### Design Manual for Roads and Bridges





Llywodraeth Cymru Welsh Government Infrastructure

General Principles and Scheme Governance Design

# GD 368 Infrastructure requirements for emergency access and egress from motorway and all-purpose trunk roads

(formerly IAN 68/05)

Revision 0

### Summary

This document contains the infrastructure requirements for emergency access and egress from motorway 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	2
Foreword	3
Publishing information	3
Publishing information	3
Introduction	4
Background	4
Assumptions made in the preparation of this document	4
1. Scope	5
Aspects covered	5
Implementation	5
Aspects covered	5
2. Normative references	6

Contents

## 2. Normative references

Release notes

# **Release notes**

Version	Date	Details of amendments	
0	Mar 2020	GD 368 replaces IAN 68/05. This full document h compliant with the new Highways England drafting	nake it

Foreword

# Foreword

#### **Publishing information**

This document is published by Highways England.

This document supersedes IAN 68/05, which is withdrawn.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

# Introduction

#### Background

The purpose of this document is to support the provision of emergency access and egress from the motorway and all-purpose trunk road network by identifying infrastructure requirements which may be included within schemes. The infrastructure requirement detailed can be utilised in the development of route specific, emergency access or egress and to support existing procedures. This will contribute in a significant reduction in the delays to customers when there is a blocked carriageway.

### Assumptions made in the preparation of this document

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

## 1. Scope

#### Aspects covered

1.1 The national requirements for the identification of infrastructure requirements for the provision of emergency access and egress from the motorway and all-purpose trunk road network are set out in the National Application Annexes and shall be followed.

#### Implementation

1.2 This document shall be implemented forthwith on all schemes involving identification of infrastructure requirements for the provision of emergency access and egress from the motorway and all-purpose trunk road network 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. Normative references

# 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'

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the

Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/,

write to the Information Policy Team, The National Archives, Kew, London TW9 4DU,

or email psi@nationalarchives.gsi.gov.uk.

Design Manual for Roads and Bridges



General Principles and Scheme Governance Design

# GD 368 England National Application Annex to GD 368 Infrastructure requirements for emergency access and egress from motorways and all-purpose trunk roads

(formerly IAN 68/05)

**Revision 0** 

### Summary

This National Application Annex contains Highways England-specific infrastructure requirements for emergency access and egress from motorways and all-purpose trunk roads.

#### 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		2
Foreword		3
Publishing information		3
Contractual and legal considerations		3
		5
Introduction		4
Background		4
Assumptions made in the preparation of this document		4
		4
Abbreviations		5
Terms and definitions		6
E/1. Infrastructure requirements	7	7
Hard standings for emergency responders		7
General		7
		7
		7
Maintenance		8
Emergency turnaround area		8
General		8
Siting		8
Design		8
Maintenance		8
Central reserve emergency crossing point		8
General		9
Siting		9
Design		9
Maintenance		9
Purpose built connector to a parallel road		9
General		9
Siting		10
Design		10
		10
Maintenance		11
Purpose built connection to an over bridge / underpass		11
General		11
Siting		11
Design		11
		12
Maintenance		12
E/2. Normative references		13
A second in the later of the standard in the standing state in		
Appendix E/A. Infrastructure requirements illustrative details		14
E/A1 Central reserve crossing point with emergency turnaround area (ETA)		14
E/A2 Central reserve crossing point within existing maintenance crossing point and		
area		16
E/A3 Connection to parallel alternative road		18
E/A4 Connection to an over bridge / underpass		20

Contents

Release notes

# **Release notes**

Version	Date	Details of amendments
0	Mar 2020	Highways England National Application Annex to GD 368.
)	Mar 2020	Highways England National Application Annex to GD 368.

Foreword

# Foreword

#### **Publishing information**

This document is published by Highways England.

This document supersedes IAN 68/05, 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

# Introduction

#### Background

This National Application Annex contains Highways England-specific infrastructure requirements for emergency access and egress from motorways and all-purpose trunk roads.

Highways England is concerned for the welfare of customers whose vehicles become trapped on the motorway and all-purpose trunk road network when one, or both, carriageways are totally blocked. This may be the result of a major incident or severe weather conditions.

The purpose of this document is to support the provision of emergency access and egress by identifying infrastructure requirements which may be included to assist in the development of route specific, emergency access or egress and to support existing procedures. This will contribute in a significant reduction in the delays to customers when there is a blocked carriageway.

This document does not consider any specific technology requirements.

### Assumptions made in the preparation of this document

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

Abbreviations

# Abbreviations

Abbreviations	
Abbreviation	Definition
AADT	Annual average daily traffic
CCTV	Close circuit television
ETA	Emergency turnaround area

# Terms and definitions

Term	Definition
Annual average daily traffic (AADT)	Total volume of traffic travelling on a road (or part of a road) for a year divided by 365 days.
Access	Entering the motorway and all-purpose trunk road network for the emergency responders (or other authorised users) from the secondary carriageway or local road network.
Authorised users	Additional resources authorised by Highways England or Police to assist at an incident (i.e. M&R contractor, specialists).
Connector	A short length of purpose built hardened verge linking the carriageway to the local road network over which vehicles can travel.
Emergency turn around area	An area of hardened verge to assist in the turning of vehicles as part of an egress procedure.
Emergency responders	Police, Fire and Rescue Service, Ambulance Service, Highways England Traffic Officers and maintainers, Environmental Agency and National Recovery Manager contractor.
Egress	Leaving the motorway and all-purpose trunk road network for the emergency responders (or other authorised users) and customers to the secondary carriageway or local road network. NOTE: This does not apply to the emergency evacuation of customers to another location without their vehicles.
Link	A length of motorway or all-purpose trunk road network between two junctions.
Low maintenance	Maintenance requirements are kept to a minimum so as to reduce the risk to road workers undertaking maintenance work including the establishment and removal of traffic management.
Maintenance requirements plan	Highways England document that details the requirements necessary to deliver the maintenance activities as per GM 701 [Ref 1.N].
Regional operations centre	The regional operations centre provides a regional focus for the management and operation of the motorway and all-purpose trunk road network.
Regional service delivery team	Highways England operations directorate team responsible for service delivery within the region.
Secondary carriageway	Carriageway opposite that on which the incident has occurred.
Secured carriageway	A carriageway where all access points have been closed in orde to facilitate incident management requirements.

# E/1. Infrastructure requirements

- E/1.1 Infrastructure requirements shall be identified as either major or minor:
  - 1) major central reserve crossing point and purpose built connections to a parallel road or an overbridge / underpass;
  - 2) minor hard standings and emergency turnaround areas.
- E/1.1.1 On a secured section of motorway or all-purpose trunk road, where AADT exceeds 15,000 vehicles per day in a single direction, a major infrastructure should be implemented at a maximum spacing of 5km.
- E/1.1.2 On dual carriageway all-purpose trunk roads where numerous at-grade access points prevent the securing of the motorway and all-purpose trunk road network, a major infrastructure should be implemented at a maximum spacing of 3km.
- E/1.1.3 Where possible links should be split into sections of even length.
- E/1.2 Consultation shall be undertaken with the Highways England Operational Directorate service delivery team and Regional operations centre when determining the preferred infrastructure for the provision of emergency access and egress from the motorway and all-purpose trunk road network.

#### Hard standings for emergency responders

#### General

- E/1.3 Hard standings shall be located at strategic points on the motorways and all-purpose trunk road network agreed with Highways England Operational Directorate service delivery team and Regional operations centre which allow emergency responders to safely park in readiness for attendance at an incident.
- NOTE 1 Strategic points are locations on the motorway and all-purpose trunk road network identified as those which allow safe and easy access to known hot spots (e.g. congestion, incident or severe weather related).
- NOTE 2 Observation platforms are additional assets to hard standings and not included within this document. The requirements for the layout and location of observation platforms are included in CD 169 [Ref 5.N].
- E/1.4 Hard standings shall be designed to permit the safe accommodation of the largest vehicles and required operatives likely to use the hard standing.
- E/1.5 Hard standing shall be designed allowing safe access and egress to the motorway and all-purpose trunk road network.

#### Siting

- E/1.6 Hard standings shall be located at strategic points to provide safe access to the motorway and all-purpose trunk road network in both directions, without restricting the ability of the emergency responder to attend a non trunk road incident.
- E/1.6.1 Where possible hard standings should be located at junctions.
- E/1.7 Hard standings shall be located such that the agreed communication for emergency responders and other authorised users is available.
- E/1.8 Hard standings shall be designed to discourage unauthorised users.
- E/1.8.1 The close proximity of an emergency telephone should be avoided.
- E/1.9 Hard standings shall not be sited so as to intrude on the privacy of adjacent landowners.

### Design

E/1.10 The design of hard standings shall follow the principles for a simple maintenance hard standing as detailed in CD 169 [Ref 5.N].

- NOTE Whilst the basic principles for a simple maintenance hard standing design are covered in CD 169 [Ref 5.N], there are locations on the motorway and all purpose trunk road network where designers need to undertake a more detailed assessment to ensure that a safe design can be adopted.
- E/1.11 Hard standings shall be designed with a drainage system which removes water from trafficked surfaces.

#### Maintenance

- E/1.12 Hard standings shall be low maintenance.
- E/1.12.1 Maintenance should be undertaken in accordance with the agreed maintenance requirements plan.

#### Emergency turnaround area

#### General

- E/1.13 Emergency turnaround areas shall be provided to facilitate the safe egress of customers from the motorway and all-purpose trunk road network in the following situations:
  - 1) the turning of vehicles onto the same carriageway;
  - 2) the turning of vehicles onto the secondary carriageway via a central reserve crossing point;
  - 3) a combination of both.

#### Siting

- E/1.14 Emergency turnaround areas shall be located such that:
  - 1) sufficient land is available for construction;
  - 2) the site can be monitored using existing CCTV;
  - 3) central reserve crossing points exist or are to be constructed;
  - lay-by areas or places of relative safety can be utilised to turn vehicles in a safe and controlled manner in preference to constructing an emergency turnaround areas.

#### Design

- E/1.15 Emergency turnaround shall be constructed as the hard standing for emergency responders (E1/1.10).
- E/1.16 Emergency turnaround areas shall be designed to facilitate the turning circles of the largest expected vehicles based on the number of lanes present at the location.
- NOTE 1 It is unlikely emergency turnaround areas will be necessary where the link is 3 or more lanes.
- NOTE 2 An illustrative detail is included in Appendix E/A.
- NOTE 3 The table in the illustrative detail provides suggestions as to the potential requirements for emergency turnaround areas on various standard width carriageway (typical lane widths of 3.65m have been assumed) for turning around a 7.5t box van and a 16.6m articulated vehicle.
- E/1.16.1 Swept path analysis should be undertaken as part of the design process to determine the precise requirements of the emergency turnaround areas.
- E/1.17 Emergency turnaround areas shall be designed to discourage unauthorised users.
- E/1.18 Emergency turnaround areas shall be free from standing water.
- E/1.19 Emergency turnaround areas shall not be signed.

#### Maintenance

- E/1.20 Emergency turnaround areas shall be low maintenance.
- E/1.20.1 Maintenance should be undertaken in accordance with the agreed maintenance requirements plan.

#### Central reserve emergency crossing point

#### General

- E/1.21 Central reserve emergency crossing points shall be provided to facilitate the safe egress of customers from the motorway and all-purpose trunk road network by utilising the second carriageway.
- E/1.22 The central reserve opening shall be secured with a purpose built gate or a section of vehicle restraint that can be easily removed or replaced in accordance with CD 377 [Ref 3.N].
- E/1.23 The emergency crossing point shall be able to be effectively opened and closed.
- E/1.24 The emergency crossing shall be of suitable width to enable vehicles to pass through at low speed and onto the secondary carriageway as detailed in CD 377 [Ref 3.N].
- NOTE An illustrative detail is included in Appendix E/A.

#### Siting

- E/1.25 Where possible existing suitably constructed central reserve emergency crossing points shall be utilised.
- E/1.26 A new section of hardened central reserve shall be proposed as a central reserve emergency crossing point if a suitable existing crossing point is not available.
- E/1.27 The pavement construction of any new section of hardened central reserve shall not settle or deform in such a way as to impact on the operation of the gate or removable barrier.
- E/1.28 Central reserve emergency crossing points shall be sited a minimum of 2km apart on any given link and a maximum of 5km or 3km as detailed in E/1.1.1 and E/1.1.2.
- NOTE Where the management of a major incident benefits from simultaneous operation of two central reserve crossing points, the safety of dual operation is paramount and the openings a suitable distance apart facilitates traffic management without compromising the safety of the road users.
- E/1.29 When in close proximity of a tunnel, any central reserve emergency crossing point shall be located between 430 metres and 2km from the portal.
- NOTE The location of the central reserve emergency crossing point is in addition to any maintenance crossing point provided for tunnel operational, emergency and maintenance purposes.

#### Design

E/1.30 Central reserve emergency crossing points shall be designed in accordance with CD 377 [Ref 3.N] and CD 192 [Ref 4.N].

#### Maintenance

- E/1.31 Central reserve emergency crossing points shall be low maintenance.
- E/1.31.1 Maintenance should be undertaken in accordance with the agreed maintenance requirements plan.
- E/1.32 Moving parts (e.g. wheels, hinges etc) of the gate shall be maintained as per the manufacturer's recommendations.

#### Purpose built connector to a parallel road

#### General

- E/1.33 A short, direct connector to an alternative road system (i.e. another trunk road or local road network) which runs parallel to the motorway and all-purpose trunk road network shall be constructed.
- E/1.34 The relevant highway authority for the parallel road shall be consulted at an early stage to ensure adverse traffic conditions are not created elsewhere.

E/1.34.1	The parallel road (whether another all-purpose trunk road or local highway authority road) should
	preferably be part of an agreed diversion route as these are more likely to be able to sustain the traffic
	flows required to perform the egress from a motorway or all-purpose trunk road albeit on a temporary
	basis.

- E/1.34.2 A purpose built connector to a parallel road should be proposed as part of the diversionary route strategy.
- E/1.35 To prevent unauthorised use, the purpose built connector shall be securely gated at each end.

#### Siting

- E/1.36 Where available existing verge crossings shall be utilised.
- E/1.37 The locations for the purpose built connector shall be where the distance between the motorway and all-purpose trunk road network and the parallel road:
  - 1) has minimal gradient; and
  - 2) has no significant obstructions.
- E/1.38 Environmental, sustainability and community / social impacts shall be assessed when proposing the route for the connection to a parallel road.
- E/1.39 An assessment of the parallel road to be connected shall be undertaken to determine its suitability for use by the various categories of motorway or all-purpose trunk road traffic, including:
  - 1) condition of the parallel road;
  - 2) construction of the parallel road;
  - 3) classification of the parallel road;
  - 4) available capacity of the parallel road;
  - 5) distance between the connection and a major junction / interchange using the parallel road; and
  - 6) the clearance from any overhead bridges.
- NOTE The assessment could identify that the connection will only be suitable for the access and egress of emergency service vehicles and not for use by all categories of traffic.

#### Design

- E/1.40 The connector shall be constructed as the hard standing for emergency responders (E/1.10).
- E/1.41 The connector shall be designed to discourage unauthorised users.
- NOTE An illustrative detail is included in Appendix E/A.
- E/1.41.1 Wherever possible, a left turn manoeuvre should be used for vehicles leaving the connection to the adjoining road.
- E/1.42 If the connector to the adjacent road is accessed through an existing safety fence, noise fence or other type of fence, a removable barrier to the same containment standard and specification as existing or a gate shall be installed.
- E/1.43 A traffic road sign to diagram 829.6 TSRGD [Ref 6.N] displaying the legend 'Authorised vehicles only' on passive posts shall be installed on the nearside and offside verges at each end of the connection.
- E/1.44 If the adjoining road is part of an approved diversion route, diversion signing in accordance with diagram 2703.1 TSRGD [Ref 6.N] shall be placed on the connector to assist in the traffic management once the customer leaves the motorway and all-purpose trunk road network.

#### Inspection

E/1.45 Inspection regimes shall be developed to ensure the security and integrity of the motorway and all-purpose trunk road.

	Maintenance
E/1.46	Purpose built connectors shall be low maintenance.
E/1.46.1	Maintenance should be undertaken in accordance with the agreed maintenance requirements plan.
	Purpose built connection to an over bridge / underpass
	General
E/1.47	A short, direct connector to an alternative road system (i.e. another trunk road or local road network) which crosses the motorway and all-purpose trunk road network via an over bridge or underpass shall be constructed.
E/1.47.1	The construction of a purpose built emergency access / egress point to an over bridge or an underpass should be proposed where all other options (operational and network infrastructure changes) have been examined and found to offer no real benefits to customers at a major incident.
E/1.48	To prevent unauthorised use, the purpose built connector shall be securely gated at each end.
	Siting
E/1.49	The locations for the purpose built connector shall be where the distance between the motorway and all-purpose trunk road network and the parallel road:
	1) has minimal gradient; and
	2) has no significant obstructions.
E/1.50	Environmental, sustainability and community / social impacts shall be assessed when proposing the route for the connection to a parallel road.
E/1.51	An assessment of the parallel road to be connected shall be undertaken to determine its suitability for use by the various categories of motorway or trunk road traffic, including:
	1) condition of the parallel road;
	2) construction of the parallel road;
	3) classification of the parallel road;
	4) available capacity of the parallel road;
	<ul><li>5) distance between the connection and a major junction / interchange using the parallel road; and</li><li>6) the clearance from any overhead bridges.</li></ul>
NOTE	The assessment could identify that the connector is only be suitable for the access and egress of emergency service vehicles and not for use by all categories of traffic.
	Design
E/1.52	The connector shall be constructed as the hard standing for emergency responders (E/1.10).
NOTE	An illustrated detail is included in Appendix E/A.
E/1.52.1	Wherever possible, a left turn manoeuvre should be used for vehicles leaving the connection to the adjoining road.
E/1.53	If the connector to the adjacent road is accessed through an existing safety fence, noise fence or other type of fence, a removable barrier to the same containment standard and specification as the fence or a gate shall be installed.
E/1.54	A traffic road sign to diagram 829.6 TSRGD [Ref 6.N] displaying the legend 'Authorised vehicles only' on passive posts shall be installed on the nearside and offside verges at the end of the connection.
E/1.55	If the adjoining road is part of an approved diversion route, diversion signing in accordance with diagram 2703.1 TSRGD [Ref 6.N] shall be placed on the connection road to assist in the traffic

management once the customer leaves the motorway and all-purpose trunk road network.

GD	368	Revision	0
$\mathcal{O}\mathcal{D}$	000	11011011	0

E/1.56 The maximum vertical gradient of the connector shall be 10%.

#### Inspection

E/1.57 Inspection regimes shall be developed to ensure the security and integrity of the motorway and all-purpose trunk road.

#### Maintenance

- E/1.58 Purpose built connectors shall be low maintenance.
- E/1.58.1 Maintenance should be undertaken in accordance with the agreed maintenance requirements plan.

# E/2. Normative references

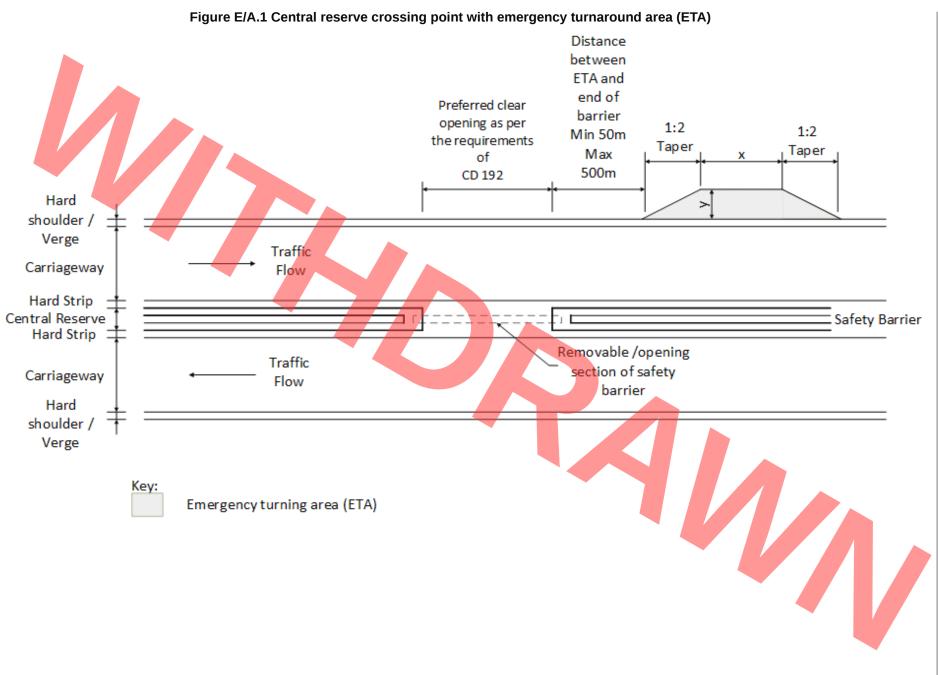
The following documents, in whole or in part, are normative references for this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Ref 1.N	Highways England. GM 701, 'Asset delivery asset maintenance requirements'
Ref 2.N	Highways England. GG 101, 'Introduction to the Design Manual for Roads and Bridges'
Ref 3.N	Highways England. CD 377, 'Requirements for road restraint systems'
Ref 4.N	Highways England. CD 192, 'The design of crossovers and changeovers'
Ref 5.N	Highways England. CD 169, 'The design of lay-bys, maintenance hardstandings, rest areas, service areas and observation platforms'
Ref 6.N	The Stationery Office. TSRGD, 'The Traffic Signs Regulations and General Directions 2016'

# Appendix E/A. Infrastructure requirements illustrative details

# E/A1 Central reserve crossing point with emergency turnaround area (ETA)

Figure E/A.1 shows the central reserve crossing point with emergency turnaround area (ETA).



15

 Table E/A.1 Suggested minimum ETA dimensions (single U-turn manoeuvre of articulated vehicle)

Road type	х
2 lane No hard shoulder	17m 8m
2 lane Hard shoulder	15m 6m
3 lane Hard shoulder	15m 4m

Notes:

1. Exact dimensions to be determined during local design including swept path analysis. Designers are to note the dimensions are minimums and as such several vehicles including large rigid HGV's and coaches may have difficulty turning in the space provided depending on site conditions. The minimum dimensions may need to be increased if rigid HGV or coach numbers are high.

2. The length of preferred safety barrier clear opening to be determined in accordance with the requirements detailed within CD 192 [Ref 4.N]. Ease of operation and reduced speeds during operation are to be considered in determining the length clear opening.

3. Distance between ETA and end of barrier to be determined on site conditions.

4. ETA construction to be as per E/1.26.

5. The construction of the central reserve crossing to be in accordance with CD 192 [Ref 4.N].

# E/A2 Central reserve crossing point within existing maintenance crossing point and emergency turnaround area

Figure E/A.2 shows the central reserve crossing point within existing maintenance crossing point and emergency turnaround area.

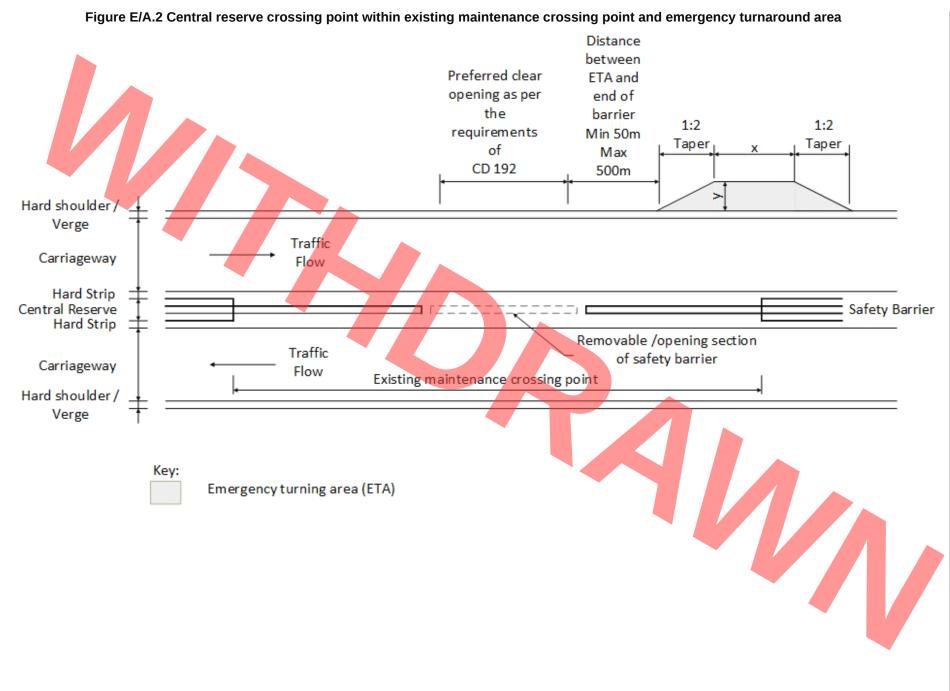


 Table E/A.2 Suggested minimum ETA dimensions (single U-turn manoeuvre of articulated vehicle)

Road type	x	у
2 lane No hard shoulder	17m	8m
2 lane Hard shoulder	15m	6m
3 lane Hard shoulder	15m	4m

Notes:

1. Exact dimensions to be determined during local design including swept path analysis. Designers are to note the dimensions are minimums and as such several vehicles including large rigid HGV's and coaches may have difficulty turning in the space provided depending on site conditions. The minimum dimensions may need to be increased if rigid HGV or coach numbers are high.

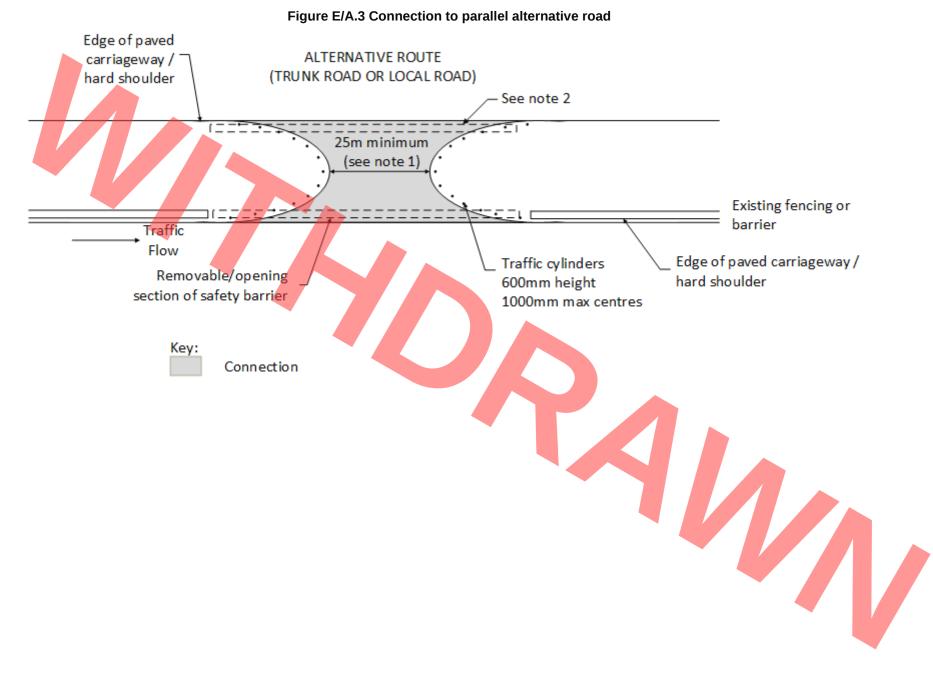
2. The length of preferred safety barrier clear opening to be determined in accordance with the requirements detailed within CD 192 [Ref 4.N]. Ease of operation and reduced speeds during operation are to be considered in determining the length clear opening.

- 3. Distance between ETA and end of barrier to be determined on site conditions.
- 4. ETA construction to be as per E/1.26.

## E/A3 Connection to parallel alternative road

Figure E/A.3 shows the connection to parallel alternative road.

Notes:



1. Exact dimensions to be determined during local design including swept path analysis. Designers are to note the dimensions are minimums and as such several vehicles including large rigid HGV's and coaches may have difficulty turning in the space provided depending on site conditions. The minimum dimensions may need to be increased if rigid HGV or coach numbers are high.

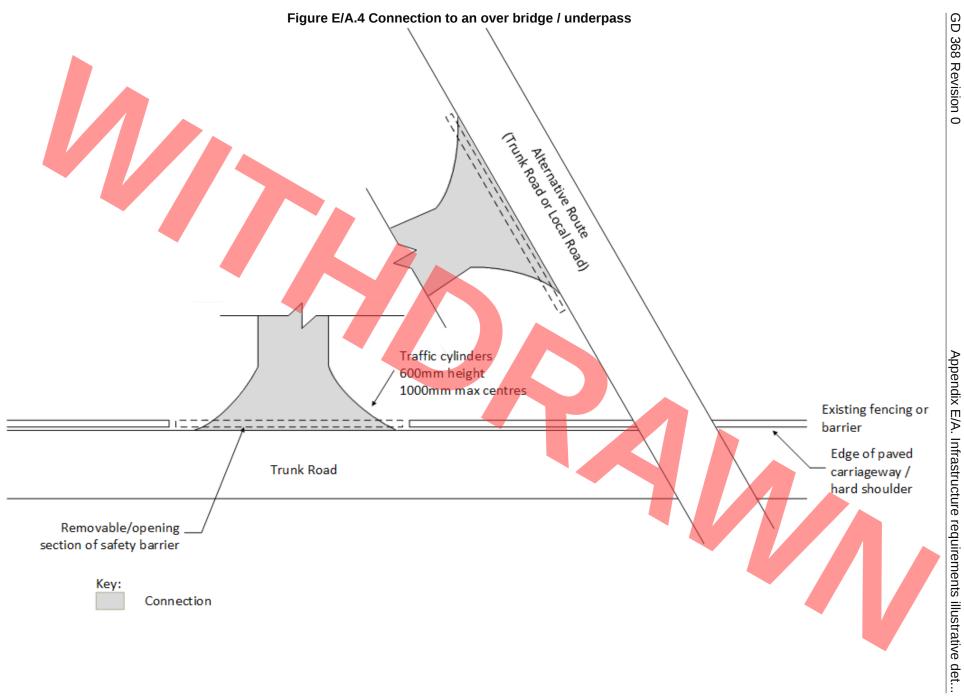
2. For security reasons there may be benefit in securing the connection with an appropriate removable barrier or gate.

- 3. Distance between ETA and end of barrier to be determined on site conditions.
- 4. Connection construction as per E/1.39.

#### E/A4 Connection to an over bridge / underpass

Figure E/A.4 shows the connection to an over bridge / underpass.

21



#### Notes:

1. It is not possible to show the precise layout of the connection between the end points due to location variances around the motorway and all-purpose network. The layout of this element of the connection should be determined through detailed design considering factors including topography and land ownership issues.

2. Exact dimensions to be determined during local design including swept path analysis. Distance between ETA and end of barrier to be determined on site conditions.

3. ETA For security reasons there may be benefit in securing the connection with an appropriate removable barrier or gate.

4. Connection construction as per E/1.51.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the

Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/,

write to the Information Policy Team, The National Archives, Kew, London TW9 4DU,

or email psi@nationalarchives.gsi.gov.uk.

Design Manual for Roads and Bridges



General Principles and Scheme Governance Design

# GD 368 Northern Ireland National Application Annex to GD 368 Infrastructure requirements for emergency access and egress from motorway and all-purpose trunk roads

(formerly IAN 68/05)

**Revision 0** 

## Summary

There are no specific requirements for Department for Infrastructure Northern Ireland supplementary or alternative to those given in GD 368.

#### 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

This is a controlled document.

# Contents

**Release notes** 

2

Release notes

# **Release notes**

Version	Date	Details of amendments		
0	Mar 2020	Department for Infrastructure Northern Ireland Na GD 368.	ational Application Ann	ex to

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the

Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/,

write to the Information Policy Team, The National Archives, Kew, London TW9 4DU,

or email psi@nationalarchives.gsi.gov.uk.

Design Manual for Roads and Bridges



General Principles and Scheme Governance Design

# GD 368 Scotland National Application Annex to GD 368 Infrastructure requirements for emergency access and egress from motorway and all-purpose trunk roads

(formerly IAN 68/05

Revision 0

## Summary

There are no specific requirements for Transport Scotland supplementary or alternative to those given in GD 368.

#### 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

This is a controlled document.

# Contents

**Release notes** 

2

Release notes

# **Release notes**

/ersion	Date	Details of amendments
)	Mar 2020	Transport Scotland National Application Annex to GD 368.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the

Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/,

write to the Information Policy Team, The National Archives, Kew, London TW9 4DU,

or email psi@nationalarchives.gsi.gov.uk.

Design Manual for Roads and Bridges



Llywodraeth Cymru Welsh Government

General Principles and Scheme Governance Design

# GD 368 Wales National Application Annex to GD 368 Infrastructure requirements for emergency access and egress from motorway and all-purpose trunk roads

(formerly IAN 68/05)

Revision 0

## Summary

There are no specific requirements for Welsh Government supplementary or alternative to those given in GD 368.

#### 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

This is a controlled document.

# Contents

**Release notes** 

2

Release notes

# **Release notes**

Version
0

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the

Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/,

write to the Information Policy Team, The National Archives, Kew, London TW9 4DU,

or email psi@nationalarchives.gsi.gov.uk.