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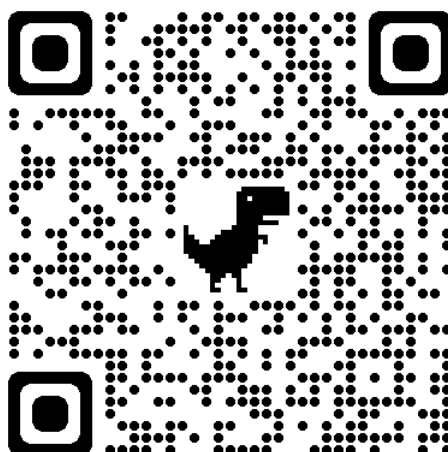
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Design Manual for Roads and Bridges



Control & Communications Technology
Inspection & Assessment

TS 101

Traffic signalling systems

(formerly TA 12/07, TA 16/07, TA 56/87, TA 82/99, TA 84/06, TD 07/07, TD 24/97, TD 35/06)

Revision 0

Summary

This document contains inspection and assessment requirements for traffic signalling systems.

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.

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Release notes

Version	Date	Details of amendments
0	Jun 2019	TS 101 replaces TA 12/07, TA 16/07, TA 56/87, TA 82/99, TA 84/06, TD 07/07, TD 24/97, TD 35/06. 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This document supersedes TA 12/07, TA 16/07, TA 56/87, TA 82/99, TA 84/06, TD 07/07, TD 24/97, TD 35/06, which are withdrawn.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

This document contains inspection and assessment requirements for traffic signalling systems.

Assumptions made in the preparation of the document

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

It is assumed that the parties reading TS 101 are aware of additional documents to those within the DMRB. The Department for Transport (DfT) prepares general advice, some of which is applicable to motorway and all purpose trunk roads. Of these documents, the most relevant are Local Transport Notes (LTN), and Traffic Advisory Leaflets (TAL), which mostly cover topics which apply to local rather than strategic roads, but some are of general relevance.

Abbreviations

Abbreviations

Abbreviation	Definition
BS	British Standard
BS EN	British Standard European Norm
CDM	Construction, Design and Management
IET	Institution of Engineering and Technology

Terms and definitions

Terms

Term	Definition
Traffic control equipment	Equipment used in connection with the signals (including the content of all instructions stored in, or executable by, that equipment). NOTE: Examples of associated equipment can include communication devices.
Traffic signalling equipment	All items of hardware installations which operate together and indicate to users to proceed with safety at road traffic junctions against relevant diagrams of the Traffic Signs Regulations and General Directions TSRGD SI2016 No.362 [Ref 7.N] in England, Wales and Scotland and TSRNI [Ref 6.N] for Northern Ireland.
Traffic signalling installations	Permanent traffic signalling equipment at prescribed locations as defined in the Traffic Signs Regulations and General Directions TSRGD SI2016 No.362 [Ref 7.N] in England, Wales and Scotland and TSRNI [Ref 6.N] for Northern Ireland on all purpose trunk roads. NOTE: Examples of locations include junctions, emergency vehicle stations, level crossings, airports, tunnels, swing/movable bridges and signalised crossings.
Traffic signalling systems	The combination of traffic signalling equipment and/or traffic control equipment, associated software, hardware and data.

1. Scope

Aspects covered

- 1.1 This document outlines the procedures and requirements that shall be followed for the inspection and assessment of traffic signalling installations.

Implementation

- 1.2 This document shall be implemented forthwith on all schemes involving traffic signalling installations on the Overseeing Organisations' motorway and all-purpose trunk roads 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. General requirements

Inspection

- 2.1 All inspection and assessment of traffic signalling systems shall comply with Road traffic signal systems BS EN 50556 [Ref 3.N].
- 2.2 Traffic signalling installations inspection and assessment shall be undertaken as required by the Overseeing Organisation.

Electrical works

- 2.3 All electrical work must comply with The Electricity at Work Regulations [Ref 5.N].
- 2.4 All electrical work shall comply with Requirements for Electrical Installations. IET Wiring Regulations BS 7671 [Ref 2.N].

Security

- 2.5 Security threats to traffic signalling systems shall be mitigated in accordance with the requirements of Security of Network and Information Systems [Ref 4.N].
- 2.6 Where evident, security threats to traffic signalling systems shall be assessed, documented, mitigated and managed.

NOTE Examples of security threats to traffic signalling systems can include compromised roadside equipment, in-station equipment, system software and metal theft.

- 2.7 Risk to the existing communications infrastructure by the introduction of new traffic signalling equipment shall be avoided.

3. 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'
Ref 2.N	BSI. BS 7671, 'Requirements for Electrical Installations, IET Regulations'
Ref 3.N	BSI. BS EN 50556, 'Road traffic signal systems'
Ref 4.N	gov.uk. 'Security of Network and Information Systems'
Ref 5.N	gov.uk. 'The Electricity at Work Regulations 1989 (SI 1989/635) (as amended) (the Regulations)'
Ref 6.N	The Stationery Office (TSO). Department for Infrastructure (DfI). TSRNI, 'The Traffic Signs Regulations (Northern Ireland) 1997'
Ref 7.N	HM Gov. TSRGD SI2016 No.362, 'The Traffic Signs Regulations and General Directions'

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