



THE HIGHWAYS AGENCY



THE SCOTTISH OFFICE DEPARTMENT



**THE WELSH OFFICE
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**THE DEPARTMENT OF
THE ENVIRONMENT FOR NORTHERN IRELAND**

Criteria for the use of Gantries for Traffic Signs and Matrix Traffic Signals on Trunk Roads and Trunk Road Motorways

Summary:

This Standard describes the situations where portal or cantilever gantries may be provided for the purpose of supporting overhead directional traffic signs/signals on dual-carriageway, trunk-roads, and trunk road motorways.

VOLUME 9 NETWORK - TRAFFIC
CONTROL AND
COMMUNICATIONS
SECTION 1 STANDARDS OF
PROVISION

PART 2

TD 18/85

**CRITERIA FOR THE USE OF
GANTRIES FOR TRAFFIC SIGNS
AND MATRIX TRAFFIC SIGNALS ON
TRUNK ROADS AND TRUNK ROAD
MOTORWAYS**

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1. INTRODUCTION

- 1.1 The criteria for mounting traffic signs on overhead gantries was given in DTp Standard TD 15/83.
- 1.2 Overhead gantries, portal or cantilever, can also be used to carry matrix traffic signals mounted over each traffic lane so as to provide a finer degree of traffic control than might be obtained by post-mounted signals.
- 1.3 This Departmental Standard supersedes TD 15/83, and extends its scope to provide criteria and siting information for gantries which carry either directional signs or matrix traffic signals or both.

2. SCOPE

- 2.1 This Departmental Standard describes situations where portal or cantilever gantries may be required and prescribes criteria where they may be provided for the purpose of supporting overhead directional traffic signs or matrix traffic signals or both.

3. THE SITUATIONS WHERE GANTRY MOUNTED SIGNS ARE BENEFICIAL

3.1 There are situations which can lead to the need for signs to be mounted on gantries. These are:

- (a) when side-mounted signs would be obscured for a significant proportion of a driver's "reading time".

This condition is likely to occur when the traffic volume is high and when the proportion of HGV's is high. It is also a function of the width of the road because it is the driver in the extreme right-hand lane who has the highest probability of poor visibility because of the traffic in the other lanes.

- (b) when the demands on the drivers concentration are such that it is unreasonable and possibly dangerous to divert his attention away from the traffic ahead and behind. This condition is likely to occur at junctions where the number of lanes reduces after the junction and also when junctions follow in quick succession or on elevated roads.

- (c) where it is difficult to mount the signs on the left-hand side of the road.

4. THE SITUATIONS WHERE GANTRY MOUNTED MATRIX TRAFFIC SIGNALS ARE BENEFICIAL

- 4.1 Matrix signals may be mounted on gantries on motorways where there is a need to display different restrictions over individual lanes in order to divert traffic to adjacent lanes, divert traffic from the motorway or to stop traffic in any or all of the lanes.

5. CRITERIA TO BE MET BEFORE USING GANTRIES FOR TRAFFIC SIGNS

5.1 To alleviate obscuring the side mounted signs.

The provision of gantries on this account shall only be considered for dual-carriageway roads with 3 or more running lanes per carriageway and the following criteria shall be met before gantries are used to overcome the problem of obscuring side mounted signs.

5.1.1 The carriageway has or will have 4 running lanes.

5.1.2 The carriageway has 3 running lanes and carries (or will carry within 15 years of opening) 33,000 VPD (1-way) (high growth estimate) and the proportion of HGV's is greater than 20%.

5.2 To alleviate possible dangerous situations.

The following criteria shall be met before gantry mounted signs are used to alleviate possibly dangerous situations.

5.2.1 At junctions where the number of lanes available to a driver going ahead reduces after the junction.

5.2.2 Where a series of junctions are (an average of) less than 3 km apart measured between centres of junctions.

5.2.3 Where the load is on a structure but does not have a hard shoulder.

5.3 When it is difficult to mount signs on the left-hand side of the road.

When a road is on a steep embankment, deep cutting or on an elevated structure it is often very difficult to have post-mounted signs on the left-hand side of the carriageway. However, by making special foundations or other provisions it might be possible to do so.

Thus, before gantries are used to overcome these difficulties, it shall be demonstrated that they are the cheaper option.

6. CRITERIA TO BE MET BEFORE USING GANTRIES FOR MATRIX TRAFFIC SIGNALS

- 6.1 Gantry mounted matrix traffic signals may only be used on motorways in locations where it is necessary to give lane specific information to drivers. These are:
- 6.1.1 On the approaches to motorway/ motorway interchanges, where there is an extended parallel deceleration lane, with or without loss of lane at the bifurcation.
 - 6.1.2 On the approaches to motorway/ motorway interchanges, where a traffic diversion strategy is planned.
 - 6.1.3 In conjunction with 6.1 and 6.2 above, at the divergent points of a link road within the interchange.
 - 6.1.4 On a motorway with a carriageway which has or will have 4 or more running lanes.
 - 6.1.5 On elevated urban motorways.
 - 6.1.6 On approaches to motorway tunnels.
 - 6.1.7 For motorway tidal flow schemes.
 - 6.1.8 Between adjacent sections of motorway where lane signalling has been provided under 6.1 to 6.7 above and where normally only a single post mounted signal (which would not present a viable signalling sequence) would be authorised.

7. USE OF GANTRIES FOR BOTH TRAFFIC SIGNS AND MATRIX TRAFFIC SIGNALS

- 7.1 Where the construction of an overhead gantry, portal or cantilever, is justified in accordance with either the criteria defined in sections 5 or 6, then the gantry shall be used for mounting both signs and matrix traffic signals when it is economical to do so.

8. PROVISION OF GANTRIES FOR TRAFFIC SIGNS

- 8.1 The half-mile Advance Direction and Final Direction Sign locations shall be checked individually against the criteria in paragraphs 5.1 to 5.3 to see if gantries are required. The one-mile Advance Direction Sign locations shall be checked against the criteria in paragraphs 5.2.2, 5.2.3 and 5.3 only to see if a gantry is required.

9. PROVISION OF GANTRIES FOR MATRIX TRAFFIC SIGNALS

- 9.1 Gantries for matrix traffic signals are not considered for provision on an individual basis but as a sequence forming part of a signalling scheme. Proposed schemes shall be checked against the criteria in section 6.

10. SITING OF GANTRIES

- 10.1 Traffic sign gantries used to give separate directional information for individual lanes should be on a stretch of road having a fairly straight alignment. If this type of sign is used on a sharp curve, the panels may appear over the wrong lanes, thus giving misleading information. The possible effect of nearby overbridges causing an obstruction to the sighting of overhead signs shall be considered.
- 10.2 Where gantries are used to carry matrix traffic signals, guidance on their siting is given in the Motorway Communications Manual (MCH 1302A) Volume II, Our-station Scheme Design Brief. Whenever possible, gantries should be located to enable their joint use to display both signs and matrix traffic signals.
- 10.3 The use of overbridges shall also be considered as a possible alternative for mounting overhead signs/matrix traffic signals, but due regard shall also be given to the suitability of the bridge structure and the possibility of vandalism.

11. TECHNICAL APPROVAL

- 11.1 All gantries for signs and matrix traffic signals (including overbridges on which it is proposed to mount traffic signs/matrix traffic signals) are to be dealt with in accordance with the Technical Approval Procedures given in Departmental Standard BD 2/79.

12. ENQUIRIES

All technical enquiries about this Department Standard should be sent in writing to:-

For Traffic Signs to:
Head of Division
HCSL Division
Department of Transport
St Christopher House
Southwark Street
LONDON
SE1 0TE

For Traffic Signals to:
Head of Division
TCC Division
Tollgate House
Houlton Street
BRISTOL
BS2 9DJ

Orders for further copies of this Departmental Standard should be accompanied by the remittance shown on the cover and addressed to:

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