simplification of yellow line waiting and loading restriction markings

28. Directions 20 - 24 introduce a simplification of the system of yellow lines and kerb blips for indicating waiting and loading restrictions. The broken single yellow line and triple kerb blips are to be abolished. In future double yellow lines and double kerb blips will indicate prohibitions which apply at any time for at least four consecutive months. Single solid yellow lines are to be used for all other prohibitions on waiting and loading. Positive signs and white bay markings are to be used for lengths of road where waiting is limited to a specified time, or where loading bays are provided. No changes are required to traffic regulation orders. The new signing arrangements should be used for any new orders made after these General Directions come into force, but existing markings can be changed as they come due for renewal, provided the change is completed by 1 January 1999. Diagram 641 limited waiting plates should be replaced with “positive” signs by 1 January 2005. (See Annex H of this Circular for more details.)

Mounting and backing of signs

29. Direction 36 allows posts of aluminium, concrete, galvanised metal or wood to remain in their natural colours, as an alternative to being coloured grey or black. Direction 37 allows the backs of signs to be grey, black or a non-reflective metallic finish. Yellow faced backing boards may now be used for speed limit signs as well as for other types of sign. Any sign with a red or black border may have a white rim added outside the border to improve conspicuity.
Changes to Regulations

General

Speed limit signs have now been integrated into the main Traffic Signs Regulations and General Directions rather than being in a separate Statutory Instrument. (Pelican and Zebra crossings remain in separate sets of regulations.) Greater use has been made of tabular presentation to make the regulations easier to use. The regulations have also been regrouped into a more logical sequence. Reference to the regulations can also be made via the cross-reference table under each diagram in the schedules.

Regulation 2


Regulation 3

Provides that:

(a) any remaining road markings to the specifications of the 1957 Regulations, and a number of markings to the specifications of the 1964 Regulations must be replaced by 1 January 1996;

(b) a number of superseded warning and regulatory signs and road markings from the 1981 Regulations, including yellow lines and kerb blips, must be replaced by 1 January 1999;

(c) certain other superseded regulatory signs and superseded service and tourist (ie pre-white on brown) directional signs from the 1981 Regulations, and any remaining signs from the 1957 Regulations, must be replaced by 1 January 2005;

(d) local blue bordered directional signs must be replaced by 1 January 2015;

(e) any directional sign which conforms to the designs prescribed in the 1981 Regulations may be erected after the coming into force of the new Regulations, provided that its design or manufacture had begin before than date.

Regulation 4

Definitions have been added for various terms which did not appear in the 1981 Regulations, including “contra-flow” and “with-flow”, “pedestrian zone”, “tourist attraction”, “tramcar” and “variable message sign”. A definition of “unladen vehicle” for use in connection with weak bridge signing is included in Schedule 18. The definitions of level crossings now include references to tramcars.

Regulation 5

A definition of the term “speed limit” has been added.

Regulation 6

This corresponds to regulation 5 in the 1981 Regulations.

Regulation 7

Each diagram now has a cross-reference Table beneath it. Certain diagrams in Schedule 12 have two associated Tables. This Regulation and Regulation 17 provide the key to the entries in those Tables. This regulation also specifies that the dimensions in the diagrams are in millimetres unless otherwise stated.

Regulation 8

This corresponds to regulation 6 of the 1981 Regulations.
Regulation 9  This corresponds to regulation 4(2) of the 1981 Regulations and relates to the provisions of the Traffic Signs (Temporary Obstructions) Regulations 1985.

Regulation 10  This corresponds to regulation 7 in the 1981 Regulations. Section 36 of the Road Traffic Act 1988 has superseded Section 22 of the Road Traffic Act 1972. The signs denoting a mini-roundabout, prohibiting U-turns, and indicating a mandatory height restriction, weak bridge or bus-only or tram-only street, the box junction markings, and the green filter arrow light signals have been added to the list in regulation 10(1). The green arrow signals and height restriction signs are also included in the list of signs in regulation 10(2).

Regulation 11  This contains material previously found in regulations 9, 20 and 24 of the 1981 Regulations about the size, colour and type of signs and road markings.

Regulation 12  This contains material previously found in regulations 8, 13 and 20 of the 1981 Regulations on variations of dimensions. The acceptable variation below the specified dimensions for road markings has been reduced to 10%. New tolerances are specified for dimensions of 10 millimetres or less relating to road markings to cater for the new raised-rib edge line markings.

Regulation 13  This corresponds to regulation 14 in the 1981 Regulations and has been expanded to refer to new diagrams and new types of sign prescribed for the first time, such as tourist attraction and variable message signs.

Regulation 14  This specifies which signs may be mounted on moving vehicles, and under what circumstances, to carry out mobile lane closure road works or for police purposes.

Regulation 15  This corresponds to regulation 9A in the 1981 Regulations, with the addition that tramcars and trolley buses are exempted from the requirement to comply with the mandatory directional arrow shown in diagram 610.

Regulation 16  This corresponds to regulations 10 and 11 in the 1981 Regulations.

Regulation 17  This corresponds to regulation 12 in the 1981 Regulations. The detailed information about permitted variants for each diagram is set out in tabular form in Schedule 16. The range of permitted variants, particularly for directional signs, has been expanded to allow greater flexibility to meet local circumstances. References to bilingual signs to be erected in Wales have been deleted, and will be covered in a revision by the Welsh Office of the Traffic Signs (Welsh and English Language Provisions) Regulations and General Directions 1985. This Regulation also explains the “Table of combinations” used with certain road works signs.

Regulations 18 & 19  These correspond to regulations 15 and 18 of the 1981 Regulations. Details of the illumination requirements are now given in tabular form in Schedule 17. The choice of whether to light or reflectorise green background directional signs is now left to the engineer to decide depending on the siting of the sign and its surroundings. Provision is made for signs on low bridges to be illuminated by separately mounted spot lights where there are difficulties in mounting a lighting unit on the bridge itself. It is felt no longer necessary to require a gap between different colours of reflective material. Provision is made for the use of material which is both reflective and fluorescent yellow on the School Crossing Patrol “Stop” sign.

Regulation 20  This corresponds to regulations 16 and 19 in the 1981 Regulations.

Regulation 21  This corresponds to regulation 17 in the 1981 Regulations. The information has been set out in tabular form for ease of reference.
**Regulation 22**

This new regulation provides for the transition in the meaning of the terms “bus” and “coach” from the current variety to the single one of a “motor vehicle constructed or adapted to carry more than eight passengers (in addition to the driver), or motor vehicle not so constructed or adapted used to provided local services”. This change brings the terminology into line with the Transport Act 1985. The change becomes effective on 1 January 1997 to allow local authorities time to amend traffic regulation orders and make any necessary changes to the signs. Interim definitions are provided to cover the intervening period. (See also Annex I of this Circular)

**Regulation 23**

This new regulation provides a definition of “bus lane” to correspond to the changes in the meaning of the terms “bus” and “coach” contained in Regulation 22.

**Regulation 24**

This new regulation sets out in tabular form the meaning associated with the bus symbol until the change in definitions of “bus” and “coach” come into force, and provides for variations to indicate “local buses” and bus facilities that may also be used by pedal cycles and taxis. It then prescribes the new meaning of the bus symbol as from 1 January 1997 which corresponds to the new definition of the term “bus” in Regulation 22.

**Regulation 25**

This corresponds to regulations 21 and 22 in the 1981 Regulations. A new sub-paragraph has been added to allow the use of the “Give Way” markings at points where the road narrows sharply (for instance where traffic calming measures have been applied).

**Regulation 26**

This corresponds to regulation 23 of the 1981 Regulations, and also covers the new variant on the basic double white lines that is now prescribed (ie diagram 1013.3 showing a hatched area alongside a double white line). Provision has been added to allow vehicles to cross the solid line when overtaking a road works vehicle, pedal cyclist or ridden horse moving at not more than 10 mph provided it is safe to do so. It has also been made clear that vehicles can stop in a lay-by alongside a double white line system. There have been no changes made to the criteria for the use of double white lines, as set out in Chapter 5 of the Traffic Signs Manual.

**Regulation 27**

This corresponds to regulation 20(3) of the 1981 Regulations, but now also refers to the table under each diagram and Schedule 16.

**Regulation 28**

This corresponds to regulation 25 of the 1981 Regulations. The list of markings which have to be illuminated with reflecting material has been extended considerably. “Saturn yellow” studs are now prescribed for use at road works.

**Regulation 29**

This corresponds to regulation 26 of the 1981 Regulations. The sizes of studs have been reviewed and rationalised in line with current standards. The heights of raised-rib edge lines on motorways and dual carriageways, and on other all-purpose roads are specified.

**Regulation 30**

This corresponds to regulation 31 of the 1981 Regulations. Reference is now made directly in the regulation to the purpose for which each type of signal may be used. Dimensions of the various types of light signals are now given in the new diagrams illustrating each type of signal. Light signals for the control of pedal cycles and tramcars are prescribed for the first time.

**Regulation 31**

This corresponds to regulation 32 of the 1981 Regulations.

**Regulation 32**

This corresponds to regulation 33 of the 1981 Regulations. Portable signals are now illustrated in diagram 3000.1.
**Regulation 33**

This corresponds to regulation 34 of the 1981 Regulations. Provision is made for the diagram 7011 (“WHEN RED LIGHT SHOWS WAIT HERE”) sign to be the stopping point rather than a stop line for portable signals. Significance is assigned to the various aspects of signals for the control of tramcars. Provision is made to exempt tramcars from the need to comply with the requirements of 3-aspect traffic light signals. Tramcar signals and 3-aspect traffic light signals may be mounted together, and may display aspects conveying different instructions to the different types of vehicle to which they have significance: tramcars may be allowed to proceed when other traffic is required to stop, and vice versa.

**Regulation 34**

This corresponds to regulation 36 in the 1981 Regulations. The colour of the downward pointing arrow indicating a lane open to traffic has been changed from white to green. A new, diagonal white arrow is prescribed to indicate a requirement to move to an adjacent lane.

**Regulation 35**

This corresponds to regulation 38 in the 1981 Regulations and refers to the “Motorwarn” signals now illustrated in diagram 6023.

**Regulation 36**

This corresponds to regulation 39 in the 1981 Regulations, but it now allows the use of the matrix signs on all-purpose dual-carriageway roads as well as motorways.

**Regulation 37**

This corresponds to regulation 35 in the 1981 Regulations. The dimensions relating to the height at which the signals are to be mounted are now included in diagram 4002. Provision is made for the use of audible and tactile signals in conjunction with the green figure for the benefit of blind or partially-sighted pedestrians.

**Regulation 38**

This new regulation prescribes a new flashing red pedestrian signal (shown in diagram 4006) for use at certain railway level crossings.

**Regulation 39**

This corresponds to regulation 37 in the 1981 Regulations. The requirement only to use the flashing school crossing warning lights at times when a crossing place is being directly supervised by a responsible adult has been amended to allow for the control of the lights by automatic programmable timers.

**Regulation 40**

This new regulation prescribes the use of flashing warning lights to indicate a cattle crossing. This is also illustrated in diagram 4005.

**Regulation 41**

This corresponds to regulation 27 in the 1981 Regulations. The use of temporary variable message signs is prescribed, as is the use of blue lettering etc. on a white background as an alternative colour scheme. The maximum letter size has been increased so that temporary signs on high speed roads can be of an appropriate size. Police signs requesting information about a road traffic accident are now covered by this regulation.

**Regulation 42**

This corresponds to regulation 28 in the 1981 Regulations. More detail has been included about the performance requirements of the amber lamps. The range of flashing rates has been extended. The reference to the use of warning flags has been deleted.

**Regulation 43**

This corresponds to regulation 40 in the 1981 Regulations. Road danger lamps are now required to conform to the relevant British Standard or equivalent specification.
**Regulation 44**

This corresponds to regulation 29 in the 1981 Regulations. Reference is now included to flat traffic delineators and rotating reflector devices mounted on the top of traffic cones. The colours of bases of cones and flat traffic delineators are limited to red, black, grey or brown. A reference has been added to information about the manufacture of the device being shown in small lettering as required by the British Standard.

**Regulation 45**

This corresponds to regulation 30 in the 1981 Regulations.

**Regulation 46**

This new regulation governs the use of variable message signs, which may display prescribed signs and any legend included in the list in Schedule 15. When the technology employed makes it necessary, light coloured symbols may be displayed on a dark background, instead of the usual black symbol on a white or yellow background. The red triangles of warning signs and the red rings of prohibitory signs must be retained even if the symbol and background colours are reversed. Certain signs may be accompanied by flashing amber lamps. Provision is made for “failure mode” whereby the four flashing amber lamps displayed alone when the message has failed have the meaning that drivers should take special care.
USE OF CROSS REFERENCE TABLES AND TABLES OF COMBINATIONS

1. Each diagram within the Regulations is accompanied by a cross-reference Table. Additionally a number of diagrams showing road works signs in Schedule 12 also have Tables of combinations. This appendix explains the functions of these two tables.

CROSS REFERENCE TABLES

2. These tables are split between 5 separate terms:

Item 1. Regulations

This item lists each regulation in which a specific reference to that diagram (or a particular group of diagrams) appears. The tables do not include references to regulations which generally apply to that type of sign.

Item 2. Directions

As item 1, except that the cross-references given are to the Directions applying to the sign rather than the Regulations. Once again references to Directions which apply generally to that type of sign are not included.

Item 3. Diagrams

This item lists those signs or plates which may or must be used in conjunction or combination with the sign or plate illustrated in that diagram. The Directions (see Item 2 of the table) specify which signs and plates must be used in combination.

Item 4. Permitted Variants

The more common permitted variants are set out as items in Schedule 16 to the regulations. This item in the cross-reference table lists all the items in Schedule 16 which apply to the sign shown in the diagram. Where a variant is specific to a particular diagram it is described in full within the table. Certain diagrams will have both general and specific permitted variants in which case both the appropriate cross references to Schedule 16 and the specific variants are shown.

Item 5. Illumination requirements

The items in Schedule 17 describe the various illumination or reflectorisation requirements which apply to each sign. This item in the cross-reference table refers to the item or items within Schedule 17 relevant to the sign shown in the diagram.

TABLES OF COMBINATIONS (Schedule 12)

3. In addition to the cross reference tables diagrams 7201 and 7210 - 7240 in Schedule 12 for road works signs also have a “Table of combinations”. This table shows the top and bottom panels which may be used in combination with the main sign face illustrated in that diagram. Some of these diagrams also show examples of top and/or bottom panels used with the main sign. The full range of top panels is illustrated in diagrams 7260 - 7264, and the bottom panels are shown in diagrams 7270 - 7275. A typical Table of combinations is illustrated below.
**Specimen Table of combinations**

<table>
<thead>
<tr>
<th>Item 1</th>
<th>Top Panel</th>
<th>None</th>
<th>7263</th>
<th>7264</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 2</td>
<td>Bottom Panels</td>
<td>7271</td>
<td>7271</td>
<td>7271</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7275</td>
<td>7275</td>
<td>7275</td>
</tr>
<tr>
<td></td>
<td></td>
<td>None</td>
<td>7275</td>
<td>None</td>
</tr>
</tbody>
</table>

4. The sign illustrated in this diagram with this table (a 2-lane crossover in a contraflow) may be used on its own or with an appropriate top or bottom panel selected from those specified in the table. It is also possible to use the majority of these signs with both top and bottom panels. For example, the Table of combinations above shows that the sign may be used in combination with either of the top panels shown in diagram 7263 (“GET IN LANE”) or diagram 7264 (“STAY IN LANE”) or with no top panel. The sign may also be used with a variety of bottom panels, including diagrams 7271 (“200 yards”), 7274 (“NARROW LANES”), or 7275 (“Max Speed 30”), or without any bottom panel. The top and bottom panels specified in the tables are the only ones which may be used with that diagram. Only the bottom panels listed in item 2 of the table can be used with the top panel in item 1 of the same column in the table, and vice versa. These panels MUST only be used in the combinations specified in that column of the Table of combinations.

5. The combinations allowed for in the regulations have been carefully selected to ensure they do not give information which may be ambiguous when viewed together with the main part of the sign or the other panels permitted. Care has also been taken to ensure that duplication of information on the top and bottom panels has been avoided.
CHANGES TO DIAGRAMS

WARNING SIGNS - SCHEDULE 1

General
Warning signs relating to railway level crossings now appear in Schedule 3, those for buses and cycles in Schedule 5 and those for road works in Schedule 12. Some dimensions and letter heights have been revised to give a consistent range.

Diagrams 501, 502 and 503
No change.

Diagram 504.1
A wider range of priority route configurations are to be permitted as variants.

Diagrams 505.1, 506.1 and 507.1
No change.

Diagrams 508 and 509
Deleted and replaced by the new lane gain signs (see diagram 868-876).

Diagrams 510, 511 and 512
No change.

Diagrams 512.1 and 512.2
New signs warning of a junction on a bend to avoid the need for two separate signs.

Diagram 513
No change.

Diagram 513.1
New “Adverse camber” plate for use with bend warning signs.

Diagram 513.2
New advisory speed limit plate for use with bend warning signs and the “loose chippings” warning sign.

Diagram 515
No change.

Diagram 515.1
New flexible version of the chevron board.

Diagram 515.1A
New flexible version of the chevron board for use on roundabouts. A sign to diagram 606 must be used in addition to the chevron board.

Diagram 515.2
New sign consisting of chevrons formed from paving blocks for use at roundabouts. A sign to diagram 606 must always be used to complement this sign.

Diagrams 516, 517, 518 and 519
No change.

Diagram 519.1
Deleted, as new highway design standards do not include “crawler lanes”. Existing signs may be retained where appropriate.

Diagrams 520, 521, 522, 523.1, 524.1, 525, 526, 527 and 528
No change.

Diagram 528.1
New marker plates to highlight ends of bridge parapets and abutments or tunnel mouth sides. The plates should be mounted so that the stripes slope downwards towards the carriageway.
Diagrams 529 and 529.1
No change.

Diagrams 530 to 532.3
See Annex E for advice on the signing of low bridges.

Diagram 530
Standard layout now shows height in both imperial and metric units. The metric triangle may be omitted, or situated alongside and to the right of the imperial one. The metric sign must not be used on its own.

Diagram 530.1
New “Overhanging building” plate for use with height warning sign to diagram 530.

Diagram 530.2
New sign consisting of a marking to highlight low headroom at a hazard, particularly girder/beam bridges. The optional gap in the middle of the marking is to facilitate the mounting of the regulatory or warning sign. Care should be taken to ensure that the stripes slope in the correct direction.

Diagrams 531.1 and 531.2
New advance warning sign and plate for arch bridges. These are to be used in combination immediately in advance of the bridge, NOT on the bridge itself. The metric sign may be omitted, but the metric sign must not be used on its own. Where the arch is only wide enough for one line of road traffic the plate may be omitted and the warning sign used on its own. The warning sign should not be incorporated as a symbol on directional signs. The diagram 530 warning sign should be used for this purpose.

Diagram 532.2
This replaces diagram 532.1 and illustrates the optional black and yellow markings for use in conjunction with the chord marking on arch bridges. The standard layout now includes both imperial and metric heights, but the metric sign may still be omitted. The metric sign must not be used on its own.

Diagram 532.3
New double chord version of diagram 532.2.

Diagrams 533, 534.1, 534.2, 535.1 and 536
Renumbered as diagrams 779-781.

Diagram 537
Renumbered as diagram 770.

Diagrams 537.1 and 537.2
Deleted, and replaced by diagram 773.

Diagram 537.3
Deleted, and replaced by diagram 563.1.

Diagram 537.4
Deleted, and replaced by diagram 773.

Diagram 538
Renumbered as diagram 771.

Diagrams 539, 540 and 541
Renumbered as diagrams 789 to 789.2.

Diagram 542
Renumbered as diagram 774.

Diagrams 542.1 and 542.2
Deleted, as no new installations are envisaged.

Diagram 543
No change.

Diagram 543.1
New plate indicating part time or peak hour signals. This for use both below the diagram 543 advance warning sign and on the signal poles.

Diagrams 544, 544.1 and 544.2
No change.
Diagram 544.3
Renumbered as diagram 950.

Diagram 545
Now required to be lit in areas of street lighting.

Diagrams 546, 547.1, 547.2, 547.3, 547.4, 547.5 and 547.6
No change.

Diagram 547.7
New plate for use with diagram 545, warning of disabled children.

Diagram 548
No change.

Diagram 548.1
New plate for use with diagram 548 in advance of a cattle crossing with warning lights (see diagram 4005).

Diagrams 549 and 550
No change.

Diagram 550.1
No change in design, but meaning expanded to cover ridden or accompanied horses proceeding along a road as well as crossing it.

Diagram 551
No change.

Diagram 551.1
New toad crossing warning sign, for use during toad migratory period from 1 February to 31 May each year (see Direction 26).

Diagram 551.2
New wild fowl warning sign. It is considered that this sign no longer requires the explanatory “Wild fowl” plate that was used at early experimental installations.

Diagrams 552 and 553
No change.

Diagrams 553.1 and 553.2
New farm traffic warning sign and explanatory plate.

Diagram 554
A new “No smoking” variant is added and the “Ice” and “Snowdrifts” variants replaced by a symbolic sign (see diagrams 554.2 and 554.3 below). The “Fog” of this sign variant has been deleted as this has been replaced by the matrix sign in diagram 6011.

Diagram 554.1
No change.

Diagrams 554.2 and 554.3
New symbolic warning sign (and explanatory plate) to replace “Ice” and “Snowdrifts” variants of diagram 554. Diagram 554.3 also replaces diagram 622.3 and may be used with diagram 622.1A, 622.4, 629, 629.1 or 632 regulatory signs as well as the diagram 554.2 warning sign.

Diagrams 555 and 556
No change.

Diagrams 556.1 and 556.2
New symbolic sign (and explanatory/distance plate) to warn of soft verges. For stretches of more than 2 miles of soft verges, the sign and plate should be repeated at intervals of about a mile.

Diagrams 556.3 and 556.4
Replaced by diagram 782.

Diagrams 557, 557.1, 557.2, 557.3, 557.4 and 558
No change.

Diagram 558.1
New symbolic warning sign for low flying helicopters or sudden helicopter noise.
Diagram 558.2
New “Giders” plate for use with the diagram 558 aircraft warning sign.

Diagrams 559 and 560
No change.

Diagram 561
The surface of the sign may now be slightly convex or concave.

Diagram 562
No change.

Diagram 563
New permitted variants added to warn of “Ambulance Station”, “Blind summit”, “Fire Station”, or “Hidden dip”. The “Surveying” variant has been deleted. Warning of surveying should be given by use of diagram 7001 with the permitted variant to diagram 7001.1.

Diagram 563.1
New symbolic plate for use with diagram 562, to replace diagram 537.3, warning of wig-wag signals at a fire or ambulance station.

Diagrams 564 and 564.1
Renumbered as diagrams 7001 and 7001.1.

Diagram 564.5
Deleted and replaced by the range of contraflow signs in diagrams 7210 to 7218.

Diagrams 565.1, 565.2, 565.3, 565.4 and 566
Renumbered as diagrams 7009 to 7013.

Diagrams 567 and 567.1
Renumbered as diagrams 7017 and 7018.

Diagram 567.2
Renumbered as diagram 2708.

Diagrams 569 and 569.1
Renumbered as diagrams 7104 and 7105.

Diagram 569.2
Renumbered as diagram 7014.

Diagram 569.3
Renumbered as diagram 790.

Diagram 569.4
Renumbered as diagram 7019.

Diagram 570
No change.

Diagram 571
Deleted, with its function taken over by diagram 572.

Diagrams 572 and 573
No change.

Diagram 574
Modified design with permitted variant to allow use for any infectious animal disease.

Diagram 575
No change.

Diagram 576
Renumbered as diagram 7016.

Diagrams 577 and 578
Renumbered as diagrams 7101 and 7103.

Diagrams 579 and 580
Renumbered as diagrams 7301, 7303 and 7304.

Diagram 581
New sign warning of side winds. An explanatory plate is no longer considered necessary.

Diagram 582
New sign warning of military vehicles.
Diagrams 583 and 583.1  
New sign and plate warning of slow moving vehicles. This is for use on sections of road with high flows of heavy vehicles, where there is regular congestion caused on inclines.

REGULATORY SIGNS - SCHEDULE 2

Diagrams 601.1 and 602  
No change.

Diagram 602.1  
Renumbered as diagram 778.

Diagrams 603 and 604  
Renumbered as diagrams 7023 and 7024.

Diagram 605.2  
A new symbolic version of the school crossing patrol lollipop sign, based on the Welsh version, to replace diagram 605.1.

Diagrams 606, 607, 608, 609, 610, 611, 611.1, 612, 613, 614, and 615  
No change.

Diagram 615.1  
New explanatory plate for use with diagram 615.

Diagram 616  
The “Except buses”, “Except buses and coaches” and “Except local buses” plates (diagrams 954, 954.1 and 954.2) may be used with this sign, but no other exemptions may be signed. Other arrangements must be signed positively - e.g. “Buses and pedal cycles only” using diagrams 953 and 953.2.

Diagram 617  
No change to design, but meaning has been changed to allow pedal cycles and other non-mechanically propelled vehicles to be pushed past the sign.

Diagram 618  
No change.

Diagram 618.1  
Times of operation shown on sign. Permitted variants revised.

Diagrams 618.2, 681.3 and 618.3A  
New signs indicating entry to pedestrian zone. Diagram 618.3A illustrates the alternative displays of a variable message sign. (See Chapter 3 of the Traffic Signs Manual for advice on the signing of pedestrian zones.)

Diagram 618.4  
New sign indicating end of pedestrian zone.

Diagrams 619 and 619.1  
No change.

Diagram 619.2  
New sign prohibiting motorcycles.

Diagrams 619.3 and 619.4  
Renumbered as diagrams 954 and 954.1.

Diagrams 620 and 620.1  
No change.

Diagram 621  
Renumbered as diagram 952.

Diagrams 622.1A and 622.2  
No change to design. Permitted variant weight for diagram 6221A is changed to 17T to correspond to current maximum weight for 2-axle vehicles.

Diagram 622.3  
Deleted, and replaced by diagram 544.3.
Diagrams 622.4 and 622.5
No change. (The version illustrated and the permitted variant for diagram 622.4 have been exchanged.)

Diagram 622.6
New sign prohibiting ridden or accompanied horses.

Diagrams 624 and 625
Renumbered as diagrams 951 and 955.

Diagram 625.1
No change.

Diagram 625.2
Deleted, as mopeds are not generally permitted to use cycle tracks.

Diagram 625.3
Renumbered as diagram 957.

Diagrams 626.1, 627 and 628.1
Deleted and replaced by the new weak bridge sign couched in terms of maximum gross weight shown in diagram 626.2.

Diagrams 626.2 and 627.1
New prohibitory sign restricting use of weak bridges, and exemption plate for unladen vehicles. It is advised that the exemption for unladen vehicles be provided in the supporting Traffic Regulation Order where the maximum gross weight restriction is 17T or more. (See Annex F for further details.)

Diagram 629
No change.

Diagram 629.1
The word “feet” is replaced by the standard symbols for feet and inches.

Diagram 629.2
No change.

Diagram 629.2A
New prohibitory height restriction sign incorporating both imperial and metric measurements. (See Annex E for details of low bridge signing.)

Diagrams 632 and 633
No change.

Diagrams 634 and 635
Renumbered as diagrams 829.1 and 829.2.

Diagrams 636, 636.1 and 637
No change, except for the provision of an alternative vertical format for diagram 637.

Diagram 637.1
New plate prohibiting parking on a verge or footway.

Diagram 637.2
New pedestrian zone waiting and loading restriction repeater plate. An alternative vertical format is also shown.

Diagram 637.3
New seasonal waiting prohibition plate.

Diagram 638
No change.

Diagram 638.1
New plate showing part-time loading restriction.

Diagram 639
No change.

Diagram 639.1A
New plate showing waiting restrictions combined with off-peak limited waiting.

Diagram 639.2
Deleted, replaced by a permitted variant of 640.2A.

Diagrams 640, 640.1, 640.2A, 640.3, 640.4 and 640.5
No change.
Diagram 641
Deleted, replaced by diagram 661.1.

Diagram 642
No change.

Diagram 642.1
Deleted, replaced by diagram 650.1.

Diagram 642.2
New sign to prohibit stopping on school entrance markings (diagram 1027.1). This sign must be supported by a Traffic Regulation Order.

Diagram 642.3
New sign to prohibit stopping in a lay-by except to use an emergency telephone. The sign is used with markings to diagrams 1018.1 and 1020.1.

Diagrams 643, 644, 645, 646 and 647
No change to sign designs. Yellow line road markings are no longer required to be used with the diagram 646 (and 647) urban clearway signs. (See Annex H for details of changes to waiting restriction signing.)

Diagram 649.1
Renumbered as diagram 784.

Diagram 650
Renumbered as diagram 974.

Diagrams 650.1 and 650.2
New plates indicating stopping and waiting restrictions on taxi ranks.

Diagram 651
The design has been tidied up to conform with general practice by removing unnecessary capital letters.

Diagram 652
No change.

Diagrams 653, 654, 655 and 656.1
Renumbered as diagrams 960, 959, 959.1, 964 and 961 respectively. (The blue background signs now have white borders - see under the new diagram numbers.)

Diagram 656
Deleted, replaced by a permitted variant of diagram 961.

Diagram 660
A reference to times of operation may be added, allowing diagram 660.2 to be deleted.

Diagram 660.3
New sign showing a previous permitted variant of diagram 660 incorporating code letters for types of permit holders allowed to use parking place.

Diagram 660.4
New sign indicating a bay for loading only (see also Annex H).

Diagram 660.5
New sign indicating a parking place regulated by a voucher scheme. The voucher symbol design must correspond with that on the vouchers themselves. The lower panel can be used to give information about the scheme, such as where vouchers can be purchased and the charges for them.

Diagram 661
A reference to times of operation may now be added.

Diagram 661.1
New sign indicating limited waiting, replacing diagram 641 (see also Annex H). The order and style of the legend on this sign is different from diagram 641 as a result of research into driver understanding of this type of sign.

Diagrams 661.2, 661.3 and 661.4
New signs indicating on-street pay and display parking. The use of the diagram 661.4 “Have you paid and displayed?” sign is optional.
Diagram 662  The wording of the sign has been simplified. The incorporation of the P symbol on a blue patch means that the sign no longer has to be accompanied by a sign to diagram 801.

Diagram 663  Formerly diagram 806.1. The legend “Meter ZONE” or variant is now at the top of the sign and “No loading” may be added below the roundel where there are uniform loading restrictions throughout the zone, except where signed otherwise.

Diagram 663.1  New sign indicating entry to a voucher parking zone. The voucher symbol design must correspond with that used on the vouchers themselves.

Diagram 664  Formerly diagram 808.1. The sign is also to be used to indicate the end of a voucher parking zone.

Diagram 665  Formerly diagram 806.3.

Diagram 666  Formerly diagram 808.3.

Diagrams 667, 667.1 and 667.2  Formerly diagrams 801.3, 801.4 and 801.5.

Diagrams 668, 668.1 and 668.2  New signs indicating where vehicles may park wholly on the verge or footway.

Diagram 669  Formerly diagram 818.2.

Diagram 669.1  Alternative version of diagram 669 incorporating a regulatory symbol to warn of a prohibition beginning ahead. It is important that the descriptive heading and distance are shown above the roundel to emphasise that the prohibition starts some distance ahead and not at this sign. Variants are permitted for weak bridges, weight, width and length limits. Advance warning of other prohibitions and restrictions should continue to be given by diagram 669.

Diagrams 670, 671, 672 and 673  Formerly diagrams 1, 2, 3 and 4 in the Traffic Signs (Speed Limits) Regulations and General Directions 1969.

Diagrams 674 and 675  New signs indicating entry to and end of a 20mph zone. Traffic Advisory Leaflet 2/93 gives advice on the design of the bottom panel of the zone entry sign.

SIGNS FOR RAILWAY AND TRAMWAY LEVEL CROSSINGS - SCHEDULE 3

General  All the diagrams for signs (but not signals or road markings) related to railway and tramway level crossings are now grouped together in Schedule 3 numbered 770-799.

Diagrams 770 and 771  Formerly diagrams 537 and 538.

Diagram 772  New symbolic warning sign for trams (light rapid transit).

Diagram 773  New symbolic plate warning of “wig-wag” signals as shown in diagram 3014 ahead.
<table>
<thead>
<tr>
<th>Diagram</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>774</td>
<td>Formerly diagram 542. The separate multiple track version (diagram 542.1) has been deleted, and diagram 774 is to be used at all open crossings.</td>
</tr>
<tr>
<td>775</td>
<td>Formerly diagram 863.</td>
</tr>
<tr>
<td>776</td>
<td>Formerly diagram 828.1. A new permitted variant for trams is included.</td>
</tr>
<tr>
<td>777</td>
<td>Formerly diagram 828.2. A new permitted variant for trams is included.</td>
</tr>
<tr>
<td>778</td>
<td>Formerly diagram 602.1.</td>
</tr>
<tr>
<td>778.1</td>
<td>New plate for use with diagram 602 at open tramway level crossings without wig-wag signals.</td>
</tr>
<tr>
<td>779, 780, 780.1 and 780.2</td>
<td>Formerly diagrams 533 to 535.1.</td>
</tr>
<tr>
<td>781</td>
<td>Formerly diagram 536. The colour of the posts is now shown in the diagram as well as being specified in Direction 38.</td>
</tr>
<tr>
<td>782</td>
<td>New “risk of grounding” warning sign replacing diagram 556.3 and 556.4 used with diagram 556. It may be used at level crossings and (with diagram 528) at hump-backed bridges.</td>
</tr>
<tr>
<td>783</td>
<td>Formerly diagram 861. (The version illustrated and the permitted variant have been exchanged.)</td>
</tr>
<tr>
<td>784</td>
<td>Formerly diagram 649.2.</td>
</tr>
<tr>
<td>785</td>
<td>Formerly diagram 862. Provision is now made for tramway operators in the permitted variants.</td>
</tr>
<tr>
<td>786</td>
<td>Formerly diagram 856.</td>
</tr>
<tr>
<td>787</td>
<td>Formerly diagram 854.</td>
</tr>
<tr>
<td>788</td>
<td>Formerly diagram 855.</td>
</tr>
<tr>
<td>789, 789.1 and 789.2</td>
<td>Formerly diagrams 539 to 541.</td>
</tr>
<tr>
<td>790</td>
<td>Formerly diagram 569.3.</td>
</tr>
</tbody>
</table>

**MISCELLANEOUS INFORMATORY SIGNS - SCHEDULE 4**

<table>
<thead>
<tr>
<th>Diagram</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>801</td>
<td>No change except that only 2 sizes are now prescribed. Diagram 2501 should be used where a larger size is required in advance of a parking place.</td>
</tr>
<tr>
<td>801.3, 801.4 and 801.5</td>
<td>Renumbered as diagrams 667, 667.1 and 667.2.</td>
</tr>
<tr>
<td>802.1</td>
<td>Deleted and replaced by new white and brown tourist sign (diagram 2307).</td>
</tr>
</tbody>
</table>
Diagram 803.2  
Renumbered as diagram 969.

Diagrams 804.1, 804.2 and 804.3  
No change.

Diagram 804.4  
Deleted and replaced by diagrams 968 and 968.1.

Diagram 805  
Deleted and replaced by diagram 661.1.

Diagrams 806, 806.1, 806.3, 807, 808.1 and 808.3  
Renumbered as diagrams 663 to 666.

Diagram 810  
No change.

Diagrams 810.1, 810.2 and 810.3  
Renumbered as diagrams 963, 963.1 and 966 respectively.

Diagram 811  
No change.

Diagram 811.1  
New explanatory plate for use with diagram 811.

Diagram 812  
Renumbered as diagram 877, to sit with other signs (diagrams 868 to 876) relating to lanes available to traffic.

Diagrams 812.1 and 812.2  
Renumbered as diagrams 958 and 962 respectively.

Diagrams 812.3 and 812.4  
Deleted.

Diagrams 812.5 and 812.6  
Renumbered as diagrams 958.1 and 962.2 respectively.

Diagram 814  
Replaced by diagrams 814.1 and 814.2.

Diagrams 814.1 and 814.2  
New symbolic signs for stepped and ramped approaches to pedestrian subways.

Diagrams 814.3 and 814.4  
New symbolic signs for stepped and ramped approaches to pedestrian overbridges.

Diagram 815  
Renumbered as diagram 967.

Diagrams 816, 816.1 and 817  
No change, except that there is a wider range of sizes.

Diagram 817.1  
Deleted, replaced by diagram 954.4.

Diagram 817.2  
New symbolic plate for use with diagrams 523.1 and 554.1 to indicate an escape lane (arrester bed) for out-of-control vehicles. The sequence of signs to be used for an escape lane is shown on the working drawing for this sign.

Diagrams 818 and 818.1  
No change.

Diagram 818.1A  
New sign to indicate a short length of dual carriageway. The length is shown to help drivers to judge whether to overtake or not. The only distances permitted are 1/2 and 1/4 mile, as longer or shorter lengths should not require signing in this way.

Diagram 818.2  
Renumbered as diagram 669.

Diagrams 819.1, 819.2 and 819.3  
Renumbered as diagrams 5010, 5011 and 5015 respectively.
Diagram 820
Legend changed to “Unsuitable for motor vehicles”, a more readily understood expression. New permitted variants: “Unsuitable for buses” and “Unsuitable for buses and coaches” replace the previous “Unsuitable for coaches”.

Diagram 821
No change.

Diagram 822
Sign changed from a diamond shape to a rectangle to conform with international practice.

Diagrams 823, 824, 825 and 826
No change.

Diagram 826.1
New water depth gauge sign giving measurements in both imperial and metric units.

Diagram 827
Deleted and replaced by diagrams 827.1 and 827.2.

Diagram 827.1
New version of the former diagram 827 for use where the hospital does not have accident and emergency facilities.

Diagram 827.2
Distinctive new sign for hospitals with accident and emergency facilities. The red background is designed to be consistent with the signing within the hospital. The legend “not 24 hrs” should be used where the accident and emergency facilities are not available all times.

Diagrams 828.1 and 828.2
Renumbered as diagrams 776 and 777.

Diagrams 829.1 and 829.2
Formerly diagrams 634 and 635.

Diagrams 829.3 and 829.4
New signs for police use to direct traffic to use the hard shoulder temporarily, and to rejoin the main carriageway. These signs are for emergency short-term use only. Where it is necessary for traffic to use the hard shoulder for longer periods, full signing to the standards laid down in Chapter 8 of the Traffic Signs Manual should be employed.

Diagram 830
No change.

Diagrams 830.1 and 830.2
The word “required” has been changed to “directed” for greater clarity.

Diagram 830.3
New sign informing drivers that they should stay in lane on the approach to a checkpoint or census point.

Diagram 831
No change.

Diagram 831.1
New sign informing drivers of a vehicle excise licence checkpoint ahead.

Diagrams 832, 832.1 and 832.2
No change.

Diagrams 832.3, 832.4, 832.5, 832.6, 832.7, 832.8, 832.9 and 832.10
New series of signs for commercial vehicle checkpoints and weighbridges, to marshall all vehicles in the appropriate lane and direct them to the checkpoint. The lorry symbol alone should be used when only goods vehicles are being checked. Both the lorry and bus symbols should be used when all commercial vehicles are being checked.

Diagrams 833, 834, 835 and 836
No change.
Diagrams 837.1, 838.1 and 838.2: Deleted, replaced by new series of services signs - diagrams 2308 to 2315.1 (all purpose roads) and 2917 to 2920 (motorways).

Diagrams 838.3 and 838.4: Deleted, as current highway design standards no longer include “crawler lanes”.

Diagrams 841, 841.1, 842.2, 842.3 and 842.4: Renumbered as diagrams 2319 (variant), 2318, 2320, 2316, 2317 and 2319 respectively.

Diagrams 843 and 844: Deleted.

Diagrams 845, 846, 847 and 848: Replaced by diagram 970.

Diagrams 849 and 850: Renumbered as diagrams 973 and 973.1.

Diagrams 851 and 852: Deleted.

Diagrams 854, 855 and 856: Renumbered as diagrams 787, 788 and 786 respectively.

Diagram 857: Colours of standard sign changed to brown and white, to be used as a Tourist Information Point. The permitted variants allow the logo of a local tourist organisation to be added to the heading. A blue and white variant will be available for information that is not tourist-related.

Diagram 857.1: New information board sign for taxi ranks. The heading specifies the number of taxis allowed to use the rank. The white panel may be used for the display of fare tables, regulations and relating to taxis, etc.

Diagrams 858, 858.1 and 858.2: Renumbered as variants of diagram 7202.

Diagrams 861, 862 and 863: Renumbered as diagrams 783, 785 and 775 respectively.

Diagram 864: New sign for vehicle testing station.

Diagram 865: New sign for motorcycle test centre.

Diagrams 868, 868.1, 872, 873, 874 and 875: New diagrams showing in symbolic form permanent lane drops/lane gains. The colours of these signs vary according to the type of road.

Diagram 876: New distance plate for use with diagrams 868 - 875. The colour corresponds to that of the main sign.

Diagram 877: Formerly diagram 812.

**BUS AND CYCLE SIGNS - SCHEDULE 5**

**General**

Regulations 22-24 contain significant changes to the meaning of the terms “Buses”, “Coaches” and the bus symbol. Annex I gives more detailed advice on the changes to the signing of bus facilities. The blue background signs now have a white border.

Diagram 950: Formerly diagram 544.3.

Diagram 950.1: New temporary plate to warn of child cyclists being trained or tested.

Diagram 951: Formerly diagram 624.
Diagram 952
Formerly diagram 621.

Diagram 953
New positive mandatory sign to allow buses/cycles/taxis only to use a road or contra-flow lane. It is expected that this should in due course replace the use of the diagram 616 “No Entry” sign with the “Except buses” plate, because the ability to exempt cycles and taxis gives greater flexibility. (Only buses may be exempted from “No Entry” signs). The sign must be used with diagram 953.2 in order to emphasise its meaning while it is relatively new and unfamiliar.

Diagram 953.1
New positive mandatory sign to allow trams only to use a road or contra-flow lane. The sign must also be used with diagram 953.2. The bus symbol may be added to the sign to permit both trams and buses to pass the sign.

Diagrams 954 and 954.1
Formerly diagrams 619.3 and 619.4. The diagram 954.1 plate (“except buses and coaches”) will become redundant after 1 January 1997 when the new definitions of “bus” renders the term “coach” obsolete.

Diagram 954.2
New exception plate for local buses. This plate is for use with the signs shown in diagrams 606, 609, 612, 613, 616, 629, 629.1 and 952.

Diagram 954.3
New exception plate for buses and cycles. This plate is for use with the signs shown in diagrams 606, 609, 612 and 613. It cannot be used with diagram 616 (“No entry”).

Diagram 954.4
Exception plate for pedal cycles, replacing diagram 817.1. This plate is for use with the signs shown in diagrams 606, 608, 612, 613 and 816. It cannot be used with diagram 616 (“No entry”).

Diagram 955
Formerly diagram 625.

Diagram 956
New sign for unsegregated shared pedestrian/cycle paths.

Diagram 957
Formerly diagram 625.3.

Diagram 958
Formerly diagram 812.1 but the black border has been changed to a white one, in line with all other blue background signs. The version illustrated is for lanes reserved for local buses.

Diagram 958.1
Formerly diagram 812.5.

Diagram 959
Formerly diagram 654 but now with a white border. The “local buses” version is illustrated.

Diagram 959.1
Formerly diagram 654.1.

Diagram 960
Based on the former diagram 653 but now with a white border and the number of upward pointing arrows corresponding to the number of traffic lanes rather than using the one-way street arrow symbol. This is to bring the sign into line with international designs. There is also a bus and cycle variant as well as ones for local buses and “& coaches”.

Diagram 960.1
New sign for contra-flow cycle lanes.

Diagram 961
Formerly diagram 656.1, now with white border. The sign should be integrated with the bus or cycle lane sign that it accompanies, rather than be a physically separate plate.
Diagram 962
Formerly diagram 812.2. Times of operation are to be shown on the main sign rather than on a separate plate (This is allowed by the permitted variants).

Diagram 962.1
Formerly diagram 812.6.

Diagram 962.2
New sign for side road leading to contra-flow bus and cycle lane.

Diagram 963
Formerly diagram 810.1, now with a white border.

Diagram 963.1
Formerly diagram 810.2.

Diagram 963.2
New pedestrian sign warning of contra-flow bus and cycle lane.

Diagram 963.3
New pedestrian sign warning of tram tracks, and of the need to look both ways.

Diagram 964
Formerly diagram 655.

Diagram 965
New sign for end of cycle route.

Diagram 966
Formerly diagram 810.3.

Diagram 967
Formerly diagram 815.

Diagrams 968 and 968.1
Formerly diagrams 801 and 804.4 combined.

Diagram 969
Formerly diagrams 801 and 803.1 combined.

Diagram 970
Replaces the former diagrams 845 to 848. The legend may be varied to “Request Stop” or “Bus Stand”. The words “Fare Stage” have been omitted. Where needed, these should appear on the supplementary information plate. The supplementary plate may also be used to give details of route numbers, operators’ names, service names, days of operation, the name of the stop, enquiry telephone numbers, etc. The supplementary plates may be mounted either above or below the main sign, or both.

Diagram 971
New sign for tram stops.

Diagram 972
New white on brown sign for photostops for tourist buses.

Diagrams 973 and 973.1
Formerly diagrams 849 and 850. The obsolete green “London Country” versions have been deleted.

Diagram 974
Formerly diagram 650, but times may now be varied as necessary rather than fixed at 7am - 7pm.

Diagram 975
New sign indicating prohibition on vehicles other than buses stopping on a bus stand.
### ROAD MARKINGS - SCHEDULE 6

**Diagrams 1001, 1002.1, 1003, 1003.1 and 1003.2, 1003.3, and 1003.4**

No change.

**Diagrams 1004 and 1004.1**

The two variants of the previous diagram 1004 are given separate numbers and their use defined in relation to speed limits (i.e., “urban” or “rural” use). This marking is defined as a “hazard warning” line.

**Diagrams 1005 and 1005.1**

The two variants of the previous diagram 1005 are given separate numbers and their use defined in relation to speed limits (i.e., “urban” and “rural” use). This marking is defined as a “lane line”.

**Diagram 1007**

Deleted. Its functions are now covered by diagrams 1008 and 1008.1.

**Diagrams 1008 and 1008.1**

These two new diagrams are defined as “centre lines” and their use defined in relation to speed limits (i.e., “urban” and “rural” use).

**Diagram 1009**

The meaning of this marking has been extended to cover the use as an edge of carriageway marking at private exits as well as at road junctions, and as a diagonal line at the start of a cycle lane.

**Diagram 1010**

The meaning of this marking has been extended to cover its use to guide high vehicles through the span of an arch bridge, to indicate the swept path of a tram, and to denote where a lane is dropped from the main carriageway.

**Diagrams 1011 and 1012**

Deleted. Their functions are now covered by diagram 1012.1.

**Diagram 1012.1**

This solid edge line is now to be used at all situations where an edge line is required, on both sides of the carriageway (i.e., also against the central reservation), except across road junctions or private drives/farm entrances etc. (where diagram 1009 should be used) and lay-byes (where diagram 1010 should be used). The use of the solid edge line is not linked to the type of lane or centre line used (i.e., it is not confined to use in association with a hazard line).

**Diagram 1012.2**

New raised-rib version of edge line, for use on motorways. The marking can be used both alongside the hard shoulder and the central reservation on the off-side edge of the carriageway.

**Diagram 1012.3**

New raised-rib version of edge line, for use on all-purpose roads with a hard strip or hard shoulder. The height of the ribs is lower than on diagram 1012.2 to avoid the risk of danger to 2-wheeled vehicles.

**Diagram 1013.1**

No change.

**Diagram 1013.3**

New marking with hatched area alongside solid double white lines.

**Diagram 1014**

The meaning of this marking has been extended to cover its use with diagram 1010 markings to guide high vehicles through arch bridges.

**Diagram 1016.1**

Deleted. Diagrams 1028.4, 1032 or 1033 to be used for limited waiting lengths of road and diagram 1017 (single solid yellow line) for lengths of road where waiting is prohibited for a limited period. (See Annex H for more details of changes to waiting restriction signing.)
**Diagram 1017**

This marking is now to be used for all waiting restrictions of a duration less than those indicated by diagram 1018.1 markings.

**Diagram 1018.1**

This marking is only to be used for “at any time” waiting restriction for at least 4 consecutive months.

**Diagram 1019**

This marking is now to be used for all loading restrictions of a duration less than those indicated by diagram 1020.1 markings.

**Diagram 1020.1**

This marking is only to be used for “at any time” loading restriction for at least 4 consecutive months.

**Diagram 1021**

Deleted. (See above).

**Diagrams 1022, 1023 and 1024**

No changes.

**Diagram 1024.1**

New marking to be used with diagrams 1010 and 1014 markings to guide high vehicles through arch bridges.

**Diagrams 1025, 1025.1, 1025.2 and 1025.3**

All bus stop markings are now yellow regardless of whether or not there are waiting restrictions along the road. Diagrams 1025.1 and 1025.3 with the broad yellow line are for use in conjunction with the diagram 974 sign to indicate a bus stop clearway order. (See also Annex I for more details of changes to bus facility signing.)

**Diagram 1026**

“Boundary” lines of area to be kept clear added to the diagram (but may be omitted).

**Diagram 1026.1**

New advisory “keep clear” marking for private drives and dropped kerbs.

**Diagram 1027.1**

No change. The diagram 642.2 sign is now available for use with this marking where a TRO is in force to make the school entrance markings mandatory.

**Diagram 1028.1**

Deleted, replaced by diagrams 1028.2, 1028.3 and 1028.4 (see below).

**Diagram 1028.2**

Yellow bay marking indicating an area of carriageway reserved for taxis, police vehicles, ambulances or buses and coaches. When used as a taxi rank the upright sign in diagram 650.1 or 650.2 must be used in conjunction with the marking. (An information sign for taxi ranks is shown in diagram 857.1, but its use is optional.) When the bay is reserved for buses or coaches, the diagram 969 upright sign must be used in conjunction with the marking.

**Diagram 1028.3**

White bay markings indicating an area of carriageway reserved for disabled drivers, large or slow vehicles or a loading bay. The diagram 661 sign must be used in conjunction with the marking when the bay is reserved for Orange Badge holders. The “Large or slow vehicles only” variant of diagram 660 must be used with that variant of this road marking. The new “Loading only” sign in diagram 660.4 must be used when this road marking is varied to “LOADING ONLY”.
**Diagram 1028.4**

This is a new design of white bay marking indicating an area of carriageway reserved for parking, either generally or by doctors, residents or motorcyclists. The “DOCTOR” marking shown in the diagram must be used with the “Doctor permit holders only” variant of diagram 660. Where the marking is used for unlimited parking the diagram 801 “P” sign must be used with the variant of the road marking without any legend. Where it is a limited waiting bay a diagram 639.1A or 661.1 sign must be used with the variant of the road marking without any legend. For residents’ permit, on-street pay and display, disc parking and voucher parking system bays a diagram 660, 660.3, 660.5, 661.2, 661.3 or 662 sign as appropriate must be used in conjunction with the variant of the marking without any legend. When used as a motorcycle bay the appropriate permitted variant of the wording for the road marking is to be used without any upright sign.

**Diagram 1029**

No change.

**Diagram 1032**

Bay marking now only to be used to indicate individual vehicle bays where payment for parking is imposed (whether by parking meter, disc parking, voucher parking or on-street pay and display). For systems other than parking meters, diagram 1028.4 can be used instead where it is not required to indicate individual vehicle spaces.

**Diagram 1033**

A wide echelon parking bay for disabled drivers has been added to the diagram. The angle of the bay markings may be varied as necessary.

**Diagrams 1035, 1036.1, 1036.2, 1037.1, 1038 and 1039**

No change except that provision is now made in diagram 1035 for the destinations to be used without the direction arrows.

**Diagram 1040**

A new variant is permitted with a continuous boundary line for use where the marking is intended to protect a part of the carriageway which traffic should not enter except in an emergency. To prevent this version being devalued by over-use, site approval by the Department’s Regional Office is required before it is laid for the first time at a particular site (see Direction 6).

**Diagram 1040.1**

Deleted. (Hatched markings are covered by diagrams 1040, 1040.2 and 1040.4.)

**Diagram 1040.2**

New version of the hatched marking for use in the middle of the road between traffic islands, pedestrian refuges, etc. There is a variant with a continuous boundary line, subject to the same restrictions as the corresponding variant of diagram 1040.

**Diagram 1040.3**

New marking for indicating reduction in lanes on a motorway. This marking is intended for use adjacent to the central reservation.

**Diagram 1040.4**

New hatched marking for edge of carriageway indicating an area that drivers should not enter unless it is seen by them to be safe to do so. This can be used on either side of the carriageway with the angle of the hatching reversed as appropriate.

**Diagram 1040.5**

New marking to indicate loss of hard shoulder ahead.

**Diagrams 1041 and 1042**

No change.
Diagrams 1043 and 1044
No change in design, but use extended to situations where the road narrows significantly, where it is for use with the priority signs in diagrams 615 and 811. Use of the marking will no longer require a supporting Traffic Regulation Order.

Diagram 1045
No change in design, but no longer requires a supporting Traffic Regulation Order.

Diagram 1046
Same diagram number now also includes diagram 1047, for consistency of practice.

Diagram 1048
No change.

Diagram 1048.1
New marking for indicating a contraflow bus and cycle lane.

Diagram 1049
No change.

Diagram 1049.1
New marking with raised section for dividing segregated shared cycle and pedestrian facilities.

Diagrams 1050 and 1055
No change.

Diagram 1056
Deleted, as current highway design standards do not include “crawler lanes”.

Diagrams 1057, 1058 and 1059
No change.

Diagrams 1060, 1060.1, 1061 and 1061.1
New permitted variants to allow the “arrowhead” markings all to appear on the same side of the hump on road humps in one-way streets.

Diagram 1063
New diagram showing alternative designs for markings to indicate the beginning and end of a length of road used by the police for calibrating speed measuring equipment employed in the enforcement of speed limits.

DIRECTIONAL SIGNS - SCHEDULE 7

GENERAL

1. All directional signs, including motorway signs are now in Schedule 7, numbered in the series 2000-2999. This schedule is sub-divided as follows:-

   Part I Diagrams 2001-2034 Green background signs for primary routes.
   Part II Diagrams 2101-2138 White background signs with black borders for all non-primary routes, including purely local signs.
   Part III Diagrams 2201-2216 White on brown signs for tourist attractions (other than on motorways or for pedestrians, which are in Parts X and VII respectively).
   Part IV Diagrams 2301-2323 Service signs for roads other than motorways, including signs for camping and caravan sites, youth hostels, picnic sites, toilets, telephones and AA/RAC service centres. Motorway service area signs are in Part X.
Part V Diagrams 2401-2403  Boundary signs (other than on motorways).
Part VI Diagrams 2501-2509  Parking place signs, including variable message signs for alternative car parks.
Part VII Diagrams 2601-2610.2  Directional signs for cyclists and pedestrians, including pedestrian signs to tourist attractions, footpath signs and waymarks.
Part VIII Diagrams 2701-2716  Temporary and emergency signs, including emergency telephones.
Part IX Diagrams 2801-2807  Other non-motorway directional signs, including goods vehicle testing stations, MoD establishments, advisory lorry routes and rural fingerposts.
Part X Diagrams 2901-2932  Motorway signs (including services and tourist attractions).

This schedule replaces all the previous diagrams in the 700 and 900 series, together with certain diagrams from the 800 series, in the 1981 Regulations.

Full details of the new design principles and rules are given in separate booklets (See para. 14 of Annex A).

PART I - SIGNS FOR PRIMARY ROUTES


**Diagram 2010**  Primary route equivalent of former diagram 760.


**Diagrams 2017, 2018 and 2019**  Examples of advance direction signs for dedicated lane junctions.

**Diagrams 2020 and 2021**  Examples of gantry-mounted advance direction signs. It is important to note that diagram 2020 is only to be used at junctions without a lane-drop, while diagram 2021 is only to be used at junctions with a lane drop or where the gantry is sited after the start of the slip road.

**Diagrams 2022 and 2023**  Examples of advance direction signs featuring roundabouts.

**Diagram 2024**  Advance direction sign incorporating the new mini-roundabout symbol.

**Diagram 2025**  Symbolic advance direction sign indicating a by-passed community.

**Diagram 2026, 2027, 2028 and 2029**  Examples of direction signs. Diagram 2027 illustrates the inclusion of a warning or regulatory symbol.
**Diagrams 2030 and 2030.1**

Examples of route confirmatory signs. In diagram 2030.1, the destination associated with the bracketed route number is reached from a junction in advance of the first destination shown under the unbracketed route number. Drivers are thus informed of both the destination and the route number to watch out for on subsequent advance direction signs. Fractions may now be used to indicate distances of less than 3 miles.

**Diagram 2031**

This derives from the former diagram 716, which showed a bracketed route number to indicate a route reached from the current road (generally a short section of minor road). This use remains available as a permitted variant. The new diagram without brackets is for use as a route number confirmatory sign.

**Diagram 2032**

Formerly diagram 717.

**Diagram 2033**

Advance direction sign for the crossing of a primary route by a non-primary ring road.

**Diagram 2034**

New sign advising route to be followed for destinations not otherwise signed at a junction ahead. It is intended for use where not all destinations that need to be signed for continuity reasons can be fitted onto the standard advance direction signs. The sign should be repeated in advance of each junction until the destinations do appear on the advance direction signs, either as ahead destinations or because the route by which they are reached diverges from the one drivers have been told to follow.

**PART II - SIGNS FOR NON-PRIMARY ROUTES**

**Diagrams 2101, 2101.1, 2101.2, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113 and 2113.1**

Examples of advance direction signs. Diagrams 2101.1 and 2101.2 show advance direction signs for grade-separated junctions. In diagram 2113, the legend, “not 24 hors” may be added under the legend “A & E” where appropriate as shown in diagram 827.1. Where accident and emergency facilities are not available at a hospital, the blue “H” symbol with the legend “No A & E” shown in diagram 827.2 should be used instead.

**Diagrams 2114, 2115 and 2115.1**

Examples of advance direction signs for dedicated lane junctions.

**Diagrams 2116 and 2117**

Examples of gantry mounted advance direction signs. It is important to note that diagram 2116 is only to be used at junctions without a lane-drop, while diagram 2117 is only to be used at junctions with a lane drop or where the gantry is sited after the start of the slip road.

**Diagram 2118**

Example of advance direction sign featuring a roundabout with a dedicated left turn lane.

**Diagrams 2119 and 2120**

Examples of advance direction signs incorporating the new mini-roundabout symbol.

**Diagram 2121**

Non-primary version of diagram 2025 for by-passed communities.
Diagram 2122  Advance direction sign for junction on a bend with a minor or unclassified route. This sign will normally only be necessary where the road layout could mislead drivers into thinking the main road goes straight on. In other circumstances, warning signs to diagram 515 or 515.1 should suffice.

Diagrams 2123 and 2124  Revised versions of former diagrams 760 and 761.

Diagrams 2125, 2126 and 2127  Examples of direction signs.

Diagram 2128  Example of route confirmatory sign. Fractions may now be used to indicate distances of less than 3 miles.

Diagrams 2129 and 2130  Formerly diagrams 725 and 726.

Diagrams 2131 and 2132  Formerly diagrams 727 and 728.

Diagrams 2133 and 2134  Revised versions of former diagrams 734.2 and 734.1. Any appropriate combination of British Rail, London Transport or Passenger Transport Executive symbols (or any of these symbols on their own) may be used.

Diagrams 2135 and 2136  Revised versions of former diagrams 734.10 and 734.5.

Diagram 2137  New direction sign to a shopping area providing a “Shopmobility” service where disabled people can park and borrow powered or manual wheelchairs (both must be available). The sign must only be used where the service has been approved by the National Federation of Shopmobility. Further details are available from the Department’s Disability Unit.

Diagram 2138  Non-primary version of diagram 2034.

PART III - TOURIST ATTRACTIONS

The Regulations cover signing for England, Scotland and Wales, but this Circular only deals with tourist attraction signing in England. For advice on tourist attraction signing in Scotland and Wales, please contact the Scottish Office or Welsh Office as appropriate.

A wide range of white on brown signs, previously available on authorisation, are now prescribed. A “tourist attraction” is defined in regulation 4. The definition allows for recognition as being eligible for white on brown signs by either the local authority or the appropriate Tourist Board (either Regional or National). Recognition may either be given directly or achieved by compliance with the appropriate code of practice or guidelines. Establishments whose main purpose is retail sales or catering are excluded, but sports and entertainment venues can be considered as tourist attractions if the local authority or Tourist Board so wish.

More detailed guidance on the use of signs to tourist attractions in England is being issued separately following the recent reviews of tourist and commercial destination signing.
Diagrams 2201, 2202, 2203, 2204 and 2205

Advance direction signs and direction signs to tourist attractions and Tourist Information Points or Centres. The use of the word “centre” on a tourist information sign is intended to denote a staffed Tourist Information Centre. The symbol denoting the type of attraction may be varied to any appropriate symbol in Schedule 14 (Parts I, II or III in England) or omitted. Other designs of symbol may be specially approved by the Department of Transport. Once a new design of symbol has been approved it can be used for other similar attractions without further special approval.

Diagrams 2206, 2207 and 2208

A set of signs to enable continuity signing to use only the symbol without repeating the full legend. The first sign encountered by a driver must have the worded description of the attraction as well as the symbol.

Diagram 2209

This sign is intended to be used on the all-purpose road shortly after leaving a motorway junction where the attraction is some distance from the motorway junction. The distance to the attraction can be replaced with the word “CLOSED” at times of the year when the attraction is closed. This is not intended to be done on a daily basis, but only when the attraction is closed for several weeks at least (eg during the winter). The sign should be sited shortly before a convenient junction or turning point (eg a roundabout) where a driver can return easily to the motorway if he decides the attraction is too far away or is informed that it is closed.

Diagrams 2210, 2211 and 2212

A set of signs for a country tour. Alternative locally appropriate symbols may be approved if required. See Circular Roads 1/91 for advice on the selection and signing of routes for country tours.

Diagrams 2215 & 2216

Sign for use in advance of a junction leading to a town or geographical area with a number of tourist attractions each of which qualify for signing, and where a Tourist Information Point or Centre is also provided. Symbolic continuity signing as shown in diagram 2216 may be used, but the description of the attraction should be repeated where the route to that attraction diverges from the others.

PART IV - SERVICE SIGNS

Detailed advice on the criteria for the eligibility for signing and the signing arrangements for motorway service areas, all-purpose road services and local services in by-passed communities are given in Annex J to this Circular.

Diagrams 2301, 2302, 2303, 2304, 2305 and 2306

The colour of these signs for camping and caravan sites, youth hostels and picnic sites is to be white on a brown background to emphasise that they are primarily for the use of tourists. They replace former diagrams 705, 751, 752, 753, 752.1 and 753.1 respectively.

Diagram 2307

New white on brown sign indicating a parking area ahead with at least a Tourist Information Point and possibly other facilities. Parking areas with public toilets and/or telephones but no Tourist Information Point should be signed with diagram 2502, varied as appropriate.
Diagrams 2308 and 2309

These signs are now white on blue, to emphasise that they are for general information, and not specifically for the benefit of tourists. They indicate that at least parking, fuel, refreshments and public toilets are available during normal shop opening hours in a small town or village not on a main route. These signs are not to be used on motorways. Tourist attraction symbols must not be added to this sign: attractions in a community off the main route should be signed with separate signs to diagrams 2202 and 2203.

Diagrams 2310, 2311, 2312 and 2312.1

Signs indicating services on a non-primary route providing fuel, parking, refreshments, telephones and toilets from at least 8am to 8pm every day except Christmas Day, Boxing Day and New Year’s Day. Variants of diagrams 2310 and 2311 are available to indicate services primarily for lorries and those which do not cater for lorries.

Diagrams 2313, 2314, 2315 and 2315.1

Signs indicating services on a primary route providing fuel, parking, refreshments, telephones and toilets from at least 8am to 8pm every day except Christmas Day, Boxing Day and New Year’s Day. Variants of diagrams 2313 and 2314 are available to indicate services primarily for lorries and those which do not cater for lorries.

Diagrams 2316, 2317 and 2318

AA telephone and service centre signs, formerly diagrams 842.2, 842.3 and 841.1 respectively.

Diagrams 2319, 2320 and 2321

RAC telephone and service centre signs, formerly diagrams 842.4, 842.1 and 841.1 (variant) respectively.

Diagram 2322

Revised version of former diagram 734.6; this can now indicate “Payphone” or “Cardphone”.

Diagram 2323

Revised version of former diagram 736.1, substituting WC symbol for worded legend.

PART V - BOUNDARY SIGNS

Diagram 2401

Formerly diagram 743.1. The restriction on the use of yellow and dark green for background colour has been removed. A short message of welcome, not more than four words in addition to the County name, may be added. This should be non-political, and of permanent relevance (ie not linked to anniversaries, short-term marketing slogans, etc). The x-height of any supplementary legend should be smaller than that used for the County name, but not less than 70mm.

Diagram 2402

Formerly diagram 744.1. This sign should never carry the name of the District Council or London Borough alone. Such administrative areas are rarely found in road atlases. District Council boundary signs could be positively misleading where the District takes the name of the principal town in the area, but the road being following does not pass through that town.
Diagram 2403  New version of the town or village boundary sign. The crest or logo may be replaced by a pictorial representation of a local historical or geographical feature, but the two may not be used together. The message between the place name and the twin town information may not exceed four words. Messages may be related to road safety or to the locality. If the latter, they must be non-political, and of permanent relevance (i.e. not linked to anniversaries, annual awards, short-term marketing slogans, etc.).

PART VI - PARKING PLACE SIGNS

These signs remain black on white (with the white on blue “P” symbol) regardless of whether they are on a primary or a non-primary route.

Diagram 2501  Formerly diagram 746.2.
Diagram 2502  New diagram indicating parking place (usually a lay-by) with additional facilities such as toilets and telephones.

Diagrams 2503 and 2504  New diagrams indicating signs for “Park and Ride” schemes. The bus symbol may be varied to a tram where appropriate, or to a British Rail, London Transport or Passenger Transport Executive symbol where the “Ride” is by train. LT and PTE symbols should not be used where the “Ride” is provided by a bus or tram.

Diagrams 2505, 2506, 2057 and 2508  Examples of advance direction signs and direction signs to car parks. A wide range of explanatory worded legends is now prescribed in the permitted variants (eg “Long stay”, “Short stay”, “Multi-storey”, “Pay and Display”, the geographical name of the car park, etc). The total number of spaces may be shown in the bottom right hand corner of the blue patch of the “P” symbol.

Diagram 2509  Variable message car park sign, indicating whether particular named car parks are full or closed, and giving directions to alternatives where there are spaces.

PART VII - SIGNS FOR CYCLISTS AND PEDESTRIANS

Diagrams 2601 and 2602  Formerly diagram 732.5 and 732.4 respectively.

Diagrams 2603 and 2604  Formerly diagrams 735.2 and 735.1 respectively. This all-blue background design should be used for all signs to parking for cyclists. Use of the white background signs with the cycle symbol and P symbol on a blue patch (variants of former diagrams 734.8 and 734.9) has been discontinued.

Diagrams 2605 and 2606  Formerly diagrams 739 and 739.5.
Diagram 2607  New “finger post” type design for pedestrian direction signs. This is intended primarily for use in environmentally sensitive urban areas. The pedestrian symbol is an essential element of this sign. Lettering other than the Transport alphabets may be used.

Diagrams 2608 and 2609  Examples of pedestrian direction signs to tourist attractions or associated facilities.

Diagrams 2610 and 2610.1  Footpath signs for use within the boundaries of a highway. Footpath signs were deleted from TSRGD in 1966. The Countryside Act 1968 made provision for the erection of off-highway signs, but left the status of those in the highway unclear. To remedy this anomaly, these two diagrams have been added to the new TSRGD. The permitted variants are designed to allow as much scope as possible for local authorities to use their own distinctive designs.

Diagram 2610.2  New waymark sign for a footpath or bridleway. This sign is intended to be used along a highway which provides a link between two sections of a footpath or bridleway forming a continuous route (e.g. a long distance footpath). A wide range of variants is permitted (especially in the background colour) so that the waymarks used on the highway can match those in use on the off-highway sections of the footpath or bridleway. The colour of the arrow denotes whether the off-highway part of the route is a footpath, bridleway or byway open to all traffic.

PART VIII - TEMPORARY AND EMERGENCY SIGNS

Diagram 2701  New sign for indicating direction to new housing development. The sign is intended to guide contractors and potential purchasers. Where the route for the two groups differs, for instance to keep heavy construction traffic out of environmentally sensitive areas, the lorry symbol may be added to the sign. The name shown on the sign should be the geographical name of the development, not the commercial name of the developer. The colours of the sign may not be varied.

Diagrams 2702, 2703, 2704 and 2705  Formerly diagrams 754, 755, 755.1 and 756 respectively.

Diagram 2706  New map-type diversion route sign.

Diagram 2707  Formerly diagram 756.1.

Diagram 2708  Formerly diagram 567.2.

Diagram 2709  Formerly diagram 844. Place names may now be added.

Diagram 2710  New chevron-ended direction sign version of diagram 2709.

Diagram 2711  New sign indicating emergency pedestrian exit from a tunnel.

Diagram 2712  Formerly diagram 843.
Diagram 2713  Formerly diagram 912. Emergency telephones are no longer to be reserved for use on motorways.

Diagram 2713.1  New sign indicating availability of emergency telephones in a lay-by. If the lay-by is for emergency use only (indicated by signs to diagram 642.3 and markings to diagrams 1018.1 and 1020.1 at the site itself) the “P” symbol should be omitted.

Diagrams 2714 and 2715  Formerly diagrams 913.2 and 913.3.

Diagram 2716  New sign indicating to drivers that they should follow a diversion route, either specified by route number or indicated by a symbol on subsequent signs. The range of black/yellow geometric symbols to be used is shown in Part VII of Schedule 13.

PART IX - OTHER NON-MOTORWAY DIRECTIONAL SIGNS

Diagrams 2801 and 2802  New signs indicating directions to a Department of Transport testing station for goods vehicles.

Diagrams 2803 and 2804  Formerly diagrams 741 and 741.1 respectively.

Diagram 2805  Revised version of former diagram 727.2. Any primary route number now used will appear on a green patch, and any motorway route number on a blue patch.

Diagram 2806  Formerly diagram 728.3 (variant).

Diagram 2807  New design of traditionally styled “finger post” direction sign. Use of this sign should be restricted to minor rural roads, where traffic normally travels at low speeds.

PART X - MOTORWAY SIGNS

Diagram 2901  Formerly diagram 901.1.

Diagram 2902  Revised version of former diagram 903.1, including junction number. Where a motorway is reached from a large roundabout or gyratory system, this sign should be used without the motorway symbol and with the route number in Transport Medium alphabet to direct traffic round the gyratory to the entry slip.

Diagram 2902.1  New direction sign indicating entry to a motorway, for use at dedicated entry slip roads at grade-separated junctions.

Diagram 2903  Formerly diagram 906. This sign is now to be used at both 1 mile and ½ mile from the junction. It is considered more helpful to drivers to show the exit destinations as well as the route number on all signs leading up to the junction.
Diagram 2904
Formerly diagram 906.1. This is for use 1 mile and ½ mile in advance of a lane drop junction where gantry-mounted signs are not used. Note that when regional destinations are used, the whole phrase is in capitals, except for the word “The”.

Diagram 2904.1
New final sign for use at a lane drop junction where gantry-mounted signs are not used.

Diagram 2905
Formerly diagram 906.2.

Diagram 2906
Revised version of former diagram 907. For consistency, regional destinations are now always to appear in capital letters, apart from the word “The”. The junction number is shown in its alternative position, for use when it is not possible to place it in the bottom left hand corner. The junction number must never be placed in the top right-hand corner as this would confuse drivers into thinking that junction was ahead, rather than at this turning.

Diagram 2907
The proposal in the consultation document for a sign showing the junction number to be sited in the central reservation was deleted when it was found impractical to design one which would fit in the space available and still be legible to drivers travelling at normal motorway speeds.

Diagram 2908
Revised version of former diagram 908.1. Ampersands are no longer to be used in lists of destinations; commas will suffice. The caption makes it clear that this design is to be used only at junctions where there is no lane drop.

Diagram 2909
Revised version of former diagram 908.2. This design of gantry sign is only for use where there is a lane drop at the junction, or the gantry is sited beyond the nose of the slip road.

Diagrams 2910 and 2910.1
Formerly diagrams 910 and 910.1.

Diagram 2911
Revised version of former diagram 911.

Diagram 2912
New sign giving advance warning of a junction between two motorways.

Diagram 2913
New design of advance direction sign for use on exit slip roads. Colour coding of routes is introduced at this stage.

Diagram 2914
New design of advance direction sign for use where a motorway ends at an at-grade roundabout. This is the only situation in which colour coding of routes is used on the main carriageway of a motorway.

Diagram 2915
Sign instructing traffic to follow a given destination to reach another which does not as yet appear on the advance direction signs. (See comments for diagram 2034.)

Diagram 2916
Sign indicating permanent absence of hard shoulder. Where the absence is temporary, for instance during road works, diagram 7015 should be used.

Diagram 2917
This replaces former diagram 916, and gives the distance to at least the next two motorway service areas and the name of the operators. This sign may also be used to indicate that there are no service areas on a particular motorway. (See Annex J for details of services signing.)
Diagram 2918
Formerly diagram 915. This sign may be varied to indicate that there are no services at all on the motorway.

Diagram 2919
“Half mile” advance signs for service area indicating facilities available. The operators’ header board must be of a design approved in writing by the Secretary of State. The upper row of symbols must appear on all signs, as they are the minimum facilities that a motorway service area must provide. Symbols from the second row should be omitted as appropriate to indicate the facilities at the particular service area. The price of a litre of 4 star petrol may be shown instead of a litre of unleaded, in which case the green pump symbol shall be replaced by 4 white stars on the blue background. (See Annex J for more details of services signing.)

Diagram 2920
Direction sign to service area, giving name of service area and including operator’s header board. (See Annex J regarding the use of this sign.)

Diagrams 2921, 2922 and 2923
Formerly diagrams 916.1, 917 and 920 respectively.

Diagram 2924
Advance direction sign for tourist attractions reached from a junction ahead. The sign should be sited between the conventional advance direction signs, at about ¾ and ¼ mile from the junction.

Diagram 2925
Map-type advance direction sign to tourist attractions for use on motorway exit slips. Where there is room to do so, tourist attractions may alternatively be signed by the inclusion of brown panels on signs to diagrams 2913 or 2914.

Diagram 2926
Stack-type advance direction sign to tourist attractions for use on motorway exit slips. This sign should only be used where space precludes use of a map-type sign to diagram 2925.

Diagram 2927
Advance direction sign for a town or geographical area reached from a junction ahead containing several tourist attractions. No more than three attractions may be shown on the sign, and each must individually meet the criteria for motorway signing. The “i” symbol must be omitted where the town or area does not contain a Tourist Information Centre.

Diagram 2928
County boundary sign for use on motorways. The county crest may be added, together with a short message of welcome, which must be non-political, and of permanent significance. The message and county name together must be no more than four words.

Diagram 2929
Sign indicating advisory lorry route. This will normally be used where goods vehicles are encouraged to use a different junction to avoid passing through a town centre or environmentally sensitive area.

Diagrams 2930, 2931 and 2932
Formerly diagrams 918.1, 919.1 and 920 respectively.
TRAFFIC LIGHT SIGNALS - SCHEDULE 8

Diagrams have been added showing the dimensions and configurations of light signals previously only prescribed in the words of the Regulations. This has enabled the wording of these regulations to be simplified.

**Diagram 3000**
Standard 3-aspect traffic light signals.

**Diagram 3000.1**
Portable traffic light signals for temporary situations.

**Diagram 3000.2**
New diagram showing light signals for control of pedal cycles.

**Diagram 3000.3**
New diagram showing traffic light signals with a tram signal alongside. The permitted variants allow a green arrow signal to replace the full green aspect and/or the tram signal.

**Diagram 3000.4**
New diagram showing traffic light signals with a green filter arrow as well as a tram signal added. A second green arrow signal can replace the tram signal.

**Diagram 3000.5**
New diagram showing traffic light signals with tram signal mounted below. The tram signal may be replaced by a green filter arrow. The tram signal (but not the green arrow) may be mounted above the red aspect.

**Diagram 3000.6**
New diagram showing traffic light signals with both green filter arrow and a tram signal added below the main signal. The tram signal can be replaced by a second green arrow signal.

**Diagram 3001**
Green filter arrow.

**Diagram 3001.1**
New alternative design for green filter arrow.

**Diagrams 3002, 3003, 3004, 3005, 3007, 3008, 3009.1, 3011.1 and 3011.2**
Revised diagrams showing prescribed combinations of traffic light signals and green filter arrows, and the range of angles at which those filter arrows may point. Regulation 31 also describes the variations in the directions in which the green arrow may point.

**Diagram 3010**
Deleted, now a variant of diagram 3009.1.

**Diagram 3013**
New diagram showing light signal for the control of tramcars. (The signal will never actually appear like this in practice as all the elements would not be illuminated at the same time. The following diagrams show the appearance of the individual aspects.)

**Diagrams 3013.1, 3013.2, 3013.3, 3013.4 and 3013.5**
Various aspects of diagram 3013.

**Diagram 3014**
“Wig-wag” signal for use at railway and tramway level crossings, fire and ambulance stations, airfields, lifting and swinging bridges and tunnels. The border has been changed from the plain white previously prescribed to a red and white chequered pattern: trials have shown that this increases the visibility of the signal head.
LIGHT SIGNALS FOR PEDESTRIAN FACILITIES AND ANIMAL CROSSINGS - SCHEDULE 9

Diagram 4001  Deleted, as the rectangular display for signalled pedestrian crossings is no longer used.

Diagram 4002  Dimensions for the range of distances between the bottom of the container and the carriageway surface have been added.

Diagram 4003  No change. Regulation 37 allows an audible or tactile device for use by blind or partially sighted people to be added to the box.

Diagram 4004  New diagram illustrating school crossing warning lights previously only prescribed in words.

Diagram 4005  New diagram showing warning lights for a cattle crossing. The diagram also includes a sign to diagram 548, which is always used with the signals.

Diagram 4006  New diagram showing flashing red figure to instruct pedestrians not to start to cross a level crossing.

LANE CONTROL SIGNALS AND SIGNS - SCHEDULE 10

Diagram 5001.1  This replaces former diagram 5001. The signal indicating a lane open to traffic is to be a green arrow rather than a white one.

Diagram 5001.2  Alternative design for diagram 5001.1.

Diagrams 5002 and 5004  Deleted. It is no longer felt necessary to illustrate bulb matrix variants of the lane control signals. Provided that the display seen by traffic is recognisably that shown in the prescribed diagrams, the means by which that display is achieved are not considered to require specified prescription.

Diagram 5003  No change.

Diagram 5003.1  New alternative design for diagram 5003.

Diagrams 5005 and 5005.1  New diagrams showing alternative designs for a white diagonal arrow signal instructing traffic to move to the lane on its left.

Diagram 5010  Formerly 819.1, amended to reflect the change in colour of the signal indicating lane open to traffic and the introduction of the diagonal white “change lanes” arrow.

Diagram 5011  Formerly 819.2, amended as for diagram 5010.

Diagram 5012  New diagram showing sign indicating that a lane control system starts ahead.

Diagram 5013  New diagram showing sign indicating direction to a lane control system.
Diagram 5014
New diagram showing sign indicating direction of and distance to the start of a lane control system.

Diagram 5015
Formerly diagram 819.3.

MATRIX SIGNS AND LIGHT SIGNALS FOR MOTORWAY AND DUAL CARRIAGEWAY ROADS - SCHEDULE 11

In order to allow for the use of various methods of generating the prescribed displays, other than a bulb matrix, such as fibre optics, the diagrams now illustrate the displays as solid continuous bars. The requirement is that the displays generated are recognisably those shown in the diagrams.

Diagrams 6001, 6002 and 6003
No change, except as above.

Diagrams 6004 and 6005
Deleted, as no new installations planned. Diagram 6012 will replace diagram 6005.

Diagrams 6006, 6006.1 and 6006.2
Diagram showing one, two and three lane closures on a three lane carriageway.

Diagram 6007
Deleted, replaced by permitted variant of diagram 6006.

Diagrams 6008 and 6008.1
Diagrams showing one and two lane closures on a two lane carriageway.

Diagrams 6009, 6009.1, 6009.2 and 6009.3
Diagrams showing one, two, three and four lane closures on a four lane carriageway.

Diagram 6011
New diagram showing fog warning.

Diagram 6012
New diagram showing sign for indicating end of a temporary restriction, warning or advisory speed limit. This is used without flashing amber lights. This display is being introduced to replace diagram 6005.

Diagram 6021
Gantry-mounted matrix sign with flashing amber lights for display of diagrams 6001, 6002, 6003 and 6011, showing relation between matrix display and the amber warning lights.

Diagram 6022
Post-mounted matrix sign with flashing amber lights for display of diagrams 6001, 6003, 6006 to 6009.2 and 6011. The diagram illustrates the signal identification number.

Diagram 6023
New diagram illustrating “motorwarn” signal previously only prescribed in words.

Diagram 6031.1
New diagram illustrating red cross symbol now used in conjunction with flashing red lights on gantry-mounted signal displays.

Diagram 6032.1
Post mounted signal meaning “do not proceed beyond this sign in any lane”. The flashing red lights are used with the appropriate “all lanes closed” symbol.
PART I - MISCELLANEOUS WARNING, INFORMATORY AND REGULATORY SIGNS

Diagram 7001  
Formerly diagram 564.

Diagram 7001.1  
Formerly diagram 564.1. “On slip road”, “On hard shoulder”, “Ditching”, “Weed spraying”, “Sign erection”, “Sign maintenance”, “Lighting maintenance” and “Mobile road works” have been added to the list of permitted variants.

Diagram 7001.2  
Plate for use with diagram 7001 warning of road works on another route.

Diagram 7002  
Advance warning of road works ahead.

Diagram 7003  
Advance warning of start and duration of road works.

Diagram 7004  
Advance warning of road works and indication of nature of works. The description of works should not exceed four words. The diagram 7001 warning triangle and associated plate may be omitted when the sign is used inside the works are to explain what is happening, particularly where there is no apparent activity.

Diagram 7005  
Advance warning of road works and indication of duration.

Diagram 7006  
End of road works and of all associated temporary statutory restrictions, including speed limits. Use of this sign, or of diagram 7001 with the diagram 645 plate, obviates the need for a diagram 671 ‘derestriction’ sign at the end of road works.

Diagram 7007  
New simplified design of scheme board giving details of major road works or improvement scheme. Where a scheme is partially funded by the EC, a reference to that fact (“Funded by the European Regional Development Fund”, or similar) and the EC symbol of twelve stars in a circle may be added at the bottom of the sign.

Diagram 7008  
New sign giving details of street works, naming the contractor and responsible authority or statutory undertaker and giving a telephone contact number. The top or bottom panels may be in the undertaker’s own colour scheme. Either or both of these panels may be omitted. If the top panel is omitted the name of the authority or undertaker must be shown in white lettering on the red part of the sign. The telephone number must be the most prominent item of information on the sign.

Diagram 7009  
Formerly diagram 565.1.

Diagram 7010  
Formerly diagram 565.2. A new variant has been added for “WORK IN CENTRE OF ROAD”. “Works traffic” legends have been moved to variants of diagram 7301. “Give way/stop markings erased” variants are now covered by new variants of diagram 7012 (see below).

Diagram 7011  
Formerly 565.3.
<table>
<thead>
<tr>
<th>Diagram 7012</th>
<th>Formerly diagram 565.4, with new variants for “NO GIVE WAY MARKINGS” and “NO STOP MARKINGS” to replace the former diagram 565.2 variants.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagram 7013</td>
<td>Formerly diagram 566.</td>
</tr>
<tr>
<td>Diagram 7014</td>
<td>Formerly diagram 569.2. New variants have been added for “SIGNAL PRIORITIES CHANGED” and “SIGNAL TIMINGS CHANGED”.</td>
</tr>
<tr>
<td>Diagram 7015</td>
<td>New diagram showing sign indicating temporary absence of hard shoulder. Permanent absence of hard shoulder on a motorway should be signed with diagram 2916.</td>
</tr>
<tr>
<td>Diagram 7016</td>
<td>Formerly diagram 576.</td>
</tr>
<tr>
<td>Diagram 7017</td>
<td>Formerly diagram 567.</td>
</tr>
<tr>
<td>Diagram 7018</td>
<td>Formerly diagram 567.1.</td>
</tr>
<tr>
<td>Diagram 7019</td>
<td>Formerly diagram 569.4.</td>
</tr>
<tr>
<td>Diagram 7020</td>
<td>New diagram showing temporary sign indicating that the variable message sign ahead is not in use. This sign should also be used, varied to “SIGN UNDER TEST”, when test messages are being transmitted that drivers should ignore. “SIGNAL” may be used as an alternative to “SIGN”.</td>
</tr>
<tr>
<td>Diagrams 7021 and 7022</td>
<td>New diagrams showing signs for use at junctions between lengths of road subject to portable traffic light signals and uncontrolled roads.</td>
</tr>
<tr>
<td>Diagram 7023</td>
<td>The design has been modified to incorporate the octagonal “STOP” sign (replaces diagram 603).</td>
</tr>
<tr>
<td>Diagram 7024</td>
<td>Formerly diagram 604.</td>
</tr>
<tr>
<td>Diagrams 7023 and 7024</td>
<td>A definition of “manually operated” has been added to Regulation 4 (Interpretation). This states that the change from one display to another must be “set in process” by one or more operators. This allows for the operation of STOP/GO boards by a single operator at a remote point using an electric switch. That operator must have full view of both boards and oncoming traffic in both directions, and should be no more than 100m from each board (with the boards no more than 200m apart). Traffic flows should not exceed 850 vehicles per hour. Boards operated from a remote point should be used during the hours of darkness. Automatic boards, that is to say not under the control of an operator, are not acceptable. Portable traffic light signals (diagram 3001) should be used instead.</td>
</tr>
</tbody>
</table>
PART II - DELINEATORS AND BARRIERS

Diagram 7101
Formerly diagram 577, Regulation 44 limits the colours of the bases of cones to red, black, grey or brown. Regulation 44 also allows a rotating device with amber reflectors to be mounted on top of a traffic cone.

Diagram 7102
New diagram showing a flat traffic delineator and its base. The base is to be coloured red, black, grey or brown with an optional 100 millimetre retro-reflective white line along the side parallel to the front face of the blade. This line must be at an angle of not more than 60° to the surface of the carriageway.

Diagram 7103
Formerly diagram 578. The caption has been amended to allow the use of cylinders in permanent situations, and to separate traffic lanes flowing in the same direction.

Diagram 7104
Formerly diagram 569.

Diagram 7105
Formerly diagram 569.1.

PART III - LANE CLOSURE AND CONTRAFLOW WORKING

The signs in diagrams 7201 and 7210 to 7240 may be used on their own, or may be combined with the top panels shown in diagrams 7260 to 7264 and bottom panels shown in diagrams 7270 to 7275. Only one panel may be added to the top of the sign, and one to the bottom. The Table of combinations beneath each diagram gives details of the permissible combinations. The lane symbols shown in diagrams 7280 to 7288 may be used to vary the centre panels as appropriate.

Diagram 7201
This diagram shows a sign assembled from a combination of top panels, bottom panels, and the centre panels indicating lane restrictions ahead.

Diagram 7202
Formerly diagrams 858/858.1/858.2.

Diagram 7203
New diagram indicating two lanes open to traffic with off-side contraflow working.

Diagram 7203.1
Same as diagram 7203 with the left hand lane using the hard shoulder.

Diagram 7204
New diagram indicating two lanes open to traffic with the left hand lane using the hard shoulder.

Diagram 7205
New diagram indicating two lanes open to traffic. Formerly WBM 858.3.

Diagram 7206
New diagram indicating closure of the centre lane of a three lane carriageway.

Diagram 7207
New diagram indicating use of hard shoulder and two left hand lanes.

Diagram 7208
New distance plate for use with diagrams 7202, 7206 and 7207.
Diagram 7209
New distance plate for use with diagrams 7203, 7203.1, 7204 and 7205.

Diagrams 7210 to 7220
New diagrams indicating traffic movements in contraflow. The diagram number refers to the type of centre panel illustrated. Some diagrams also show an example of a top and/or bottom panel used with that centre panel.

Diagram 7221
New diagram indicating sharp bends on temporary roads. This can also be used with appropriate top and/or bottom panels.

Diagrams 7230 to 7240
New diagrams indicating traffic movements on one carriageway. The diagram number refers to the type of centre panel illustrated. Some diagrams also show an example of a top and/or bottom panel used with that centre panel.

Diagrams 7250 to 7256
New diagrams indicating temporary lane gain/lane drop junctions.

Diagrams 7260 to 7266
New diagrams indicating top panels for sign assemblies.

Diagrams 7270 to 7275
New diagrams indicating bottom panels for sign assemblies.

Diagrams 7280 to 7288
New diagrams indicating elements which can be used to vary the middle panels in diagrams 7201, 7210 to 7221, and 7230 to 7240.

PART IV - WORKS ENTRANCES AND EXITS

Diagram 7301
Formerly diagram 579. The variants were previously variants of former diagram 565.2.

Diagram 7302
New diagram showing sign to be used with ‘side road’ warning sign (diagram 506.1) to indicate temporary works exit ahead.

Diagram 7303
Formerly diagram 580.

Diagram 7304
Formerly diagram 580 (alternative design).

Diagram 7305
New diagram showing temporary direction sign for works traffic.

Diagram 7306
New diagram showing temporary map-type advance direction sign to guide works traffic.

Diagram 7307
New diagram showing sign warning of works traffic leaving site and rejoining main carriageway.
PART V - SIGNS MOUNTED ON VEHICLES

**Diagrams 7401, 7401.1, 7402 and 7403**

Mobile lane closure signs to be used in accordance with Regulation 14, Department of Transport Highways and Traffic Departmental Standard TD 29/87, and Chapter 8 of the Traffic Signs Manual.

**Diagram 7404**

New diagram showing worded sign to be displayed on the back of a vehicle working on a road.
CHANGES TO GENERAL DIRECTIONS

General

The General Directions are now grouped more logically and divided up with sub-headings. A list of these can be found at the end of the section “Arrangement of Instrument” before the Regulations.

Directions 1-4

These correspond to Direction 1-4 in the 1981 General Directions with the addition of further definitions in Direction 3.

Direction 5

This states that signs which were erected in compliance with the 1981 General Directions will be deemed to comply with the new General Directions. (Deadlines on replacing obsolete signs are contained in Regulation 3.)

Direction 6

This corresponds to Direction 5(2) in the 1981 General Directions with the addition of a new site approval requirement for hatched markings with a continuous boundary line (permitted variants of diagrams 1040 and 1040.2). The requirement for site approval for “STOP” signs is unchanged, but no longer applies to service signs.

Direction 7

This corresponds to Direction 6 in the 1981 General Directions. The exceptions to the requirement for a sign to have statutory backing were expanded in an amendment to the 1981 General Directions to include mandatory height restriction signs. The yellow box markings shown in diagrams 1043 and 1044 no longer have to be backed by traffic regulation order. The definition of the relevant weight for the new weak bridge sign (diagram 626.2) is included in Direction 7(4).

Direction 8

This new Direction requires certain signs indicating a restriction, requirement, prohibition or speed limit to be placed on both sides of the carriageway at or near the point where the restriction starts. For signs other than these relating to speed limits only one sign is required when the restriction applies to a particularly narrow road (less than 5 metres wide) or where traffic is leaving a one-way street. A mandatory height restriction sign may be placed on the parapet of the bridge etc instead of or as well as signs on both sides of the road.

Direction 9

This new Direction requires a sign indicating the end of a restriction, requirement, prohibition or speed limit to be placed at or near the point where the restriction ends. Signs relating to speed limits are to be placed on both sides of the road. At the end of a temporary speed limit applied at road works, the “End of road works” sign is now also to mean the end of the temporary speed limit and the start of the national speed limit (unless another speed restriction is imposed).

Direction 10

This new Direction requires repeater signs to be erected at intervals to indicate that certain types of restriction or speed limits are still in force.

Directions 11 and 12

These correspond to Direction 7 in the 1981 General Directions.

Direction 13

This corresponds to Direction 9 in the 1981 General Directions.

Direction 14

This corresponds to Direction 8 in the 1981 General Directions.

Direction 15

This is an expanded version of Direction 10 in the 1981 General Directions.
Direction 16  This is an expanded version of Direction 30 in the 1981 General Directions. Signs and markings for waiting restrictions are now covered by Directions 20-24.

Direction 17  This corresponds to Direction 18(2) in the 1981 General Directions.

Direction 18  This is an expanded version of Direction 11 in the 1981 General Directions.

Direction 19  This corresponds to Direction 12 in the 1981 General Directions. The information about combinations of signs and plates is set out in tabular form, rather than the Direction simply referring back to the diagrams and their captions. The use of “except cycles” and “except buses and cycles” plates with the diagram 616 “No entry” sign is specifically prohibited.

Direction 20  This corresponds to Direction 26 in the 1981 General Directions. The meanings attached to diagrams 1017 and 1018.1 have been revised. Broken single yellow lines and triple kerb blips have been discontinued. Double yellow lines and double kerb blips are now reserved for “at any time” restrictions applying for at least 4 months. Single yellow lines and single kerb blips are to be used for any other prohibitions on waiting and loading for a shorter period. Where waiting is limited to a specific period white bay markings are to be used. (See Annex H for more details of the changes to waiting restriction signing and marking.)

Direction 21  This corresponds to Direction 27 in the 1981 General Directions. The meanings attached to diagrams 1019 and 1020.1 have been revised (see diagram captions and above).

Direction 22  This is an expanded version of Direction 14 in the 1981 General Directions.

Direction 23  This corresponds to Directions 28 and 29 in the 1981 General Directions, setting the information out in tabular form. It is also made clear that waiting/loading restriction repeater plates are only required in Controlled Parking Zones where the restrictions are different from those shown on the zone entry signs.

Direction 24  This corresponds to Direction 37 in the 1981 General Directions.

Direction 25  This corresponds to Direction 15 in the 1981 General Directions. The related regulation has been amended to allow the use of school crossing patrol lights on automatic timers when the school crossing patrol or other supervising adult is not present.

Direction 26  This new Direction stipulates the conditions under which the sign warning of toads crossing the road may be erected.

Direction 27  This corresponds to Direction 16 in the 1981 General Directions.

Direction 28  This corresponds to Direction 20 in the 1981 General Directions.

Direction 29  This corresponds to Direction 21 in the 1981 General Directions.

Direction 30  This corresponds to Direction 23A in the 1981 General Directions (inserted by a 1982 amendment).

Direction 31  This corresponds to Direction 17 in the 1981 General Directions.

Direction 32  This corresponds to Direction 19 in the 1981 General Directions.

Direction 33  Direction 33(1) corresponds to Direction 32 in the 1981 General Directions. 33(2) is a new stipulation limiting the retention of the new temporary sign to a new housing development to 6 months after the completion of the development.
Direction 34  Directions 34(1) and 34(2) correspond to Directions 18(1) and 18(3) in the 1981 General Directions. 34(3) is a new restriction on the use of warning signs for temporary hazards. 34(4) is a new stipulation regarding the use of the new plate denoting child cyclist training or testing.

Direction 35  This corresponds to Direction 11(4) in the 1981 General Directions.

Direction 36  This corresponds to Direction 35 in the 1981 General Directions. Posts for signs may now be grey or black in colour, or in the natural colour of aluminium, concrete, galvanised metal or timber. The stripe which may be provided to improve conspicuity of the post for pedestrians can now be yellow as an alternative to white. A wider range of colours is allowed for the supports for road danger lamps to allow them to be mounted on the posts of barrier systems at road works. The black and yellow striped poles used for school crossing patrol “lollipop” signs are now specified in this Direction instead of in a Circular Roads.

Direction 37  This corresponds to Direction 36 in the 1981 General Directions as amended. Backs of signs, other than those mounted with traffic light signals, may now be grey, black or a non-reflective metallic finish (eg aluminium or galvanised metal). In order to comply with BS 873 (or equivalent specification of a European Economic Area state) information about manufacture of the sign may be now shown on the back of a sign in characters not exceeding 5mm high and occupying an area not exceeding 30 square centimetres. The provisions for the front of a backing board, to be yellow as an alternative to grey now applies to all signs, including speed limit signs. Signs with red or black borders may have a white rim (10 - 20mm wide) added outside the border to improve conspicuity against backgrounds that make the sign difficult to see.

Direction 38  This corresponds to Direction 22 in the 1981 General Directions.

Direction 39  This corresponds to Direction 23 in the 1981 General Directions.

Direction 40  This corresponds to Direction 33 in the 1981 General Directions.

Direction 41  This contains information relating to the mounting and backing of light signals previously found in Direction 34(1)(a) and (4), (5), (6) and (7) of the 1981 General Directions. An identification number may be added to the front of the mounting board for motorway matrix signals as shown in diagram 6022. The stripe which may be provided to improve conspicuity of traffic light signal posts for pedestrians can now be yellow as an alternative to white.

Direction 42  This corresponds to Direction 34(3) of the 1981 General Directions.

Direction 43  This corresponds to Direction 42 of the 1981 General Directions.

Direction 44  This corresponds to Direction 38 of the 1981 General Directions except that the use of matrix signals is extended to dual-carriageway all-purpose roads.

Direction 45  This corresponds to Direction 39 of the 1981 General Directions.

Direction 46  This corresponds to Direction 40 of the 1981 General Directions.

Direction 47  This direction contains requirements regarding permission for the use of temporary traffic light signals that were previously in regulation 33 of the 1981 Regulations.
**Direction 48**
This new Direction requires that light signals for school crossings and cattle crossings must only be used in conjunction with the appropriate upright static warning signs and that the pedestrian signal at railway level crossings shall only be used in conjunction with the wig-wag signals. The requirement for the diagram 4003 pedestrian signals only to be used in conjunction with 3-aspect traffic light signals has been transferred to this direction from Regulation 35(1) in the 1981 Regulations, and the requirement for pedestrian push button boxes only to be used in conjunction with pedestrian light signals has been transferred from Regulation 35(5).

**Direction 49**
This corresponds to Directions 34(1) and (2) and 41 of the 1981 General Directions. The term “type” approval is no longer used. This Direction now refers to approval “in accordance with the relevant requirements”. Provision is made for approval of alterations and for withdrawal of approval. These approval requirements do not apply to variable message signs which are only manually operated without any electrical or mechanical assistance (eg. hinged flap signs).

**Direction 50**
This corresponds to Direction 31 of the 1981 General Directions.

**Direction 51**
This corresponds to Direction 43 of the 1981 General Directions.
DAMAGE TO BRIDGES BY ROAD VEHICLES - TRAFFIC SIGNS AT BRIDGES

Introduction

1. There continue to be several hundred accidents notified each year involving vehicles striking bridges. In addition many other accidents go unreported. Each of these incidents can represent a grave risk to rail traffic. Relatively small amounts of force can displace girder bridges enough to cause tracks to be misaligned sufficiently to cause derailments. There is also a significant risk to road users where loads are displaced from a vehicle coming into contact with a bridge. Fatalities have resulted from both these types of accidents.

2. The Department of Transport has carried out and is continuing to carry out research and experiments into more effective ways of protecting bridges, particularly those most at risk. This Annex to this Circular consolidates and brings up to date previously published advice, and replaces Circular Roads 5/87 and 2/89.

3. Traffic signs may not prevent those accidents in which the driver forgets, or is ignorant of, the height of his vehicle, or deliberately takes a risk and ignores the signs. Nonetheless it is vital if the number of accidents involving bridge strikes is to be reduced that all bridges with a headroom of less than 16’ 6” are clearly and correctly signed. Where particular problems have been experienced consideration should also be given to erecting signs at bridges with a greater headroom. The type of signing depends on the design of the bridge and the degree of risk of damage to the bridge.

Calculation of signed height

4. The figure shown on the signs to indicate the available headroom should be at least 3 inches less than the measured height to allow a safety margin, and should be expressed to the nearest multiple of 3 inches. Thus the maximum figure which should normally appear on a sign is 16’ 0”. Traffic authorities should re-measure the headroom after re-surfacing the road or carrying out other similar works, and must change the signs if road works alter the clearance beyond the 3 inches limit. Care should also be taken to ensure that the vehicles of the maximum length permitted under the Construction and Use Regulations will be able to pass safely under the bridge at the signed at height. This is particularly important where the road dips or hogs sharply or is on a sinuous alignment under the bridge. Where an impact absorption beam is incorporated into the bridge structure this will normally be slightly lower than the height of the bridge itself. The signed height should be calculated from the height of the beam where this is lower than the bridge.

5. When it is intended to indicate the safe clearance height in metric units as well as imperial ones, it is not acceptable simply to convert the imperial measurement to its metric equivalent. The bridge clearance height must be measured with a metric rule to two decimal places, rounding down to the nearest centimetre, and the following formula adopted for calculating the appropriate signed height:

   (i) If the second decimal number is 8 or 9, delete it and sign the bridge with the remaining whole number and the first decimal number.

   Eg: Actual measured height: 3.29m
       Delete second decimal number
       Signed height: 3.2m

   (ii) If the second decimal number is 7 or less, delete it and reduce the first decimal number by 1. Sign the bridge with the remaining whole number and first decimal number, as reduced.

   Eg: Actual measured height: 3.45m
       Delete second decimal number: 3.4m
       Reduce by 0.1m
       Signed height: 3.3m
This formula will provide a tolerance of between 8 centimetres and 18 centimetres which is approximately equivalent to 3.15 inches and 7.1 inches. The height shown on the sign must only be to one decimal place. The figure to the right of the decimal place is always shown smaller on signs than the one to the left of the decimal place.

**Non-arch bridges**

6. It is the Department’s policy to signal all non-arch trunk road bridges with a headroom of less than 16’ 6” with mandatory signs shown both metric and imperial measurements (diagram 629.2A in the new Traffic Signs Regulations). Experiments have shown that mandatory signs are generally more effective than warning signs in protecting non-arch bridges.

7. Local traffic authorities have the choice of using either warning (diagram 530) or mandatory (diagram 629.2 or 629.2A) signs. Traffic regulation orders are not required for mandatory height limit signs protecting a bridge, tunnel or similar structure over the highway. (Use of these signs for environmental reasons still requires a TRO.) Drivers disobeying a mandatory height sign are guilty of an offence under Section 36 of the Road Traffic Act 1988. The signs are also specified for the purposes of Schedule 2 of the Road Traffic Offenders Act 1988, which means that non-compliance renders drivers liable to licence endorsement and possible disqualification.

8. Metric heights may be shown as well as imperial heights at any bridge. Where diagram 530 warning signs are used the imperial height must always be shown above the metric one where the signs are mounted vertically or to the left of the metric one where the signs are mounted horizontally. Where mandatory signs are used combined metric/imperial roundel (new diagram 629.2A) should be used if possible. The metric height is shown above the imperial one within the combined roundel. Where siting necessitates the use of two separate roundels (diagram 629.2) the imperial one should be above or to the left of the metric one, as for the warning triangles.

**Arch bridges**

9. The use of mandatory signs is not recommended for use in arch bridges since the main threat to arch bridges comes from vehicles which can in fact pass through the higher part of the arch striking the lower part. A special package of signs and road markings has therefore been introduced to help guide the drivers high vehicles through the appropriate part of the arch and to make other drivers aware of the path that high vehicles have to follow. Where there are particular reasons for signing an arch bridge with a mandatory sign (eg a nearby girder bridge is signed with mandatory signs) then the Driver Information and Traffic Management Division of the Department must be consulted so that special signing arrangements can be authorised.

10. New symbolic arch bridge signs and an accompanying plate are prescribed in the new Traffic Signs Regulations (diagrams 531.1 and 531.2) for use immediately in advance of the bridge. The symbolic signs are not to be used on the bridge itself or on advance direction signs - diagram 530 warning signs must be used in these situations. Single and double chord markings are prescribed in diagrams 532.2 and 532.3 for use on the bridge itself. A new road marking “HIGH VEHS” (diagram 1024.1) has been introduced for use with the diagram 1014 arrow marking and diagram 1010 broken white lines to guide drivers through the highest part of the arch.

**Composite bridge structures**

11. Where an arch bridge is concealed by a girder/beam bridge and is the lower part of the bridge, the whole structure should be signed as an arch bridge. Hanging black and yellow striped triangular plates (to match the profile of the arch) should be provided on the girder/beam, together with further plates on the face of the arch itself. It may be possible to make the markings from flexible-type materials fixed to the face of the arch with adhesive; otherwise the plates should be suspended on chains or hinged brackets securely fixed to the bridge structure. Metal plates should not be fixed rigidly by screws or bolts to the face of the arch, as there is much more risk of them being dislodged and falling onto vehicles on the road beneath than with flexibility suspended plates. Where practicable, illumination should be provided not only for the signs, but also for the reflective plates. This is particularly helpful in cases where a small arch bridge is flanked by wider girder bridges. Where the girder/beam is lower than any part of the arch the whole structure should be
signed as a non-arch bridge and a false soffit with the marking shown in diagram 530.2 should be suspended from the arch at the height of the girder/beam.

12. Experience has shown that these markings will themselves be struck from time to time, and that rigidly mounted aluminium plates are not suitable. It is therefore recommended that rubber or other flexible material should be used for the backing and that the reflective material used for the yellow stripes should be sufficiently robust to withstand flexing. Plates or flaps should be suspended by means of chains or hinges fixed securely to the bridge structure. (The use of rubber-backed plates will help to avoid annoyance to nearby residents from the noise of hanging metal plates striking the bridge structure in wind and vehicle slipstream.) Although the painted markings could be used, it is more effective both from the visual and durability aspects to use reflective markings, flexibly attached to the bridge. Material which is both retroreflective and fluorescent may be used for the yellow part of these markings.

Sizes, siting and illumination of signs at low bridges

13. The appropriate sizes of the signs, distances from the bridge, clear visibility distance of the sign, and the sizes of the supplementary plates are given in the tables at Appendix 1. It should be noted that larger sizes of signs are recommended for use on the bridge itself. These dimensions are the minimum sizes and distances, and greater ones may be necessary in certain circumstances.

14. Signs should normally be sited immediately in advance of the bridge, in accordance with Table 1, and on the bridge itself. Care should be taken to ensure maximum conspicuity and legibility of the signs. Where the bridge is sited on a skew or a road curves sharply on the approach to the bridge the signs on the bridge may have to be angled or mounted to one side of the bridge for maximum visibility. Agreement must be made with the bridge owners as to the method of fixing signs and associated lighting equipment to the bridge. If advertisements or other notices are displayed on the bridge, traffic signs should not be mounted immediately adjacent to these, and may need to be of a larger size than that recommended in Table 3 to counteract the distracting effect of the advertisement. Where the colour of the bridge does not provide a good contrast with the red triangles or roundel of the sign, then a thin white border should be added outside the red part of the sign. At particularly difficult sites it may be necessary to mount the signs on posts adjacent to the bridge abutments rather than on the bridge parapet itself, but mounting on the parapet is preferable if at all possible. Mandatory signs on the immediate approach to the bridge should be sited just after the last diversion or turning point.

15. To comply with the requirements of the Traffic Signs Regulations, both warning and regulatory signs must be internally or externally lit through the hours of darkness when erected within 50 metres of a system of street lighting. When not so lit, the signs must be reflectorised. Any supplementary plates must be illuminated by the same method as the main sign, unless the lighting for the sign adequately illuminates the plate. The plate must be reflectorised if the sign is reflectorised.

16. Traffic authorities are reminded of the need to ensure that foliage on adjacent trees and shrubs is regularly trimmed during the Spring and Summer so that the advance warning signs remain clearly visible throughout the year.

17. As it is essential that the sign should be conspicuous at all times, authorities should consider illuminating a reflective sign where there is evidence that it is inconspicuous to drivers during the hours of darkness, even where this is not required by the Regulations. It is also vital to ensure that lighting equipment is maintained in good working order and the sign faces are cleaned regularly. If a traffic authority fails to achieve the minimum standard of signing required by the Regulations, those responsible could lay themselves open to a claim for damages.

Advance signing

18. If drivers are to avoid being faced with the difficult dilemma of deciding whether to try to “squeeze” under the bridge or make awkward and potentially dangerous manoeuvres to turn back in limited space or heavy traffic, then adequate advance signing of the low bridge is essential.
19. The new Traffic Signs Regulations allow the diagram 530 warning triangle and the diagram 629.1/629.2A regulatory roundels (but not the diagram 531.1 symbolic arch bridge symbol) to be incorporated into a wide range of directional signs including stack and flag type signs as well as map type ones. Where triangle or roundel symbols are incorporated into stack or flag type signs they must be placed between the place name and the arrow or chevron for maximum emphasis. A distance plate may be added below the symbol on directional signs; this is particularly helpful where the bridge is some distance along the route and large vehicles may require access to premises before the bridge.

20. Where a bridge is signed with mandatory height limit roundels (diagrams 629.2 or 629.2A), the new diagram 669.1 advance sign (a symbolic version of the old diagram 818.2 sign in the 1981 Regulations) may be used as well as or instead of including the roundel symbol on direction signs. Where the bridge is signed with diagram 530 or 531.1 warning signs, diagram 530 signs with diagram 572/573 distance plates should be used in advance. These signs must all be sited far enough in advance of the bridge for a driver to divert easily or turn round safely.

Signing of diversionary routes

21. Where a low bridge effectively denies the use of a road to certain vehicles, the signing of a recommended alternative route for diverted vehicles should be considered. Experience indicates that effective diversionary signs help to reduce the number of bridge accidents. Clear and timely signing is particularly important where such a bridge spans a primary route or a road which is frequently used by heavy goods vehicles. Suitable direction signs are prescribed in the new Traffic Signs Regulations (eg diagrams 2002, 2003, 2107, 2131 and 2132) and the legend “avoiding low bridge” may also be incorporated into a wide range of directional signs. It is essential to provide continuity signing throughout the diversion route until the existing directional signing picks up the desired destination.

22. Increasing use is being made of double-decked buses for excursions to tourist attractions. Care should therefore be taken in signing routes to tourist attractions that low bridges (particularly any lower than 15’ 0") are avoided wherever possible and, where there is a bridge with a headroom of less than 16’ 6", that the alternative route is clearly signed. The alternative route should be signed using the standard white on brown colours for tourist attractions. Unless alternative routes are signed, drivers of diverted vehicles have to find their own way, and may use minor roads unsuitable for buses or heavy lorries.

Additional measures

23. Where there is a high risk of a serious accident occurring at a particular bridge then consideration should be given to additional measures to protect the bridge. Various factors need to be taken into account in assessing the degree of risk at a particular bridge apart from the type and frequency of road traffic. The assessment is therefore best made in conjunction with the railway authority, who can offer such technical advice as the frequency of trains, including the proportion of passenger trains and trains carrying dangerous goods, the type and impact resistance of the bridge structure.

24. For girder or slab bridges, a risk assessment method is given at Appendix 2. This method provides a means for determining the probability of derailment for each bridge, and the relative risks at difference sites can then be compared. In addition, the annual probability multiplied by the estimated cost of a derailment can be capitalised to give the risk value at any particular bridge. Investment in measures at each site can be judged against the reduction in the risk that is likely to be achieved. The strength of arch bridges is such that their overall structural integrity is unlikely to be immediately vulnerable to collision forces of the magnitude that would be applied by impacting vehicles.

PROTECTIVE BRIDGE MARKINGS

25. Where the bridge is not sufficiently conspicuous to approaching traffic, the face of an arch bridge can be marked with black and yellow strips as shown in diagram 532.2. Similarly the lower part of a beam or girder bridge can be marked with the black and yellow strips shown in diagram 530.2. (The gap to the centre is to facilitate mounting of the sign.) Material which is both retroreflective and fluorescent may be used for the yellow part of these markings.
USE OF AUTOMATICALLY ACTIVATED VARIABLE MESSAGE WARNING SIGNS

26. Where accidents still occur despite improvements to the basic warning and direction signs, it may be expedient to consider installing special warning devices. The Department has found that the best protection is provided by variable message signs activated by high vehicles passing through infra-red beam detectors. The signs can be bulb or fibre optic matrix types. When displaying the legend, the signs are accompanied by 4 flashing amber lanterns, the top pair flashing alternately with the lower pair at a rate of 120-150 flashes per minute. Such signs should be mounted before a junction or suitable turning point, so that the high vehicle may turn conveniently without a difficult reversing manoeuvre. If the junction leads to a suitable alternative route by passing the low bridge, the legend should read:

“OVERHEIGHT VEHICLE DIVERT”
(With an arrow pointing in the appropriate direction)

Alternatively the legend could read:

“OVERHEIGHT VEHICLE TURN BACK”

(These legends are prescribed in Schedule 15 of the 1994 TSRGD.)

The signs should conform to Department of Transport specifications MCH 1496 for light emitting variable message signs and MCE 0147 for detector equipment, which are available from Department of Transport, Traffic Control and Communications Division, Room 614, Tollgate House, Bristol.

BEAMS

27. Beams placed in advance of a low bridge are often advocated as a method of protecting bridges. The development and use of such devices will be expensive and pose formidable technical and practical problems. The root problem is to restrain the offending vehicle without other unacceptable consequences such as injury to the driver and other road users or requirement for an unrealistic amount of stopping space. Moreover, under the law as it stands traffic authorities have no powers to erect such barriers and could be liable for damages if a vehicle struck one. While therefore it is proposed to consider amending legislation to authorise the use of such devices, they cannot be regarded for the immediate future as representing an effective approach to the problem of bridge strikes.

28. However, width collision protection beams (CPBs), provided at the bridge side faces and incorporated into the original width of the bridge over the highway that can be considered to form part of the bridge structure are acceptable. A draft specification for the design of CPBs is being prepared and will eventually form part of the DoT Design Manual for Roads and Bridges. Publication is expected in 1994. CPBs are designed to transmit most of or all of any impact force away from the bridge deck and into the bridge abutments and provide an effective way of minimising the risk of damage to the bridge. All such beams should comply with the DoT specification. At present only the Railway Undertaking concerned has powers to erect them.

29. A mandatory height restriction sign rather than a warning sign must be used for the protected low bridge and this must be placed on the CPB rather than on the bridge. Failure to do this could lead to a complaint that the traffic authority had permitted a road to be obstructed by a beam. The lower portion of a beam should be marked with the black/yellow stripes as shown in diagram 530.2 of the new Traffic Signs Regulations.

30. Other lighter beams and gauges etc, either suspended or fixed to the bridge that are considered to be warning devices may be used. These can provide some protection from minor damage. They must, however, be securely fixed to the bridge so that they will not be dislodged by an impact and fall into the road. Any signs that would normally be placed on the bridge should be placed on the beam so that they are clearly visible to drivers approaching the bridge. The lower portion of the beam should be marked with the black/yellow stripes shown in diagram 530.2 in the New Traffic Signs Regulations.
31. Damage to bridge parapets is an increasing problem and most commonly occurs where the approach to the bridge is on a bend and/or the carriageway is narrow. The consequences of a parapet strike can be as serious as other types of bridge strikes; masonry or brickwork dislodged from a damaged parapet could easily derail a train and cause a serious accident. There have also been accidents where the vehicle has plunged off the bridge onto the railway track after hitting the parapet. Traffic authorities should ensure that the appropriate warning signs (diagrams 512 - 513 and 516 or 517) are erected in advance of such hazards. The ends of the bridge parapets themselves can be made more conspicuous by the use of black/yellow marking shown in diagram 528.1 in the new Traffic Signs Regulations. Where such measure prove ineffective consideration should be given to reducing traffic to a single lane and installing traffic light signals to control the alternate flows.

32. Appendix 2 describes the factors which need to be taken into account when assessing the risk of strikes at flat soffit rail bridges. It also includes worked through examples of the calculations which produce an assessment of the probability of an accident at a particular bridge taking these factors into account. Railtrack is developing a new method of risk assessment for the vulnerability of low bridges with a view to prioritising those where action should be taken. They intend to approach traffic authorities to discuss what joint action is appropriate.
**APPENDIX 1**
**TABLE 1**

**SIZES OF ADVANCE WARNING OR PROHIBITORY SIGNS AND THEIR SITING DETAILS**

<table>
<thead>
<tr>
<th>TYPE OF ROAD 85 percentile approach speeds of private cars</th>
<th>Examples of typical roads on which the speeds of private cars shown in column 1 may apply</th>
<th>Height of triangles of warning signs diameter of regulatory roundel</th>
<th>Distance of sign from hazard (see note 4)</th>
<th>Recommended clear visibility distance of signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(a) Up to 20mph</td>
<td>Very narrow urban roads carrying less than 1500 vpd and less than 350 commercial vpd</td>
<td>600</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>1(b) Up to 20mph</td>
<td>Narrow rural roads carrying less than 1500 vpd and less than 350 commercial vdp</td>
<td>600</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>2. Over 20mph up to and including 30mph</td>
<td>Urban and other rural roads of a local character</td>
<td>600</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>3. Over 30mph up to and including 40mph</td>
<td>Urban and rural single carriageway 2-lane roads</td>
<td>750 (600)</td>
<td>45-100</td>
<td>60</td>
</tr>
<tr>
<td>4. Over 40mph up to and including 50mph</td>
<td>Urban motorways and high standard 2 or 3 rural roads with few junctions</td>
<td>900 (750)</td>
<td>110-180</td>
<td>75</td>
</tr>
<tr>
<td>5. Over 50mph up to and including 60mph</td>
<td>Dual carriageway roads and single carriageway roads of 3 lanes or over</td>
<td>1200 (900)</td>
<td>180-245</td>
<td>75</td>
</tr>
<tr>
<td>6. Over 60mph</td>
<td>Motorways and modern high standard all purpose dual carriageway roads</td>
<td>1200 (1500)</td>
<td>245-305</td>
<td>105</td>
</tr>
</tbody>
</table>
Notes: 1. Alternative sizes for signs are shown in brackets in column 3. The 1500mm size is for warning triangles only.

2. The smaller alternative sizes should only be used where amenity considerations or physical restrictions apply.

3. The larger alternative sign sizes should be used where required by site conditions or where the accident record calls for greater emphasis.

4. These distances may be increased on steep down hill gradients (eg an increase of 50% may be made for a 10% descent if 85 percentile speeds are high). Regulatory signs should be erected immediately after the last convenient turning or diversion point.

5. See Table 3 for sizes of signs to be used on the actual bridge.
### SIZES OF SUPPLEMENTARY PLATES

<table>
<thead>
<tr>
<th>Diagram No.</th>
<th>Description</th>
<th>X-height of plate for each height of warning triangle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TRIANGLE HEIGHT</td>
<td>1500mm</td>
</tr>
<tr>
<td>531.2</td>
<td>ARCH BRIDGE High vehicles</td>
<td>150mm</td>
</tr>
<tr>
<td>572</td>
<td>Distance to hazard</td>
<td>200mm</td>
</tr>
<tr>
<td>573</td>
<td>Distance and direction to hazard</td>
<td>200mm</td>
</tr>
</tbody>
</table>

**Notes:**

1. The 50mm x-height plates are used on roads where the 85 percentile speed is less than 20mph.
2. The 125mm x-height plates (diagrams 572 and 573) are used on roads where the 85 percentile speed is less than 60mph.
3. The 150mm x-height plates (diagrams 573 and 573) are used on roads where the 85 percentile speed is less than 70mph.
4. The 1500mm triangle is used on motorways and grade-separated all-purpose dual carriageways with the national speed limit of 70mph.

### SIZES OF WARNING SIGNS TO BE USED ON BRIDGE STRUCTURES

<table>
<thead>
<tr>
<th>Size of Sign on Approaches</th>
<th>Size of Sign on Bridge Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>(a) Triangle</td>
</tr>
<tr>
<td>600</td>
<td>mm 900</td>
</tr>
<tr>
<td>750</td>
<td>mm 900</td>
</tr>
<tr>
<td>900</td>
<td>mm 1200</td>
</tr>
<tr>
<td>1200</td>
<td>mm 1500</td>
</tr>
<tr>
<td>1500</td>
<td>mm 1500</td>
</tr>
</tbody>
</table>
APPENDIX 2

RISK ASSESSMENT FOR FLAT SOFFIT RAILWAY BRIDGES OVER HIGHWAYS

1. INTRODUCTION

This assessment is concerned with the risk of a road vehicle damaging a railway bridge and causing the derailment of a passenger train. The probability of a derailment is the product of the probability of displacement of the track and the arrival of a passenger train at the location concerned. The risk value is the product of the probability of derailment and the total cost of its consequences. The facts involved are:

- Frequency, type and speed of trains
- Bridge construction
- Bridge headroom
- Type and volume of road traffic under bridge

2. TRAINS

It is assumed that someone is able and willing to warn trains approaching a displaced length of track and that 20 minutes would be required for the warning to become effective. The probability of the arrival of a train \( P_t \) is therefore taken as 20 minutes divided by the interval in minutes between trains, expressed as an average day and night through the year.

\[
P_t = 0.014 \times N_t \quad \text{[MAX VALUE = 1.0]}
\]

When \( N_t \) is the average number of trains per day. This figure can be obtained from British Railways.

3. BRIDGE HEADROOM AND ROAD TRAFFIC

The following annual probabilities have been calculated based on recorded incidents which were of such severity that a derailment could have resulted. These are classified by bridge headroom and type of vehicle.

<table>
<thead>
<tr>
<th>Headroom (feet)</th>
<th>Engineering Plant ( P_p )</th>
<th>Containers ( P_c )</th>
<th>Various Others ( P_v )</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 16</td>
<td>0.0005</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>15 - 16</td>
<td>0.0024</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>14 - 15</td>
<td>0.0043</td>
<td>---</td>
<td>0.0003</td>
</tr>
<tr>
<td>13 - 14</td>
<td>0.0070</td>
<td>0.0024</td>
<td>0.0035</td>
</tr>
<tr>
<td>12 - 13</td>
<td>0.0036</td>
<td>0.0036</td>
<td>0.0054</td>
</tr>
<tr>
<td>11 - 12</td>
<td>---</td>
<td>0.0072</td>
<td>0.0072</td>
</tr>
<tr>
<td>10 - 11</td>
<td>---</td>
<td>---</td>
<td>0.0047</td>
</tr>
</tbody>
</table>

When applying the above probability values account needs to be taken of the volume of traffic using the road. Engineering plant occurs at random regardless of the road or density of road traffic and hence the values of \( P_p \) can be used directly. However, the likelihood of containers and other damage-causing vehicles being involved in incidents will be directly related to the numbers of these vehicles using the road and the probability values \( P_c \) and \( P_v \) should be modified accordingly. To determine the modification factors the following assumptions have been made:
(a) Containers and other damage-causing vehicles are expected to occur in proportion to the daily flow of heavy goods vehicles.

(b) The average flow of heavy goods vehicles associates with the \( P_c \) and \( P_v \) values is 1000 vehicles per day.

The probability values \( P_p, P_c \) and \( P_v \) need to be multiplied by the following modification factors to obtain the probabilities of the incidence of impact at the bridge in question:

\[
\begin{align*}
\text{Engineering Plant} & \quad F_p = 1.0 \\
\text{Containers} & \quad F_c = \frac{N_{(HGV)}}{1000} \\
\text{Various} & \quad F_v = \frac{N_{(HGV)}}{1000}
\end{align*}
\]

Where \( N_{(HGV)} \) = daily flow of heavy goods vehicles (defined as goods vehicles over 3.5 tonnes gross vehicle weight).

4. BRIDGE CONSTRUCTION

It has been estimated that engineering plant striking a bridge a could exert a force of 1500 KN and a container 500 KN. It is assumed that the various and unidentified vehicles will include equal numbers of vehicles capable of exerting forces of 1500 KN and 500 KN.

From the construction, mass and dimensions British Rail can make an assessment as to whether the bridge would be displaced by a force of 500 KN or would require a greater force to be moved. The construction rating can then be equated with the 500 KN and 1500 KN forces than can be exerted by the various types of vehicles. In accordance with the construction rating determined for the bridge and the type of vehicle, the modified probabilities of the incidence of impact should be multiplied by the following factors to determine the determine the probability of displacement of the bridge:

<table>
<thead>
<tr>
<th>Construction C_R Rating (KN)</th>
<th>Engineering Plant I_p</th>
<th>Containers I_c</th>
<th>Various Others I_v</th>
</tr>
</thead>
<tbody>
<tr>
<td>( C_R \leq 500 )</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>( 500 &lt; C_R \leq 1500 )</td>
<td>1.0</td>
<td>0.0</td>
<td>0.5</td>
</tr>
<tr>
<td>( C_R &gt; 1500 )</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The total probability of displacement (\( P_d \)) should be determined by adding together the discrete probabilities for each vehicle type as follows:

\[
P_d = (P_p \times F_p \times I_p) + (P_c \times F_c \times I_c) + (P_v \times F_v \times I_v)
\]

5. COMBINATION OF PROBABILITIES

The probability of a derailment should be determined by obtaining the product of \( P_d \) and \( P_t \). The following examples illustrate the calculation of the overall probability.

Example 1  Headroom 3.5m (11.5 feet). 60 trains per day. 5000 HGVs per day. Construction rating 500 KN

\[
\begin{align*}
P_p \times F_p \times I_p & = 0.0 \times 1.0 \times 1.0 = 0 \\
P_c \times F_c \times I_c & = 0.0072 \times \frac{5000 \times 1.0}{1000} = 0.0360
\end{align*}
\]
\[ P_v \times F_v \times I_v = 0.0072 \times \frac{5000 \times 1.0}{1000} = 0.0360 \]

\[ P_d = 0.0720 \]

\[ P_t = 0.014 \times 60 = 0.84 \]

Therefore combined probability of derailment

\[ = 0.83 \times 0.0072 \]

\[ = 0.060 \]

This is equivalent to one accident every 17 years.

Example 2  Headroom 4.0m (13.1 feet). 5 trains per day. 100 HGVs per day. Construction rating 1500 KN.

\[ P_p \times F_p \times I_p = 0.0070 \times 1.0 \times 1.0 = 0.0070 \]

\[ P_c \times F_c \times I_c = 0.0024 \times \frac{100 \times 0.0}{1000} = 0.0000 \]

\[ P_v \times F_v \times I_v = 0.0072 \times \frac{100 \times 0.5}{1000} = 0.00018 \]

\[ P_d = 0.0720 \]

\[ P_t = 0.014 \times 5 = 0.07 \]

Therefore combined probability of derailment

\[ = 0.07 \times 0.0072 \]

\[ = 0.0000504 \]

This is equivalent to one accident every 1984 years.
SIGNING OF WEAK BRIDGES

Introduction

1. A major programme of assessment of bridges in line with the latest technical standards is currently under way. The Bridge Assessment Code contained in Departmental Standard BD 21/84 and Advice Note 16/84 reflects the changed nature of present day traffic conditions and provides for the use on UK roads of 40 tonne lorries and 11.5 tonne axle weights, as already permitted in other parts of the European Community, when the derogation from the appropriate EC Directive is removed on 1 January 1999.

2. Under the trunk road Bridge Rehabilitation Programme, the Department is assessing its bridges to BD 21/84, and putting strengthening work in hand as necessary. Local highway authorities are expected to ensure that all bridges, including those that they do not own, carrying their roads are in a fit condition for the traffic which may reasonably be expected to use them.

3. Further information about the Assessment and Strengthening of Highway Bridges and Structures can be found in Circular Roads 2/91.

Signing of weak bridges

4. Where a bridge has been assessed against the new Bridge Assessment Code, and has been found not to be capable of carrying vehicles of up to 40 tonnes, a Traffic Regulation Order should be made prohibiting vehicles over the maximum gross weight that the bridge can safely carry from using the bridge either on a temporary basis, while strengthening is arranged, or permanently. The effect of the Order should be shown by erecting signs to diagram 626.2. Appropriate advance warning of the prohibition should be given, either by incorporating the roundel from diagram 626.2 into directional signs or by erecting signs to diagram 669.1 (variant).

5. The weight restriction signs previously used at weak bridges and other structures were couched in terms either of overall actual weight or of actual weight on each axle. The change to a system based on maximum gross weight is expected to make enforcement easier by making it possible to compare the weight on the sign with the plated weight shown in the cab of the vehicle. This will reduce the need for police to use weighbridges in order to ascertain whether a vehicle exceeds the weight limit at a certain bridge. Vehicles which are still in service and are plated with unladen weight only will be permitted to use weak bridges where their unladen weight does not exceed the maximum gross weight stated on the sign.

6. The weight limits that may be shown on the new sign are 3T, 7.5T, 10T, 13T, 17T, 25T and 33T. These correlate to the classification divisions under BD 21/84. The three weight limit levels that would be likely to be used most generally are 25T, 17T and 7.5T, which equate to easily identifiable types of goods vehicle. 25T (rounded up for the sign from 24.5T) represents the maximum gross weight of a 3 axle HGV, 17T a 2 axle HGV, and 7.5T a HGV without special rear markings.

Public Service Vehicles

7. The new sign also applies to Public Service Vehicles (PSV). Previous general exemptions for PSVs were justified on the grounds that the restrictions were not necessarily precisely attuned to structural capacity, and that the types of PSV using a particularly structure were predictable and controllable. Changes introduced by the Transport Act 1985 mean that the highway authority now has less control over the types of vehicle operating on particular routes. It is also the case that the term “bus” covers a wide range of vehicles, from minibuses to fully laden luxury long-distance coaches.
8. The Department recognises the potential effect that the ending of PSV exemptions might have on local services. The safety of the structure and of those crossing it must be the paramount concern. Subject to that basic proviso, it seems reasonable to allow highway authorities some flexibility to meet the needs of particular local situations. It may be that a structure that is unsuitable for general traffic above a certain maximum gross weight can carry occasional PSVs without risking damage.

9. The Department’s advice is therefore that local authorities, when making Traffic Regulation Orders imposing weight restrictions at weak structures, may, if they so wish, include exemptions for specific types of PSV. Such exemptions should be based upon analysis of the nature of the structure involved. Exempted vehicles should be issued with permits, to be displayed in or on the vehicle. The exemption would be signed with a plate attached to the weak bridge sign reading “Except permit holders”. Special authorisation from the Department would be required for the erection of such plates.

**Empty vehicles**

10. It is recognised that for vehicles in the higher weight levels the actual vehicle weight when empty is likely to be sufficiently low as to be safely borne by the bridge. It has been shown that any bridge which can safely bear a vehicle of 17 tonnes MGW or more (ie vehicle and load) can bear an empty vehicle of any weight normally permitted under the Construction and Use Regulations. The Department therefore strongly recommends the use of the “except empty vehicles” plate shown in diagram 627.1 at all bridges capable of bearing 17 tonnes or more. The definition of ‘empty vehicle’ is given in Schedule 18.

11. It is not the Department’s wish to dictate to local highway authorities what their weight restriction Orders should contain. We would however like to emphasise that it would be an unnecessary, and in our opinion unreasonable, burden upon the transport industry to prevent empty vehicles from crossing bridges where they can do so without endangering the structure.

12. Where both certain permit-carrying PSVs and all empty vehicles are exempted from a weight restriction, the information should be given on a single plate reading ‘Except permit holders and empty vehicles’. Use of this plate will require special Departmental authorisation as indicated in paragraph 9.

**Other vehicles**

13. The Assessment Code gives details of the loading effects on bridges of fire engines (FE loading). Highway authorities may wish to inform fire brigades separately whether specific weak bridge bans apply to them or if an exemption exists for emergency vehicles.

**Advance Information of Bridge Restrictions**

14. It is essential that advance information of bridge weight restrictions should be given. This may be done by means of a sign to diagram 669.1 on the approach to the last alternative route turn-off point before the bridge or, preferably, by an advance direction sign incorporating the weight restriction roundel. The information may be repeated on the direction sign at the junction. The weight shown should be that for the general limit. Exemptions cannot be indicated on the advance signing. Unless the restriction begins close to the junction, it is generally helpful to include a distance plate beneath the incorporated roundel.

15. The alternative route must be clearly signed not only at the turn-off point but also at junctions throughout its entire length by signs showing the destination and the wording “Alternative route for heavy vehicles” or “Alternative route for heavy and track laying vehicles”. The information may be on a self-contained sign, as diagrams 2131 and 2132, or incorporated into other advance direction signs and direction signs.

Temporary Prohibition of Traffic

17. Where a bridge is closed to traffic, the prohibition should be signed by an “All vehicles prohibited” sign (diagram 617) supplemented by a “No vehicles” plate (diagram 618.1) or an “All motor vehicles prohibited” sign (diagram 619), as appropriate. “Road closed” signs (diagram 7010) may also be used. If the prohibition is imposed by a section 1 (temporary) Order, barriers may also be erected. The alternative route must be correctly signed throughout its length.
VARIABLE MESSAGE SIGNS

Introduction

1. The revised Traffic Signs Regulations and General Directions recognise the advances in technology since 1981 in respect of Variable Message Signs (VMS). A much broader range of VMS is now prescribed. Regulation 46 defines a VMS and lays down the basic requirements. Examples of VMS, such as those for pedestrian zones and car parks are illustrated in the diagrams in Schedules 1 - 12. In addition a range of standard worded legends is provided in Schedule 15. Part IV of Schedule 13 shows the alphabet to be used on VMS where the technology does not permit the use of the standard Transport alphabet. Direction 49 specifies the requirement for equipment approval.

Types of Variable Message Sign

2. VMS basically fall into the following four groups:

   * Flap type (usually hand operated on site).
   * Rotating prism or plank, or roller blind.
   * Flip-over disc matrix.
   * Light emitting technologies (fibre optics, light emitting diodes, bulb matrices, internally illuminated signs, etc).

3. Each of these types are particularly suitable for particular applications. For example, a simple flap type sign is adequate where the sign is only used occasionally and staff are on site to operate it; rotating plank or prism signs enable regulatory and warning signs to be displayed in the same style as fixed signs, and are suitable where only two or three different messages are required; flip-over discs allow a wide range of worded messages and some symbols to be displayed; light emitting signs are particularly suitable for automatically activated signs needing rapid response times.

Regulatory position

4. The new regulations permit a VMS to display any sign prescribed in Schedules 1 to 5, 7, 11 or 12, any of the worded legend listed in Schedule 15, or a blank grey or black face. (Any worded legends not listed in Schedule 15 continue to require special authorisation before they can be displayed on a VMS.) The regulations also provide for colour inversion to allow the flip-over disc or light emitting technologies to display a light symbol on a dark background, where the corresponding fixed sign would have a black symbol on a white (or yellow) background. Where red rings or triangles for part of a regulatory or warning sign, they must be retained even if the symbol/legend and background within the red ring are subject to colour inversion.

5. Direction 49 provides that any VMS (including associated control equipment) other than those which are manually operated (without any electrical or mechanical assistance) must be approved for its purpose by the Secretary of State and meet the relevant technical requirements before being used.

6. It is important to remember that to be lawfully placed on a road a VMS must comply with both the sign face appearance and technical requirements referred to in paragraphs 4 and 5 above.
Alphabets for worded legends

7. Part IV of Schedule 13 prescribes the standard alphabet to be used on VMS employing dot matrix technologies, whether light emitting or flip disc (or a combination of the two). This alphabet has been designed for maximum clarity, based on research into sign legibility. This alphabet must be used for both the worded legends prescribed in Schedule 15 and any other legends which may be specially authorised.

Use of flashing amber lights

8. Regulation 46 allows the use of 4 flashing amber lamps (flashing in horizontal pairs) to be used in conjunction with a speed limit roundel (diagram 670), any of the worded legend prescribed in Schedule 15, and matrix signals prescribed in Schedule 11 (other than diagram 6012). This regulation also allows four flashing amber lamps to be displayed without a legend if the sign fails; this has the meaning to drivers that they should take special care. The Department’s policy is to restrict the use of flashing amber lamps to these signs to prevent their effectiveness becoming devalued through over-use.
SIGN AND ROAD MARKINGS FOR WAITING AND LOADING RESTRICTIONS AND PARKING PLACES

General principles of the new system

1. The broken yellow line and triple kerb blip road markings no longer appear in the Traffic Signs Regulations, and any new waiting or loading restrictions must be signed with the appropriate markings in accordance with the new Regulations. Existing markings to the obsolete designs must be replaced by 1 January 1999.

2. In future double yellow lines (diagram 1018.1) and double kerb blips (diagram 1020.1) are only to be used for prohibitions of waiting and loading respectively which apply at any time continuously for at least 4 consecutive months. All other prohibitions of waiting or loading (other than clearways) are to be indicated by single solid yellow lines (diagram 1017) or single kerb blips (diagram 1019). Where waiting is limited to a particular period, white bay markings (diagram 1028.4 varied to omit the worded legend or diagram 1033) should be used. Timeplates or upright signs must also be used to give the exact details of the restrictions. Diagram 1032 markings will in future only be used for parking meter bays or other payment systems where it is necessary to mark out individual vehicle spaces.

Limited waiting

3. In the past limited waiting restrictions (e.g., waiting limited to 40 minutes return prohibited within 1 hour) have been indicated either by broken single yellow lines (old diagram 1016.1) and signs to the former diagram 641 or white bay markings (diagrams 1032 or 1033) and a combination of the signs to diagrams 801 and 805. In future such restrictions will be signed with a combination of the new white bay marking shown in diagram 1028.4 (without any worded legend) or the diagram 1033 echelon marking and the new upright sign in diagram 661.1. The TSRGD do not specify that a particular type of TRO should be used with these signs and markings, so there should be no need to change existing TROs when the signs and markings are changed (assuming there is no change in the prohibitions or restrictions).

4. The diagram 1028.4 bay marking has been designed to be less environmentally obtrusive than the old diagram 1028.1 but more visible and distinctively different from diagram 1032. The broken line marking parallel to the kerb in the new diagram 1028.4 has a range of gap widths for use at the discretion of the traffic authority. The wider gaps can be used to reduce the visual intrusion of the marking in environmentally sensitive areas. The length of the mark remains the same (600mm) in all cases.

5. The order of the wording on the new diagram 661.1 has been changed from the old diagram 641 to make it more readily understandable. (This is based on recent research work on the public understanding of this type of signing.) It is important that the style of legend shown in diagram 661.1 is adhered to in any new signs. Existing diagram 641 signs must be replaced by 1 January 2005.

6. Where limited waiting is allowed at certain times of the day but all waiting is prohibited at peak periods the new composite sign shown in diagram 639.1A must be used. Again it is important to adhere to the sign layout shown in that diagram to ensure maximum clarity of the legend. The road markings in this situation should consist of a single solid yellow line running through the white bay marking to indicate both restrictions.

“Working day” or part-day restrictions

7. Where a prohibition on waiting and/or loading (other than an urban clearway) applies only for part of the day or only on certain days of the week, this should be signed with diagram 1017 single solid yellow lines and/or diagram 1019 single kerb blips as appropriate together with upright signs to diagrams 638.1, 639 or 640. This includes restrictions which only apply for one hour a day to discourage commuter parking which were previously indicated with broken single yellow lines.
Urban Clearways

8. Urban Clearways are generally along roads where a variety of other restrictions apply so the broken single yellow line and single kerb blip road markings have in practice rarely been used to indicate Urban Clearways, and in any event they were not a particularly effective marking. It has therefore been decided to use the diagram 646 sign without any road markings to indicate the effect of peak hour Urban Clearways. This also makes these clearways consistent with full-time “rural” clearways which rely on the diagram 642 upright signs without any road markings. Care will need to be taken that adequate upright signs are provided for Urban Clearways. Diagram 646 signs should be provided at the start of the clearway and be repeated at intervals of not more than a quarter of a mile. Where side roads join the clearway a diagram 646 sign should be sited just after the junction in each direction. Experiments with “Red Routes” are continuing in London but it is too early to prescribe the associated signs and red lines in the Traffic Signs Regulations at this stage.

Full-time “rural” clearways

9. 24-hour (“rural”) clearways continue to be signed with diagram 642 upright signs without any road markings. TROs for these clearways often now include a prohibition on stopping on any verge as well as on the main carriageway. Where verges are narrow or physically difficult to park on, no additional signing should be necessary, but plates to the permitted variant of the new diagram 637.1 (with the diagram 642 symbol) should be erected on any stretches of verge where vehicles are likely to park.

“At any time” restrictions

10. Research has shown that the majority of the public already think that double yellow lines mean “no parking at any time”. To maximise their effectiveness the use of double yellow lines and double kerb blips will in future be reserved for those prohibitions which apply 24 hours a day, seven days a week, for at least 4 consecutive months. The 4 month qualification is designed to allow double yellow lines and kerb blips to be used for prohibitions which apply throughout the summer months in holiday areas, or other places which suffer from seasonal traffic problems.

Loading bays

11. A variety of techniques have been used in the past to keep lengths of road free from parked cars so that goods vehicles can load and unload. Where goods vehicles are forced to double park while making deliveries serious congestion can result. The new Traffic Signs Regulations prescribe a new upright sign (diagram 660.4) with a new symbol to denote “loading only”. These signs are to be used with the diagram 1028.3 white bay marking varied to show the words “LOADING ONLY”, or the diagram 1033 echelon bay marking. Where the bay only operates at certain times or on certain days the times and days of operation should be shown on the sign. Orange badge holders are not allowed to park in bays reserved for loading only, unless of course they are loading.

Bays for disabled badge holders

12. The diagram 661 sign is still to be used for parking bays reserved for orange badge holders. The dimensions of the diagram 1028.3 (replacing the old 1028.1) and 1033 road markings have been modified to permit wider bays so that people in wheelchairs or with walking difficulties can get in and out of their cars more easily. The word “DISABLED” may now be included in the diagram 1033 echelon bay marking, but it may also be omitted from either road marking if desired (eg for environmental reasons in block paved streets) but to avoid confusion and enforcement problems it is recommended that all disabled bays in a particular locality are treated in the same way.
Doctor, motorcycle and residents’ bays

13. These bays are all to be indicated by the diagram 1028.4 road marking with the appropriate worded legend or without any worded legend in the case of residents’ bays. Alternatively the diagram 1033 echelon bay marking may be used for residents’ bays. No upright sign is necessary for motorcycle bays. “Doctor” bays should have the upright sign shown in diagram 660 varied to read “Doctor permit holders only”. Residents’ bays should have upright signs to diagrams 660, 660.3 or the permitted variant of 660.5 as appropriate. (For bays shared with parking voucher holders see paragraph 15 below.) Identification letters may be used as shown in diagram 660.3.

Business and other permit holder bays

14. These should be signed with diagram 660 or the permitted variant of 660.5 with the appropriate legend (“Permit holders only”, “Card holders only” or “Business permit holders only”) and the diagram 1028.4 or 1033 road marking without any worded legend.

Voucher parking bays

15. These should be signed with the diagram 660.5 sign and the diagram 1028.4 or 1033 road marking without any worded legend. The voucher symbol design may be varied within the size and shape shown on the diagram, but must correspond to the design shown on the vouchers themselves. Details of where to purchase the vouchers and charges may be shown on the information panel at the bottom of the sign, but must not be included on the main part of the sign. Where the bays are shared with residents or other permit holders the wording on the sign should be amended as indicated in the permitted variants for diagram 660.5 and the road marking should remain without any worded legend. (See paragraph 18 below for details of zonal signing.)

On-street pay and display bays

16. These should be signed with a diagram 661.2 upright sign (diagram 661.3 at the actual ticket machine location) and the white bay marking shown in diagram 1028.4 without any worded legend, or the diagram 1032 marking where it is required to mark out individual vehicle spaces. Alternatively the diagram 1033 echelon bay marking may be used. the use of the diagram 661.4 sign (“Have you paid and displayed?”) at appropriate locations is entirely optional.

Bays for large or slow vehicles at level crossings

17. Bays reserved for large or slow vehicles to stop on the approaches to a railway level crossing while the driver phones the signalman should be signed with diagram 660 varied to “Large or slow vehicle only” and the diagram 1028.3 road marking with the worded legend “LARGE OR SLOW VEHICLES ONLY”.

Controlled Parking Zones (Meter, Disc, Ticket, Voucher, Pay & Display)

18. Zonal signing may be used where waiting is prohibited at specified times of the day throughout an area except in designated parking places. Signs must be erected at all entry points to inform road users of the type of zone and times of operation. “Zone ends” signs (diagram 664) are necessary at all exits from the zone. The appropriate road markings (usually single solid yellow lines) must be used to indicate the waiting restrictions but accompanying upright sign (eg diagrams 637 or 639) are only necessary where the times of operation of the restrictions on that particular length of road are different from the times of operation for the zone as shown on the entry sign. Parking bays within the zone may be subject to various methods of control; these should be signed as shown in the table below.
<table>
<thead>
<tr>
<th>Type of Zone</th>
<th>Entry sign</th>
<th>Sign at parking place</th>
<th>Road marking at parking place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter</td>
<td>Diagram 663</td>
<td>None</td>
<td>Diagrams 1032 or 1033</td>
</tr>
<tr>
<td>Disc</td>
<td>Diagram 663 “Disc” variant</td>
<td>Diagram 662</td>
<td>Diagrams 1028.4, 1032 or 1033 without any worded legend</td>
</tr>
<tr>
<td>Pay and Display</td>
<td>Diagram 663 “Pay and display” variant</td>
<td>Diagram 661.2, Diagram 661.3 at meter Diagram 661.4 (optional)</td>
<td>Diagrams 1028.4, 1032 or 1033 without any worded legend</td>
</tr>
<tr>
<td>Controlled</td>
<td>Diagram 663 “Controlled” variant</td>
<td>Diagram 661.1</td>
<td>Diagrams 1028.4 or 1033 without any worded legend</td>
</tr>
<tr>
<td>Ticket</td>
<td>Diagram 663 “Ticket” variant</td>
<td>Diagram 662 “Ticket” variant</td>
<td>Diagrams 1028.4, 1032 or 1033 without any worded legend</td>
</tr>
<tr>
<td>Voucher parking</td>
<td>Diagram 663.1</td>
<td>Diagram 660.5</td>
<td>Diagrams 1028.4, 1032 or 1033 without any worded legend</td>
</tr>
</tbody>
</table>

**Note** Diagram 662 (Disc Zone) sign has been redesigned to incorporate the “P” symbol so no longer needs to be used with the diagram 801 sign.

19. Bays for disabled badge holders, residents, doctors, motorcycles, loading, limited waiting, taxi ranks and bus stops may also be included within an area covered by zonal signing. The appropriate signs and road markings should be used to designate these various types of bays as specified previously in this Annex.

**Pedestrian Zones**

20. A new timeplate (diagram 637.2) has been prescribed to indicate waiting (and loading) restrictions within a Pedestrian Zone, the entry to which is signed with diagram 618.3 or 618.3A zone entry signs. The latter diagram is a variable message sign. Direction 22(3) requires that normal yellow line and kerb blip road markings are also used in a Pedestrian Zone unless the carriageway and footway are paved across on the level and not separately defined and there are no waiting or loading restrictions outside the periods during which the entry of vehicles is restricted. In exceptional cases application may be made to the Department for a Special Direction to dispense with the use of yellow lines and kerb blips in other situations in Pedestrian Zones. Further advice on the signing of Pedestrian Zones is given in section 14 of Chapter 3 of the Traffic Signs Manual.

**Emergency telephone lay-bys**

21. Where a lay-by is provided on an all-purpose road solely for the purpose of drivers stopping to use an emergency telephone and an appropriate TRO has been made prohibiting all other stopping the new sign in diagram 642.3 should be used together with double yellow lines and kerb blips (diagrams 1018.1 and 1020.1).

**Taxi ranks**

22. All taxi ranks are now to be marked using the diagram 1028.2 yellow road marking. Diagram 650.1 or 650.2 signs are to be used to indicate prohibitions on stopping or waiting as appropriate by other vehicles, and the times of operation for part-time ranks. Diagram 857.1 may be used (mounted either back-to-back with or below the diagram 650.1/650.2 sign) to give additional information such as the number of taxis that may stand on the rank. The while panel is for details such as fare tables and regulations governing the taxi service.
**School entrances**

23. The diagram 1027.1 school entrance marking remains advisory in itself since several experiments have shown that the majority of drivers respect the marking without the need to make it mandatory. The few drivers who do stop on the marking during school hours are usually parents delivering or collecting their children from the school. Unless there can be a regular enforcement effort there is no real advantage in making the markings mandatory.

24. However, to assist those local authorities who consider there would be benefits in having mandatory restrictions at the entrance to a particular school a new sign has been prescribed (diagram 642.2) for use with the diagram 1027.1 road marking where a TRO has been made prohibiting stopping on that school entrance marking. The appropriate times/days of operation should be shown on the sign. The use of the phrase “during school term time” or similar is not considered acceptable since motorists without children at that school have no ready means of establishing the dates of school holidays. Flap-type signs should be used to indicate when restrictions apply. The signs can then be flapped shut during school holidays.

**Advisory “keep clear” markings for private drives**

25. A variety of markings have been tried in the past to advise that vehicles should not be parked across the entrance to a private drive. It has been decided to prescribe one standard design for this type of marking - a single solid white line parallel to the kerb between 500mm and 1 metre away from the kerb, as shown in diagram 1026.1. This marking can also be used at dropped kerbs at pedestrian crossing points (other than Pelican, Zebra or signal controlled crossings). Although this marking is only advisory it has proved to be generally well respected in practice provided it is not over-used and is only laid where there is a regular problem with vehicles parking across entrances or dropped kerbs (eg near shops, pubs, railway stations).

**Transitional arrangements**

26. A deadline of 1 January 1999 has been imposed in the Regulations for the replacement where necessary of existing yellow line and kerb blip markings. Existing single broken yellow lines which indicate a prohibition on waiting for a short period will need to be converted to single solid yellow lines by overpainting. Single broken yellow lines which indicate that waiting is permitted for a limited period will need to be burned off and replaced with the diagram 1028.4 white bay markings. Most existing single and double solid yellow line markings will not require any change, but where a double yellow line does not indicate an “at any time” restriction it will need to be converted to a single solid yellow line.

27. All triple kerb blips will need to be converted into double or single blips as appropriate. Double kerb blips will have to be converted into single kerb blips. No changes are required to the single kerb blips.

28. Existing diagram 641 upright signs may continue to be used with the new white bay road markings (when the broken yellow lines are removed) until 1 January 2005. When replacing diagram 641 signs the new diagram 661.1 sign should be used. New limited waiting restrictions introduced from now on should be signed with diagram 661.1 and the white bay marking straight away.

29. The deadlines for replacing existing signs and markings have been arranged to give a reasonable life to those already in place while keeping the changeover period to the new system as short as possible to aid enforcement. To minimise the risk of confusion to drivers during the changeover it is recommended that when the signs and markings are to be changed a whole street or network of adjacent streets should be converted at the same time.

30. Changes to TROs should not be necessary when the signs or markings are changed, provided the restriction or prohibitions remain the same.
ANNEX I to Circular Roads 4/94

SIGNS FOR BUS FACILITIES

Introduction

1. Local Transport Note 1/91, “Keeping Buses Moving”, gives detailed advice on the signing of bus lanes, bus “gates”, bus-only streets and other bus facilities. This Local Transport Note refers to the equivalent new diagram numbers in the 1994 Traffic Signs Regulations where appropriate. This Annex highlights the changes to bus facility signing introduced in the new Regulations. Unless otherwise stated the advice in LTN 1/91 remains valid.

Changes to sign designs and new signs

2. With immediate effect from the coming into operation of the new Regulations any new bus lane signs erected should have white rather than black borders. This is to bring bus lane signs into line with all other blue background signs. Existing black-bordered bus lane signs may remain in situ until they become due for renewal, except for diagram 653 (see below).

3. The design of the contraflow bus lane sign (new diagram 960) now indicates the number of lanes of traffic in each direction by the appropriate number of arrows rather than using the “one-way traffic” arrow as in the old diagram 653. This is to make the signs more informative and to bring them into line with other European countries. Existing diagram 653 signs must be replaced with new diagram 960 signs by 1 January 2005.

4. All bus stop road markings are now to be entirely yellow regardless of any other waiting restrictions along the length of road. The wide (200 or 300mm) yellow line continues to distinguish those bus stops subject to a bus stop clearway order. Bus stop clearways may now apply for any periods of time, not just from 7am to 7pm (see diagram 974). White bus stop markings should be changed to yellow as they become due for renewal, although there is no particular deadline specified for this work. “BUS STAND” is now prescribed as a permitted variant of all the bus stop road markings.

5. “Pre-Worboys” bus stop designs (ie. those not featuring the black on white bus symbol outside London) should have been replaced by 1 January 1992. The bus stop diagrams (previously 845 to 852) have been rationalised in diagrams 970 to 973.1. Separate “request” stops are no longer illustrated but are now covered by the permitted variants of diagram 970. The legend “Fare Stage” should in future appear on the supplementary plate rather than alongside the words “Bust Stop”. There is no need to change bus stops to the previous diagrams 846 and 848 until they become due for renewal. The “green” version of the London Transport signs have been deleted. The name of the stop may be shown on the crossbar of the London Transport roundel in diagrams 973 and 973.1. “Bus stand” is now permitted as a variant of the “Bus stop” signs. The facility to add supplementary plates is retained; this can be used to display company names, service brand names, stop names, route numbers, service enquiry telephone numbers and other details relevant to the bus services. The supplementary plates may be mounted above or below the main bus stop sign, or if necessary plates may be provided in both positions. New signs are prescribed for tram stops (diagram 971) for use in tramway (Light Rapid Transit) systems and for photostops (diagram 972) for places where tourist coaches may stop to allow passengers to take photographs of landmarks.

6. In addition the following bus facility signs are now prescribed in the Regulations and no longer require authorisation by the Department of Transport:

   Diagrams 618.2, 618.3 & 618.3A - Pedestrian Zone entry signs with various exemptions for buses as permitted variants
   Diagrams 953 and 953.2 (formerly WBM 267 and 267.1) - “Buses only”
   Diagram 954.2 - “Except local buses” plate
   Diagram 954.3 - “Except buses and cycles” plate (NOTE: This plate is NOT to be used with the diagram 616 “No entry” sign)
Diagram 960 - New version of contra-flow bus lane sign. A permitted variant is now prescribed for contraflow bus and cycle lanes
Diagram 962.2 - Side road sign for contraflow bus and cycle lanes
Diagram 963.2 - Pedestrian sign for contraflow bus and cycle lane
Diagram 975 - Bus stand regulatory plate
Diagram 1048.1 - Road marking for a contraflow bus and cycle lane.

In addition some similar signs are also being prescribed for tramway (LRT) systems.

**Signing of Contraflow bus and cycle lanes**

7. Chapter 4 of LTN 1/91 deals with contraflow bus lanes and states that careful consideration of cyclists’ needs and safety is required. Normally it will be preferable to exclude cyclists from contraflow bus lanes, but signing is now prescribed for those situations where the balance of advantage is to allow cyclists to use a contraflow bus lane. In particular there must be adequate lane width to allow cyclists and buses to overtake each other, and junctions must not present a safety hazard to cyclists.

8. Signing for contraflow bus and cycle lanes should be as described paragraphs 4.5 to 4.10 and Figure 2 of LTN 1/91 with the following changes:-

   Diagram 953 (including the cycle symbol) with the diagram 953.2 “only” plate (formerly WBM 267/267.1) **MUST** be used at the entry point. The diagram 616 “No entry” sign with an exception plate **CANNOT** be used where cyclists are permitted to use the bus lane. The diagram 953 sign with the 953.2 plate must also be used as the symbol on any advance direction signs instead of the diagram 616 roundel.

   The diagram 1048.1 road marking must be used instead of diagram 1048.

   The cycle symbol must be included in the diagram 960 (formerly 653) signs as specified in the permitted variants.

   Diagram 962.2 must be used instead of diagram 962 (formerly 812.2) on the side road approaches, and diagram 963.2 instead of diagram 963 (formerly 810.1) for pedestrians.

**Changes to the definition of “bus” and the meaning of the bus symbol**

9. With effect from 1 January 1997 the definition of “bus” or “buses” will become:

   “(i) motor vehicles constructed or adapted to carry more than 8 passengers (excluding the driver); and
   (ii) local buses not so constructed or adapted.”

References to “coaches”, “school buses” and “work buses” become obsolete from that date. References to “stage carriages” and “scheduled express carriages” are already obsolete and in the period between the coming into operation of the new Regulations and 1 January 1997 have been replaced by the phrase “public service vehicles used for the provision of local services or schedule express services” in the 1994 Regulations.

10. Similarly the meaning of the bus symbol will be changed from its present variety of definitions (see the Table in Regulation 24(1)) to be the same as that for the term “bus” as from 1 January 1997. These changes are to bring the Traffic Signs Regulations fully into line with the Transport Act 1985 and to remove a number of inconsistencies in the previous Regulations.
11. The effect of these changes will be:-

a) for prohibitory signs (diagram 952) to make the prohibition apply to all vehicles with more than 8 seats (excluding the driver) and to smaller vehicles operating local services instead of applying to all vehicles over 12 seats with an automatic exemption for local services, schedules express services, school and works buses. It will still be possible to provide exceptions for local services by using the diagram 954.2 “Except local buses” plate.

b) exemptions from other prohibitory signs (indicated by “except buses” plates) will apply to all vehicles with over 8 seats (excluding the driver) and small vehicles operating local services.

c) entry to bus lanes and “bus only” streets will be allowed to all vehicles over 8 seats (excluding the driver) and smaller vehicles operating local services instead of local services, scheduled express services, school and works buses (and other vehicles over 12 seats in certain cases - for example where the “& coaches” variant was used).

Consequential changes to Traffic Regulation Orders

12. Traffic Regulation Orders relating to bus lanes, bus “gates”, bus-only streets, Pedestrian Zones with exemptions for buses, and prohibitions on the entry or waiting of buses or coaches will all need to be amended to change the old definitions of buses (and coaches) to the new ones in Regulations 22, 23 and 24 and referred to above. To spread the cost burden the changes may be phased over the period between now and 1 January 1997, but the operative date for all amended orders must be 1 January 1997. In the interests of driver understanding and enforcement, national consistency must be maintained and there can be no variations allowed in this operative date. If TROs are not changed by that date the facility or restriction may be unenforceable. The normal procedures for amending TROs should be followed.

13. Annex C to LTN 1/91 gave a model order for a peach hour with-flow bus lane. This should be amended as follows:-

- In Article 2 delete the references to “local service”, “school bus”, “scheduled express carriageway” and “works bus” and substitute:-

  “bus” has the same meaning as in Regulation 22 of the Traffic Signs Regulations and General Directions 1994”.

- In Article 5(1) delete items (a),(b),(c),(d) and (e) and substitute:-

  “(a) a bus;”

Other TROs should be amended in a corresponding manner. Where the TRO only applies to local services the definition of “local service” should be retained as in Article 2 in the model order in LTN 1/91 and the reference to “a bus” in the Article listing exemptions should read “a bus used in the provision of a local service”.

Consequential changes to signs

14. Provided that the TROs are amended as described above the majority of signs with the word “bus” (or “buses”) or the bus symbol will not need changing. However, exemption plates to diagrams 618.1 and 954.1 (previously 619.4) with the legend “Except buses and coaches” will need to be changed on 1 January 1997 to plates with the legend “Except buses” (diagram 954). Similarly, signs with the legend “& coaches” on the bus symbol will have to be changed to ones with a plain bus symbol on the same date.

15. Where the TRO refers to just “local buses” rather than all “buses” the word “local” must be shown in black letters on any white bus symbol used in any signs other than the diagram 963 and 963.2 pedestrian signs. (The bus symbols on the diagram 962 and 962.2 side road signs do not need the word “local” either.) The diagram 962 and 962.2 side road signs do not need the word “local” either.) The diagram 954.2 “Except local buses” plate or the corresponding permitted variant of diagrams 618.1, 618.2, 618.3 or 618.3A must be used where such TROs provide exemptions for “local buses” rather than all “buses”.
SERVICES SIGNING

Introduction

1. A wide range of services is now provided on roads throughout the country at dedicated service areas. This Annex encompasses the signing of motorway service areas, service areas on both primary and non-primary routes, special lorry facilities and local services in bypassed communities. The main changes are a rationalisation of sign designs, a revision and updating of the eligibility criteria for non-motorway services, setting out the arrangements for MSA signing following the new policy on MSA provision, and the new colour for local services signs. Signs for the services referred to in this Annex are prescribed in diagrams 2308 - 2315.1 in Part IV of Schedule 7 and 2917 - 2921 in Part X of Schedule 7 to the new Traffic Signs Regulations.

SIGNS TO MSAs

2. The sign designs have been modified as a result of the consultations on the new Traffic Signs Regulations. For example, the arrangement of symbols on the 1/2 mile sign has been standardised and the idea for a cash card symbol has been dropped as it was not particularly popular, and many consultees thought the sign was already too complex. There has also been the announcement of the new policy on MSA provision which will reduce significantly the extent of central regulation by the Department.

Distance to the Next Service Area

3. This sign (diagram 2918) replaces diagram 915 and its use is extended by the permitted variants described below. It cannot include the MSA operator’s name. It should be used after every motorway junction unless the presence of other signs or the close proximity of the next junction would make the siting of the sign difficult. It should normally follow the route confirmatory sign. This sign should not be provided when a MSA is reached before the next junction except where the MSA is located at the next junction. A permitted variant allows the inclusion of MSAs on other motorway routes where the turn-offs for those routes are reached before the next service area. “No Services” (shown against a particular motorway) and “No services on motorway” are also permitted. No more than three service areas should be indicated on a sign.

“1 Mile” Advance Direction Sign

4. This sign (diagram 2917) replaces diagrams 838.2 and 916 and includes the distances to the next two service areas and names the operators. The operators’ names should be Transport medium alphabet in block capitals, not in their own house style. Again other MSAs reached on other motorways can be included if they are the next but one MSA when following a particular route. “NO SERVICES” can be substituted next to the motorway number in place of the operator’s name and distance where appropriate. No more than three motorway routes should be indicated on this sign. Where only one motorway route is shown, the motorway number should be omitted.

“½ Mile” Advance Direction Sign

5. This sign (diagram 2919) now includes provision for a headerboard to be added to the sign in the house style of the service area operator should the operator so desire. The size of the lettering and of any logo must be broadly consistent with the legend height used on the main body of the sign. The design of the headerboard requires the approval of the Department of Transport the first time it is used; thereafter it may be used at other MSAs run by that operator without further approval, unless the design is changed. This sign should also include the name of the service area to help driver identification.
6. Diagram 2919 shows symbols representing the full range of services available which should be used as appropriate. The first row of symbols must always be shown as they are standard services available at all MSAs; the symbols on the second row should be included as appropriate for the optional services provided. The order should not be changed. The sign also includes the price of unleaded petrol and this is now shown in pence per litre, rather than per gallon. The price of leaded petrol (using the four stars instead of the green pump symbol) is allowed as a variant. Petrol company logos or names are not allowed.

“Slip Road” Signs

7. A standard design for these signs has been introduced. Symbols are not permitted on either sign. The name of the service area should be shown on the diagram 2920 sign and the service area operator’s headerboard may also be included on this sign. Diagram 2921 cannot be used in any form other than that shown. The diagram 2920 sign should be sited at the commencement of the diverging lane, and the diagram 2921 sign on the nose of the diverge.

MSAs at Motorway Junctions

8. Where a MSA is located at a motorway junction and the same slip roads are being used by non-service traffic, special arrangements should be followed to avoid a conflict between the MSA signs and the standard ADSs on the approach to the junction. In these circumstances the MSA “1 mile” sign (diagram 2917) should be located at 2 miles out from the junction and then the normal “½ mile” sign (diagram 2919) sited at ½ miles (with the distances on both signs changed accordingly). At the junction nose the word “Services” should be added below the route number on the existing nose-exit sign (with a 5 stroke width vertical space between the exit route number and “Services”). A sign to diagram 2920, without a header board, should be provided between the ½ mile and final ADS for the ordinary junction signing. It should be sited at least 200 metres, and more if possible, from any other directional sign. Once on the slip road and on the route to the services, continuity signing using the legend “Services” should be provided to direct drivers. These signs should be white on blue throughout, irrespective of the status of the road. Where appropriate, they may be integrated into the advance direction signs.

Financial Arrangements

9. Signs to diagrams 2917, 2918 and 2921 should be erected and maintained at The Highways Agency’s expense and will remain the property of the Agency. The faces of diagram 2919 signs must be paid for by the MSA operator and will remain their property and responsibility. The support posts, safety fences and any lighting are the Agency’s responsibility. The MSA operator must also pay for signs to diagram 2920 but they will be the property of The Highways Agency which will bear the maintenance costs. The MSA operator will pay for any surveys by the Agency’s Regional Office to determine the work necessary for the erection of the diagram 2919 sign, particularly in relation to cabling for any remote control of the petrol price display. For signs to diagrams 2919 and 2920, a commuted sum should be charged to recover costs incurred. This should include an allowance for administration and maintenance. The operator should be given an estimate of the costs and be asked to pay in advance. The costs of future replacement of these signs must also be borne by the MSA operator. It will be acceptable for an MSA operator to arrange the manufacture and erection of these signs, provided their contractor is approved by The Highways Agency for working on the motorway and that written agreement from the Agency’s Regional Office is provided in advance for the work to be done. For those signs for which the MSA operator is responsible, the operator must sign an “Operating Agreement” covering the maintenance and replacement.

10. All other MSA signs are the financial responsibility of The Highways Agency, which will meet all maintenance and replacement costs. However, where a MSA operator changes its operating name, any costs associated with changes to signs for which the Agency is responsible will be met by the MSA operator provided no other changes are needed to the signs.
ALL-PURPOSE ROAD SERVICES SIGNS

11. Services located on all-purpose (‘A’ numbered) roads may also be signed using the signs in diagrams 2310 - 2315.1. Only service areas which are located on the road or have direct access from a junction on the road can be signed in this way. It is not acceptable to sign drivers along a route to remotely located facilities; the road must pass the service area. While a service area is located at a roundabout, it will be for the traffic authority to decide on which approaches, if any, signs can be provided. To qualify for signing, services must provide at least the standard range of services and be open from at least 8am to 8pm every day of the week except Christmas Day, Boxing Day and New Year’s Day. (See para 17 below.)

The Signs

12. There are two colour combinations for signs on all purpose roads. On primary routes the signs will be white on green (diagrams 2313, 2314, 2315 and 2315.1) and on non-primary routes they will be black on white (diagrams 2310, 2311, 2312 and 2312.1). The range of symbols and legends are the same, except that on primary route signs (diagrams 2313 and 2314) the petrol pump symbol is on a white tile on the green background.

13. The symbols on diagrams 2310, 2311, 2313 and 2314 may be varied as appropriate, but they should always be used in the order shown on the drawings and must always include the WC, petrol pumps and cup or fork and spoon (but not both). The additional optional symbols for facilities for the disabled or tourist information or accommodation may be added if the respective criteria are met. Where services are not open 24 hours a day, the legend “not 24 hours” must be included at the bottom of the sign. If open for 24 hours, this panel should be omitted.

14. Service areas should be encouraged to cater for all classes of traffic. However, there are some facilities which do not cater for HGVs. In these cases, a lorry symbol with a red bar through it should be shown above the row of symbols. If the services are primarily or exclusively for HGVs, a plain lorry symbol with the legend “lorries only” below, should be used in the same place on the signs.

15. Only the ½ mile (or equivalent) advance direction and the final advance direction signs can include the range of symbols, which must be the same on both. Direction signs to diagrams 2312 and 2315 (or 2312.1 and 2315.1 for use at slip roads with larger radius entry curvature) may be used when necessary but the legend cannot be varied. Similarly, on the advance direction signs the word “Services” must be used on its own.

16. Geographical location names will only be allowed in exceptional circumstances on special authorisation. Petrol prices and operators’ names or logos must not be included on all-purpose road signs in any circumstances.

Eligibility criteria for all-purpose road services signs

17. The following criteria are the minimum and all must be met before signs can be provided:

   a) Signing should normally be limited to service areas on A numbered roads. The colour of the signs will be determined by the status of the road.

   b) Signing should be limited to service areas comprising single or two adjoining premises, and providing as minimum facilities: petrol; hot drinks and food; adequate indoor tables and chairs to cater for expected demand (subject to a minimum provision for 8 persons); adequate free short-term parking (minimum 2 hours; free flush toilets together with hand washing facilities of sufficient number cope with demand, and access to a cash-operated telephone (card phones alone will not suffice). Operators should be encouraged to provide tourist information points.

   c) These minimum facilities must be available at least between the hours of 8am and 8pm every day except Christmas Day, Boxing Day and New Year’s Day.
d) Where services are provided on one side of the road only, signing will be limited to the nearside direction of approach unless adequate provision has been made for right-turning vehicles. Where facilities are split between two sites on opposite sides of the road, and connected by a footbridge or subway and with petrol and parking available at both sides, signing from both directions will be permissible.

e) Direct access to and egress from services areas should be provided either by diverging and merging lanes or other dedicated access arrangements in accordance with Department of Transport Advice Note (TA 20/84).

f) Signs will **not** be provided:

   (i) In urban areas - subject to speed restrictions of 40 mph or less - as services are generally frequently available therein.

   (ii) Where discrimination would occur ie 2 or more services establishments of similar type on the same side of the road located within 1 mile of each other.

**Application and Financial Arrangements**

18. The traffic authority must be satisfied that all the criteria are met. If a service area later fails to meet the criteria, the traffic authority should ultimately remove the signs. The service area operator should be asked to certify that it meets criteria (b) and (c). Erection and maintenance of signs must be paid for by the service area operator, who should be advised that the signs will remain traffic authority property. Where signs are to be illuminated, these costs will also fall to the service area operator. The traffic authority will be responsible for maintenance of the signs and should recover the costs from the operator, normally by charging a commuted sum when the signs are erected. This sum should include an allowance for manufacture, delivery, erection, replacement and administration.

**SPECIAL LORRY FACILITIES**

19. Where facilities are provided for HGVs but do not meet the all purpose road services signs criteria, variants of diagrams 2505 and 2507 (black lorry symbol on white background with standard ‘P’ symbol and no legend) can be used on all purpose roads. It will be for the traffic authority to decide whether signing is appropriate. However, an HGV driver should not be expected to follow such signs unless overnight parking is available. These facilities will not normally be signed from motorways. However, the Department of Transport will consider authorising special signing for suitable facilities where there is a gap of at least 45 miles between MSAs. In these cases signs on the motorway will be to a similar design but will be coloured white on blue. The operator of the facilities should pay for the signs, in the same manner as outlined in paragraph 18 above.

**LOCAL SERVICES IN BYPASSED COMMUNITIES**

20. These signs are for use where a range of basic services are available in a small town or village lying off the main road, which will often but not necessarily be a purpose-built bypass. These signs are **not** to be used on motorways. Neither are they to be used for towns or cities large enough for the traveller to assume that a full range of services is available (see paragraph 23(3)).

21. The sign designs are as follows:

   - Diagram 2308 - Advance Direction Sign.
   - Diagram 2309 - Direction Sign with distance.
The signs are **blue** with white legend and border. On the advance sign (diagram 2308) the name of the place is shown at the top with an arrow to indicate the direction of turn. This is followed only by the words “local services”. The symbols indicating the services available are at the bottom of the sign, the basic symbols being toilets, refreshments (cup symbol) and fuel, with additional symbols for restaurant (spoon and fork), a Tourist Information Centre (“i” symbol), and overnight accommodation (bed symbol), as appropriate for the community being signed. Tourist attraction and camping site/caravan park symbols are **not** to be included as it would make the sign too complex; these should be signed separately.

22. The advance sign should be positioned so as to avoid last minute manoeuvring by drivers. Normally drivers will be able to obtain the name of the community shown on the local services sign from the standard direction signing, but a flag type sign (diagram 2309) is available for use at any junction on the route to the community where the existing local direction signing is not adequate. The community name should not be duplicated on both the ordinary junction direction signing and on the local services signing. Where it is omitted from the local services signing, “Local” should commence with an upper case “L”.

23. The following qualifying criteria must **all** be met:-

(1) All the following services must be available at least during normal shop opening hours, 9:30am to 5:30pm Monday to Saturday (½ day closing excepted), but excluding public holidays, throughout the year.

   Adequate public parking and public toilets with hand washing facilities (both clearly signed within the community); public cash-operated telephone; fuel; refreshments. (Where fuel is not available in the community, but is available on the main road a special variant of the sign may be authorised by the Department of Transport).

(2) The community must be within three miles of the main (all-purpose) road from which its services would be signed, and must be the first town or village reached after leaving that road by the road signed with the ‘services’ sign. Adequate confirmatory and return route signing must be provided.

(3) The community should not be so large that the provision of a full range of services would be reasonably assumed to be available by the majority of travellers. As a guide, towns with a population of over 10,000 would not normally be signed, but this figure is not to be taken as a rigid criterion.

(4) No equivalent (or better) roadside services are available on the main road ahead within the total detour distance plus 1 mile of the local services.

(5) No detriment to road safety, sound traffic management or local amenity should result from the encouragement of ‘service-seeking’ traffic.

(6) Encouragement of this traffic is acceptable to the local community as a whole (to be determined by the District Council).

(7) The cost of providing, erecting and maintaining the signs will normally be borne by local traders likely to benefit from their existence. Promoting local authorities may offer financial assistance.

(8) When accommodation is provided as an additional facility in a bypassed community that qualifies for a “Local services” sign, the bed symbol may be added, subject to:-

   a) the community providing a minimum of 8 letting bedrooms, either in a single establishment or group of establishments;

   b) each establishment being registered with the English Tourist Board.

Disparately located establishments should preferably be shown on an information board (to diagram 857) located centrally in the community.
24. Where fuel is not available in the bypassed community, but is readily available on the main road, consideration will be given to specially authorising signing with a variant of diagram 2308 having the fuel pump symbol cancelled with a red bar. Where only parking, toilets and telephones are available, it may be possible to use a lay-by sign with the place name and direction arrow shown as well as the distance.

25. Traffic authorities will retain ownership and maintenance responsibilities for the local services signs and should recover manufacturing, erection and maintenance costs in accordance with their existing repayment practice.

26. Existing signs can remain but must be replaced with signs to the new designs when they become due for renewal or by the year 2000 if earlier.
WORKING DRAWINGS FOR TSRGD 1994

1. For design purposes prescribed traffic signs can be regarded as falling into one of two categories; that is “standard” or “non-standard”.

Standard Signs

2. Standard signs are those of a fixed design such as triangular warning signs. Their designs are shown on the Department’s series of working drawings, generally taking the number of the diagram in the Regulations and prefixed “P”. Thus the working drawing for diagram 501 in Schedule 1 to the Regulations is numbered P501. In some cases, drawings may include more than one diagram and these are listed in Appendix A.

3. Standard signs can be identified as being those which generally do not have permitted variants in Schedule 16 to the Regulations. Where permitted variants are indicated in the tables beneath the diagrams it is intended to show these on the working drawings. In some cases, variants listed in Schedule 16 may also be shown on the drawings. Not all first issue drawings will show permitted variants. However, these will eventually be updated to include the variants.

Non-standard Signs

4. Non-standard signs are those that are designed for a specific requirement or location such as the directional informatory signs in Parts I, II and X of Schedule 7 to the Regulations. The diagrams in the Regulations only show typical examples and it would not be possible to include on working drawings all the relevant design details associated with the permitted variants.

5. The basic design of directional informatory signs is covered in the booklet “Interim Design Notes”. The new Chapter 7 of the Traffic Signs Manual, when published, will deal with the design of traffic signs in greater depth.

6. Chapter 7 will also include design rules for certain regulatory signs (time plates etc) and temporary signs used to guide traffic through major road works (diagrams 7210 to 7240). The initial set of working drawings for standard signs includes these signs as illustrated in the Regulations. However, the drawings do not, for the time being, show the detailed design of the permitted variants.

Non-prescribed Signs

7. Occasionally a sign that is not prescribed by the Regulations may be authorised on behalf of the Secretary of State for placing on a public highway. Such a sign may have a Department of Transport working drawing with a number prefixed “NP” and may be available on request. Before proceeding with any new design, reference should first be made to the Department to ascertain whether a drawing is already in existence. Where a sign does not have a working drawing, the designer should follow as closely as possible the design principles set out on the working drawings and in the “Interim Design Notes” as appropriate. All non-prescribed signs must be submitted for special authorisation.

Symbols on Signs

8. Symbols indicating tourist attractions and shown in Schedule 14 to the Regulations are detailed on working drawings with the same diagram number (e.g. T1). From time to time new symbol designs will be made available and these will be shown on drawings prefixed “NT”.

9. Other symbols such as the bus, bicycle and aircraft are detailed on working drawings prefixed “S”. Certain non-prescribed symbols will be prefixed “NS”.