Design Manual for Roads and Bridges

Road Layout
Design

CD 193
Driver location signs

(formerly IAN 93/10)

Revision 2

Summary
This document contains the requirements for the design and implementation of driver location signs (DLS) for motorways and all-purpose trunk roads.

Application by Overseeing Organisations
Any specific requirements for Overseeing Organisations alternative or supplementary to those given in this document are given in National Application Annexes to this document.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated Highways England team. The email address for all enquiries and feedback is: Standards_Enquiries@highwaysengland.co.uk

This is a controlled document.

Contents

Release notes

Version	Date	Details of amendments
2	Feb 2020	Revision 2 (February 2020) is for an update to a reference in clause E/1.15.3 NOTE. Revision 1 (January 2020) is for an update to references in the England National Application Annex only. Revision 0 (July 2019) CD 193 replaces IAN 93/10. The full document has been re-written to make it compliant with the new Highways England drafting rules.

Foreword

Publishing information

This document is published by Highways England.

This document supersedes IAN 93/10, which is withdrawn.

Contractual and legal considerations

This document forms part of the works specification. It does not purport to include all the necessary provisions of a contract. Users are responsible for applying all appropriate documents applicable to their contract.

Introduction

Background

Driver location signs (DLS) were developed to enable drivers to identify their location and have proved successful in enabling the emergency services and vehicle recovery operators to rapidly locate the scene of an incident. They use the same referencing system as the distance marker posts and help to reduce the time needed to deal with the incident which reduces the risk of a secondary incident occurring and therefore contribute to the improvement in road safety and reduced delays to road users.

Assumptions made in the preparation of this document

The assumptions made in GG 101 [Ref 1.N] apply to this document.

Abbreviations

Abbreviations

Abbreviation	Definition
DLS	Driver Location Sign

1. Scope

Aspects covered

1.1 The national requirements for driver location signs set out in the National Application Annexes shall be followed.

Implementation

1.2 This document shall be implemented forthwith on all schemes involving the provision of DLS on the Overseeing Organisations' motorway and all-purpose trunk road network according to the implementation requirements of GG 101 [Ref 1.N].

Use of GG 101

1.3 The requirements contained in GG 101 [Ref 1.N] shall be followed in respect of activities covered by this document.

2. Normative references

The following documents, in whole or in part, are normative references for this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Ref 1.N	Highways England. GG 101, 'Introduction to the Design Manual for Roads and Bridges'

Road Layout
Design

CD 193
England National Application Annex to CD 193
Driver location signs

(formerly IAN 93/10)

Revision 2

Summary
This National Application Annex sets out the Highways England specific requirements for the design and implementation of driver location signs (DLS) for motorways and all-purpose trunk roads.

Feedback and Enquiries
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Version	Date	Details of amendments
2	Feb 2020	Revision 2 (February 2020) Update to reference in clause E/1.15.3 NOTE. Revision 1 (January 2020) Revision to update references only. Revision 0 (July 2019) Highways England National Application Annex to CD 193.

Foreword

Publishing information

This document is published by Highways England.

Contractual and legal considerations

This document forms part of the works specification. It does not purport to include all the necessary provisions of a contract. Users are responsible for applying all appropriate documents applicable to their contract.

Introduction

Background

This National Application Annex gives the Highways England-specific requirements related to driver location signs (DLS).

DLS were developed to enable drivers to identify their location and have proved successful in enabling the emergency services and vehicle recovery operators to rapidly locate the scene of an incident. They use the same referencing system as the distance marker posts and help to reduce the time needed to deal with the incident, which reduces the risk of a secondary incident occurring and therefore contribute to the improvement in road safety and reduced delays to road users.

Assumptions made in the preparation of this document

The assumptions made in GG 101 [Ref 2.N] apply to this document.

Abbreviations

Abbreviations

Abbreviation	Definition
DLS	Driver location signs
EA	Emergency Area (previously 'Emergency Refuge Area') as defined by the SI 2015 No.392 [Ref 5.N].
m	metres
TSRGD	TSRGD 2016 2016 [Ref 6.N]

Terms and definitions

Terms

Term	Definition
Connector road	A collective term for interchange links, link roads, slip roads and loops, in accordance with CD 122 [Ref 1.N].
Dual carriageway road	Any road where opposing flows are segregated as defined in Schedule 1 of TSRGD 2016 2016 [Ref 6.N], including motorways, smart motorways and expressways.
Minimum clear visibility distance	The minimum distance that a sign is visible by approaching road users, unobstructed by vegetation, street furniture or other structures.
Secondary carriageway	A carriageway that is physically separated from the main carriageway but retains the same route number.
x-height	The height of a lower case letter 'x', used to define the text size to be used on a sign face.

E/1. Technical requirements

E/1.1 DLS shall be provided on the nearside verge of motorways, including connector roads.

E/1.2 DLS provided on all-purpose trunk roads shall be subject to an assessment of the operational needs of that route.

Format of sign faces

E/1.3 The design, colour and size of DLS must comply with TSRGD 2016 2016 [Ref 6.N] diagram 2718 (Schedule 11 Part 2 Item 61).

E/1.4 The design of DLS shall be the same for motorways and all-purpose trunk roads to aid driver understanding of the signs.

E/1.5 In accordance with the TSRGD 2016 2016 [Ref 6.N], the sign face of DLS must consist of three lines of legend as follows:

1) line 1 is the motorway or all-purpose trunk road route number, including any permitted suffix;
2) line 2 is the carriageway identifier;
3) line 3 is the unique locational reference.

NOTE 1 Permitted suffices are T for Toll (e.g. M6T) and (M) for motorway (e.g. A1(M)).

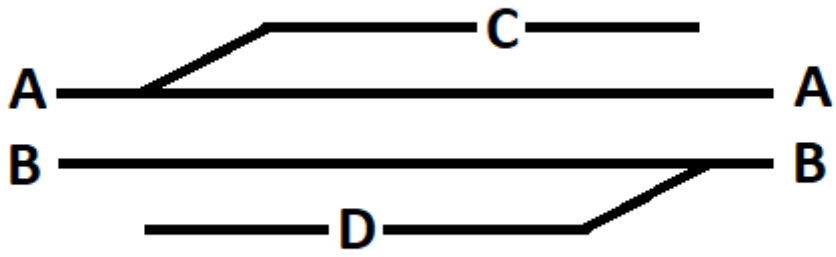
NOTE 2 The carriageway identifier indicates the direction the road user is travelling, with the main carriageway identified as "A" in one direction (e.g. clockwise, or the direction heading away from London) and "B" in the opposite direction (e.g. anti-clockwise, or the direction heading towards London).

NOTE 3 To ensure consistency, the A and B carriageways need to be consistent with other referencing systems, especially across area or regional boundaries where coordination can be required between adjoining Overseeing Organisations.

NOTE 4 The unique locational reference defines the precise location on the route, corresponding to the associated distance marker post.

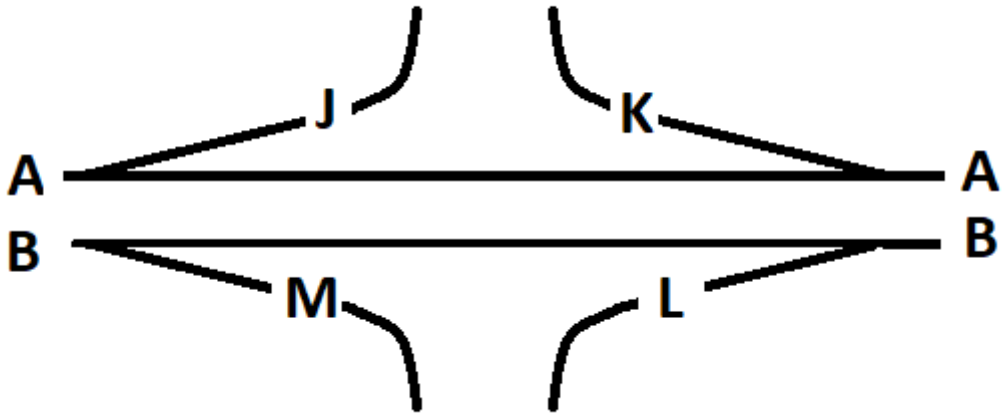
E/1.6 On a secondary carriageway, where there is a physical separation from the main carriageway, the carriageway identifier shall be identified as "C" (adjacent to the A carriageway) and "D" (adjacent to the B carriageway) as shown in Figure E/1.6

Figure E/1.6 Carriageway identifiers on secondary carriageways



E/1.7 On connector roads to a nearby route, the carriageway identifiers shall be "J", "K" "L" and "M" as shown in Figure E/1.7.

Figure E/1.7 Carriageway identifiers on connector roads



NOTE *The lettering as shown in Figure E/1.7 is specific to the main carriageway identifiers, i.e. an exit slip from the "A" carriageway is always designated as "J".*

E/1.8 Carriageway identifiers "J", "K" "L" and "M" shall not be used on the main carriageway or on parallel adjacent carriageways as shown in Figure E/1.6.

E/1.8.1 Sign faces should be designed in accordance with the requirements of Table E/1.8.1.

Table E/1.8.1 'x'-heights for DLS

Description of road type	x-height (mm)
Single carriageway roads	100
Dual carriageway roads with 2 or 3 running lanes with or without a hard shoulder, or 4 running lanes without a hard shoulder	115
Dual carriageway roads with 4 or more running lanes with a hard shoulder	140

NOTE *DLS are intended to be read by drivers:*

1) travelling at reduced speed;
2) when the driver is either stopped on the hard shoulder; or
3) in slow moving traffic.

Siting of driver location signs

E/1.9 DLS shall not be positioned on the central reserve of dual carriageway roads, or on the off-side verge of slip roads, link roads or other uni-directional roads.

E/1.10 DLS shall be additional to distance marker posts, including any marker post that would be coincident with the DLS.

E/1.10.1 The longitudinal spacing of DLS should be 500m.

E/1.10.2 The location tolerance for a DLS should be within 20m of the associated distance marker post containing the same locational reference information.

NOTE *The location tolerance is provided to accommodate site specific issues which make it impracticable to locate the DLS immediately adjacent to the associated distance marker post.*

E/1.10.3 At locations where the longitudinal spacing for DLS of 500m cannot be achieved due to site constraints, the spacing may be reduced in increments of 100m, to 400m or to a minimum of 300m.

NOTE *For a sequence of DLS along a route, the longitudinal spacing can be a combination of the permitted spacings, such as 500m, then 500m, then 300m, then 400m, then 500m.*

E/1.10.4 The minimum clear visibility of DLS should be in accordance with Table E/1.10.4

Table E/1.10.4 Minimum clear visibility for DLS

Description of road type	**Minimum clear visibility (m)**
Single carriageway roads	60
Dual carriageway roads with 2 or 3 running lanes with or without a hard shoulder, or 4 running lanes without a hard shoulder	75
Dual carriageway roads with 4 or more running lanes with a hard shoulder	90

E/1.11 The minimum downstream installation distance of a DLS from a structure or other sign shall be greater than the minimum clear visibility distance stated in Table E/1.10.4.

NOTE *A minimum downstream installation distance in accordance with E/1.11 from a structure or other sign ensures visibility and legibility requirements for the DLS are achieved.*

E/1.11.1 Where the length of a tunnel, bridge or viaduct is less than 400m, DLS should be positioned on the nearside verge, at the start of the tunnel, bridge or viaduct and greater than the minimum clear visibility distance stated in Table E/1.10.4 downstream of the end.

NOTE *Installing DLS on the nearside verge, at the start of the tunnel, bridge or viaduct and in accordance with Table E/1.10.4 downstream of the end, avoids attaching DLS to the parapet or tunnel wall.*

E/1.11.2 Where the length of a tunnel, bridge or viaduct is longer than 400m, at least one DLS should be located within the length of the tunnel or parapet.

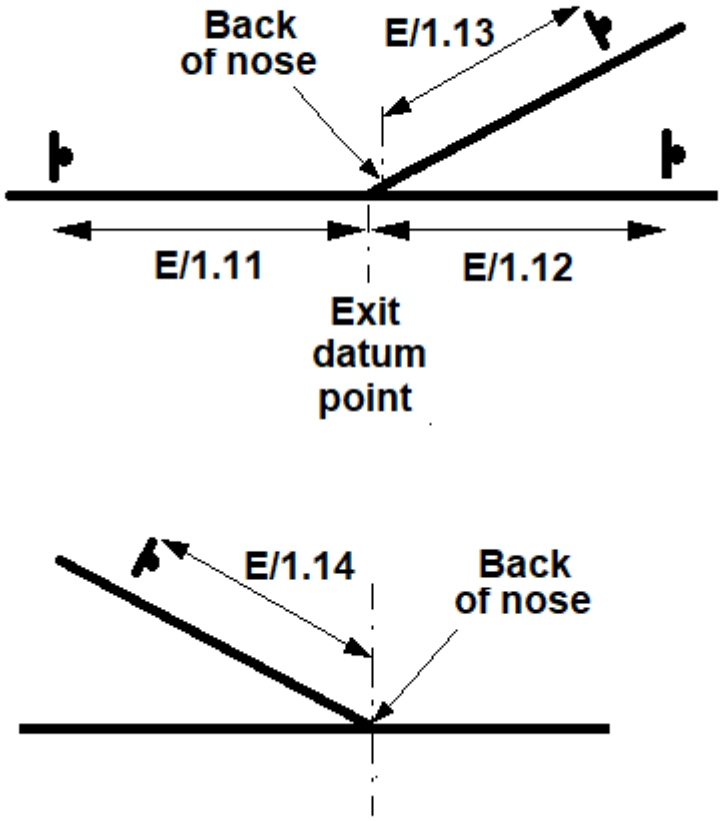
E/1.12 At a junction, the last DLS on the main carriageway before the exit shall be at least 100m upstream of the exit datum point on the approach to the junction.

E/1.13 At a junction, the first DLS on the main carriageway after the exit shall be at least 100m downstream of the exit datum point.

E/1.14 At a junction, the first DLS on the connector road shall be at least 100m downstream of the "back of nose", such that a driver on the main carriageway, who stops on the hard shoulder just downstream of the nose, cannot see a connector road DLS.

E/1.15 At a junction, the last DLS on the connector road before it joins the main carriageway shall be at least 100m upstream of the "back of the nose", such that a driver on the main carriageway, who stops on the hard shoulder just upstream of the nose, cannot see a connector road DLS.

Figure E/1.15 Location of DLS in the vicinity of an intersection



NOTE *The "back of nose" and "exit datum point" are as defined in CD 122 [Ref 1.N].*

E/1.15.1 A DLS should be sited downstream of the midpoint of emergency areas (EAs) on motorways, and in lay-bys on all-purpose trunk roads where it has been determined that DLS are to be provided and an emergency roadside telephone is installed within the lay-by.

E/1.15.2 The DLS should be located between a point 20m downstream of the EA or lay-by midpoint and the maximum legibility distance given in Table E/1.15.2 from the downstream end of the EA or lay-by.

Table E/1.15.2 Maximum legibility distance for DLS

DLS x-height (mm)	Maximum legibility distance (m)
100	37
115	42
140	51

E/1.15.3 Where the distance from the mid-point of the EA or lay-by and the next downstream distance marker post exceeds the maximum legibility distance, the DLS may be located up to 20m upstream of the associated distance marker post to achieve the legibility distance.

NOTE *The "maximum legibility distance" is the maximum distance at which a sign is deemed to be legible to an observer satisfying the minimum eyesight requirements specified in Section 96 of the Road Traffic Act Road Traffic Act 1988 [Ref 3.N], and Regulation 40 and Schedule 8 of The Motor Vehicles (Driving Licences) Regulations 1999 [Ref 4.N].*

Mounting height, lateral placement and orientation of driver location signs

E/1.16 Approval of locations and fixing details of the DLS to parapets, tunnel walls or other structures shall be obtained from Highways England before installation works commence.

E/1.16.1 DLS should be located in accordance with the lateral placement and orientation guidance given in the TSM Chapter 1 2018 [Ref 7.N].

E/1.16.2 The mounting height of DLS should be in accordance with the guidance given in TSM Chapter 1 2018 [Ref 7.N] and be a minimum of 1300mm.

E/1.16.3 Where site constraints prevent a DLS from being oriented with its face perpendicular to the alignment of the adjacent running lane and located within 500m of adjacent DLS, the sign should be positioned adjacent to the distance marker post with the sign face parallel to the adjacent running lane.

E/2. Normative references

The following documents, in whole or in part, are normative references for this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Ref 1.N	Highways England. CD 122, 'Geometric design of grade separated junctions'
Ref 2.N	Highways England. GG 101, 'Introduction to the Design Manual for Roads and Bridges'
Ref 3.N	The National Archives. legislation.gov.uk. Road Traffic Act 1988, 'Road Traffic Act 1988'
Ref 4.N	legislation.gov.uk. 'The Motor Vehicles (Driving Licences) Regulations 1999'
Ref 5.N	The National Archives. legislation.gov.uk. SI 2015 No.392, 'The Motorways Traffic (England And Wales) (Amendment) (England) Regulations 2015'
Ref 6.N	The Stationery Office. TSRGD 2016, 'The Traffic Signs Regulations and General Directions 2016' , 2016
Ref 7.N	The Stationery Office. TSM Chapter 1, 'Traffic Signs Manual Chapter 1 - Introduction' , 2018

Department for Infrastructure
An Roinn Bonneagair

Highway Structures & Bridges
Design

CD 193
Northern Ireland National Application Annex to CD 193 Driver location signs

Revision 0

Summary
There are no specific requirements for Department for Infrastructure, Northern Ireland supplementary or alternative to those given in CD 193.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated team in the Department for Infrastructure, Northern Ireland. The email address for all enquiries and feedback is: dcu@infrastructure-ni.gov.uk

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Contents

Release notes

Version	Date	Details of amendments
0	Jul 2019	Department for Infrastructure, Northern Ireland National Application Annex to CD 193.

Highway Structures & Bridges
Design

CD 193
Scotland National Application Annex to CD 193 Driver location signs

Revision 0

Summary
There are no specific requirements for Transport Scotland supplementary or alternative to those given in CD 193.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated Transport Scotland team. The email address for all enquiries and feedback is: TSStandardsBranch@transport.gov.scot

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Contents

Release notes

Version	Date	Details of amendments
0	Jul 2019	Transport Scotland National Application Annex to CD 193.

Llywodraeth Cymru
Welsh Government

Highway Structures & Bridges
Design

CD 193
Wales National Application Annex to CD 193
Driver location signs

Revision 0

Summary
Please contact Welsh Government for the application of CD 193. The email address is: Standards_Feedback_and_Enquiries@gov.wales.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated Welsh Government team. The email address for all enquiries and feedback is: Standards_Feedback_and_Enquiries@gov.wales

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