

National Highways Position Statement

Appeal by PJ Brown (Civil Engineering) Ltd. against the Enforcement Notice EF/18/0446 served by Mid Sussex District Council in respect of Land off the A23, east of Dan Tree Farm, London Road, Bolney, West Sussex.

Prepared by the Jacobs SYSTRA Joint Venture (JSJV) on behalf of National Highways

PINS ref: APP/D3830/C23/3319435.

LPA ref: PS004407

National Highways ref: #23460 AP/23/0442

1. Context

1.1 Mid Sussex District Council allege that PJ Brown (Civil Engineering) Ltd. has breached planning controls in the following ways:

- Without planning permission:
 - a). The material change of use of the Land from agriculture to a mixed use of:
 - (i) the importation, processing, storage, and export of waste material upon the Land
 - (ii) the deposition of waste material upon the Land
 - (iii) the storage of building materials upon the Land
 - (iv) the storage of plant, machinery, and containers upon the Land

And then

- b). The operational development comprising:
 - (i) the laying and construction of hardstanding upon the Land

1.2 Consequently, Mid Sussex District Council has served the enforcement notice ref: EF/18/0446 (**Appendix 1**) on PJ Brown (Civil Engineering) Ltd. (the Appellant). The Appellant subsequently appealed against the enforcement notice, under grounds (a), (b), (d), (f), and (g) of Section 174(2) of the Town and Country Planning Act 1990 as amended.

1.3 Referring to the Grounds for Appeal, page 5 (**Appendix 2**), the Appellant submits that the Ground (d) case ought to be considered first and foremost. Nonetheless, in the event that the Ground (a) appeal is considered, the Appellant submits that a temporary planning permission should be granted for the development, for a period of four years.

2. The Statutory Remit of National Highways

- 2.1 National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network in England (SRN). The SRN is a critical national asset and as such National Highways is required by Licence agreement to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.
- 2.2 The principal purpose of the SRN is to enable safe, reliable, predictable, rapid, often long distance, journeys of both people and goods in England, as set out in the Road Investment Strategy (RIS) 2: 2020-2025 report.
- 2.3 Within National Highways (the Company), the Spatial Planning Team acts as the statutory consultee on behalf of the Department for Transport Secretary of State on planning matters. The Company is concerned with proposals that have the potential to impact on the safe, reliable, and/or efficient operation of the SRN which is the expectation of government policy as set out in the Department for Transport (DfT) Circular 01/2022 (**Appendix 3**) and the Department for Levelling-Up, Housing and Communities (DLUHC) National Planning Policy Framework (NPPF) (December 2023), paragraphs 114 to 117 (**Appendix 4**).
- 2.4 On July 30, 2024, a Ministerial Statement on the emerging National Planning Policy Framework (NPPF) was delivered to the House of Commons by Angela Rayner, Deputy Prime Minister and Minister for Housing, Communities, and Local Government. The statement outlined proposed changes to planning policies aimed at supporting the Government's housing goals while ensuring sustainable development practices. These changes include significant updates to transport-related policies, emphasising the integration of transportation infrastructure into sustainable development frameworks. One key proposal in the emerging NPPF is to raise the threshold for objections to planning applications on transport grounds. Under the emerging guidelines, refusals would only be permissible if the impact on road safety or traffic is considered "severe" across all tested scenarios.

- 2.5 Although the emerging NPPF is still at the consultation stage and yet to be formally adopted, National Highways considers that it reflects the direction of Government policy and is likely to be adopted without substantial changes. As such, while the emerging NPPF currently carries limited weight in the decision-making process, it is anticipated that it may be afforded more weight as it progresses toward formal adoption. Therefore, it should be considered with respect to this appeal, particularly where it aligns with existing planning principles.
- 2.6 The approach National Highways takes to engaging in the planning system and the issues NH considers are described in National Highways planning guide: Planning for the future – A guide to working with National Highway on planning matters (October 2023) (**Appendix 5**).

3. This Appeal

3.1 An appeal under grounds (a), (b), (d), (f), and (g) of Section 174(2) of the Town and Country Planning Act 1990 has been submitted against the Enforcement Notice.

3.2 Under Section 174(2) of the Town and Country Planning Act 1990, appeals against enforcement notices can be made on various grounds. The grounds mentioned are as follows:

- Ground (a): That planning permission should be granted.
- Ground (b): That the breach of control alleged in the enforcement notice has not occurred.
- Ground (d): That at the date when the notice was issued, no enforcement action could be taken.
- Ground (f): That the steps required to comply with the notice are excessive.
- Ground (g): That the time given to comply with the notice is too short.

3.3 National Highways has no position on Grounds (b), (f), and (g), as these pertain to matters of outside the Company's statutory remit. The Company also does not wish to comment on Ground (d), as it holds no information specifically related to operations on the appeal site.

3.4 Consequently, the Company will outline its position only with respect to Ground (a), in which the Appellant seeks temporary planning permission for a period of four years.

3.5 We will address the potential implications of this request on the safe, reliable, and efficient operation of the Strategic Road Network, in line with its obligations under the Infrastructure Act 2015, government policy, and the principles outlined in relevant planning frameworks.

4. National Highways Engagement with Stakeholders

- 4.1 In July 2022, Mid Sussex District Council consulted National Highways to outline its intention to serve an enforcement notice on PJ Brown (Civil Engineering) Ltd. regarding alleged unlawful activities on land east of Dan Tree Farm. The Council sought confirmation that National Highways would engage in the appeal process and support the Council's position on enforcement action.
- 4.2 After reviewing the relevant documentation, National Highways determined that the access did not conform to current standards as outlined in the Design Manual for Roads and Bridges (DMRB). As a result, the Company initially agreed to support the Council in pursuing legal action to cease the unauthorised activities.
- 4.3 However, by August 2023, following a further review of information, particularly in light of the release of Circular 1/2022 in December 2022, National Highways concluded that supporting the enforcement action on road safety grounds would not be sustainable when evaluated against the criteria set out in paragraph 115 of the National Planning Policy Framework (NPPF). This reassessment, informed by advice from the Jacob SYSTRA Joint Venture (JSJV), National Highways' technical advisors, found that despite the access not meeting DMRB standards, it did not present an adverse road safety record, likely due to its current level of use.
- 4.4 Circular 1/2022 further reinforced the thresholds for transport-related interventions, stipulating that transport impacts must reach a "severe" level to warrant mitigation (paragraph 51). Similarly, road safety impacts would need to be classified as unacceptable to justify improvements.
- 4.5 Consequently, National Highways chose to adopt a conditions-led approach to resolving the appeal, which was communicated to the Council in October 2023.
- 4.6 **Table 1 (Appendix 6)** provides a chronological overview of the key engagements between National Highways and relevant stakeholders in the appeal process, beginning in April 2023, following a significant hiatus in proceedings.

5. Applicable Standards and Guidance

5.1 The A23 is an all-purpose trunk road and forms part of the Strategic Road Network (SRN), it is the principal route linking the M25, M23 and Gatwick airport to the north, with the A27 and coastal towns in the south. Along its entire route, the A23 intersects with several other major roads, most notably the M25 junction 7, the A27 Brighton Bypass, and M23 at Pease Pottage.

Design Manual for Roads and Bridges

5.2 The Design Manual for Roads and Bridges (DMRB) contains the current standards relating to the design, assessment and operation of motorway and all-purpose roads in the United Kingdom, and is published by the Department for Transport (DfT).

5.3 The DMRB is an extensive suite of documents. The following current documents (**Appendix 7**) are of principal relevance to the road and access infrastructure subject to this appeal:

- CD 109 - Highway Link Design.
- CD 123 - Geometric design of at-grade priority and signal-controlled crossings.

5.4 National Highways has therefore commissioned its technical advisors, the Jacobs SYSTRA Joint Venture (JSJV) to review the access for compliance with these design standards.

5.5 In addition, it is incumbent on the Company to review the operational safety of the access; hence, the JSJV Technical Note appended to this statement also includes a review of historic accident records.

5.6 The JSJV note (**Appendix 8**), concludes that the access to the land east of Dan Tree Farm on the A23 does not meet current design standards, particularly the Design Manual for Roads and Bridges (DMRB) standards that apply to priority junctions. Specifically:

5.7 Inappropriate for a DAP3 Road:

- **Direct Access:** The access cannot be classified as a "Direct Access" under DMRB CD 123 standards because such accesses are not permitted on DAP3 roads. These roads are designed for high-speed, high-volume traffic, and direct accesses are typically only allowed in

limited, low-impact scenarios (e.g., single dwellings or small utility sites with minimal traffic).

- **Simple Priority Junction:** The access also does not meet the criteria for a simple priority junction, which is not permitted on DAP3 roads. Simple priority junctions are generally limited to single-carriageway roads without climbing lanes.

5.8 Design Deficiencies:

- The current layout of the access does not include features typically required such as appropriately designed merge and diverge tapers, traffic islands, and potentially visibility splays.
- Specifically, the access lacks a merging taper of sufficient length (110 meters required) and does not meet the 40-meter nose requirement for dual carriageways with a design speed of 120 km/h (75 mph). The inbound corner radius is also below the standard 40 meters needed for compliance with DMRB CD 123.

5.9 Road Safety Implications:

- Although historical Personal Injury Collision (PIC) data does not indicate a significant safety issue at this access, this could be due to the current level of use. The provision of this access relative to DAP3 standards suggests that it was not designed with the safety margins that apply to roads of this nature.
- The lack of compliance with standards presents a potential risk, especially if traffic levels increase or road conditions change. The design elements are substandard for a road of this type, which typically demands stricter controls to ensure safety due to the high speeds and volumes of traffic.

5.10 In conclusion therefore, the JSJV considers that the access does not comply with the stringent design standards set out in CD 123. However, while historical data suggests that the access has not yet caused safety issues, its non-compliance with standards may pose a latent risk if the use of the access is to intensify.

6. National Highways Position Statement

- 6.1 Given the conclusions of the technical review, the Company's position is that the access to the appeal site does not conform to current design standards. However, the primary issue in this appeal is not the non-compliance itself, but the fact that the access is pre-existing. National Highways must therefore assess the safety and operational adequacy of its continued use despite this non-compliance.
- 6.2 Historical evidence, including a review of currently available Personal Injury Collision (PIC) data over an extended period (2002 – 2022 inclusive), suggests that the access has not posed a significant safety risk, with no pattern of accidents directly attributable to it. Accordingly, in reference to paragraph 115 of the NPPF (2023), which states that development should only be prevented or refused on transport grounds where the residual cumulative impacts are severe, National Highways considers that an objection to the continued use of the access for the alleged land uses would be unsustainable.
- 6.3 However, any intensification of use beyond current and historical levels could alter this assessment. Additionally, it should be noted that the safety record of the access is based on an unquantified volume of traffic movements, which leaves uncertainty regarding the impact of potential changes in use.
- 6.4 Consequently, National Highways considers it appropriate for the Appellant to conduct a thorough assessment of traffic operations and implement a monitoring regime to ensure that the access continues to function safely under ongoing use.
- 6.5 While the existing access has not been deemed unsafe historically, National Highways recommends that any temporary planning consent be contingent upon the provision of a formal Transport Assessment and the establishment of a traffic monitoring regime. These measures will ensure that any changes in the use of the access do not compromise road safety, in line with National Highways' responsibility to manage the Strategic Road Network (SRN) effectively, and for the benefit of all road users.
- 6.6 In conclusion, in the absence of an acceptable Transport Assessment or other supporting information being submitted by the Appellant in advance of the Inquiry, National Highways respectfully requests that, should the Inspector be minded to grant temporary planning consent for the proposed uses on the

appeal site, the consent should be subject to conditions requiring the submission of detailed operational information by the Appellant. This information should, in accordance with Circular 01/2022, paragraph 47 include:

- A Transport Assessment; and
- A Travel Plan.

6.7 The Transport Assessment should establish the use of the access and subsequently inform a traffic monitoring and limitation regime. The Travel plan should set out targets for a modal shift to sustainable transport and will need to be subject to sustained monitoring and management by an appointed travel plan coordinator. Whilst National highways is in receipt of a Transport Statement and a Travel Plan from the Appellant, the Company's position is that these documents do not currently satisfy the requirements set out in Circular 01/2022.

6.8 In addition, in accordance with National Highways' processes and procedures, a departure from standards application should be submitted, outlining and justifying the use of the substandard access. As of 23rd August 2024, the Appellant has not submitted an application.

7. Departure From Standards Process

7.1 The process for applying for a Departure from Standard typically involves the following steps:

Identify the Departure

- **Assessment:** The first step is to identify which part of the Design Manual for Roads and Bridges (DMRB) standard cannot be met. This may result from physical constraints, environmental concerns, or other site-specific factors.
- **Justification:** Clearly justify why the departure is necessary. The request should not be made merely for convenience or cost-saving reasons, but rather due to sound engineering principles or exceptional circumstances.

Initial Consultation

- **Discussion with the Overseeing Organisation:** Before submitting a formal request, it is advisable to have an informal discussion with the overseeing authority, such as National Highways or the relevant highway authority. This preliminary discussion can provide valuable feedback and assist in refining the submission.

Prepare a Formal Submission

- **Supporting Documentation:** Prepare comprehensive documentation detailing the departure. This should include:
 - A description of the specific standard from which you are departing.
 - A detailed explanation of the reason for the departure.
 - An assessment of the potential implications, particularly concerning safety, operational performance, and maintenance.
 - Any proposed mitigation measures to address the identified impacts.
- **Risk Assessment:** Include a thorough risk assessment that evaluates the safety implications of the departure, contrasting it with the standard design.

- **Engineering Evidence:** Provide robust engineering evidence to demonstrate that the proposed solution is viable and that associated risks are effectively managed.

Submission to the Overseeing Authority

- **Submit the Application:** The formal application should be submitted to the relevant overseeing authority, such as National Highways for the Strategic Road Network (SRN) or the local highway authority for other roads. Ensure that the submission adheres to the specific format and procedures outlined by the authority.
- **Engagement:** Ensure that all relevant parties, including contractors, designers, and consultants, are informed of the submission and that their contributions are included where appropriate.

Review and Assessment by the Overseeing Authority

- **Technical Review:** The overseeing authority will conduct a technical review of the proposed departure. This review may involve consultation with internal and external experts to assess the engineering, safety, and operational implications.
- **Risk Management:** Particular attention will be paid to the risk assessment, especially in terms of how the departure might impact road users and maintenance operations.

Approval or Rejection

- **Decision:** After the review process, the overseeing authority will either approve or reject the application. Approval may be contingent upon the implementation of specific mitigation measures.
- **Documentation:** If the departure is approved, the terms of the approval will be documented clearly. If rejected, detailed feedback will be provided, and alternative solutions may need to be explored.

7.2 As demonstrated, the decision and approval processes involved in a departure from standard are complex and lengthy, requiring the provision of engineering evidence. Moreover, they critically include a thorough review of risk and safety for all road user populations.

8. Planning Conditions

8.1 Given the conclusions set out in paragraph 6.6, National Highways would respectfully ask that, should the Inspector be minded to grant the temporary planning consent sought by the Appellant under Ground (a) of the appeal, that the consent is contingent on the following conditions which have been shared with the Council and the Appellant:

Condition 1

Within 3 months from the date of the planning consent, an Operational Management Plan [OMP] shall be submitted for approval by the local planning authority (who shall consult with National Highways). Unless otherwise agreed in writing by the local planning authority (in consultation with National Highways) the development shall thereafter be operated in accordance with the approved plan. The OMP must include the details (text, maps, and drawings as appropriate) pertaining to the scale, timing, and mitigation of traffic impacts as may arise from the operation of the development. The OMP must include, but not be limited to, the following elements:

- A Transport Assessment to forecast traffic generation for the development.
- A mechanism to derive and report the mean maximum peak hour period traffic generation, mean maximum daily traffic flows, and annual average weekly traffic [AAWT] flows at the junction between the site access and the A23.
- A method of continuous monitoring of traffic flows at the junction between the site access and the A23.
- The method and timing of reporting to the Council, in consultation with National Highways, the mean maximum peak hour period traffic generation, mean maximum daily traffic flows, and the annual average weekly traffic flows at the junction between the site access and the A23.
- Site hours of operation.
- The routing and types of vehicles visiting the development.
- A Travel Plan that seeks to minimise vehicle trips, guide access and egress and parking arrangements for workers, visitors, and deliveries;

and

- Details of the sheeting of loose loads, wheel washing, and other facilities designed to prevent dust, dirt, detritus, and other deleterious materials from entering the public highway (along with procedures for removal if it occurs).

Reason:

To ensure that the A23 Trunk Road continues to be an effective part of the national system of routes for through traffic in accordance with section 10 of the Highways Act 1980 and to satisfy the reasonable requirements of road safety and paragraph 115 of the National Planning Policy Framework (December 2023).

Condition 2.

Unless otherwise agreed in writing, over any weekly period, the development hereby approved shall generate no more traffic movements than the greater of the vehicle trips per day forecast in the Operational Management Plan or the derived mean maximum daily flow.

Reason:

To ensure that the A23 Trunk Road continues to be an effective part of the national system of routes for through traffic in accordance with section 10 of the Highways Act 1980 and to satisfy the reasonable requirements of road safety and paragraph 115 of the National Planning Policy Framework (December 2023).

Appendix 1.

Mid Sussex District Council Enforcement Notice Ref: EF18/0446

Contact: Paula Slinn Solicitor 01444 477186
paula.slinn@midsussex.gov.uk

Your Ref:

Date: 28th February
2023

Our Ref: PS/004407

Peter John Brown
Burlands
Charlwood Road
Ifield
Crawley
West Sussex
RH11 0JZ

BY FIRST CLASS RECORDED DELIVERY

IMPORTANT – THIS COMMUNICATION AFFECTS YOUR PROPERTY

Dear Sir,

**Enforcement Notice - Land east of Dan Tree Farm, London Road, Bolney, West Sussex
RH17 5QF ("the Land")
Town and Country Planning Act 1990 (as amended) – Section 171A
Notice Ref: EF/18/0446**

The District Council, as the relevant Planning Authority, have authorised enforcement action in respect of the material change of use of the Land from agriculture to a mixed use of the importation, processing, storage and export of waste material upon the Land; the deposition of waste material upon the Land; the storage of building materials upon the Land and the storage of plant, machinery and containers upon the Land and operational development comprising of the laying and construction of hardstanding upon the Land ("the Unauthorised Development") without the grant of the necessary planning approval.

Pursuant to Section 172 of the Town and Country Planning Act 1990, an Enforcement Notice requiring the cessation of, and the removal of the Unauthorised Development has been issued and a copy is enclosed by way of service on you as an occupier and licensee of the Land.

Should you decide to appeal against the Enforcement Notice, the enclosed information sheet from The Planning Inspectorate tells you how to make an Appeal. An additional copy of the Enforcement Notice is enclosed for attaching to any Appeal Forms.

Any appeal to The Planning Inspectorate should reach them before the Notice takes effect on **31st March 2023**.

Yours faithfully,



Paula Slinn
Solicitor

On behalf of Kevin Toogood, Assistant Director, Legal & Democratic Services (Corporate Solicitor)

Enc.

Working together for a better Mid Sussex



INVESTOR IN PEOPLE

**Head of Regulatory Services
and Monitoring Officer**

Lexcel
Legal Practice Quality Mark
Law Society Accredited



Customer Support Team
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN

Direct Line 0303-444 5000
Email enquiries@planninginspectorate.gov.uk

THIS IS IMPORTANT

If you want to appeal against this enforcement notice you can do it:-

- on-line at the Appeals Casework Portal (<https://acp.planninginspectorate.gov.uk/>); or
- sending us enforcement appeal forms, which can be obtained by contacting us on the details above.

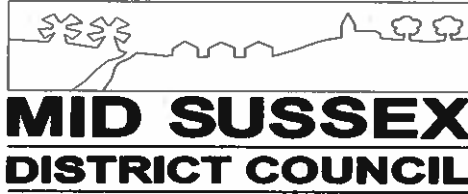
You MUST make sure that we RECEIVE your appeal BEFORE the effective date on the enforcement notice.

Please read the appeal guidance documents at <https://www.gov.uk/appeal-enforcement-notice/how-to-appeal>.

In exceptional circumstances you may give written notice of appeal by letter or email. You should include the name and contact details of the appellant(s) and either attach a copy of the Enforcement notice that you wish to appeal or state the following:

- the name of the local planning authority;
- the site address; and
- the effective date of the enforcement notice.

We MUST receive this BEFORE the effective date on the enforcement notice. This should immediately be followed by your completed appeal forms.



IMPORTANT - THIS COMMUNICATION AFFECTS YOUR PROPERTY

**TOWN AND COUNTRY PLANNING ACT 1990
(AS AMENDED BY THE PLANNING AND COMPENSATION ACT 1991)**

ENFORCEMENT NOTICE

OPERATIONAL DEVELOPMENT AND MATERIAL CHANGE OF USE

Issued by **MID SUSSEX DISTRICT COUNCIL** ("the Council")

1. **THIS NOTICE** is issued by the Council because it appears to them that there has been a breach of planning control, under section 171A(1)(a) of the above Act, at the Land described below. They consider that it is expedient to issue this Notice, having regard to the provisions of the Development Plan and to other material planning considerations. The Explanatory Note at the end of the Notice and the enclosures to which it refers, contain important additional information.

2. **THE LAND TO WHICH THE NOTICE RELATES**

Land east of Dan Tree Farm, London Road, Bolney, West Sussex RH17 5QF ("the Land") shown edged red on the attached plan ("the Plan").

3. **THE MATTERS WHICH APPEAR TO CONSTITUTE THE BREACH OF PLANNING CONTROL**

Without planning permission:

- 3.1 the material change of use of the Land from agriculture to a mixed use of:
 - 3.1.1 the importation, processing, storage and export of waste material upon the Land;
 - 3.1.2 the deposition of waste material upon the Land;
 - 3.1.3 the storage of building materials upon the Land;
 - 3.1.4 the storage of plant, machinery and containers upon the Land;
- 3.2 operational development comprising of the laying and construction of hardstanding upon the Land.

("the Unauthorised Development").

4. REASONS WHY IT IS CONSIDERED EXPEDIENT TO ISSUE THIS NOTICE

- 4.1 It appears to the Council that the above breach of planning control stated in 3.1 above has occurred within the last 10 years and constitutes unauthorised development..
- 4.2 It appears to the Council that the above breach of planning control stated in 3.2 above has occurred within the last 4 years and constitutes unauthorised development.
- 4.3 The Unauthorised Development is located in a rural area and is unrelated to the needs of agriculture and is considered contrary to policies DP12 and DP16 of the Mid Sussex District Plan 2014 – 2031, policies W3, W4, W8 and W9 of the West Sussex Waste Local Plan 2014 – 2031, policy AS3 of the Ansty, Staplefield & Brook Street Neighbourhood Plan 2015-2031, paragraph 7 and Appendix B of the National Planning Policy for Waste 2014 and paragraph 177 of the National Planning Policy Framework 2021.
- 4.4 By virtue of its location, scale and appearance the Unauthorised Development causes harm to the visual amenity of the rural area and the High Weald Area of Outstanding Natural Beauty in which it lies contrary to policies DP12, DP16, DP26 and DP29 of the Mid Sussex District Plan 2014 – 2031, policies W11, W12 and W13 of the West Sussex Waste Local Plan April 2014 - 2031 policy AS3 of the Ansty, Staplefield & Brook Street Neighbourhood Plan 2015-2031, paragraph 7 and Appendix B of the National Planning Policy for Waste 2014 and paragraphs 176 and 177 of the National Planning Policy Framework 2021.
- 4.5 By virtue of the location and scale of the Unauthorised Development it represents a severe impact upon the safety of the local highway network contrary to policy DP21 of the Mid Sussex District Plan 2014 – 2031 and policy W18 of the West Sussex Waste Local Plan April 2014 – 2031 and paragraphs 110 and 111 of the National Planning Policy Framework 2021.
- 4.6 By virtue of the use, siting, scale and material construction of the Unauthorised Development it represents a risk to land and water contamination contrary to policies DP41 and DP42 of the Mid Sussex District Plan 2014 – 2031 and paragraph 183 of the National Planning Policy Framework 2021
- 4.7 By virtue of the use, siting and scale of the Unauthorised Development it causes harm to the adjacent ancient woodland and biodiversity of the Land contrary to policies DP27 and DP38 of the Mid Sussex District Plan 2014 – 2031 and policies W14, W16 and W19 of the West Sussex Waste Local Plan April 2014 – 2031, paragraph 7 and Appendix B of the National Planning Policy for Waste 2014 and paragraph 174 of the National Planning Policy Framework 2021.

4.8 The Council does not consider that planning permission for the Unauthorised Development should be given because it is contrary to the policies of the development plans and planning conditions could not overcome these objections to the Unauthorised Development.

5. WHAT YOU ARE REQUIRED TO DO

- 5.1 Cease the use of the Land for the importation, processing and export of waste material.
- 5.2 Cease the use of the Land for the deposition of waste material.
- 5.3 Cease the use of the Land for the storage of waste and building materials.
- 5.4 Cease the use of the Land for the storage of plant, machinery and containers.
- 5.5 Remove from the Land all plant, machinery, equipment, containers and vehicles.
- 5.6 Remove from the Land to an authorised place of disposal all imported and stored waste and building materials associated with the Unauthorised Development
- 5.7 Disconnect from all services (water, electricity, foul sewerage) the portacabin marked in the approximate position marked 'A' on the Plan.
- 5.8 Remove from the Land the portacabin sited in the approximate position marked 'A' on the Plan.
- 5.9 Remove from the Land the containers sited in the approximate position marked 'B' on the Plan.
- 5.10 Remove from the Land the hardstanding marked outlined in blue on the Plan.
- 5.11 Remove from the Land to an authorised place of disposal all debris and materials as a result of compliance with step 5.10 above.
- 5.12 Reinstate and restore the Land to its former condition and topography in keeping with the surrounding agricultural land.

6. TIME FOR COMPLIANCE:

- 6.1 The time for compliance with requirement 5.1, 5.2 and 5.3 is 7 days after this Notice takes effect.
- 6.2 The time for compliance with requirements, 5.4, 5.5, 5.7, 5.8 and 5.9 is 14 days after this Notice takes effect.
- 6.3 The time for compliance with requirements 5.6, 5.10 and 5.11 is 28 days after this Notice takes effect.
- 6.4 The time for compliance with requirement 5.12 is 3 months after this Notice takes effect.

7. WHEN THIS NOTICE TAKES EFFECT

THIS NOTICE TAKES EFFECT ON 31st March 2023 unless an appeal is made against it beforehand.

Dated: 28th February 2023



Signed
Authorised Officer on behalf of
Mid Sussex District Council

Notice Ref: EF/18/0446
Address to which all communications should be sent:
Assistant Director, Planning & Sustainable Economy,
Mid Sussex District Council,
Oaklands, Oaklands Road,
Haywards Heath, West Sussex, RH16 1SS
www.midsussex.gov.uk

EXPLANATORY NOTE

This Enforcement Notice has been served on the following persons whose names and addresses are set out below:

PJ Brown (Civil Engineering) Ltd
Burlands Farm
Charlwood Road
Crawley
West Sussex
RH11 0JZ

Peter John Brown
Burlands
Charlwood Road
Ifield
Crawley
West Sussex
RH11 0JZ

Mr Dane Rawlins
Bolney Park Farm
Broxmead Lane
Bolney
Haywards Heath
West Sussex
RH17 5RJ

Mrs Maureen Rawlins
Bolney Park Farm
Broxmead Lane
Bolney
Haywards Heath
West Sussex
RH17 5RJ

BARCLAYS BANK UK PLC (Co. Regn. No.9740322)
P.O. Box 187
Leeds
LS11 1AN

SARAH CATHERINE WRIGHT
Park Farm Cottage
Broxmead Lane
Bolney
West Sussex
RH17 5RJ

YOUR RIGHT OF APPEAL

You can appeal against this Notice, but you must ensure that you send your appeal soon enough so that it will be delivered by post/electronic transmission to the Secretary of State (at The Planning Inspectorate) before the date specified in paragraph 7 above.

The enclosed information sheet from The Planning Inspectorate tells you how to make an appeal. Read it carefully. Under Section 174 of the Town and Country Planning Act 1990 (as amended) you may appeal on one or more of the following Grounds:-

- (a) that, in respect of any breach of planning control which may be constituted by the matters stated in the Enforcement Notice, planning permission ought to be granted or, as the case may be, the condition or limitation concerned ought to be discharged;
- (b) that those matters have not occurred;
- (c) that those matters (if they occurred) do not constitute a breach of planning control;
- (d) that, at the date when the Enforcement Notice was issued, no enforcement action could be taken in respect of any breach of planning control which may be constituted by those matters;
- (e) that copies of the Enforcement Notice were not served as required by Section 172;
- (f) that the steps required by the Enforcement Notice to be taken, or the activities required by the Enforcement Notice to cease, exceed what is necessary to remedy any breach of planning control which may be constituted by those matters or, as the case may be, to remedy any injury to amenity which has been caused by any such breach;
- (g) that any period specified in the Enforcement Notice in accordance with Section 173(9) falls short of what should reasonably be allowed.

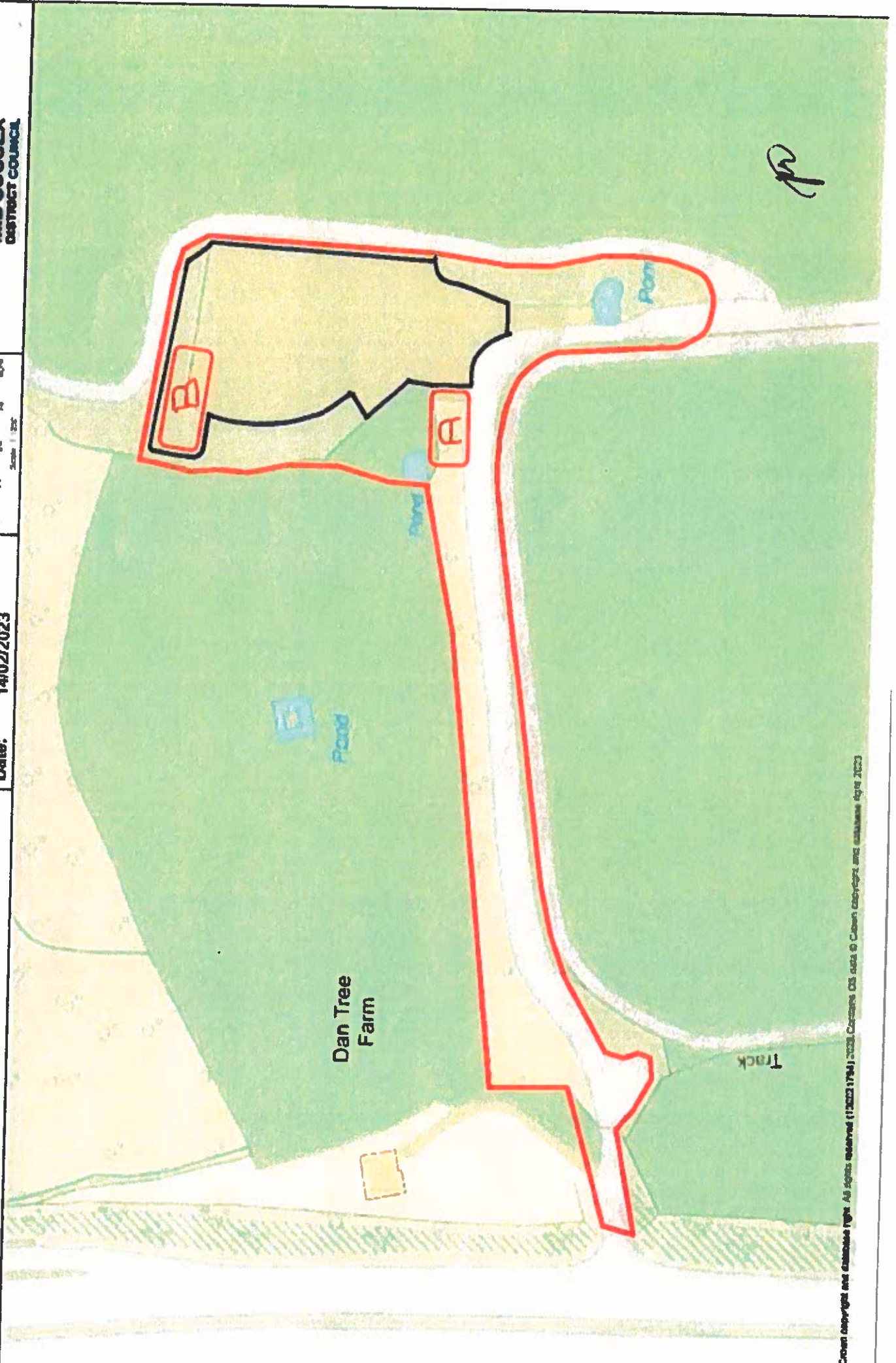
Not all of these Grounds may be relevant to you.

If you appeal under Ground (a) this is equivalent of applying for planning permission for the development alleged in the Enforcement Notice and you will have to pay a fee of £7,020 You should pay this fee to the Council's Assistant Director, Planning & Sustainable Economy, at this address (made payable to Mid Sussex District Council). Joint appellants need only pay one set of fees. Further information with regard to fees can be obtained from the Planning Inspectorate.

You must submit to the Secretary of State either when giving notice of your appeal or within 14 days from the date on which the Secretary of State sends you a notice requiring you to do so, a written statement specifying the Grounds on which you are appealing against the Enforcement Notice and stating briefly the facts on which you propose to rely in support of each of those Grounds.

WHAT HAPPENS IF YOU DO NOT APPEAL

If you do not appeal against this Enforcement Notice, it will take effect on the date specified in paragraph 7 above and you must then ensure that the required steps for complying with it, for which you may be held responsible, are taken within the period(s) specified in the Notice. Failure to comply with an Enforcement Notice, which has taken effect, can result in prosecution and/or remedial action by the Council.



Appendix 2.

**00 - J004451 - Grounds of Appeal - 28 March
2023**

The Planning Inspectorate
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN

28 March 2023

Our Ref: J004451
LPA Ref: 2020/0102/ENF
PINS Ref: APP/C3620/C/21/3269098

Dear Sir or Madam,

Appeal by PJ Brown (Civil Engineering) Ltd against the service of an enforcement notice on Land East of Dan Tree Farm, London Road, Bolney, West Sussex, RH17 5QF

I refer to the above. WS Planning & Architecture have been instructed by PJ Brown (Civil Engineering) Ltd to prepare and submit an appeal against an enforcement notice served by Mid Sussex District Council alleging that,

“Without Planning Permission:

- 3.1 *The material change of use of the Land from agriculture to a Mixed Use of:*
 - 3.1.1 *the importation, processing, storage and export of waste materials upon the Land;*
 - 3.1.2 *the deposition of waste material upon the Land;*
 - 3.1.3 *the storage of building materials upon the Land;*
 - 3.1.4 *the storage of plant, machinery, and containers upon the Land;*
- 3.2 *Operational development comprising of the laying and construction of hardstanding upon the land”*

WS Planning & Architecture

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Reg Office: 5 Pool House, Bancroft Road, Reigate Surrey, RH2 7RP
Company No. GB3763487 | WS Planning & Architecture is a trading name of Woods, Sanders & Co Ltd

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Preliminary Matters

The appellant proposes to appeal under grounds (a), (b), (d), (f), and (g) of section 174(2) of the Town and Country Planning Act 1990. It is requested that the appeal be dealt with by way of a Public Inquiry as there is evidence that will need to be given under oath regarding the matters of the Ground (d) appeal, and the history of the hardstanding and change of use that is the subject of the enforcement notice. In addition to this, the matters to be considered under Ground (a) are complex, and technical in nature, and will require formal examination.

The use of the appeal site is essential to the continued operations of the appellant, and is sought as such. If an alternative site were to present itself, or be presented, then the appellant would be open to discontinuing the appeal on account that the business itself would be capable of continuing to operate. Currently, the appellant cannot cease operations at the site, as there would be significant economic impacts to the employees of the business, and the longevity of the business itself. Furthermore, there is a shortage of facilities for the recycling of demolition materials and re-use as a sub-base in highways and other infrastructure in the region. Loss of this site would have far-reaching impacts on the ability of the area to deliver new development, including much-needed new housing.

Simply put, the service of the enforcement notice must be responded to by way of an appeal on account of the best interests of real people, whose livelihoods would be at genuine risk by virtue of the loss of this site, and comes at a time of economic instability.

The site is in a sustainable location, well related to the trunk road and motorway network in West and East Sussex and Kent. It has no significant impact on residential or public amenity; its impact on landscape is largely localised and there are no impacts on sensitive receptors. Whilst its presence in the current location may not be compliant with rural development policies, this kind of use is difficult to accommodate within urban areas without multiple impacts.

Executive Summary

The appeal is made under grounds (a), (b), (d), (f) and (g) of section 174(2) of the Town and Country Planning Act 1990 against an Enforcement Notice served by the District Planning Authority.

It will be demonstrated that Planning Permission ought to be granted for the development (“the ground (a) appeal”).

It will be demonstrated that at the time of serving the notice, it was too late to take enforcement action against the matters alleged in the notice (“the ground (d) appeal”), i.e. the development was in situ as of 28 February 2013, and has been in continuous operation since before this date and is now immune from enforcement. Evidence will be given by both employees and clients of the appellant. It is assumed that the evidence would be given on oath and subject to cross examination by an advocate.

It will be submitted that the steps to comply with the notice are excessive and that lesser steps would overcome the objections (“the ground (f) appeal”).

Without prejudice to the ground (d) appeal, if the appeals under grounds (a), (d), and (f) fail, then it will be requested that a longer period for compliance with the notice be allowed due to the small business nature of the appellant and their activities on the site, the economic vulnerability of its workforce if the development cannot be relocated and accommodated locally and the lack of alternative operating sites (“the ground (g) appeal”). The time scale for compliance with the requirements of the Notice is unrealistically short, especially having regard to the length of time that the site has been in operation for the current use.

The Ground (a) appeal and the deemed application is progressed without prejudice to the appeals being progressed under any of the other grounds.

The Enforcement Notice

This letter sets out the appellant’s “Grounds of Appeal”, and it is submitted that the appeal proceeds on Grounds (a), (d), (f) and (g). In support of the appeal, we attach,

- 01 Completed appeal forms,
- 02 Enforcement Notice and Plan,
- 03 Deemed Application Fee,
- 04 HLA.394.R01 - LVIA September 2020,
- 05 Application Highway Documents WSCC/077/11/BK

The Enforcement Notice requires that the appellants,

- 5.1 Cease the use of the Land for the importation, processing and export of waste material,
- 5.2 Cease the use of the Land for the deposition of waste material,
- 5.3 Cease the use of the Land for the storage of waste and building materials.
- 5.4 Cease the use of the Land for the storage of plant, machinery, and containers.
- 5.5 Remove from the Land all plant, machinery, equipment, containers and vehicles.
- 5.6 Remove from the Land to an authorised place of disposal all imported and stored waste and building materials associated with the Unauthorised Development.
- 5.7 Disconnect from all services (water, electricity, foul sewerage) the portacabin marked in the approximate position marked “A” on the Plan.
- 5.8 Remove from the Land the portacabin sited in the approximate position marked “A” on the Plan.
- 5.9 Remove from the Land the containers sited in the approximate position marked “B” on the Plan.
- 5.10 Remove from the Land the hardstanding marked outlined in blue on the Plan.
- 5.11 Remove from the Land to an authorised place of disposal all debris material as a result of compliance with steps 5.10 above.
- 5.12 Reinstate and restore the Land to its former condition and topography in keeping with the surrounding agricultural land.

The Notice requires the above steps be complied with,

5.1, 5.2, and 5.3 **within 7 Days**,

5.4, 5.5, 5.7, 5.8, and 5.9 **within 14 Days**,

5.6, 5.10, and 5.11 **within 28 Days**,

And 5.12 **within 3 months** of the Notice taking effect.

The Notice was served by the Local Planning Authority on 28 February 2023, and it is considered that the baseline for any immunity claims is the date 28 February 2013 for any material change of use, and 28 February 2019 for operational development.

Grounds of Appeal

The appellant submits that the Ground (d) case ought to be considered first and foremost. Consideration needs to be given to the baseline of the development, which if Ground (d) were to fail in its entirety, would be as a greenfield agricultural site.

The ground (a) appeal is progressed without prejudice to the appeals progressed under any of the other grounds.

Ground (b) - That the breach of control alleged in the enforcement notice has not occurred as a matter of fact

The Ground (b) case concerns the reference within the alleged breach of planning control to the deposition of waste material upon the land. These activities, in simple terms, do not actually occur. There is no **permanent deposit** of waste on the land, and the operations that actually take place are the transfer and treatment of construction and demolition waste, which is considered to be adequately covered by 3.1.1.

The appellant will demonstrate that there is no permanent deposition of waste material that occurs on the Land, and that therefore, by virtue of the ambiguous wording and the technical meaning of “deposition of waste” suggesting that a permanent deposit has occurred, that this wording will need to be deleted from the Not in its entirety, if this can be done without causing prejudice to the parties.

Ground (d) - That, at the time the enforcement notice was issued, it was too late to take enforcement action against the matters stated in the notice

Section 171B of the Town and Country Planning Act 1990 (“the Act”) states that,

- (1) Where there has been a breach of planning control consisting in the carrying out without planning permission of building, engineering, mining or other operations in, on, over or under land, no enforcement action may be taken after the end of the period of four years beginning with the date on which the operations were substantially completed.**

- (2) Where there has been a breach of planning control consisting in the change of use of any building to use as a single dwellinghouse, no enforcement action may be taken after the end of the period of four years beginning with the date of the breach.**
- (2A) There is no restriction on when enforcement action may be taken in relation to a breach of planning control in respect of relevant demolition (within the meaning of section 196D).**
- (3) In the case of any other breach of planning control, no enforcement action may be taken after the end of the period of ten years beginning with the date of the breach.**
- (4) The preceding subsections do not prevent—**
 - (a) the service of a breach of condition notice in respect of any breach of planning control if an enforcement notice in respect of the breach is in effect; or**
 - (b) taking further enforcement action in respect of any breach of planning control if, during the period of four years ending with that action being taken, the local planning authority have taken or purported to take enforcement action in respect of that breach**

Section 191 of the Act states that:

- (1) If any person wishes to ascertain whether—**
 - (a) any existing use of buildings or other land is lawful;**
 - (b) any operations which have been carried out in, on, over or under land are lawful; or**
 - (c) any other matter constituting a failure to comply with any condition or limitation subject to which planning permission has been granted is lawful, they may make an application for the purpose to the local planning authority specifying the land and describing the use, operations or other matter.**
- (2) For the purposes of this Act uses and operations are lawful at any time if—**

- (a) no enforcement action may then be taken in respect of them (whether because they did not involve development or require planning permission or because the time for enforcement action has expired or for any other reason); and**
 - (b) they do not constitute a contravention of any of the requirements of any enforcement notice then in force.**
- (3) For the purposes of this Act any matter constituting a failure to comply with any condition or limitation subject to which planning permission has been granted is lawful at any time if—**
 - (a) the time for taking enforcement action in respect of the failure has then expired; and**
 - (b) it does not constitute a contravention of any of the requirements of any enforcement notice or breach of condition notice then in force.**

In *Ravensdale Ltd v SSCLG* [2016] EWHC 2374 (Admin) it was established that the burden of proof is squarely on an Applicant to demonstrate that a present use, or uses, of the land is, on the balance of probabilities, immune from enforcement action on the basis of the passage of time. It is not for the Decision Maker on the application, to seek out evidence or draw inferences from gaps in the evidence. The appellant will seek to provide this unambiguous evidence, such that on the balance of probabilities, the uses and operational works are found to be immune from enforcement action.

In *Secretary of State for the Environment v Thurrock Borough Council* [2002] EWCA Civ 226, [2002] JPL 1278 it was established that the breach of planning control must have been continuous, such that the planning authority could at any point have taken enforcement action. The appellant's position is that the use has been continuous for a substantial period of time, in excess of the requisite 10 year period.

In *Bansall v SSHCLG* [2021] EWHC 1604 (Admin) it was established that more than de minimis breaks in the use, such that the Council could not have taken enforcement action, breaks the chain of continuity and the 10-year period starts afresh. It is the appellants position that there has not been a material change of use in the land, nor a break in the use itself, and that the alleged breach has been continuous throughout the period.

In *Hertfordshire County Council v Secretary of State for Communities and Local Government and Metal Waste Recycling Limited* [2012] EWHC 277 (Admin)) the court established that that “**more of the same**” cannot in itself amount to a material change of use, even if it results in a major environmental impact, there has to be a change in the character of use itself, in other words a material change in the definable character of the land. The appellants request that the LPA provide a copy of the Enforcement Officer’s authorisation report such that it can be understood what the LPA base their action upon, and to discern whether they are alleging that there has been a material change of use by virtue of the intensification of the land.

In *Lilo Blum v Secretary of State and Anr* [1987] JPL 278, Simon Brown J stated, at page 280, that

“It was well recognised law that the issue whether or not there had been a material change in use fell to be considered by reference to the character of the use of the land. It was equally well recognised that intensification was capable of being of such a nature and degree as itself to affect the definable character of the land and its use and thus give rise to a material change of use. Mere intensification, if it fell short of changing the character of the use, would not constitute material change of use.”

As has already been stated, the appellants request that the LPA provide a copy of the Enforcement Officer’s authorisation report such that it can be understood what the LPA base their action upon, and to discern whether they are alleging that there has been a material change of use by virtue of the intensification of the land. The appellants position is that the character of land has not altered by virtue of any intensification.

The Court held in *FW Gabbittas V SSE and Newham LBC* [1985] JPL 630 that the Applicant’s own evidence does not need to be corroborated by “**independent**” evidence in order to be accepted. In this case, there will also be evidence from independent third parties not associated with the continued activities of the appellant, which corroborates the appellants evidence, and will be fully explored within the appellants statement of case.

The operations of the appellant at the appeal site have some storied history. This will be fully detailed within a Statement of Case, and supplemented by individual proofs of

evidence provided by witnesses. It is considered that there will be a need for the testing of this factual evidence under oath.

The appellant originally undertook work for South East Tipping at Bolney Park Farm, Brxomead Lane, West Sussex, RH17 5RJ from around 2004. In 2006 they assumed the tenancy contract for the Land and have held an established interest in the yard since then. Since 2006 the appeal site has been in use for the storage of containers, which often have smaller machinery stored within them, vehicles, and both soil screening and concrete crushing activities.

In 2007 the appellant began their formal renting of the yard, and paid advance rental fees to the landowner, indicating their intent to continue operating at the site for some time. At this time the appellant began using the yard for inert physical recycling works (Crushing, screening etc) and, whilst both their own records and Finning UK Ltd's were not well kept at the time, it will be confirmed that the repair and maintenance works to the plant which will be referred to within those invoices and servicing documents does indeed relate to the appeal site, and not to the appellants involvement with any works on the rest of the land at Bolney Park Farm, or its surrounds.

The appellants evidence will set out that the sites overall usage from 2008 to the present day has of course grown with that of PJ Brown and Associated companies, with varying levels of activity having taken place on the site, such as their involvement with the A23 works and crushing of road planings in 2013 and 2014 being one of their most prominent projects in the area, but the core premise of what the site has been used for has remained the same, namely the physical treatment/separation and storage of inert materials and aggregates, alongside open storage of containers and other paraphernalia, for the requisite period of time.

The appellants will rely upon a series of annotated aerial images detailing particulars of the various "items" therein, which will be supplemented by evidence under oath from a number of witnesses with regard to matters of fact.

The operations of the appellant have been continuous, in their current form, since at least 26 January 2010.

The appellant will seek to call a number of factual witnesses to give evidence under oath or to provided sworn affidavits, these persons are listed below,

- Dane Rawlins, Landowner of Bolney Park Farm,

- Peter Brown, Managing Director of PJ Brown (Civil Engineering) Ltd
- Dave Fleming, Director of PJ Brown (Civil Engineering) Ltd
- James Legate, Employee of PJ Brown (Civil Engineering) Ltd
- James Brown, Employee of PJ Brown (Civil Engineering) Ltd,
- Manuel Cardoso, Employee of PJ Brown (Civil Engineering) Ltd,
- Sergio Cardoso, Employee of PJ Brown (Civil Engineering) Ltd,
- Caroline Edgeley, Neighbour and Park Farm Resident/Owner,
- Claire Inglis, Neighbour and Broxmead Lane Resident,
- Graham Upton, Neighbour and Adjoining resident/property owner
- Greg Powell, User of wider Bolney Park Farm site for Stunt Co-ordination activities,

With regard to potential written submissions of evidence, the LPA and the Inspector are reminded that this evidence carries significant weight in the balance of probabilities, in view of the sanctions that could be imposed should these contain false or misleading evidence.

In summary, it is considered that the use of the land for **‘the importation, deposit, re-use and recycling of waste material and the use of the land for storage purposes’** is immune from enforcement action by virtue of the passage of time. That time being, 10 years for the material change of use of the land for the importation, deposit, re-use and recycling of waste material and the use of the land for storage purposes, and 4 years for the operational development of the hardstanding formation.

On the matter of the hardstanding referenced within the alleged breach, it is important to note that even if the case were to be presented that the hardstanding, as operational development, has facilitated the change of use also alleged within the breach, it has been in existence without the benefit of planning permission for a period of in excess of 10 years prior to the service of **this Notice** which is subject of this appeal, and is not a development that has previously been identified as continuing to be in breach of planning control. As operational development it is subject to the four year rule in section 171B(1) It has therefore become immune from action after 4 years prior to the service of the Notice, see *Ocado Retail Ltd, R (On the Application Of) v London Borough Of Islington [2021] EWHC 1509 (Admin)*. Indeed, the aerial imagery that will be relied upon will evidence the hardstanding having been present for an excess of 10 years.

It will therefore be requested that the Inspector quash the notice on legal grounds, such that the prepared Certificate of Lawfulness application can be submitted, and considered by the LPA, and that the matter of this site and its use can finally be brought to a close.

Ground (a) - That planning permission should be granted for what is alleged in the notice

The appellants deemed application for planning permission is put forward on a without prejudice basis, in the interests of trying to secure negotiations with the County and District Planning Authorities. At present, without the appeal site, the appellants operations cannot continue.

It is on this basis, in the event that the Ground (d) appeal fails, that a temporary permission for 4 years is sought.

The LPA cite the general location of the site, being rural and unrelated to the needs of agriculture as their 3rd reason for issuing the Notice (Reason 4.3). The appellants case is that they disagree with this position, and the position presented by the LPA as there being no overriding justification for the location of the development here, at the appeal site. This position is firmed up by the fact that there are no available alternative sites for the use undertaken, that there is shortage nationally and locally for such sites, which will be required for the future, and that these developments simply cannot be situated next door to residential uses or within urban areas for a variety of reasons, and require a rural location by their very nature. The recycling of inert construction & demolition waste material, and its re-use in new development, is a key component of achieving the Environmental Sustainability objective of the National Planning Policy Framework. The site is recognised and permitted by the Environment Agency, having been the subject of a permit since October 2020 Put simply, construction & demolition waste being sent to landfill is not sustainable, and significantly harmful to the environment. The Circular Economy Initiative presented by the UK government commits to keeping resources in use as long as possible, and extracting maximum value from them, minimizing waste and promoting resource efficiency. Chapter 4 of the 25 Year Environment Plan sets out how England will work towards achieving these goals. Sites such as the appeal site, where construction and demolition waste material is screened and recycled into other developments, are essential in achieving these objectives.

The second aspect of the appellants case is the economic need for this site, which is tempered by the lack of available alternative sites. The appellant will detail the lack of success that they have had in securing an alternative site, and welcome the LPA and CPA to sit down around a table and discuss the matter, as if an alternative site could be secured, then this appeal may not be necessary.

The LPA cite the location, scale and appearance of the development has being harmful to the visual amenity of the rural area, and the High Weald AONB. A Landscape Visual Impact Assessment was undertaken by the appellants in September 2020, and concluded that *“at national, regional, county and district scales it was judged that the Operation has had **Minor Significance (Adverse)** since 2006 and after planting would be established. At a local scale it is judged that the Operation has had **Minor to Moderate Significance (Adverse)** since 2005 and **Minor Significance (Adverse)** after planting would have established. The sensitively designed new landform and the new native planting proposals would incrementally enhance the existing local High Weald character, further obscure and screen the operations and enhance biodiversity.”* The cumulative impacts of the development were judged as being **not significant**. Therefore, the appellant does not agree with the 4th reason for issuing the Notice (Reason 4.4).

The LPA cite the access to the appeal site as being a severe impact upon the safety of the local highway network. Over the years, a number of reports have been prepared. These have demonstrated that the use of the access is safe, and whilst it is acknowledged that the access does not conform to the guidance contained within Design Manual for Roads and Bridges (DMRB), there have been no incidents directly related to the use of the access, or the operations of the appellant. In this regard, the highways issue should be tempered by the request for a Temporary Permission, to allow the appellant to explore other possibilities, including potential improvements to the access by provision of improved acceleration and deceleration lanes within the highway boundary. Within the permission granted under WSCC/077/11/BK, a report was submitted, and the conclusions of the report agreed by Highways England. This document is submitted alongside these grounds of appeal. The appellants base their dispute against the 5th reason for issuing the Notice (Reason 4.5) in that the continued use of the site, for a limited period of time, with certain restrictions on movement hours, would not result in a severe impact upon the safety of the local highway network. The

appellant will seek to produce evidence to substantiate this position, and welcomes discussion with the LPA as to whether this issue can become a matter not in dispute.

The LPA cite the operations carried out on the appeal site as representing a risk to land and water contamination. The appellants have a permit issued by the Environment Agency for these operations. Such a permit would not have been issued if there was a genuine risk. Therefore, the appellant does not agree with the 6th reason for issuing the Notice (Reason 4.6). The appellant will seek to produce evidence to substantiate this position, and welcomes discussion with the LPA as to whether this issue can become a matter not in dispute.

The LPA cite the nearby ancient woodland as being affected by the development and continued operations. The appellants disagree with the 7th reason for issuing the Notice (Reason 4.7) on account of the fact that the Ancient Woodland is suitably distanced from the operations. Whilst it is not disputed that the storage use may fall within 15m of the Ancient Woodland, the waste activities and plant operation are distanced approximately 35m from the boundary of the ancient woodland. The appellant will seek to produce evidence to substantiate this position, and welcomes discussion with the LPA as to whether this issue can become a matter not in dispute.

A Noise Impact Assessment was also undertaken by the appellants which demonstrated no harm to nearby residences. A copy of this can be provided on request.

In summary, the development has material considerations that outweigh the identified policy conflict, and is wholly justified to be within this rural location. It will therefore be requested that planning permission, on a temporary basis of 4 years be allowed, without prejudice to the Ground (d) appeal, in the event that the Ground (d) appeal fail.

Ground (f) - The steps required to comply with the requirements of the notice are excessive, and lesser steps would overcome the objections

The alleged breach of planning control is split into two parts. The first being the use of the land, a mixed use of storage and waste processing activities, and the second being the operational development of hardstanding.

Operational Development is subject to a time limit of 4 years for immunity. Section 171B(1) of the Town and Country Planning Act 1990 (as amended) gives a time limit

of 4 years for notices alleging operational development such as building, mining or engineering works beginning with the date on which the operations were substantially completed. The hardstanding has been in situ for an excess of 10 years prior to the service of the Notice.

It has been submitted under ground (d) that the use of the site for storage purposes has been continuous for a significant period of time, since the appellant took over interest in the Land. It is the Appellants case that the LPA have over-enforced and are seeking their complete cessation of use of the Land. There will be evidence which will demonstrate that there is an open storage use on the land which has become immune from enforcement due to the passage of time.

The use of the land for storage purposes has always taken place on the eastern border of the appeal site, with further storage taking place on its western boundary as and when necessary. And this storage use has taken place alongside the importation, deposit, processing, and export of waste on the site. There has been no material change of use of the land, and therefore as its own individual component of a composite mixed, it is immune from enforcement action. Therefore, requirements 5.4, 5.5, and 5.9 are considered excessive. Reference to storage of containers and machinery and equipment should be deleted.

Requirement 5.10 is considered excessive on account that the hardstanding has been in situ for in excess of 4 years, and is considered as individual operational development to be immune from enforcement action. It is in fact the case that this hardstanding has been present for in excess of 10 years. Whilst it is acknowledged that the CPA served and withdrew a previous Notice, the hardstanding area subject to the new Notice brought by the LPA, did not form a part of the previously alleged breach by the CPA, nor was its removal a requirement of the notice. Therefore, the 4 year rule applies, and the hardstanding is immune from action. This renders Requirement 5.10 excessive, and unnecessary.

Having regard to the above, requirement 5.12 is also considered to be excessive.

The excessive steps require the ceasing of a use of the land, and the removal of operational development, which should be immune from enforcement, and can also continue without the waste recycling operations, as the machinery, plant, and vehicles stored on the site are not solely done so for the purposes of processing waste material.

It is considered that these excessive steps can be resolved reasonably through a variation of the notice, such that the requirement set out at 5.3, 5.4, 5.9, 5.10, 5.11, and 5.12 are deleted from the notice. As such, the steps to comply with the notice can be varied.

With regard to the Waste Recycling operations, required to be ceased within 5.1, 5.2 and 5.6 these are considered to be worded reasonably and specifically, however due regard to the Ground (b) appeal needs to be had with respect to requirement 5.2. In the event that Ground (d) and (a) both fail, there is no objection to them being retained in the Notice.

Requirement 5.7 and 5.8 are considered excessive in their own right, simply because the siting of a portacabin on the hardstanding area, and the alleged connection to services, are not wholly conflicting with national and local planning policies, and if the Ground (d) appeal were to be successful in part, in that the storage use can continue, there is no reason for the LPA to enforce the portacabin and the alleged connection to services. These requirements could be deleted from the Notice in their entirety, as they would continue to serve their ancillary purposes to the use of the land for storage purposes. With reference to Requirement 5.7, it is excessive and unnecessary due to the fact that the Portacabin unit is not connected to any services.

Lastly, issue is taken with the Plan attached to the Notice. This plan includes within it, the access to the highway boundary. Whilst the notice does not require the closing of this access or the ceasing of its use, it has failed to make clear that the access is lawful and can continue to be used as such. Given the wording of the alleged breach, and the requirements, the use of the access should be removed from the Notice in its entirety by the substitution of the Plan attached to the Notice. The reason for this being that the access should not have been included within the Plan, with the Notice as it is, as it is, on the LPA's case, in an authorised mixed use of Agricultural and Residential, and benefits wholly from planning permission without any constraints or conditions which would restrict its use. The requirements of the Notice presented in such a vague manner, have the potential to "bite" operations that it should not, in particular the use of the access and the track into Bolney Park for the movement of agricultural vehicles. It is acknowledged that there is no requirement in the Notice to cease the use of the access, but clarity is needed to ensure that the agricultural and residential operations of Bolney Park Farm are not jeopardised, or sought to be enforced by the LPA, in the

event the Notice is upheld. In this regard, the Notice does not need to include the access track.

Having regard to the above, in the event that both appeals under Grounds (a) and (d) fail, it is requested that the notice be varied as set out above.

Ground (g) - The time given to comply with the notice is too short

The appellant is a small business who operate in the South East, with their main base of operations being located a short distance north of Crawley, in Charlwood. The appellant has actively been seeking to secure a continued base for their operations and have been looking at suitable new alternative sites from which they can operate. Thus far, all ventures to accommodate this have failed, including the repurposing of their main base of operations in Charlwood.

The County Planning Authority and their Waste Local Plan have not progressed, and the use of the appeal site is integral to the continued operations of the business, and the employment that it provides, both at the appeal site, and at their base of operations.

PJ Brown (Civil Engineering) Ltd is a medium sized business operation comprising about 120 employees in total, with approximately 40-50 HGV movements in each direction from the site. The appeal site has become a fundamental part of their day to day operations, and without the site, or a suitable alternative becoming immediately available, the business operations would falter, and dwindle to the point that the business itself would become unsustainable.

Therefore, there is the genuine risk of the employment opportunities and the economic benefits of the business from being forever lost. Whilst the Planning Merits are appropriate to be considered under Ground (a), there is nevertheless the need to consider the economic impacts which could result from the loss of the development, but also the general set back the loss of the development, and the business, that would result from dismissal of the appeal. Carbon Net Zero, and the environmental objective of sustainability seek to secure the sustainable re-use of materials in future development, and reflect the objectives of the Circular Economy. The appeal site takes building waste and repurposes it, with a large proportion of material that has been through the processes of the site having been used in nearby developments, and road infrastructure across the county region. Therefore, it is considered essential for the

operations to be able to continue in some form and degree, for a suitable period of time.

There exists a number of inherent difficulties for businesses such as the Appellants in securing a site for the importation, and processing of waste. Such sites need to be suitably well located with good access to the highway network such that large vehicles are able to access and exit the site without increasing the risk to highway safety. Furthermore, it is necessary for such a use to be located away from residential properties due to the likely impacts on noise and local air quality as a result of the activities that take place as a part of that use. Thus, it is inevitable that such uses will be located in the countryside, which in itself often means the subsequent refusal of planning permission due to many authorities requiring an overriding justification for a countryside location.

In addition to this, any such site would then need to be granted planning permission. We have been working with the appellant on another such site, that they had originally intended to use for their business operations. This site, which also fell within the jurisdiction of West Sussex County Council, went through a pre-app, was refused, and remains pending decision at appeal. It seeks a temporary permission for the works only and would not be a permanent alternative base. This alternative site has been in the planning system since April 2018, when it was submitted as a Pre-app, and pending a Planning Application decision from December 2019, which was received in July 2020, and pending appeal determination since February 2021. Suitable alternatives are hard to come by, but even more tangible than that is the duration of time which would be necessary to actually secure an alternative site, by promoting it through the planning application process. As such, a suitable period of time is essential.

It will be demonstrated from the appellant's previous attempts to obtain planning permission for an alternative site, that would have been suitable for the use proposed on a temporary basis, that without a base of operations from which to continue the appellant company would not be able to continue operating.

The Notice requires compliance with all aspects of the Notice within a total period of 3 months, with as short as 7 days for the cessation of the use of land for storage of waste and building materials, importation, processing and export of waste, and the deposition of waste material on the land. 7 Days is woefully short, and would in essence require

the day to day business operations to cease in their entirety at such short notice that employees would likely have to be laid off.

It will be evidenced that the period for compliance is unreasonably short, and expects an immediately available alternative location to be magicked up. Put simply, the appellant seeks to continue operating from the appeal site out of necessity. In this respect, given that evidence will demonstrate that any long term harm is nominal, it is requested that a period of 18 months be allowed to comply with requirements 5.1-.3, a further 3 months to comply with requirements 5.4-.11, and a further 3 months to comply with requirement 5.12. This would extend the total time for compliance to 24 months.

The appellant will however set out, that should an alternative site be considered through discussion with the LPA and CPA, that a shorter compliance period would be agreeable. The period of 24 months for compliance is sought in the interests of the business, and the recycling operations undertaken, being continued and not lost in their entirety, as would occur with the compliance time set out by the LPA.

Conclusion

In conclusion, it is requested that the LPA reconsider the Notice itself, and review the evidence submitted under Ground (d) before any further work is undertaken on the appeal by the appellant. The allegation of the Notice is required to be amended to be able to enforce against matters which are not immune from enforcement, and this will likely require the withdrawal of the Notice.

It will be submitted that two separate operational developments have been undertaken, and one of the earlier of these developments is immune from enforcement, and thus the notice should be quashed if it is not amended.

In the event that the Ground (a) appeal is considered, it will be submitted that planning permission ought to be granted for the development.

It will be requested that the Requirements of the notice be reviewed, having regard to both s173 (11) of the Act, and to the case progressed under Ground (d).

In the event the Notice is upheld, it will be requested that a period of 24 months be allowed for compliance with the Notice.

The appellant reserves the right to prepare further evidence in support of the appeals through the preparation and submission of a detailed statement of case.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Peter Brownjohn', written in a cursive style.

Peter Brownjohn
Senior Planner

Appendix 3.

Department for Transport (DfT) Circular 01/2022



[Home](#) > [Transport](#) > [Road infrastructure](#) > [Road improvement and investment](#) > [Major roads](#)
> [Strategic road network and the delivery of sustainable development](#)

[National Highways](#)

[Department
for Transport](#)

Guidance

Strategic road network and the delivery of sustainable development

Updated 23 December 2022

Contents

[National Highways and the strategic road network](#)

[The role of this document](#)

[Principles of sustainable development](#)

[New connections and capacity enhancements](#)

[Engagement with plan-making](#)

[Engagement with decision-taking](#)

[Special types of development](#)

[Roadside facilities](#)

[Annex A: Roadside facilities tables](#)



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National Highways and the strategic road network

1. National Highways (“the company”) has been appointed by the Secretary of State for Transport (“the Secretary of State”) as a strategic highways company under the provisions of the Infrastructure Act 2015. In accordance with the company’s licence issued by the Secretary of State, it is the highway authority, traffic authority and street authority for the strategic road network^[footnote 1] (SRN) in England. It is a condition of the licence that the company must comply with or have due regard to relevant government policy, which includes this document.

2. The government sets the company’s budget and takes decisions on key areas of investment such as major road schemes. It does this through the road investment strategy (RIS), which sets out an investment plan for a five-year period. This means that, at any one point, there will be investment commitments in place for the current RIS period, and for the following period towards the end of the five-year cycle.

3. The company will deliver on the commitments set out in each RIS and work with the government and key stakeholders to investigate future investment needs on the SRN. This is facilitated through the preparation of route strategies by the company, which must take account of relevant strategies and priorities concerning local road and other transport networks as set out in the licence.

4. The principal purpose of the SRN^[footnote 2] is to enable safe, reliable, predictable, efficient, often long distance, journeys of both people (whether as drivers or passengers) and goods in England between our:

- main centres of population
- major ports, airports and rail terminals
- geographically peripheral regions of England and
- chief cross-border routes to Scotland and Wales

5. In this regard, the SRN provides critical links between our cities and other urban areas, serves as a gateway to global markets and travel destinations, connects our communities with families and job opportunities, and binds and strengthens our union. It drives productivity and prosperity by unlocking growth, encouraging trade and attracting investment, and plays a vital role in levelling up the country.

6. The SRN also has an essential role in supporting the government’s commitments in Decarbonising Transport: A Better, Greener Britain (“the transport decarbonisation plan”). In particular, the company will prepare and plan for the delivery of future transport technology on the network, such as the installation of high-powered chargepoints for electric vehicles (EV). Further, it will support initiatives that reduce the need to travel by private car and enable the necessary behavioural change to make walking, wheeling, cycling and public transport the natural first choice for all who can take it.

7. These actions must be carried out alongside effective engagement in the planning system, to enable the delivery of sustainable development, support the needs of the freight and logistics sector, and mitigate the impact of growth on the natural environment. As such, the company will share evidence, data, knowledge and experience, and work collaboratively and constructively with public bodies and other key stakeholders.

The role of this document

8. This document is the policy of the Secretary of State in relation to the SRN which should be read in conjunction with the National Planning Policy Framework (NPPF), planning policy for traveller sites, national planning policy for waste, planning practice guidance, national design guide, National Model Design Code, Manual for Streets (MfS), local transport note (LTN) 1/20 and all other material considerations when strategic policy-making authorities^[footnote 3] are setting policies and making decisions on planning and development proposals under the Town and Country Planning Act 1990. The policies may also be considered important and relevant to decisions on nationally significant infrastructure projects (NSIPs) in the absence of a stated position in the relevant national policy statement. This document replaces the policies in the Department for Transport circular 02/2013 of the same title.

9. This circular also sets out the way in which the company will engage with the development industry, public bodies and communities to assist the delivery of sustainable development. As such, these policies should be read by development promoters and their consultants, strategic policy-making authorities, local highway authorities, sub-national transport bodies, local enterprise partnerships, community groups and others involved in development proposals which may result in any traffic or other impact on the SRN.

10. The circular is applicable to the whole of the SRN, comprising the trunk motorways (“motorways”) and all-purpose trunk roads (APTRs) in England, including those roads managed by the design, build, finance and operate companies. For the avoidance of doubt, the circular will not apply to the Major Road Network^[footnote 4], except in relation to its junctions with the SRN.

Principles of sustainable development

11. The company will act in a manner which conforms to the principles of sustainable development. In this context, the company's licence agreement defines sustainable development as encouraging economic growth while protecting the environment and improving safety and quality of life for current and future generations. Alongside this, the company has an important role to play in the drive towards zero emission transport through its commitment to net zero maintenance and construction emissions by 2040 and net zero road user emissions by 2050^[footnote 5], and its role as a statutory consultee in the planning system.

12. New development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable. In this regard, recent research on the location of development^[footnote 6] found that walking times between new homes and a range of key amenities regularly exceeded 30 minutes, reinforcing car dependency. Developments in the right places and served by the right sustainable infrastructure^[footnote 7] delivered alongside or ahead of occupancy must be a key consideration when planning for growth in all local authority areas.

13. As set out in the Transport Decarbonisation Plan, Gear Change, Bus Back Better and the second Cycling and Walking Investment Strategy, walking, wheeling, cycling and public transport must be the natural first choice for all who can take it. However, where developments are located, how they are designed and how well delivery and public transport services are integrated has a huge impact on people's mode of travel for short journeys. The company will therefore expect strategic policy-making authorities and community groups responsible for preparing local and neighbourhood plans to only promote development at locations that are or can be made sustainable^[footnote 8] and where opportunities to maximise walking, wheeling, cycling, public transport and shared travel have been identified^[footnote 9].

14. This approach seeks to make the most efficient use of capacity within the overall transport network, improve health and wellbeing, and support government policies, strategies and guidance that aim to reduce the negative environmental impacts of development, which includes:

- the NPPF
- transport decarbonisation plan
- Clean Growth Strategy
- Clean Air Strategy
- Net Zero Strategy
- national design guide
- National Model Design Code
- local authority toolkit
- inclusive mobility
- local transport note 1/20
- the second Cycling and Walking Investment Strategy

Local transport plan guidance and an update to Manual for Streets will also be published in due course.

15. The Transport Decarbonisation Plan and the Future of Freight Plan also recognise that local planning and highway authorities need help when planning for sustainable transport and developing innovative policies to reduce car dependency. This includes moving away from transport planning based on predicting future demand to provide capacity ('predict and provide') to planning that sets an outcome communities want to achieve and provides the transport solutions to deliver those outcomes (vision-led approaches including 'vision and validate,' 'decide and provide' or 'monitor and manage'). The company will support local authorities in achieving this aim through its engagement with their plan-making and decision-taking stages, while recognising the varying challenges that will be presented by certain sites based on their land use, scale and/or location.

16. In the context of achieving sustainable development, the creation of high-quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. The NPPF is clear that design quality should be considered throughout the evolution and assessment of development proposals. Plan-making and decision-taking should ensure that developments optimise the potential of sites to support local facilities and sustainable transport networks.

17. Successful development depends upon a movement network that makes connections to destinations, places and communities, both within the site and beyond its boundaries. The company will support development promoters and local authorities in applying the principles of Manual for Streets, the National Design Guide on Movement, inclusive mobility and local transport note 1/20 to ensure priority is given to pedestrian and cycle movements, and that well-considered parking, servicing and utilities infrastructure for all users is incorporated into development proposals.

New connections and capacity enhancements

18. New connections (for example, new junctions or direct accesses) on the SRN lead to more weaving and turning manoeuvres, which in turn create additional risk to safety and reduce the reliability and efficiency of journeys, resulting in a negative impact on overall national economic activity and performance.

19. On this basis the principle of creating new connections on the SRN should be identified at the plan-making stage in circumstances where an assessment of the potential impacts on the SRN can be considered alongside whether such new infrastructure is essential for the delivery of strategic growth. Moreover, the company will need to be satisfied that all reasonable options to deliver modal shift, promote walking, wheeling and cycling, public transport and shared travel to assist in reducing car dependency, and locate development in areas of high accessibility by sustainable transport modes (or areas that can be made more accessible) have been exhausted before considering options for new connections to the SRN. There may also be limited opportunity for new connections to be considered as part of public funding programmes to support new development, although necessary infrastructure in up-to-date plans and strategies should be favoured in such instances.

20. Where this has not occurred, there will be no new connections on those sections of the network designed for high-speed traffic^[footnote 10] other than for the provision of signed roadside facilities, emergency vehicle access, public transport interchanges and the company's construction and maintenance compounds, where these can be provided safely. The presumption against new connections includes temporary access points for construction vehicles.

21. The company will adopt a graduated and less restrictive approach to the formation of new connections on the remainder of the SRN, determining each case on its own merits. However, the preference will always be that new development should make use of existing junctions. In line with the standards contained in the Design Manual for Roads and Bridges (DMRB), new connections to slip or connector roads will not be permitted for safety and operational reasons.

22. Where a new direct access or priority junction serving a single development has been agreed, decision-making authorities should appropriately restrict any change in the permitted land use of the associated development unless otherwise agreed by the company. Additionally, further through access to other developments should be restricted by the decision-maker.

23. Capacity enhancements such as modifications to existing junctions or road widening to facilitate development should be determined on a case-by-case basis. The general principle should be accepted where proposals would include measures to improve community connectivity and public transport accessibility, and this will be weighed against any negative safety, traffic flow, environmental and deliverability considerations, impacts on the permeability and attractiveness of local walking, wheeling and cycling routes, and alternative options to manage down the traffic impact of planned development or improve the local road network as a first preference.

24. Where new connections and capacity enhancements to the SRN would be accepted, the relevant authorities and development promoters should fully consider this outlay with respect to the viability of development^[footnote 11].

25. The DMRB sets out the details of the Secretary of State's requirements for access, design and audit in the highway scheme design process to which development proposals must conform^[footnote 12]. In this regard, GG 104 (or its subsequent update) identifies the framework and approach for safety risk assessment to be applied when undertaking any activity that may have an impact on safety on the SRN. Moreover, a Walking, Cycling & Horse-Riding Assessment and Review in compliance with GG 142 must be completed during the options or concept stage of a development that proposes modifications to the SRN, which enables opportunities for new or improved facilities for pedestrians, cyclists and horse-riders to be identified. In turn, development promoters should prepare a preliminary design and Stage 1 Road Safety Audit (see GG 119) before planning permission is applied for, to demonstrate that road safety issues have been considered. Early engagement with the company is therefore encouraged to ensure that the above and further highway standards in the DMRB are appropriately addressed.

Engagement with plan-making

General principles

26. The NPPF prescribes that transport issues should be considered from the earliest stages of plan-making and in development proposals so that sustainable transport can be promoted. In relation to the preparation of local plans and spatial development strategies, the government expects that the relevant authorities will engage with the company from the outset of this process, to understand the interaction between land use designations and the impacts on road safety and future performance of the SRN. The involvement of the company will ensure that the strategic transport evidence base will provide a robust assessment of any positive and negative impacts on the SRN and inform a transport strategy and the Strategic Environmental Assessment (SEA) for the study area that aligns with the safe operation and long-term integrity of the SRN.

27. In exercising its function as a statutory consultee in the planning system, the Infrastructure Act 2015 sets out that the company must co-operate as far as reasonably practicable with other parties. Consequently, it is obliged to provide appropriate, timely and substantive responses in the plan-making process.

28. The policies and allocations that result from plan-making must not compromise the SRN's prime function to enable the long-distance movement of people and goods. When the company assists local authorities^[footnote 13] in the development of their plans and strategies, the local authority should ensure that the SRN is not being relied upon for the transport accessibility of site allocations except where this relates to roadside facilities or SRN-dependent sectors (such as logistics and manufacturing). The company will also work with local authorities to explore opportunities to promote walking, wheeling, cycling, public transport and shared travel in plan-making, in line with the expectations set out in the NPPF and the Transport Decarbonisation Plan.

29. New connections and capacity enhancements to the SRN which are necessary to deliver strategic growth should be identified as part of the plan-making process, as this provides the best opportunity to consider the cumulative impacts of development (including planned growth in adjoining authorities) and to identify appropriate mechanisms for the delivery of strategic highway infrastructure. However, there cannot be any presumption that such infrastructure will be funded through a future RIS. The company will therefore work with local authorities in their strategic policy-making functions in identifying realistic alternative funding mechanisms, to include other public funding programmes and developer contribution strategies to be secured by a policy in a local plan or spatial development strategy.

30. The NPPF is clear that planning policies should recognise the specific locational requirements of different economic sectors, including for storage and distribution operations at a variety of scales and in suitably accessible locations. To operate efficiently, the freight and logistics sector requires land for distribution and consolidation centres at multiple stages within supply chains including the need for welfare facilities for the drivers of commercial vehicles. For instance, some hubs serve regions and tend to be located out-of-town near the SRN, while others are 'last-mile' facilities that will support more sustainable freight alternatives in urban areas. The Future of Freight Plan sets out that a joined-up approach between the planning system, local authorities and industry can safeguard and prioritise the land needed for these uses, such that all parties should work together to identify the specific requirements in their area^[footnote 14].

Evidence base

31. The NPPF expects local plans and spatial development strategies to be underpinned by a clear and transparent evidence base which informs the authority's preferred approach to land use and strategic transport options, and the formulation of policies and allocations that will be subject to public consultation. The company will expect this process to explore all options to reduce a reliance on the SRN for local journeys including a reduction in the need to travel and integrating land use considerations with the need to maximise opportunities for walking, wheeling, cycling, public transport and shared travel.

32. The Transport Decarbonisation Plan indicates that carbon emissions from car and van use is the largest component of the United Kingdom's total transport emissions. While action is being taken to decarbonise transport such that all new cars and vans will be fully zero emission at the tailpipe from 2035, the proposed location of growth in current plan periods and whether new developments would be genuinely sustainable remain important factors in demonstrating that a local authority area is on a pathway to net zero by 2050 and therefore compliant with the requirements of the Climate Change Act 2008.

33. Alongside this, the local authority should identify the key issues within their study area regarding transport provision and accessibility, setting out how the plan or strategy can address these key issues in consultation with the company^[footnote 15]. It is the responsibility of the local authority undertaking its strategic policy-making function to present a robust transport evidence base in support of its plan or strategy. The company can review measures that would help to avoid or significantly reduce the need for additional infrastructure on the SRN where development can be delivered through identified improvements to the local transport network, to include infrastructure that promotes walking, wheeling, cycling, public transport and shared travel. A robust evidence base will be required, including demand forecasting models, which inform analysis of alternatives by accounting for the effects of possible mitigation scenarios that shift demand into less carbon-intensive forms of travel.

Infrastructure delivery

34. The company's engagement with plan-making will help inform the preparation of the local authority infrastructure delivery evidence base. From a transport perspective, this evidence should provide a means of demonstrating to the examining inspector, development industry and local communities that planned growth is deliverable, and that the funding, partners and relevant processes are in place to enable the delivery of infrastructure; or that there is a realistic prospect that longer term investment can be secured within the timescales envisaged.

Integration strategies

35. Local plans and spatial development strategies should seek to better integrate the SRN with the wider road network and other transport modes to enhance connectivity, maximise opportunities to facilitate economic growth and support transport decarbonisation across the country.

36. In line with the aims of promoting sustainable development and the commitment in the Transport Decarbonisation Plan to deliver a world class cycling and walking network in England by 2040, planned improvements to the SRN must include the consideration or development of safe and integrated networks for pedestrians, wheelers, cyclists and horse-riders.

Other plan-making and site allocations

37. The company is a statutory consultee to the 'permission in principle' process and for local development orders, neighbourhood plans and associated neighbourhood development orders; all of which have the potential to impact on the SRN. Where applicable, the company will collaborate with the relevant authorities and community groups in the development of their proposals.

38. The company will also engage with authorities and bodies involved in producing strategic transport plans, local transport plans, strategic economic plans and local industrial strategies, and other such plans and strategies that seek to promote economic growth and reduce carbon emissions.

Engagement with decision-taking

Statutory requirements

39. The Town and Country Planning (Development Management Procedure) (England) Order 2015 ("the DMPO") sets out the requirements for consultation with the company in respect of applications submitted under the Town and Country Planning Act 1990 and the provisions for the company to respond to such consultations.

40. When consulted on an application for planning permission, the company will issue a formal response to the relevant local planning authority within statutory timeframes. Where appropriate, planning conditions will be recommended to mitigate any unacceptable impacts on the SRN that are identified through the assessment process.

41. The DMPO also confers the power for the Secretary of State to make a direction to restrict the grant of planning permission as may be specified. In this regard, The Town and Country Planning (Development Affecting Trunk Roads) Direction 2018 sets out that where the company makes a recommendation as to the determination of an application for planning permission, and the local planning authority does not propose to determine the application in accordance with that recommendation, the local planning authority must first consult the Secretary of State in accordance with the terms of article 4 in the direction. The local planning authority must then not determine the application otherwise than in accordance with the terms of article 5 in the direction.

General principles

42. Local planning authorities and development promoters are encouraged to identify any potential impacts on the SRN that may result from development proposals and discuss them with the company at the earliest opportunity. In the first instance, new developments should give priority to walking, wheeling and cycle movements and facilitate access to high-quality public transport where possible. The needs of people with disabilities and reduced mobility should be appropriately addressed in relation to all modes of transport. This can be achieved through good design and proper consideration of the needs of our communities in accordance with local design codes^{[\[footnote 16\]](#)} and Manual for Streets.

43. The company expects development promoters to enable a reduction in the need to travel by private car and prioritise sustainable transport opportunities ahead of capacity enhancements and new connections on the SRN. For residential-led developments, due consideration should be given to home and street layouts, broadband infrastructure, safe and secure cycle parking, and access to local amenities and open space in support of these aims, while mobility or micromobility hubs should be provided in larger schemes. In addition, high-powered and

open-access EV chargepoints should be installed where developments include on-street or communal parking^[footnote 17] to support the government's objective to end the sale of new conventional petrol and diesel cars/vans by 2030 and HGVs by 2040, and its commitment to decarbonise transport by 2050.

44. Travel plans are an effective means of incentivising the use of sustainable modes of transport. Where these are required, development promoters must put forward clear targets and commitments to manage down the traffic impact of development and maximise the accessibility of and within sites by walking, wheeling, cycling, public transport and shared travel. Targets for achieving a modal shift to sustainable transport will need to be subject to sustained monitoring and management by an appointed travel plan coordinator. Advice on preparing and monitoring travel plans is contained in the planning practice guidance.

45. Where development proposals are fully in accordance with an up-to-date development plan, considerations at planning application stage in respect of impacts on the SRN will normally be limited to agreeing the final form and phasing of any supporting infrastructure (where required), measures to reduce the need to travel by private car and any relevant environmental impacts. The company will also respond to 'technical details consent' applications in the same way it treats planning applications that are consistent with an up-to-date development plan.

46. With specific regard to HGV parking, government policy is clear in the Future of Freight Plan, 'Planning reforms for lorry parking' Written Ministerial Statement (8 November 2021) and the NPPF that development proposals for new or expanded goods distribution centres should make sufficient provision for HGV drivers, which should include overnight parking and an adequate level of welfare facilities. The need to increase provision for HGV drivers at roadside facilities is set out in paragraphs 79-82 of this circular.

Assessment of development proposals

47. Where the company is requested to do so, it will engage with local planning authorities and development promoters at the pre-application stage on the scope of transport assessments/statements and travel plans. This process should determine the inputs and methodology relevant to establishing the potential impacts on the SRN and net zero principles that will inform the design and use of the scheme. Development promoters are strongly encouraged to engage with the company to resolve any potential issues and maximise opportunities for walking, wheeling, cycling, public transport and shared travel, as early as possible^[footnote 18].

48. Where a transport assessment is required, this should start with a vision of what the development is seeking to achieve and then test a set of scenarios to determine the optimum design and transport infrastructure to realise this vision. Where such development has not been identified in an up-to-date development plan (or an emerging plan that is at an advanced stage^[footnote 19]), developers should demonstrate that the development would be located in an area of high accessibility by sustainable transport modes^[footnote 20] and would not create a significant constraint to the delivery of any planned improvements to the transport network or allocated sites.

49. A transport assessment for consideration by the company must also consider existing and forecast levels of traffic on the SRN, alongside any additional trips from committed developments^[footnote 21] that would impact on the same sections (link or junction) as the proposed development. Assumptions underpinning projected levels of traffic should be clearly stated to avoid the default factoring up of baseline traffic. The scenario(s) to be assessed, which depending on the development and local circumstances may include sensitivity testing, should be agreed with the company; where a scenario with particularly high or low growth is proposed, this should be supported by appropriate evidence. Planned improvements to the SRN or local road network should also be considered in any assessment where there is a high degree of certainty that this will be delivered^[footnote 22].

50. An opening year assessment to include trips generated by the proposed development, forecasted growth and committed development shall be carried out to establish the residual transport impacts of a proposed development. For multi-phase developments, additional assessments shall be provided based on the opening of each phase.

51. Where a transport assessment indicates that a development would have an unacceptable safety impact or the residual cumulative impacts on the SRN would be severe, the developer must identify when, in relation to the occupation of the development, transport improvements become necessary.

52. The scope and phasing of necessary transport improvements will normally be defined by the company in planning conditions that seek to manage development in line with the completion of these works. In such circumstances, modifications to the SRN must have regard to the need to future-proof the network, while its delivery may require a funding agreement between the development promoter and the company.

53. As a result of investigations undertaken by the company, development promoter and/or local highway authority, it may become apparent that a different form of intervention would better address cumulative development impacts than the option(s) already identified through the plan-making process. In this situation, the company will work with the local planning authority and development promoter(s) to explore a cost sharing mechanism or the phased delivery of a more comprehensive scheme.

54. Due consideration must be given to the geotechnical integrity of land within the SRN where development would increase the load of, or otherwise alter, an embankment. In such cases, supporting plans and reports must identify the extent of the proposed works and how any risk would be managed in accordance with the DMRB.

Environmental assessments

55. The company will engage in the relevant screening or scoping process where a potential impact on the SRN is identified. Environmental assessments must be comprehensive enough to establish the likely impacts on air quality, light pollution and noise arising from traffic generated by a development, along with the impacts from any proposed works to the SRN and identify measures to mitigate these impacts. Requirements and advice for undertaking environmental assessments in respect of transport impacts can be found in the DMRB.

56. This position will be updated when details of the new approach to environmental assessment are developed.

Physical infrastructure

57. For reasons of safety, liability and maintenance, any physical infrastructure that is necessary to mitigate the environmental effects of or on development must be located outside of the highway boundary of the SRN. In general terms, structures should be sited sufficiently far from the highway boundary of the SRN so that they cannot topple on to the SRN or undermine its geotechnical integrity^[footnote 23]. Alternatively, an appropriate structural assessment that accords with the DMRB must be provided. A Road Restraints Risk Assessment must also be carried out where any furniture, structures or other features would be sited adjacent to the SRN.

58. An exemption to the requirement to site structures outwith highway land can be made for those owned and provided by the company, and otherwise only in exceptional circumstances where there is no practicable alternative and safety is not compromised.

59. To ensure the integrity of the highway drainage systems, no new connections into those systems from third party development and proposed drainage schemes will be accepted. Where there is already an existing informal or formal^[footnote 24] connection into the highway drainage system from a proposed development site, the right for a connection may be allowed to continue provided that the flow, rate and quality of the discharge into the highway drainage system remains unaltered or results in a betterment. The company may require a drainage management and maintenance agreement to be entered into to secure this requirement in perpetuity.

Special types of development

Advertisements

60. Advertisements within the highway boundary of the SRN are not permitted and the company will remove any unauthorised advertisements placed within its land. An exception will be made for any functional or other advertisement by the company that is deemed necessary for information purposes, or for roundabout sponsorship, where this can be sited safely.

61. The company will not object to proposals for advertising consent for displays outside of the highway boundary of the SRN unless it has specific reason to consider that a road safety hazard resulting from driver distraction would be a direct consequence of the advertisement. The company will particularly consider whether distraction is heightened owing to factors such as size, luminance and the accumulation of advertisements. These factors could present a safety concern for advertisements that are located where particular attention should be given to the driving task, or where the advertisement incorporates elements of traffic sign design, such as directional arrows.

Gateway structures and public art

62. In general terms, the siting of gateway structures and public art within the highway boundary of the SRN will not be permitted for safety and operational reasons, although some exceptions can be made where it can be demonstrated that there would be no additional risk to road users (for example, small features on large

roundabouts). Similarly, the siting of such features near to the SRN will only be acceptable where no additional risk to road users is presented. The promoters of such proposals should discuss the design and delivery of their proposals with the company at the earliest opportunity.

Electronic communications apparatus

63. Infrastructure for the provision of electronic communications networks must not cause a safety or environmental hazard to any road users, workers or third parties, and must not interfere in the company's ability to carry out routine or structural maintenance. Neither should any harm be caused to the long-term integrity of the highway including pavement, earthworks, structures, drainage works and ancillary equipment, while visibility to traffic signs and around connections must not be obscured. In addition, all operations must be carried out without an unacceptable interference to traffic flow on the SRN.

64. To these ends and where planning permission or a street works licence would be required to install such apparatus within the highway boundary of the SRN, network providers must obtain technical approval from the company and prepare a road safety audit. Details of the submission requirements can be found in the DMRB.

On-shore wind turbines

65. Wind turbines should not be located where motorists need to pay particular attention to the driving task, such as the immediate vicinity of connections, sharp bends, and crossings for pedestrians, cyclists and horse-riders.

66. To mitigate the risks to the safety of road users arising from structural or mechanical failure, wind turbines should be sited a minimum of height^{[footnote 25](#)} + 50 metres or height x 1.5 (whichever is the lesser) from the highway boundary of the SRN.

67. The company recognises that, in certain circumstances, a variation to the above distances may be appropriate subject to the findings of a site-specific assessment. This may apply where there is a significant difference in elevation between the highway and proposed turbine location. The promoter will be required to demonstrate that any relaxation of the standard requirements in paragraph 66 would not pose an unacceptable risk.

68. The promoter of a wind turbine development must identify any impacts on the operation of the SRN from the construction, operation and de-commissioning stages and identify measures to mitigate these impacts. Swept path analyses must be provided for any abnormal load deliveries to the site via the SRN.

69. Access to the site for construction, maintenance and de-commissioning should be obtained from the local road network. A direct connection to the SRN will only be permitted in exceptional circumstances.

Developments with solar reflection

70. Some developments, notably solar farms, wind turbines and those with expansive glass facades, have the potential to create glint and glare which can be a distraction for drivers. Where these developments would be visible from the SRN, promoters must provide an appropriate assessment of the intensity of solar reflection likely to be produced, which satisfies the company that safety on the SRN is not compromised.

Roadside facilities

General principles

71. The primary function of roadside facilities is to support the safety and welfare of road users. Roadside facilities should be sympathetic to the character of the site and its surrounding area, and create a safe, inclusive and accessible environment. In most cases it is for the private sector to promote roadside facilities, although there may be a role for the company and local highway authorities to provide these where a need arises.

72. This section sets the government's policy on the provision of roadside facilities on or near to the SRN and their eligibility for signing, to enable installation of service signs prescribed in The Traffic Signs Regulation and General

Directions 2016 (“the TSRGD”) or its replacement.

73. All roadside facilities that are accessed directly from a motorway or motorway junction must be signed for safety reasons. As such, new or improved facilities must meet the requirements for signing as set out in table 1 of Annex A. The operation of all signed roadside facilities will be the subject of a legal agreement between the company and operator of these facilities.

Spacing of general-purpose facilities

74. Roadside facilities perform an important safety function by providing opportunities for the travelling public to stop and take a break during their journey. Government advice is that motorists should stop and take a break of at least 15 minutes every 2 hours.

75. The network of signed roadside facilities on the SRN is intended to provide opportunities to stop at intervals of approximately half an hour. However, the timing is not prescriptive as travel between services may take longer on congested parts of the SRN.

76. On this basis, the maximum distance between signed motorway service areas should be 28 miles. Speed limits on the SRN vary and therefore, applying the same principles, the maximum distance between signed services on APTRs should be the equivalent of 30 minutes driving time.

77. The distance between services can be shorter, but to protect the safety and operation of the SRN, the access/egress arrangements of facilities must comply with the design requirements in the DMRB, which includes provisions in respect of junction separation. The installation of the latest technology to enable a reduction of carbon emissions should also be a consideration for reduced spacing between services.

78. In determining applications for new or improved sites, local planning authorities should not need to consider the merits of spacing between different facilities, for safety reasons, as informed by the maximum recommended distances set out above.

Spacing of freight facilities

79. Drivers of many heavy goods and public service vehicles are subject to a regime of statutory breaks and other working time restrictions, such that roadside facilities are critical enablers of compliance with such requirements.

80. It is recognised that on certain parts of the SRN and at certain times a shortage of parking facilities for HGVs can make it difficult for drivers to find safe space to stop and adhere to requirements for mandatory breaks and rests. To alleviate the shortage, the expansion of existing facilities on the SRN is likely to be needed alongside the creation of new parking sites. As a result, existing truckstops (including closed facilities) on or near to the SRN must be retained for their continued and future use unless it can be clearly demonstrated that a need no longer exists.

81. In areas where there is an identified need^[footnote 26], the company will work with relevant local planning authorities to ensure that local plan allocations and planning application decisions address the shortage of HGV parking on or near to the SRN. In these circumstances, local planning authorities should have regard to the following spacing requirements:

(i). the maximum distance between motorway facilities providing HGV parking (being service areas, rest areas or truckstops) should be no more than 14 miles; and

(ii). the maximum distance between APTR facilities providing HGV parking (being service areas or truckstops) should be the equivalent of 20 minutes driving time for HGVs.

82. Where the general spacing distances above are met but a need for HGV parking still arises, the company will support the case to address unmet demand, subject to an assessment of the safety of the proposed access or egress arrangements.

Trip generation

83. Roadside facilities should be well-designed to serve passing traffic and not be destinations in their own right. Consequently, the transport assessment to accompany a planning application for a new or improved facility must show that there would only be a minimal overall increase in trip mileage to be acceptable in this regard. An

exception will be made for any predicted increase in HGV mileage, as the provision of facilities that would meet the needs of commercial drivers should be encouraged.

Location

84. On-line (between junctions) service areas are more accessible to users of the SRN and as a result more conducive to encouraging drivers to stop and take a break. They also help to avoid an increase in traffic demand at junctions with all-purpose roads.

85. Therefore, in circumstances where competing sites are under consideration and on the assumption that all other factors are equal, new facilities must be provided at on-line locations.

86. However, where an on-line service area cannot be delivered due to planning, safety, operational or environmental constraints, the development of a site that shares a common boundary with the highway at a junction with the SRN, and which provides the mandatory requirements to be eligible for signing as set out in table 1 of Annex A, is to be preferred to the continued absence of facilities.

87. The company will not support proposals for roadside facilities adjacent to a junction with a motorway that would not meet the minimum requirements for signing as shown in Table 1, as these can prevent or reduce the provision of more appropriate facilities.

88. An exception to these location requirements is permitted for truckstops^{[footnote 27](#)} that would be within 2 miles of a junction on the SRN, where these would meet the minimum requirements for signing and would not direct traffic through an established residential area.

Eligibility for signing

89. The minimum requirements for roadside facilities to be eligible for signing from the SRN are set out in table 1. For the purpose of managing traffic anywhere in the United Kingdom, the requirements set out in table 1 may be temporarily waived by the company at any roadside facility.

90. The signing of roadside facilities and signing arrangements within sites must comply with the TSRGD or its replacement, while further guidance on the authorisation, funding, installation and maintenance of signs is available from the company. Only in exceptional circumstances will non-prescribed signs be appropriate, and these must be authorised by the Department for Transport.

Access to the strategic road network

91. The suitability of connections to roadside facilities from the local road network will be considered on a case-by-case basis by the relevant local planning authority as part of the planning process. However, there must be no route through a roadside facility or its access link between the local road network and the SRN. In addition, any subsidiary accesses must be restricted to staff, deliveries, parties carrying out duties for and on behalf of the Secretary of State, the company, the emergency services, and breakdown recovery and assistance.

92. Access to other developments through a roadside facility or from its connection to the SRN is not permitted. Furthermore, where a new connection is agreed for a proposed roadside facility, the company will expect any subsequent change in the permitted land use to be in accordance with paragraph 22 of this circular.

Retail activities and picnic areas

93. The scope and scale of retail activities at roadside facilities is a matter for consideration by the relevant local planning authority in line with planning policy and any other material considerations. However, local planning authorities should have regard to the primary function of roadside facilities which is to support the safety and welfare of the road user.

94. Picnic areas will be permitted at all types of roadside facility.

Hotels, conference centres and business centres

95. Such development will be a matter for consideration by the relevant local planning authority in line with planning policy and any other material considerations.

96. As a statutory consultee to such proposals, the company will not object to the provision of hotels, conference centres and business centres at the sites of roadside facilities where the impacts on safety and network capacity would be acceptable. However, separate parking must be provided to service such developments to avoid any reduction in the general parking provision available to other road users.

Coach interchanges, park & ride and park & share

97. Such development will be a matter for consideration by the relevant local planning authority in line with planning policy and any other material considerations.

98. As a statutory consultee to such proposals, the company will take account of the local transport benefits, particularly any reduction in trip mileage, and will not object where the impacts on safety and network capacity would be acceptable.

Driver and tourist information

99. Operators of roadside facilities are encouraged to provide live traffic information and make local, regional and national tourist information available.

Parking charges

100. Where a charge is to be levied for parking beyond the mandatory 2 free hours for signed roadside facilities as set out in table 1, the charging regime must be clearly displayed within parking areas and the amenity building(s). Drivers must at all times be afforded the opportunity to pay the charge at the site before leaving, and without the necessity to use a mobile phone. Cash payments must be accepted.

Mandatory parking provision

101. Where a site is subject to a pre-existing sealed agreement which specifies the levels of parking provision, this must continue to apply until such time as the scale and/or scope of on-site activities is extended or reduced.

102. Where the scale and/or scope of on-site activities is altered, the methodology set out in paragraphs 104-108 of this circular must be used for calculating the number of parking spaces by vehicle type. This methodology will also be used for calculating the level of parking provision for all new sites under consideration. For the avoidance of doubt, the provision of spaces for EV charging will contribute to the overall parking numbers on site.

103. Notwithstanding the provisions of the previous 2 paragraphs, parking levels may be adjusted to reflect local conditions and/or site constraints on a case-by-case basis where the company is satisfied that any departure from the requirements is appropriate in such circumstances. In this regard, due consideration will be given to any site constraints where proposals are made for an increased number of spaces for EVs.

Parking requirements

104. The parking requirements for a motorway service area (MSA) are set out in table 2 of Annex A. In calculating this, the most recent complete year data should be used to identify the peak monthly traffic flow, which should then be averaged to find the daily flow for the number of cars and light goods vehicles (A) and number of HGVs and coaches (B). The company can advise on obtaining and interpreting traffic flows.

105. The parking requirements for a motorway rest area are half of those required for a MSA as set out in table 2 of Annex A, rounded up to a whole number, as necessary.

106. The parking requirements for an APTR service area are set out in table 3 of Annex A.

107. The parking requirements for motorway truckstops are the same as the HGV requirement for a MSA as set out in Table 2. For safety reasons, a minimum of 10 car parking spaces, 1 space for a car with caravan, 1 space for a coach and 1 abnormal load space must also be provided.

108. The parking requirements for non-motorway truckstops (APTR truckstops and those to be signed from the SRN) will be determined on a case-by-case basis.

Provision for zero emission and hybrid vehicles

109. The Rapid Charging Fund was announced in the March 2020 Budget as part of the government's commitment to roll out EV charging infrastructure. By 2035, government expects around 6,000 high-powered, open-access chargepoints (150-350 kW capable) to be installed across the SRN^[footnote 28]. The purpose of this programme is to ensure that there is a high-powered and open-access charging network ready to meet consumer demand for EVs ahead of need, and to enable the phase out of new conventional petrol and diesel cars/vans by 2030 and HGVs by 2040.

110. In line with this, operators of motorway and APTR service areas must support the uptake of zero emission and hybrid vehicles through the installation of EV chargepoints at their sites. All chargepoints should be user-friendly and accessible. In this regard, operators are expected to adhere to user-centred design principles: providing easy-to-read prices in p/kWh that do not fluctuate once charging sessions have started; ensure that chargepoints are working all year round; and provide free 24/7 helplines for users. Due consideration should be given for some chargepoints being located where they can be safely accessed by a recovery vehicle and car towing a caravan.

111. The Office for Zero Emission Vehicles (OZEV) has worked with Motability and the British Standards Institution to develop a Publicly Available Specification for accessible charging (PAS 1899), the United Kingdom's first accessibility standard for the design and installation of public chargepoints. PAS 1899 was published in October 2022^[footnote 29] and should be considered by any party involved in providing public chargepoints.

112. In addition, plans submitted with applications for roadside facilities must show how they can support the conversion of spaces initially allocated for petrol or diesel vehicles (including HGVs, vans and coaches) to spaces with an EV chargepoint in the future without detriment to the overall parking numbers on site.

Annex A: Roadside facilities tables

Table 1: Minimum requirements for roadside facilities to be eligible for signing from the SRN

Minimum requirements to be eligible for signing M = Mandatory P = Permitted	Motorway service area	Motorway rest area	APTR Service Area*	Motorway truck-stops	APTR truck-stops	Truck-stops signed from the SRN**
Available 24 hours a day throughout the year.	M	M	-	M	-	-
Available at least between 8am and 8pm on every day except Christmas Day, Boxing Day and New Year's Day	-	-	M	-	M	M
Free parking for a minimum of 2 hours for all vehicles permitted to use the facility	M	M	M	M	M	M
Segregated parking for refrigerated vehicles with access	P	P	P	P	P	P

Minimum requirements to be eligible for signing M = Mandatory P = Permitted	Motorway service area	Motorway rest area	APTR Service Area*	Motorway truck-stops	APTR truck-stops	Truck-stops signed from the SRN**
to appropriate mains electrical supply and noise abatement						
Provision of security monitoring equipment including appropriate lighting and CCTV systems	M	P	M	M	M	M
Free-to-use toilets with hand washing facilities, and at least 1 changing places toilet and 1 for people with disabilities, and no need to make a purchase during opening hours	M	M	M	M	M	M
Shower and washing facilities for HGV drivers (separate provision for men and women), including secure lockers in the shower/washing area	M	P	P	M	M	M
Provision of fuel for petrol and diesel vehicles and EV chargepoints	M	P	M	M	P	P
Hot drinks and cooked hot food available for purchase during all opening hours for consumption on the premises	M	P	P	M	P	P
Hot drinks and hot food available at least between 8am to 8pm for consumption on the premises	-	P	M	-	M	M
Access to a free-of-charge telephone for emergency use, Wi-Fi and power points available for device charging	M	M	M	M	M	M
Use as an operating centre for the purposes of the Goods Vehicles (Licensing of Operators) Act 1995 or the Public Passenger Vehicles Act 1981	Prohibited	Prohibited	Prohibited	Prohibited	P	P

Table 2: Parking requirements at motorway service areas

	Calculation***	Variable	Notes
Traffic flow (Vehicles per day) [footnote 30]			
Cars and light goods vehicles		A	
HGVs and coaches		B	
No. of parking spaces required [footnote 31]			

	Calculation***	Variable	Notes
Cars	0.5% of A	C	
HGV	0.5% of B, or 1% of B in areas where there is an identified need	D	
Abnormal load	Minimum of 1		
Coach	0.1% of B	E	
Coach interchange [footnote 32]	No. of spaces subject to agreement	E1	
Caravan/motorhome/vehicle and trailer	0.015% of A	F	
Motorcycle	0.015% of A (where the number falls below 10, a minimum of 10 spaces shall be provided)	G	Dedicated motorcycle spaces for securing bikes
Additional car parking spaces for lodges	One space per 2 bedrooms	-	
Car parking for disabled users	5% of C (where the number falls below 5, a minimum of 5 spaces shall be provided) Minimum of 2 spaces for lodges	-	Located adjacent to the front entrance of the amenity building/lodges
Caravan/motorhome/vehicle and trailer parking for disabled users	5% of F (where the number falls below 2, a minimum of 2 spaces shall be provided)	-	

Table 3: Parking requirements at all-purpose trunk road service areas

	Calculation***	Notes
No. of parking spaces required [footnote 33]		
Cars	0.1% of A (see Table 2)	Minimum of 10
HGV	Minimum of 2	
Abnormal load	Minimum of 1	
Coach	Minimum of 1	
Coach interchange [footnote 34]	No. of spaces subject to agreement	
Caravan/motorhome/vehicle and trailer	Minimum of 2	
Motorcycle	0.015% of A (where the number falls below 10, a minimum of 10 spaces shall be provided)	Dedicated motorcycle spaces for securing bikes
Additional car parking spaces for lodges	One space per 2 bedrooms	
Car parking for disabled users	Minimum of 3 spaces and an additional minimum of 2 spaces for lodges	Located adjacent to the front entrance of the amenity building/lodges
Caravan/motorhome/vehicle and trailer parking for disabled users	Minimum of 1	Located adjacent to the front entrance of the amenity building/lodges

*Limited to a single or exceptionally 2 interconnected premises, accessed directly from the trunk road or a junction on the trunk road.

**[See paragraph on exception to these location requirements.](#)

***The company can assist with these calculations.

-
1. The strategic road network comprises the trunk motorways and all-purpose trunk roads in England as shown: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/677493/s170085_Network_Management_Map.pdf (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/677493/s170085_Network_Management_Map.pdf)
 2. As set out in the Road Investment Strategy 2: 2020-2025 report.
 3. Local planning authorities, and elected mayors or combined authorities where planning powers have been conferred.
 4. The Major Road Network forms the middle tier of the busiest and most economically important local authority 'A' roads.
 5. Net zero highways: our 2030 / 2040 / 2050 plan.
 6. RTPI Research paper: The Location of Development (December 2021).
 7. This will include (but is not limited to) fibre-optic broadband and co-working/home office spaces as well as sustainable transport infrastructure.
 8. The NPPF sets out the national policy position in respect of sustainable development considerations for rural housing.
 9. Active Travel England will also champion the delivery of sustainable transport options within the planning system.
 10. High-speed traffic routes are motorways, and all-purpose dual carriageways with partially or comprehensively limited access.
 11. This will include construction costs, relevant fees and a commuted lump sum regarding future maintenance.
 12. Design agents appointed by development promoters will be expected to demonstrate conformity with the quality management systems that the DMRB requires for designers working for the company; failing which designs may be subject to additional checks and approvals.
 13. Local authority refers to the public authority whose duty it is to carry out specific planning or highway functions for a particular area. All references to local authority include the district council, London borough council, county council, combined authorities, mayoral authorities, sub-national transport bodies, local enterprise partnerships, Broads Authority, National Park Authority, the Mayor of London and a development corporation, to the extent appropriate to their responsibilities.
 14. This may include opportunities for a rail network connection in addition to having a close proximity to the SRN and customers.
 15. Strategic policy-making authorities must also refer to the planning practice guidance when producing their transport evidence.
 16. Or the principles of the National Design Guide and National Model Design Code where these have not been prepared.
 17. Inclusive mobility establishes spacing requirements and other relevant considerations in providing for an inclusive environment.
 18. Details of the company's pre-application advice service can be found at: <https://nationalhighways.co.uk/our-roads/planning-and-the-strategic-road-network-in-england/> (<https://nationalhighways.co.uk/our-roads/planning-and-the-strategic-road-network-in-england/>)
 19. The NPPF establishes the weight to be given to policies in emerging plans.
 20. Opportunities to maximise sustainable transport solutions will vary between urban and rural areas.
 21. Where development proposals are consistent with an up-to-date plan or strategy (or where there is no up-to-date plan or strategy), this should include all relevant development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next 3 years and include the full amount of development to be built. Where development proposals are not consistent with an up-to-date plan or strategy, this should include all relevant development that is consented or allocated over the entirety of the plan period. In some instances, due regard should be had to permissions and allocations in neighbouring authorities. The inclusion or exclusion of specific developments should be agreed with the local planning authority at pre-application stage.
 22. This will normally be instances where the improvement is identified in the company's RIS, has funding secured by other means and/or where this is linked to a committed development scheme; and for works to the SRN, the scheme should be at PCF Stage 3 preliminary design or later in its development process.
 23. The special considerations which apply to the siting of wind turbines are set out in [this paragraph](#).

24. An informal connection refers to surface water run-off and a formal connection to an engineered connection.
 25. The height measurement of a wind turbine shall be taken from ground level to the tip of the rotor blade.
 26. This will be informed by regular updates to the Department for Transport's National Lorry Parking Survey and demand assessments undertaken by the company to ensure that appropriate evidence is available on the national picture.
 27. Including facilities which provide services to general motorists as a secondary activity.
 28. Rapid charging fund guidance (September 2021)
 29. Publicly Available Specification for accessible charging: <https://www.bsigroup.com/en-GB/standards/pas-1899/>
(<https://www.bsigroup.com/en-GB/standards/pas-1899/>)
 30. Where supporting information is available, operators may wish to increase the number of parking spaces for particular types of vehicles in recognition of the make up of the road users served by the facility.
 31. Parking for disabled travellers should be clearly signed at the entrance to the services.
 32. Where such a facility has been permitted.
 33. Parking for disabled travellers should be clearly signed at the entrance to the services.
 34. Where such a facility has been permitted.
-

Appendix 4.

Department for Levelling-Up, Housing and Communities (DLUHC) National Planning Policy Framework (NPPF) (December 2023), paragraphs 114 to 117



Ministry of Housing,
Communities &
Local Government

National Planning Policy Framework

December 2023



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Contents

1. Introduction	4
2. Achieving sustainable development	5
3. Plan-making	8
4. Decision-making	13
5. Delivering a sufficient supply of homes	17
6. Building a strong, competitive economy	24
7. Ensuring the vitality of town centres	26
8. Promoting healthy and safe communities	28
9. Promoting sustainable transport	31
10. Supporting high quality communications	34
11. Making effective use of land	36
12. Achieving well-designed and beautiful places	39
13. Protecting Green Belt land	42
14. Meeting the challenge of climate change, flooding and coastal change	46
15. Conserving and enhancing the natural environment	52
16. Conserving and enhancing the historic environment	57
17. Facilitating the sustainable use of minerals	61
Annex 1: Implementation	65
Annex 2: Glossary	67
Annex 3: Flood risk vulnerability classification	77

1. Introduction

1. The National Planning Policy Framework sets out the Government's planning policies for England and how these should be applied¹. It provides a framework within which locally-prepared plans can provide for sufficient housing and other development in a sustainable manner. Preparing and maintaining up-to-date plans should be seen as a priority in meeting this objective.
2. Planning law requires that applications for planning permission be determined in accordance with the development plan², unless material considerations indicate otherwise³. The National Planning Policy Framework must be taken into account in preparing the development plan, and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.
3. The Framework should be read as a whole (including its footnotes and annexes). General references to planning policies in the Framework should be applied in a way that is appropriate to the type of plan being produced, taking into account policy on plan-making in chapter 3.
4. The Framework should be read in conjunction with the Government's planning policy for traveller sites, and its planning policy for waste. When preparing plans or making decisions on applications for these types of development, regard should also be had to the policies in this Framework, where relevant.
5. The Framework does not contain specific policies for nationally significant infrastructure projects. These are determined in accordance with the decision-making framework in the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include the National Planning Policy Framework). National policy statements form part of the overall framework of national planning policy, and may be a material consideration in preparing plans and making decisions on planning applications.
6. Other statements of government policy may be material when preparing plans or deciding applications, such as relevant Written Ministerial Statements and endorsed recommendations of the National Infrastructure Commission. This includes the Written Ministerial Statement on Affordable Homes Update (24 May 2021) which contains policy on First Homes.

¹ This document replaces the previous version of the National Planning Policy Framework published in September 2023.

² This includes local and neighbourhood plans that have been brought into force and any spatial development strategies produced by combined authorities or elected Mayors (see Glossary).

³ Section 38(6) of the Planning and Compulsory Purchase Act 2004 and section 70(2) of the Town and Country Planning Act 1990.

2. Achieving sustainable development

7. The purpose of the planning system is to contribute to the achievement of sustainable development, including the provision of homes, commercial development, and supporting infrastructure in a sustainable manner. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs⁴. At a similarly high level, members of the United Nations – including the United Kingdom – have agreed to pursue the 17 Global Goals for Sustainable Development in the period to 2030. These address social progress, economic well-being and environmental protection⁵.
8. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):
 - a) **an economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
 - b) **a social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
 - c) **an environmental objective** – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
9. These objectives should be delivered through the preparation and implementation of plans and the application of the policies in this Framework; they are not criteria against which every decision can or should be judged. Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so should take local circumstances into account, to reflect the character, needs and opportunities of each area.
10. So that sustainable development is pursued in a positive way, at the heart of the Framework is a **presumption in favour of sustainable development** (paragraph 11).

⁴ Resolution 42/187 of the United Nations General Assembly.

⁵ Transforming our World: the 2030 Agenda for Sustainable Development.

The presumption in favour of sustainable development

11. Plans and decisions should apply a presumption in favour of sustainable development.

For **plan-making** this means that:

- a) all plans should promote a sustainable pattern of development that seeks to: meet the development needs of their area; align growth and infrastructure; improve the environment; mitigate climate change (including by making effective use of land in urban areas) and adapt to its effects;
- b) strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas⁶, unless:
 - i. the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area⁷; or
 - ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

For **decision-taking** this means:

- c) approving development proposals that accord with an up-to-date development plan without delay; or
- d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date⁸, granting permission unless:
 - i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed⁷; or
 - ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

⁶ As established through statements of common ground (see paragraph 27).

⁷ The policies referred to are those in this Framework (rather than those in development plans) relating to: habitats sites (and those sites listed in paragraph 187) and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, a National Park (or within the Broads Authority) or defined as Heritage Coast; irreplaceable habitats; designated heritage assets (and other heritage assets of archaeological interest referred to in footnote 72); and areas at risk of flooding or coastal change.

⁸ This includes, for applications involving the provision of housing, situations where: (a) the local planning authority cannot demonstrate a five year supply (or a four year supply, if applicable, as set out in paragraph 226) of deliverable housing sites (with a buffer, if applicable, as set out in paragraph 77) and does not benefit from the provisions of paragraph 76; or (b) where the Housing Delivery Test indicates that the delivery of housing was below 75% of the housing requirement over the previous three years.

12. The presumption in favour of sustainable development does not change the statutory status of the development plan as the starting point for decision-making. Where a planning application conflicts with an up-to-date development plan (including any neighbourhood plans that form part of the development plan), permission should not usually be granted. Local planning authorities may take decisions that depart from an up-to-date development plan, but only if material considerations in a particular case indicate that the plan should not be followed.
13. The application of the presumption has implications for the way communities engage in neighbourhood planning. Neighbourhood plans should support the delivery of strategic policies contained in local plans or spatial development strategies; and should shape and direct development that is outside of these strategic policies.
14. In situations where the presumption (at paragraph 11d) applies to applications involving the provision of housing, the adverse impact of allowing development that conflicts with the neighbourhood plan is likely to significantly and demonstrably outweigh the benefits, provided the following apply:
 - a) the neighbourhood plan became part of the development plan five years or less before the date on which the decision is made; and
 - b) the neighbourhood plan contains policies and allocations to meet its identified housing requirement (see paragraphs 67-68).

3. Plan-making

15. The planning system should be genuinely plan-led. Succinct and up-to-date plans should provide a positive vision for the future of each area; a framework for meeting housing needs and addressing other economic, social and environmental priorities; and a platform for local people to shape their surroundings.
16. Plans should:
 - a) be prepared with the objective of contributing to the achievement of sustainable development⁹;
 - b) be prepared positively, in a way that is aspirational but deliverable;
 - c) be shaped by early, proportionate and effective engagement between plan-makers and communities, local organisations, businesses, infrastructure providers and operators and statutory consultees;
 - d) contain policies that are clearly written and unambiguous, so it is evident how a decision maker should react to development proposals;
 - e) be accessible through the use of digital tools to assist public involvement and policy presentation; and
 - f) serve a clear purpose, avoiding unnecessary duplication of policies that apply to a particular area (including policies in this Framework, where relevant).

The plan-making framework

17. The development plan must include strategic policies to address each local planning authority's priorities for the development and use of land in its area¹⁰. These strategic policies can be produced in different ways, depending on the issues and opportunities facing each area. They can be contained in:
 - a) joint or individual local plans, produced by authorities working together or independently (and which may also contain non-strategic policies); and/or
 - b) a spatial development strategy produced by an elected Mayor or combined authority, where plan-making powers have been conferred.
18. Policies to address non-strategic matters should be included in local plans that contain both strategic and non-strategic policies, and/or in local or neighbourhood plans that contain just non-strategic policies.
19. The development plan for an area comprises the combination of strategic and non- strategic policies which are in force at a particular time.

⁹ This is a legal requirement of local planning authorities exercising their plan-making functions (section 39(2) of the Planning and Compulsory Purchase Act 2004).

¹⁰ Section 19(1B-1E) of the Planning and Compulsory Purchase Act 2004.

Strategic policies

20. Strategic policies should set out an overall strategy for the pattern, scale and design quality of places (to ensure outcomes support beauty and placemaking), and make sufficient provision¹¹ for:
 - a) housing (including affordable housing), employment, retail, leisure and other commercial development;
 - b) infrastructure for transport, telecommunications, security, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat);
 - c) community facilities (such as health, education and cultural infrastructure); and
 - d) conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation.
21. Plans should make explicit which policies are strategic policies¹². These should be limited to those necessary to address the strategic priorities of the area (and any relevant cross-boundary issues), to provide a clear starting point for any non-strategic policies that are needed. Strategic policies should not extend to detailed matters that are more appropriately dealt with through neighbourhood plans or other non-strategic policies.
22. Strategic policies should look ahead over a minimum 15 year period from adoption¹³, to anticipate and respond to long-term requirements and opportunities, such as those arising from major improvements in infrastructure. Where larger scale developments such as new settlements or significant extensions to existing villages and towns form part of the strategy for the area, policies should be set within a vision that looks further ahead (at least 30 years), to take into account the likely timescale for delivery¹⁴.
23. Broad locations for development should be indicated on a key diagram, and land-use designations and allocations identified on a policies map. Strategic policies should provide a clear strategy for bringing sufficient land forward, and at a sufficient rate, to address objectively assessed needs over the plan period, in line with the presumption in favour of sustainable development. This should include planning for and allocating sufficient sites to deliver the strategic priorities of the area (except insofar as these needs can be demonstrated to be met more appropriately through other mechanisms, such as brownfield registers or non-strategic policies)¹⁵.

¹¹ In line with the presumption in favour of sustainable development.

¹² Where a single local plan is prepared the non-strategic policies should be clearly distinguished from the strategic policies.

¹³ Except in relation to town centre development, as set out in chapter 7.

¹⁴ Transitional arrangements are set out in Annex 1.

¹⁵ For spatial development strategies, allocations, land use designations and a policies map are needed only where the power to make allocations has been conferred.

Maintaining effective cooperation

24. Local planning authorities and county councils (in two-tier areas) are under a duty to cooperate with each other, and with other prescribed bodies, on strategic matters that cross administrative boundaries.
25. Strategic policy-making authorities should collaborate to identify the relevant strategic matters which they need to address in their plans. They should also engage with their local communities and relevant bodies including Local Enterprise Partnerships, Local Nature Partnerships, the Marine Management Organisation, county councils, infrastructure providers, elected Mayors and combined authorities (in cases where Mayors or combined authorities do not have plan-making powers).
26. Effective and on-going joint working between strategic policy-making authorities and relevant bodies is integral to the production of a positively prepared and justified strategy. In particular, joint working should help to determine where additional infrastructure is necessary, and whether development needs that cannot be met wholly within a particular plan area could be met elsewhere.
27. In order to demonstrate effective and on-going joint working, strategic policy-making authorities should prepare and maintain one or more statements of common ground, documenting the cross-boundary matters being addressed and progress in cooperating to address these. These should be produced using the approach set out in national planning guidance, and be made publicly available throughout the plan-making process to provide transparency.

Non-strategic policies

28. Non-strategic policies should be used by local planning authorities and communities to set out more detailed policies for specific areas, neighbourhoods or types of development. This can include allocating sites, the provision of infrastructure and community facilities at a local level, establishing design principles, conserving and enhancing the natural and historic environment and setting out other development management policies.
29. Neighbourhood planning gives communities the power to develop a shared vision for their area. Neighbourhood plans can shape, direct and help to deliver sustainable development, by influencing local planning decisions as part of the statutory development plan. Neighbourhood plans should not promote less development than set out in the strategic policies for the area, or undermine those strategic policies¹⁶.
30. Once a neighbourhood plan has been brought into force, the policies it contains take precedence over existing non-strategic policies in a local plan covering the neighbourhood area, where they are in conflict; unless they are superseded by strategic or non-strategic policies that are adopted subsequently.

¹⁶ Neighbourhood plans must be in general conformity with the strategic policies contained in any development plan that covers their area.

Preparing and reviewing plans

31. The preparation and review of all policies should be underpinned by relevant and up-to-date evidence. This should be adequate and proportionate, focused tightly on supporting and justifying the policies concerned, and take into account relevant market signals.
32. Local plans and spatial development strategies should be informed throughout their preparation by a sustainability appraisal that meets the relevant legal requirements¹⁷. This should demonstrate how the plan has addressed relevant economic, social and environmental objectives (including opportunities for net gains). Significant adverse impacts on these objectives should be avoided and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered).
33. Policies in local plans and spatial development strategies should be reviewed to assess whether they need updating at least once every five years, and should then be updated as necessary¹⁸. Reviews should be completed no later than five years from the adoption date of a plan, and should take into account changing circumstances affecting the area, or any relevant changes in national policy. Relevant strategic policies will need updating at least once every five years if their applicable local housing need figure has changed significantly; and they are likely to require earlier review if local housing need is expected to change significantly in the near future.

Development contributions

34. Plans should set out the contributions expected from development. This should include setting out the levels and types of affordable housing provision required, along with other infrastructure (such as that needed for education, health, transport, flood and water management, green and digital infrastructure). Such policies should not undermine the deliverability of the plan.

Examining plans

35. Local plans and spatial development strategies are examined to assess whether they have been prepared in accordance with legal and procedural requirements, and whether they are sound. Plans are 'sound' if they are:

¹⁷ The reference to relevant legal requirements refers to Strategic Environmental Assessment. Neighbourhood plans may require Strategic Environmental Assessment, but only where there are potentially significant environmental effects.

¹⁸ Reviews at least every five years are a legal requirement for all local plans (Regulation 10A of the Town and Country Planning (Local Planning) (England) Regulations 2012).

- a) **Positively prepared** – providing a strategy which, as a minimum, seeks to meet the area’s objectively assessed needs¹⁹; and is informed by agreements with other authorities, so that unmet need from neighbouring areas is accommodated where it is practical to do so and is consistent with achieving sustainable development;
 - b) **Justified** – an appropriate strategy, taking into account the reasonable alternatives, and based on proportionate evidence;
 - c) **Effective** – deliverable over the plan period, and based on effective joint working on cross-boundary strategic matters that have been dealt with rather than deferred, as evidenced by the statement of common ground; and
 - d) **Consistent with national policy** – enabling the delivery of sustainable development in accordance with the policies in this Framework and other statements of national planning policy, where relevant.
36. These tests of soundness will be applied to non-strategic policies²⁰ in a proportionate way, taking into account the extent to which they are consistent with relevant strategic policies for the area.
37. Neighbourhood plans must meet certain ‘basic conditions’ and other legal requirements²¹ before they can come into force. These are tested through an independent examination before the neighbourhood plan may proceed to referendum.

¹⁹ Where this relates to housing, such needs should be assessed using a clear and justified method, as set out in paragraph 61 of this Framework

²⁰ Where these are contained in a local plan.

²¹ As set out in paragraph 8 of Schedule 4B to the Town and Country Planning Act 1990 (as amended).

4. Decision-making

38. Local planning authorities should approach decisions on proposed development in a positive and creative way. They should use the full range of planning tools available, including brownfield registers and permission in principle, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area. Decision-makers at every level should seek to approve applications for sustainable development where possible.

Pre-application engagement and front-loading

39. Early engagement has significant potential to improve the efficiency and effectiveness of the planning application system for all parties. Good quality pre-application discussion enables better coordination between public and private resources and improved outcomes for the community.
40. Local planning authorities have a key role to play in encouraging other parties to take maximum advantage of the pre-application stage. They cannot require that a developer engages with them before submitting a planning application, but they should encourage take-up of any pre-application services they offer. They should also, where they think this would be beneficial, encourage any applicants who are not already required to do so by law to engage with the local community and, where relevant, with statutory and non-statutory consultees, before submitting their applications.
41. The more issues that can be resolved at pre-application stage, including the need to deliver improvements in infrastructure and affordable housing, the greater the benefits. For their role in the planning system to be effective and positive, statutory planning consultees will need to take the same early, pro-active approach, and provide advice in a timely manner throughout the development process. This assists local planning authorities in issuing timely decisions, helping to ensure that applicants do not experience unnecessary delays and costs.
42. The participation of other consenting bodies in pre-application discussions should enable early consideration of all the fundamental issues relating to whether a particular development will be acceptable in principle, even where other consents relating to how a development is built or operated are needed at a later stage. Wherever possible, parallel processing of other consents should be encouraged to help speed up the process and resolve any issues as early as possible.
43. The right information is crucial to good decision-making, particularly where formal assessments are required (such as Environmental Impact Assessment, Habitats Regulations assessment and flood risk assessment). To avoid delay, applicants should discuss what information is needed with the local planning authority and expert bodies as early as possible.
44. Local planning authorities should publish a list of their information requirements for applications for planning permission. These requirements should be kept to the minimum needed to make decisions, and should be reviewed at least every two

years. Local planning authorities should only request supporting information that is relevant, necessary and material to the application in question.

45. Local planning authorities should consult the appropriate bodies when considering applications for the siting of, or changes to, major hazard sites, installations or pipelines, or for development around them.
46. Applicants and local planning authorities should consider the potential for voluntary planning performance agreements, where this might achieve a faster and more effective application process. Planning performance agreements are likely to be needed for applications that are particularly large or complex to determine.

Determining applications

47. Planning law requires that applications for planning permission be determined in accordance with the development plan, unless material considerations indicate otherwise. Decisions on applications should be made as quickly as possible, and within statutory timescales unless a longer period has been agreed by the applicant in writing.
48. Local planning authorities may give weight to relevant policies in emerging plans according to:
 - a) the stage of preparation of the emerging plan (the more advanced its preparation, the greater the weight that may be given);
 - b) the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and
 - c) the degree of consistency of the relevant policies in the emerging plan to this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given)²².
49. However, in the context of the Framework – and in particular the presumption in favour of sustainable development – arguments that an application is premature are unlikely to justify a refusal of planning permission other than in the limited circumstances where both:
 - a) the development proposed is so substantial, or its cumulative effect would be so significant, that to grant permission would undermine the plan-making process by predetermining decisions about the scale, location or phasing of new development that are central to an emerging plan; and
 - b) the emerging plan is at an advanced stage but is not yet formally part of the development plan for the area.

²² During the transitional period for emerging plans consistency should be tested against the version of the Framework as applicable, as set out in Annex 1.

50. Refusal of planning permission on grounds of prematurity will seldom be justified where a draft plan has yet to be submitted for examination; or – in the case of a neighbourhood plan – before the end of the local planning authority publicity period on the draft plan. Where planning permission is refused on grounds of prematurity, the local planning authority will need to indicate clearly how granting permission for the development concerned would prejudice the outcome of the plan-making process.

Tailoring planning controls to local circumstances

51. Local planning authorities are encouraged to use Local Development Orders to set the planning framework for particular areas or categories of development where the impacts would be acceptable, and in particular where this would promote economic, social or environmental gains for the area.
52. Communities can use Neighbourhood Development Orders and Community Right to Build Orders to grant planning permission. These require the support of the local community through a referendum. Local planning authorities should take a proactive and positive approach to such proposals, working collaboratively with community organisations to resolve any issues before draft orders are submitted for examination.
53. The use of Article 4 directions to remove national permitted development rights should:
 - a) where they relate to change from non-residential use to residential use, be limited to situations where an Article 4 direction is necessary to avoid wholly unacceptable adverse impacts (this could include the loss of the essential core of a primary shopping area which would seriously undermine its vitality and viability, but would be very unlikely to extend to the whole of a town centre)
 - b) in other cases, be limited to situations where an Article 4 direction is necessary to protect local amenity or the well-being of the area (this could include the use of Article 4 directions to require planning permission for the demolition of local facilities)
 - c) in all cases, be based on robust evidence, and apply to the smallest geographical area possible.
54. Similarly, planning conditions should not be used to restrict national permitted development rights unless there is clear justification to do so.

Planning conditions and obligations

55. Local planning authorities should consider whether otherwise unacceptable development could be made acceptable through the use of conditions or planning obligations. Planning obligations should only be used where it is not possible to address unacceptable impacts through a planning condition.
56. Planning conditions should be kept to a minimum and only imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects. Agreeing conditions early

is beneficial to all parties involved in the process and can speed up decision-making. Conditions that are required to be discharged before development commences should be avoided, unless there is a clear justification²³.

57. Planning obligations must only be sought where they meet all of the following tests²⁴:
- a) necessary to make the development acceptable in planning terms;
 - b) directly related to the development; and
 - c) fairly and reasonably related in scale and kind to the development.
58. Where up-to-date policies have set out the contributions expected from development, planning applications that comply with them should be assumed to be viable. It is up to the applicant to demonstrate whether particular circumstances justify the need for a viability assessment at the application stage. The weight to be given to a viability assessment is a matter for the decision maker, having regard to all the circumstances in the case, including whether the plan and the viability evidence underpinning it is up to date, and any change in site circumstances since the plan was brought into force. All viability assessments, including any undertaken at the plan-making stage, should reflect the recommended approach in national planning guidance, including standardised inputs, and should be made publicly available.

Enforcement

59. Effective enforcement is important to maintain public confidence in the planning system. Enforcement action is discretionary, and local planning authorities should act proportionately in responding to suspected breaches of planning control. They should consider publishing a local enforcement plan to manage enforcement proactively, in a way that is appropriate to their area. This should set out how they will monitor the implementation of planning permissions, investigate alleged cases of unauthorised development and take action where appropriate.

²³ Sections 100ZA(4-6) of the Town and Country Planning Act 1990 will require the applicant's written agreement to the terms of a pre-commencement condition, unless prescribed circumstances apply.

²⁴ Set out in Regulation 122(2) of the Community Infrastructure Levy Regulations 2010.

5. Delivering a sufficient supply of homes

60. To support the Government's objective of significantly boosting the supply of homes, it is important that a sufficient amount and variety of land can come forward where it is needed, that the needs of groups with specific housing requirements are addressed and that land with permission is developed without unnecessary delay. The overall aim should be to meet as much of an area's identified housing need as possible, including with an appropriate mix of housing types for the local community.
61. To determine the minimum number of homes needed, strategic policies should be informed by a local housing need assessment, conducted using the standard method in national planning guidance. The outcome of the standard method is an advisory starting-point for establishing a housing requirement for the area (see paragraph 67 below). There may be exceptional circumstances, including relating to the particular demographic characteristics of an area²⁵ which justify an alternative approach to assessing housing need; in which case the alternative approach should also reflect current and future demographic trends and market signals. In addition to the local housing need figure, any needs that cannot be met within neighbouring areas should also be taken into account in establishing the amount of housing to be planned for²⁶.
62. The standard method incorporates an uplift which applies to certain cities and urban centres, as set out in national planning guidance. This uplift should be accommodated within those cities and urban centres themselves except where there are voluntary cross boundary redistribution agreements in place, or where it would conflict with the policies in this Framework²⁷.
63. Within this context of establishing need, the size, type and tenure of housing needed for different groups in the community should be assessed and reflected in planning policies. These groups should include (but are not limited to) those who require affordable housing; families with children; older people (including those who require retirement housing, housing-with-care and care homes); students; people with disabilities; service families; travellers²⁸; people who rent their homes and people wishing to commission or build their own homes²⁹.

²⁵ Such particular demographic characteristics could, for example, include areas that are islands with no land bridge that have a significant proportion of elderly residents.

²⁶ Transitional arrangements are set out in Annex 1

²⁷ In doing so, strategic policies should promote an effective use of land and optimise site densities in accordance with chapter 11. This is to ensure that homes are built in the right places, to prioritise brownfield and other under-utilised urban sites, to utilise existing infrastructure, and to allow people to live near the services they rely on, making travel patterns more sustainable.

²⁸ Planning Policy for Traveller Sites sets out how travellers' housing needs should be assessed for those covered by the definition in Annex 1 of that document.

²⁹ Under section 1 of the Self Build and Custom Housebuilding Act 2015, local authorities are required to keep a register of those seeking to acquire serviced plots in the area for their own self-build and custom house building. They are also subject to duties under sections 2 and 2A of the Act to have regard to this and to give enough suitable development permissions to meet the identified demand. Self and custom-build properties could provide market or affordable housing.

64. Where a need for affordable housing is identified, planning policies should specify the type of affordable housing required³⁰, and expect it to be met on-site unless:
- a) off-site provision or an appropriate financial contribution in lieu can be robustly justified; and
 - b) the agreed approach contributes to the objective of creating mixed and balanced communities.
65. Provision of affordable housing should not be sought for residential developments that are not major developments, other than in designated rural areas (where policies may set out a lower threshold of 5 units or fewer). To support the re-use of brownfield land, where vacant buildings are being reused or redeveloped, any affordable housing contribution due should be reduced by a proportionate amount³¹.
66. Where major development involving the provision of housing is proposed, planning policies and decisions should expect at least 10% of the total number of homes to be available for affordable home ownership³², unless this would exceed the level of affordable housing required in the area, or significantly prejudice the ability to meet the identified affordable housing needs of specific groups. Exemptions to this 10% requirement should also be made where the site or proposed development:
- a) provides solely for Build to Rent homes;
 - b) provides specialist accommodation for a group of people with specific needs (such as purpose-built accommodation for the elderly or students);
 - c) is proposed to be developed by people who wish to build or commission their own homes; or
 - d) is exclusively for affordable housing, a community-led development exception site or a rural exception site.
67. Strategic policy-making authorities should establish a housing requirement figure for their whole area, which shows the extent to which their identified housing need (and any needs that cannot be met within neighbouring areas) can be met over the plan period. The requirement may be higher than the identified housing need if, for example, it includes provision for neighbouring areas, or reflects growth ambitions linked to economic development or infrastructure investment. Within this overall requirement, strategic policies should also set out a housing requirement for designated neighbourhood areas which reflects the overall strategy for the pattern and scale of development and any relevant allocations³³. Once the strategic policies have been adopted, these figures should not need re-testing at the neighbourhood plan examination, unless there has been a significant change in

³⁰ Applying the definition in Annex 2 to this Framework.

³¹ Equivalent to the existing gross floorspace of the existing buildings. This does not apply to vacant buildings which have been abandoned.

³² As part of the overall affordable housing contribution from the site.

³³ Except where a Mayoral, combined authority or high-level joint plan is being prepared as a framework for strategic policies at the individual local authority level; in which case it may be most appropriate for the local authority plans to provide the requirement figure.

circumstances that affects the requirement.

68. Where it is not possible to provide a requirement figure for a neighbourhood area³⁴, the local planning authority should provide an indicative figure, if requested to do so by the neighbourhood planning body. This figure should take into account factors such as the latest evidence of local housing need, the population of the neighbourhood area and the most recently available planning strategy of the local planning authority.

Identifying land for homes

69. Strategic policy-making authorities should have a clear understanding of the land available in their area through the preparation of a strategic housing land availability assessment. From this, planning policies should identify a sufficient supply and mix of sites, taking into account their availability, suitability and likely economic viability. Planning policies should identify a supply of:
- a) specific, deliverable sites for five years following the intended date of adoption³⁵; and
 - b) specific, developable sites or broad locations for growth, for the subsequent years 6-10 and, where possible, for years 11-15 of the remaining plan period.
70. Small and medium sized sites can make an important contribution to meeting the housing requirement of an area, and are often built-out relatively quickly. To promote the development of a good mix of sites local planning authorities should:
- a) identify, through the development plan and brownfield registers, land to accommodate at least 10% of their housing requirement on sites no larger than one hectare; unless it can be shown, through the preparation of relevant plan policies, that there are strong reasons why this 10% target cannot be achieved;
 - b) seek opportunities, through policies and decisions, to support small sites to come forward for community-led development for housing and self-build and custom-build housing;
 - c) use tools such as area-wide design assessments, permission in principle and Local Development Orders to help bring small and medium sized sites forward;
 - d) support the development of windfall sites through their policies and decisions – giving great weight to the benefits of using suitable sites within existing settlements for homes; and
 - e) work with developers to encourage the sub-division of large sites where this could help to speed up the delivery of homes.

³⁴ Because a neighbourhood area is designated at a late stage in the strategic policy-making process, or after strategic policies have been adopted; or in instances where strategic policies for housing are out of date.

³⁵ With an appropriate buffer, as set out in paragraph 77. See Glossary for definitions of deliverable and developable.

71. Neighbourhood planning groups should also give particular consideration to the opportunities for allocating small and medium-sized sites (of a size consistent with paragraph 70a) suitable for housing in their area.
72. Where an allowance is to be made for windfall sites as part of anticipated supply, there should be compelling evidence that they will provide a reliable source of supply. Any allowance should be realistic having regard to the strategic housing land availability assessment, historic windfall delivery rates and expected future trends. Plans should consider the case for setting out policies to resist inappropriate development of residential gardens, for example where development would cause harm to the local area.
73. Local planning authorities should support the development of exception sites for community-led development³⁶ (as defined in Annex 2) on sites that would not otherwise be suitable as rural exception sites. These sites should be on land which is not already allocated for housing and should:
 - a) comprise community-led development that includes one or more types of affordable housing as defined in Annex 2 of this Framework. A proportion of market homes may be allowed on the site at the local planning authority's discretion, for example where essential to enable the delivery of affordable units without grant funding; and
 - b) be adjacent to existing settlements, proportionate in size to them³⁷, not compromise the protection given to areas or assets of particular importance in this Framework³⁸, and comply with any local design policies and standards.
74. The supply of large numbers of new homes can often be best achieved through planning for larger scale development, such as new settlements or significant extensions to existing villages and towns, provided they are well located and designed, and supported by the necessary infrastructure and facilities (including a genuine choice of transport modes). Working with the support of their communities, and with other authorities if appropriate, strategic policy-making authorities should identify suitable locations for such development where this can help to meet identified needs in a sustainable way. In doing so, they should:
 - a) consider the opportunities presented by existing or planned investment in infrastructure, the area's economic potential and the scope for net environmental gains;
 - b) ensure that their size and location will support a sustainable community, with sufficient access to services and employment opportunities within the development itself (without expecting an unrealistic level of self-containment), or in larger towns to which there is good access;
 - c) set clear expectations for the quality of the places to be created and how this

³⁶ This exception site policy does not replace the First Homes exception policy set out in the Affordable Homes Update Written Ministerial Statement, dated 24 May 2021, which remains extant policy.

³⁷ Community-led development exception sites should not be larger than one hectare in size or exceed 5% of the size of the existing settlement.

³⁸ i.e. the areas referred to in footnote 7.

can be maintained (such as by following Garden City principles); and ensure that appropriate tools such as masterplans and design guides or codes are used to secure a variety of well-designed and beautiful homes to meet the needs of different groups in the community;

- d) make a realistic assessment of likely rates of delivery, given the lead-in times for large scale sites, and identify opportunities for supporting rapid implementation (such as through joint ventures or locally-led development corporations)³⁹; and
- e) consider whether it is appropriate to establish Green Belt around or adjoining new developments of significant size.

Maintaining supply and delivery

- 75. Strategic policies should include a trajectory illustrating the expected rate of housing delivery over the plan period, and all plans should consider whether it is appropriate to set out the anticipated rate of development for specific sites. Local planning authorities should monitor their deliverable land supply against their housing requirement, as set out in adopted strategic policies.
- 76. Local planning authorities are not required to identify and update annually a supply of specific deliverable sites sufficient to provide a minimum of five years' worth of housing for decision making purposes if the following criteria are met⁴⁰:
 - a) their adopted plan is less than five years old; and
 - b) that adopted plan identified at least a five year supply of specific, deliverable sites at the time that its examination concluded.
- 77. In all other circumstances, local planning authorities should identify and update annually a supply of specific deliverable sites sufficient to provide either a minimum of five years' worth of housing⁴¹, or a minimum of four years' worth of housing if the provisions in paragraph 226 apply. The supply should be demonstrated against either the housing requirement set out in adopted strategic policies, or against the local housing need where the strategic policies are more than five years old⁴². Where there has been significant under delivery of housing over the previous three years⁴³, the supply of specific deliverable sites should in addition include a buffer of 20% (moved forward from later in the plan period).

³⁹ The delivery of large scale developments may need to extend beyond an individual plan period, and the associated infrastructure requirements may not be capable of being identified fully at the outset. Anticipated rates of delivery and infrastructure requirements should, therefore, be kept under review and reflected as policies are updated.

⁴⁰ Transitional provisions relating to the application of this paragraph are set out in footnote 79.

⁴¹ For the avoidance of doubt, a five year supply of deliverable sites for travellers – as defined in Annex 1 to Planning Policy for Traveller Sites – should be assessed separately, in line with the policy in that document.

⁴² Unless these strategic policies have been reviewed and found not to require updating. Where local housing need is used as the basis for assessing whether a five year supply of specific deliverable sites exists, it should be calculated using the standard method set out in national planning guidance.

⁴³ This will be measured against the Housing Delivery Test, where this indicates that delivery was below 85% of the housing requirement. For clarity, authorities that are not required to continually demonstrate a 5 year housing land supply should disregard this requirement.

National planning guidance provides further information on calculating the housing land supply, including the circumstances in which past shortfalls or over-supply can be addressed.

78. Where the criteria in paragraph 76 are not met, a local planning authority may confirm the existence of a five-year supply of deliverable housing sites (with a 20% buffer if applicable) through an annual position statement which:
- a) has been produced through engagement with developers and others who have an impact on delivery, and been considered by the Secretary of State; and
 - b) incorporates the recommendation of the Secretary of State, where the position on specific sites could not be agreed during the engagement process.
79. To maintain the supply of housing, local planning authorities should monitor progress in building out sites which have permission. Where the Housing Delivery Test indicates that delivery has fallen below the local planning authority's housing requirement over the previous three years, the following policy consequences should apply:
- a) where delivery falls below 95% of the requirement over the previous three years, the authority should prepare an action plan to assess the causes of under-delivery and identify actions to increase delivery in future years;
 - b) where delivery falls below 85% of the requirement over the previous three years, the authority should include a buffer of 20% to their identified supply of specific deliverable sites as set out in paragraph 77 of this framework, in addition to the requirement for an action plan.
 - c) where delivery falls below 75% of the requirement over the previous three years, the presumption in favour of sustainable development applies, as set out in footnote 8 of this Framework, in addition to the requirements for an action plan and 20% buffer.
80. The Housing Delivery Test consequences set out above will apply the day following the annual publication of the Housing Delivery Test results, at which point they supersede previously published results. Until new Housing Delivery Test results are published, the previously published result should be used.
81. To help ensure that proposals for housing development are implemented in a timely manner, local planning authorities should consider imposing a planning condition providing that development must begin within a timescale shorter than the relevant default period, where this would expedite the development without threatening its deliverability or viability. For major development involving the provision of housing, local planning authorities should also assess why any earlier grant of planning permission for a similar development on the same site did not start.

Rural housing

82. In rural areas, planning policies and decisions should be responsive to local circumstances and support housing developments that reflect local needs,

including proposals for community-led development for housing. Local planning authorities should support opportunities to bring forward rural exception sites that will provide affordable housing to meet identified local needs, and consider whether allowing some market housing on these sites would help to facilitate this.

83. To promote sustainable development in rural areas, housing should be located where it will enhance or maintain the vitality of rural communities. Planning policies should identify opportunities for villages to grow and thrive, especially where this will support local services. Where there are groups of smaller settlements, development in one village may support services in a village nearby.
84. Planning policies and decisions should avoid the development of isolated homes in the countryside unless one or more of the following circumstances apply:
 - a) there is an essential need for a rural worker, including those taking majority control of a farm business, to live permanently at or near their place of work in the countryside;
 - b) the development would represent the optimal viable use of a heritage asset or would be appropriate enabling development to secure the future of heritage assets;
 - c) the development would re-use redundant or disused buildings and enhance its immediate setting;
 - d) the development would involve the subdivision of an existing residential building; or
 - e) the design is of exceptional quality, in that it:
 - is truly outstanding, reflecting the highest standards in architecture, and would help to raise standards of design more generally in rural areas; and
 - would significantly enhance its immediate setting, and be sensitive to the defining characteristics of the local area.

6. Building a strong, competitive economy

85. Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation⁴⁴, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential.
86. Planning policies should:
- a) set out a clear economic vision and strategy which positively and proactively encourages sustainable economic growth, having regard to Local Industrial Strategies and other local policies for economic development and regeneration;
 - b) set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period;
 - c) seek to address potential barriers to investment, such as inadequate infrastructure, services or housing, or a poor environment; and
 - d) be flexible enough to accommodate needs not anticipated in the plan, allow for new and flexible working practices (such as live-work accommodation), and to enable a rapid response to changes in economic circumstances.
87. Planning policies and decisions should recognise and address the specific locational requirements of different sectors. This includes making provision for clusters or networks of knowledge and data-driven, creative or high technology industries; and for storage and distribution operations at a variety of scales and in suitably accessible locations.

Supporting a prosperous rural economy

88. Planning policies and decisions should enable:
- a) the sustainable growth and expansion of all types of business in rural areas, both through conversion of existing buildings and well-designed, beautiful new buildings;
 - b) the development and diversification of agricultural and other land-based rural businesses;

⁴⁴ The Government's Industrial Strategy sets out a vision to drive productivity improvements across the UK, identifies a number of Grand Challenges facing all nations, and sets out a delivery programme to make the UK a leader in four of these: artificial intelligence and big data; clean growth; future mobility; and catering for an ageing society. HM Government (2017) *Industrial Strategy: Building a Britain fit for the future*.

- c) sustainable rural tourism and leisure developments which respect the character of the countryside; and
 - d) the retention and development of accessible local services and community facilities, such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship.
89. Planning policies and decisions should recognise that sites to meet local business and community needs in rural areas may have to be found adjacent to or beyond existing settlements, and in locations that are not well served by public transport. In these circumstances it will be important to ensure that development is sensitive to its surroundings, does not have an unacceptable impact on local roads and exploits any opportunities to make a location more sustainable (for example by improving the scope for access on foot, by cycling or by public transport). The use of previously developed land, and sites that are physically well-related to existing settlements, should be encouraged where suitable opportunities exist.

7. Ensuring the vitality of town centres

90. Planning policies and decisions should support the role that town centres play at the heart of local communities, by taking a positive approach to their growth, management and adaptation. Planning policies should:
- a) define a network and hierarchy of town centres and promote their long-term vitality and viability – by allowing them to grow and diversify in a way that can respond to rapid changes in the retail and leisure industries, allows a suitable mix of uses (including housing) and reflects their distinctive characters;
 - b) define the extent of town centres and primary shopping areas, and make clear the range of uses permitted in such locations, as part of a positive strategy for the future of each centre;
 - c) retain and enhance existing markets and, where appropriate, re-introduce or create new ones;
 - d) allocate a range of suitable sites in town centres to meet the scale and type of development likely to be needed, looking at least ten years ahead. Meeting anticipated needs for retail, leisure, office and other main town centre uses over this period should not be compromised by limited site availability, so town centre boundaries should be kept under review where necessary;
 - e) where suitable and viable town centre sites are not available for main town centre uses, allocate appropriate edge of centre sites that are well connected to the town centre. If sufficient edge of centre sites cannot be identified, policies should explain how identified needs can be met in other accessible locations that are well connected to the town centre; and
 - f) recognise that residential development often plays an important role in ensuring the vitality of centres and encourage residential development on appropriate sites.
91. Local planning authorities should apply a sequential test to planning applications for main town centre uses which are neither in an existing centre nor in accordance with an up-to-date plan. Main town centre uses should be located in town centres, then in edge of centre locations; and only if suitable sites are not available (or expected to become available within a reasonable period) should out of centre sites be considered.
92. When considering edge of centre and out of centre proposals, preference should be given to accessible sites which are well connected to the town centre. Applicants and local planning authorities should demonstrate flexibility on issues such as format and scale, so that opportunities to utilise suitable town centre or edge of centre sites are fully explored.
93. This sequential approach should not be applied to applications for small scale rural offices or other small scale rural development.

94. When assessing applications for retail and leisure development outside town centres, which are not in accordance with an up-to-date plan, local planning authorities should require an impact assessment if the development is over a proportionate, locally set floorspace threshold (if there is no locally set threshold, the default threshold is 2,500m² of gross floorspace). This should include assessment of:
- a) the impact of the proposal on existing, committed and planned public and private investment in a centre or centres in the catchment area of the proposal; and
 - b) the impact of the proposal on town centre vitality and viability, including local consumer choice and trade in the town centre and the wider retail catchment (as applicable to the scale and nature of the scheme).
95. Where an application fails to satisfy the sequential test or is likely to have significant adverse impact on one or more of the considerations in paragraph 94, it should be refused.

8. Promoting healthy and safe communities

96. Planning policies and decisions should aim to achieve healthy, inclusive and safe places and beautiful buildings which:
- a) promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;
 - b) are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of beautiful, well-designed, clear and legible pedestrian and cycle routes, and high quality public space, which encourage the active and continual use of public areas; and
 - c) enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.
97. To provide the social, recreational and cultural facilities and services the community needs, planning policies and decisions should:
- a) plan positively for the provision and use of shared spaces, community facilities (such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of communities and residential environments;
 - b) take into account and support the delivery of local strategies to improve health, social and cultural well-being for all sections of the community;
 - c) guard against the unnecessary loss of valued facilities and services, particularly where this would reduce the community's ability to meet its day-to-day needs;
 - d) ensure that established shops, facilities and services are able to develop and modernise, and are retained for the benefit of the community; and
 - e) ensure an integrated approach to considering the location of housing, economic uses and community facilities and services.
98. Planning policies and decisions should consider the social, economic and environmental benefits of estate regeneration. Local planning authorities should use their planning powers to help deliver estate regeneration to a high standard.
99. It is important that a sufficient choice of school places is available to meet the needs of existing and new communities. Local planning authorities should take a proactive, positive and collaborative approach to meeting this requirement, and to development that will widen choice in education. They should:

- a) give great weight to the need to create, expand or alter schools through the preparation of plans and decisions on applications; and
 - b) work with school promoters, delivery partners and statutory bodies to identify and resolve key planning issues before applications are submitted.
100. To ensure faster delivery of other public service infrastructure such as further education colleges, hospitals and criminal justice accommodation, local planning authorities should also work proactively and positively with promoters, delivery partners and statutory bodies to plan for required facilities and resolve key planning issues before applications are submitted.
101. Planning policies and decisions should promote public safety and take into account wider security and defence requirements by:
- a) anticipating and addressing possible malicious threats and natural hazards, especially in locations where large numbers of people are expected to congregate⁴⁵. Policies for relevant areas (such as town centre and regeneration frameworks), and the layout and design of developments, should be informed by the most up-to-date information available from the police and other agencies about the nature of potential threats and their implications. This includes appropriate and proportionate steps that can be taken to reduce vulnerability, increase resilience and ensure public safety and security; and
 - b) recognising and supporting development required for operational defence and security purposes, and ensuring that operational sites are not affected adversely by the impact of other development proposed in the area.

Open space and recreation

102. Access to a network of high quality open spaces and opportunities for sport and physical activity is important for the health and well-being of communities, and can deliver wider benefits for nature and support efforts to address climate change. Planning policies should be based on robust and up-to-date assessments of the need for open space, sport and recreation facilities (including quantitative or qualitative deficits or surpluses) and opportunities for new provision. Information gained from the assessments should be used to determine what open space, sport and recreational provision is needed, which plans should then seek to accommodate.
103. Existing open space, sports and recreational buildings and land, including playing fields, should not be built on unless:
- a) an assessment has been undertaken which has clearly shown the open space, buildings or land to be surplus to requirements; or
 - b) the loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable

⁴⁵ This includes transport hubs, night-time economy venues, cinemas and theatres, sports stadia and arenas, shopping centres, health and education establishments, places of worship, hotels and restaurants, visitor attractions and commercial centres.

location; or

- c) the development is for alternative sports and recreational provision, the benefits of which clearly outweigh the loss of the current or former use.

- 104. Planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails.
- 105. The designation of land as Local Green Space through local and neighbourhood plans allows communities to identify and protect green areas of particular importance to them. Designating land as Local Green Space should be consistent with the local planning of sustainable development and complement investment in sufficient homes, jobs and other essential services. Local Green Spaces should only be designated when a plan is prepared or updated, and be capable of enduring beyond the end of the plan period.
- 106. The Local Green Space designation should only be used where the green space is:
 - a) in reasonably close proximity to the community it serves;
 - b) demonstrably special to a local community and holds a particular local significance, for example because of its beauty, historic significance, recreational value (including as a playing field), tranquillity or richness of its wildlife; and
 - c) local in character and is not an extensive tract of land.
- 107. Policies for managing development within a Local Green Space should be consistent with those for Green Belts.

9. Promoting sustainable transport

108. Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
- a) the potential impacts of development on transport networks can be addressed;
 - b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
 - c) opportunities to promote walking, cycling and public transport use are identified and pursued;
 - d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
 - e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.
109. The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.
110. Planning policies should:
- a) support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities;
 - b) be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned;
 - c) identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development;
 - d) provide for attractive and well-designed walking and cycling networks with supporting facilities such as secure cycle parking (drawing on Local Cycling and Walking Infrastructure Plans);

- e) provide for any large scale transport facilities that need to be located in the area⁴⁶, and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy. In doing so they should take into account whether such development is likely to be a nationally significant infrastructure project and any relevant national policy statements; and
 - f) recognise the importance of maintaining a national network of general aviation airfields, and their need to adapt and change over time – taking into account their economic value in serving business, leisure, training and emergency service needs, and the Government’s General Aviation Strategy⁴⁷.
111. If setting local parking standards for residential and non-residential development, policies should take into account:
- a) the accessibility of the development;
 - b) the type, mix and use of development;
 - c) the availability of and opportunities for public transport;
 - d) local car ownership levels; and
 - e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.
112. Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists.
113. Planning policies and decisions should recognise the importance of providing adequate overnight lorry parking facilities, taking into account any local shortages, to reduce the risk of parking in locations that lack proper facilities or could cause a nuisance. Proposals for new or expanded distribution centres should make provision for sufficient lorry parking to cater for their anticipated use.

Considering development proposals

114. In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

⁴⁶ Policies for large scale facilities should, where necessary, be developed through collaboration between strategic policy-making authorities and other relevant bodies. Examples of such facilities include ports, airports, interchanges for rail freight, public transport projects and roadside services. The primary function of roadside services should be to support the safety and welfare of the road user (and most such proposals are unlikely to be nationally significant infrastructure projects).

⁴⁷ Department for Transport (2015) *General Aviation Strategy*.

- a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
 - b) safe and suitable access to the site can be achieved for all users;
 - c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code⁴⁸; and
 - d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.
115. Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.
116. Within this context, applications for development should:
- a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
 - b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
 - c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
 - d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and
 - e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.
117. All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

⁴⁸ Policies and decisions should not make use of or reflect the former Design Bulletin 32, which was withdrawn in 2007.

10. Supporting high quality communications

118. Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections. Policies should set out how high quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time; and should prioritise full fibre connections to existing and new developments (as these connections will, in almost all cases, provide the optimum solution).
119. The number of radio and electronic communications masts, and the sites for such installations, should be kept to a minimum consistent with the needs of consumers, the efficient operation of the network and providing reasonable capacity for future expansion. Use of existing masts, buildings and other structures for new electronic communications capability (including wireless) should be encouraged. Where new sites are required (such as for new 5G networks, or for connected transport and smart city applications), equipment should be sympathetically designed and camouflaged where appropriate.
120. Local planning authorities should not impose a ban on new electronic communications development in certain areas, impose blanket Article 4 directions over a wide area or a wide range of electronic communications development, or insist on minimum distances between new electronic communications development and existing development. They should ensure that:
 - a) they have evidence to demonstrate that electronic communications infrastructure is not expected to cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest; and
 - b) they have considered the possibility of the construction of new buildings or other structures interfering with broadcast and electronic communications services.
121. Applications for electronic communications development (including applications for prior approval under the General Permitted Development Order) should be supported by the necessary evidence to justify the proposed development. This should include:
 - a) the outcome of consultations with organisations with an interest in the proposed development, in particular with the relevant body where a mast is to be installed near a school or college, or within a statutory safeguarding zone surrounding an aerodrome, technical site or military explosives storage area; and
 - b) for an addition to an existing mast or base station, a statement that self-certifies that the cumulative exposure, when operational, will not exceed International Commission guidelines on non-ionising radiation protection; or

- c) for a new mast or base station, evidence that the applicant has explored the possibility of erecting antennas on an existing building, mast or other structure and a statement that self-certifies that, when operational, International Commission guidelines will be met.
122. Local planning authorities must determine applications on planning grounds only. They should not seek to prevent competition between different operators, question the need for an electronic communications system, or set health safeguards different from the International Commission guidelines for public exposure.

11. Making effective use of land

123. Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or ‘brownfield’ land⁴⁹.
124. Planning policies and decisions should:
- a) encourage multiple benefits from both urban and rural land, including through mixed use schemes and taking opportunities to achieve net environmental gains – such as developments that would enable new habitat creation or improve public access to the countryside;
 - b) recognise that some undeveloped land can perform many functions, such as for wildlife, recreation, flood risk mitigation, cooling/shading, carbon storage or food production;
 - c) give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land;
 - d) promote and support the development of under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained and available sites could be used more effectively (for example converting space above shops, and building on or above service yards, car parks, lock-ups and railway infrastructure)⁵⁰; and
 - e) support opportunities to use the airspace above existing residential and commercial premises for new homes. In particular, they should allow upward extensions where the development would be consistent with the prevailing height and form of neighbouring properties and the overall street scene, is well-designed (including complying with any local design policies and standards), and can maintain safe access and egress for occupiers. They should also allow mansard roof extensions on suitable properties⁵¹ where their external appearance harmonises with the original building, including extensions to terraces where one or more of the terraced houses already has a mansard. Where there was a tradition of mansard construction locally at the time of the building’s construction, the extension should emulate it with respect to external appearance. A condition of simultaneous development should not be imposed on an application for multiple mansard extensions unless there is an exceptional justification.

⁴⁹ Except where this would conflict with other policies in this Framework, including causing harm to designated sites of importance for biodiversity.

⁵⁰ As part of this approach, plans and decisions should support efforts to identify and bring back into residential use empty homes and other buildings, supported by the use of compulsory purchase powers where appropriate.

⁵¹ See glossary for further details.

125. Local planning authorities, and other plan-making bodies, should take a proactive role in identifying and helping to bring forward land that may be suitable for meeting development needs, including suitable sites on brownfield registers or held in public ownership, using the full range of powers available to them. This should include identifying opportunities to facilitate land assembly, supported where necessary by compulsory purchase powers, where this can help to bring more land forward for meeting development needs and/or secure better development outcomes.
126. Planning policies and decisions need to reflect changes in the demand for land. They should be informed by regular reviews of both the land allocated for development in plans, and of land availability. Where the local planning authority considers there to be no reasonable prospect of an application coming forward for the use allocated in a plan:
- a) it should, as part of plan updates, reallocate the land for a more deliverable use that can help to address identified needs (or, if appropriate, deallocate a site which is undeveloped); and
 - b) in the interim, prior to updating the plan, applications for alternative uses on the land should be supported, where the proposed use would contribute to meeting an unmet need for development in the area.
127. Local planning authorities should also take a positive approach to applications for alternative uses of land which is currently developed but not allocated for a specific purpose in plans, where this would help to meet identified development needs. In particular, they should support proposals to:
- a) use retail and employment land for homes in areas of high housing demand, provided this would not undermine key economic sectors or sites or the vitality and viability of town centres, and would be compatible with other policies in this Framework; and
 - b) make more effective use of sites that provide community services such as schools and hospitals, provided this maintains or improves the quality of service provision and access to open space.

Achieving appropriate densities

128. Planning policies and decisions should support development that makes efficient use of land, taking into account:
- a) the identified need for different types of housing and other forms of development, and the availability of land suitable for accommodating it;
 - b) local market conditions and viability;
 - c) the availability and capacity of infrastructure and services – both existing and proposed – as well as their potential for further improvement and the scope to promote sustainable travel modes that limit future car use;
 - d) the desirability of maintaining an area's prevailing character and setting

(including residential gardens), or of promoting regeneration and change; and

- e) the importance of securing well-designed and beautiful, attractive and healthy places.

129. Area-based character assessments, design guides and codes and masterplans can be used to help ensure that land is used efficiently while also creating beautiful and sustainable places. Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:

- a) plans should contain policies to optimise the use of land in their area and meet as much of the identified need for housing as possible. This will be tested robustly at examination, and should include the use of minimum density standards for city and town centres and other locations that are well served by public transport. These standards should seek a significant uplift in the average density of residential development within these areas, unless it can be shown that there are strong reasons why this would be inappropriate;
- b) the use of minimum density standards should also be considered for other parts of the plan area. It may be appropriate to set out a range of densities that reflect the accessibility and potential of different areas, rather than one broad density range; and
- c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards).

130. In applying paragraphs 129a and b above to existing urban areas, significant uplifts in the average density of residential development may be inappropriate if the resulting built form would be wholly out of character with the existing area. Such circumstances should be evidenced through an authority-wide design code which is adopted or will be adopted as part of the development plan.

12. Achieving well-designed and beautiful places

131. The creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. Being clear about design expectations, and how these will be tested, is essential for achieving this. So too is effective engagement between applicants, communities, local planning authorities and other interests throughout the process.
132. Plans should, at the most appropriate level, set out a clear design vision and expectations, so that applicants have as much certainty as possible about what is likely to be acceptable. Design policies should be developed with local communities so they reflect local aspirations, and are grounded in an understanding and evaluation of each area's defining characteristics. Neighbourhood planning groups can play an important role in identifying the special qualities of each area and explaining how this should be reflected in development, both through their own plans and by engaging in the production of design policy, guidance and codes by local planning authorities and developers.
133. To provide maximum clarity about design expectations at an early stage, all local planning authorities should prepare design guides or codes consistent with the principles set out in the National Design Guide and National Model Design Code, and which reflect local character and design preferences. Design guides and codes provide a local framework for creating beautiful and distinctive places with a consistent and high quality standard of design. Their geographic coverage, level of detail and degree of prescription should be tailored to the circumstances and scale of change in each place, and should allow a suitable degree of variety.
134. Design guides and codes can be prepared at an area-wide, neighbourhood or site-specific scale, and to carry weight in decision-making should be produced either as part of a plan or as supplementary planning documents. Landowners and developers may contribute to these exercises, but may also choose to prepare design codes in support of a planning application for sites they wish to develop. Whoever prepares them, all guides and codes should be based on effective community engagement and reflect local aspirations for the development of their area, taking into account the guidance contained in the National Design Guide and the National Model Design Code. These national documents should be used to guide decisions on applications in the absence of locally produced design guides or design codes.
135. Planning policies and decisions should ensure that developments:
 - a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
 - b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;

- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);
 - d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;
 - e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and
 - f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users⁵²; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.
136. Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined⁵³, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.
137. Design quality should be considered throughout the evolution and assessment of individual proposals. Early discussion between applicants, the local planning authority and local community about the design and style of emerging schemes is important for clarifying expectations and reconciling local and commercial interests. Applicants should work closely with those affected by their proposals to evolve designs that take account of the views of the community. Applications that can demonstrate early, proactive and effective engagement with the community should be looked on more favourably than those that cannot.
138. Local planning authorities should ensure that they have access to, and make appropriate use of, tools and processes for assessing and improving the design of development. The primary means of doing so should be through the preparation and use of local design codes, in line with the National Model Design Code. For assessing proposals there is a range of tools including workshops to engage the local community, design advice and review arrangements, and assessment frameworks such as Building for a Healthy Life⁵⁴. These are of most benefit if used as early as possible in the evolution of schemes, and are particularly important for significant projects such as large scale housing and mixed use developments. In

⁵² Planning policies for housing should make use of the Government's optional technical standards for accessible and adaptable housing, where this would address an identified need for such properties. Policies may also make use of the nationally described space standard, where the need for an internal space standard can be justified.

⁵³ Unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate.

⁵⁴ Birkbeck D and Kruczkowski S et al (2020) *Building for a Healthy Life*

assessing applications, local planning authorities should have regard to the outcome from these processes, including any recommendations made by design review panels.

139. Development that is not well designed should be refused, especially where it fails to reflect local design policies and government guidance on design⁵⁵, taking into account any local design guidance and supplementary planning documents such as design guides and codes. Conversely, significant weight should be given to:
- a) development which reflects local design policies and government guidance on design, taking into account any local design guidance and supplementary planning documents such as design guides and codes; and/or
 - b) outstanding or innovative designs which promote high levels of sustainability, or help raise the standard of design more generally in an area, so long as they fit in with the overall form and layout of their surroundings.
140. Local planning authorities should ensure that relevant planning conditions refer to clear and accurate plans and drawings which provide visual clarity about the design of the development, and are clear about the approved use of materials where appropriate. This will provide greater certainty for those implementing the planning permission on how to comply with the permission and a clearer basis for local planning authorities to identify breaches of planning control. Local planning authorities should also seek to ensure that the quality of approved development is not materially diminished between permission and completion, as a result of changes being made to the permitted scheme (for example through changes to approved details such as the materials used).
141. The quality and character of places can suffer when advertisements are poorly sited and designed. A separate consent process within the planning system controls the display of advertisements, which should be operated in a way which is simple, efficient and effective. Advertisements should be subject to control only in the interests of amenity and public safety, taking account of cumulative impacts.

⁵⁵ Contained in the National Design Guide and National Model Design Code.

13. Protecting Green Belt land

142. The Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.
143. Green Belt serves five purposes:
- a) to check the unrestricted sprawl of large built-up areas;
 - b) to prevent neighbouring towns merging into one another;
 - c) to assist in safeguarding the countryside from encroachment;
 - d) to preserve the setting and special character of historic towns; and
 - e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.
144. The general extent of Green Belts across the country is already established. New Green Belts should only be established in exceptional circumstances, for example when planning for larger scale development such as new settlements or major urban extensions. Any proposals for new Green Belts should be set out in strategic policies, which should:
- a) demonstrate why normal planning and development management policies would not be adequate;
 - b) set out whether any major changes in circumstances have made the adoption of this exceptional measure necessary;
 - c) show what the consequences of the proposal would be for sustainable development;
 - d) demonstrate the necessity for the Green Belt and its consistency with strategic policies for adjoining areas; and
 - e) show how the Green Belt would meet the other objectives of the Framework.
145. Once established, there is no requirement for Green Belt boundaries to be reviewed or changed when plans are being prepared or updated. Authorities may choose to review and alter Green Belt boundaries where exceptional circumstances are fully evidenced and justified, in which case proposals for changes should be made only through the plan-making process. Strategic policies should establish the need for any changes to Green Belt boundaries, having regard to their intended permanence in the long term, so they can endure beyond the plan period. Where a need for changes to Green Belt boundaries has been established through strategic policies, detailed amendments to those boundaries may be made through non-strategic policies, including neighbourhood plans.

146. Before concluding that exceptional circumstances exist to justify changes to Green Belt boundaries, the strategic policy-making authority should be able to demonstrate that it has examined fully all other reasonable options for meeting its identified need for development. This will be assessed through the examination of its strategic policies, which will take into account the preceding paragraph, and whether the strategy:
- a) makes as much use as possible of suitable brownfield sites and underutilised land;
 - b) optimises the density of development in line with the policies in chapter 11 of this Framework, including whether policies promote a significant uplift in minimum density standards in town and city centres and other locations well served by public transport; and
 - c) has been informed by discussions with neighbouring authorities about whether they could accommodate some of the identified need for development, as demonstrated through the statement of common ground.
147. When drawing up or reviewing Green Belt boundaries, the need to promote sustainable patterns of development should be taken into account. Strategic policy-making authorities should consider the consequences for sustainable development of channelling development towards urban areas inside the Green Belt boundary, towards towns and villages inset within the Green Belt or towards locations beyond the outer Green Belt boundary. Where it has been concluded that it is necessary to release Green Belt land for development, plans should give first consideration to land which has been previously-developed and/or is well-served by public transport. They should also set out ways in which the impact of removing land from the Green Belt can be offset through compensatory improvements to the environmental quality and accessibility of remaining Green Belt land.
148. When defining Green Belt boundaries, plans should:
- a) ensure consistency with the development plan's strategy for meeting identified requirements for sustainable development;
 - b) not include land which it is unnecessary to keep permanently open;
 - c) where necessary, identify areas of safeguarded land between the urban area and the Green Belt, in order to meet longer-term development needs stretching well beyond the plan period;
 - d) make clear that the safeguarded land is not allocated for development at the present time. Planning permission for the permanent development of safeguarded land should only be granted following an update to a plan which proposes the development;
 - e) be able to demonstrate that Green Belt boundaries will not need to be altered at the end of the plan period; and
 - f) define boundaries clearly, using physical features that are readily recognisable and likely to be permanent.

149. If it is necessary to restrict development in a village primarily because of the important contribution which the open character of the village makes to the openness of the Green Belt, the village should be included in the Green Belt. If, however, the character of the village needs to be protected for other reasons, other means should be used, such as conservation area or normal development management policies, and the village should be excluded from the Green Belt.
150. Once Green Belts have been defined, local planning authorities should plan positively to enhance their beneficial use, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land.
151. The National Forest and Community Forests offer valuable opportunities for improving the environment around towns and cities, by upgrading the landscape and providing for recreation and wildlife. The National Forest Strategy and an approved Community Forest Plan may be a material consideration in preparing development plans and in deciding planning applications. Any development proposals within the National Forest and Community Forests in the Green Belt should be subject to the normal policies for controlling development in Green Belts.

Proposals affecting the Green Belt

152. Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances.
153. When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.
154. A local planning authority should regard the construction of new buildings as inappropriate in the Green Belt. Exceptions to this are:
 - a) buildings for agriculture and forestry;
 - b) the provision of appropriate facilities (in connection with the existing use of land or a change of use) for outdoor sport, outdoor recreation, cemeteries and burial grounds and allotments; as long as the facilities preserve the openness of the Green Belt and do not conflict with the purposes of including land within it;
 - c) the extension or alteration of a building provided that it does not result in disproportionate additions over and above the size of the original building;
 - d) the replacement of a building, provided the new building is in the same use and not materially larger than the one it replaces;
 - e) limited infilling in villages;
 - f) limited affordable housing for local community needs under policies set out in the development plan (including policies for rural exception sites); and

- g) limited infilling or the partial or complete redevelopment of previously developed land, whether redundant or in continuing use (excluding temporary buildings), which would:
 - not have a greater impact on the openness of the Green Belt than the existing development; or
 - not cause substantial harm to the openness of the Green Belt, where the development would re-use previously developed land and contribute to meeting an identified affordable housing need within the area of the local planning authority.

155. Certain other forms of development are also not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it. These are:

- a) mineral extraction;
- b) engineering operations;
- c) local transport infrastructure which can demonstrate a requirement for a Green Belt location;
- d) the re-use of buildings provided that the buildings are of permanent and substantial construction;
- e) material changes in the use of land (such as changes of use for outdoor sport or recreation, or for cemeteries and burial grounds); and
- f) development, including buildings, brought forward under a Community Right to Build Order or Neighbourhood Development Order.

156. When located in the Green Belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources.

14. Meeting the challenge of climate change, flooding and coastal change

157. The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

Planning for climate change

158. Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures⁵⁶. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.
159. New development should be planned for in ways that:
- a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and
 - b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards.
160. To help increase the use and supply of renewable and low carbon energy and heat, plans should:
- a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, and their future re-powering and life extension, while ensuring that adverse impacts are addressed appropriately (including cumulative landscape and visual impacts);
 - b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and

⁵⁶ In line with the objectives and provisions of the Climate Change Act 2008.

- c) identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.
161. Local planning authorities should support community-led initiatives for renewable and low carbon energy, including developments outside areas identified in local plans or other strategic policies that are being taken forward through neighbourhood planning.
162. In determining planning applications, local planning authorities should expect new development to:
- a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
 - b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.
163. When determining planning applications⁵⁷ for renewable and low carbon development, local planning authorities should:
- a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to significant cutting greenhouse gas emissions;
 - b) approve the application if its impacts are (or can be made) acceptable⁵⁸. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas; and
 - c) in the case of applications for the repowering and life-extension of existing renewable sites, give significant weight to the benefits of utilising an established site, and approve the proposal if its impacts are or can be made acceptable.
164. In determining planning applications, local planning authorities should give significant weight to the need to support energy efficiency and low carbon heating improvements to existing buildings, both domestic and non-domestic (including

⁵⁷ Wind energy development involving one or more turbines can also be permitted through Local Development Orders, Neighbourhood Development Orders and Community Right to Build Orders. In the case of Local Development Orders, it should be demonstrated that the planning impacts identified by the affected local community have been appropriately addressed and the proposal has community support.

⁵⁸ Except for applications for the repowering and life-extension of existing wind turbines, a planning application for wind energy development involving one or more turbines should not be considered acceptable unless it is in an area identified as suitable for wind energy development in the development plan or a supplementary planning document; and, following consultation, it can be demonstrated that the planning impacts identified by the affected local community have been appropriately addressed and the proposal has community support.

through installation of heat pumps and solar panels where these do not already benefit from permitted development rights). Where the proposals would affect conservation areas, listed buildings or other relevant designated heritage assets, local planning authorities should also apply the policies set out in chapter 16 of this Framework.

Planning and flood risk

165. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.
166. Strategic policies should be informed by a strategic flood risk assessment, and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards.
167. All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by:
 - a) applying the sequential test and then, if necessary, the exception test as set out below;
 - b) safeguarding land from development that is required, or likely to be required, for current or future flood management;
 - c) using opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding, (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and
 - d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.
168. The aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The strategic flood risk assessment will provide the basis for applying this test. The sequential approach should be used in areas known to be at risk now or in the future from any form of flooding.
169. If it is not possible for development to be located in areas with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in Annex 3.

170. The application of the exception test should be informed by a strategic or site-specific flood risk assessment, depending on whether it is being applied during plan production or at the application stage. To pass the exception test it should be demonstrated that:
- a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and
 - b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
171. Both elements of the exception test should be satisfied for development to be allocated or permitted.
172. Where planning applications come forward on sites allocated in the development plan through the sequential test, applicants need not apply the sequential test again. However, the exception test may need to be reapplied if relevant aspects of the proposal had not been considered when the test was applied at the plan-making stage, or if more recent information about existing or potential flood risk should be taken into account.
173. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment⁵⁹. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:
- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
 - b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;
 - c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;
 - d) any residual risk can be safely managed; and
 - e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

⁵⁹ A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

174. Applications for some minor development and changes of use⁶⁰ should not be subject to the sequential or exception tests but should still meet the requirements for site-specific flood risk assessments set out in footnote 59.
175. Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:
- a) take account of advice from the lead local flood authority;
 - b) have appropriate proposed minimum operational standards;
 - c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
 - d) where possible, provide multifunctional benefits.

Coastal change

176. In coastal areas, planning policies and decisions should take account of the UK Marine Policy Statement and marine plans. Integrated Coastal Zone Management should be pursued across local authority and land/sea boundaries, to ensure effective alignment of the terrestrial and marine planning regimes.
177. Plans should reduce risk from coastal change by avoiding inappropriate development in vulnerable areas and not exacerbating the impacts of physical changes to the coast. They should identify as a Coastal Change Management Area any area likely to be affected by physical changes to the coast, and:
- a) be clear as to what development will be appropriate in such areas and in what circumstances; and
 - b) make provision for development and infrastructure that needs to be relocated away from Coastal Change Management Areas.
178. Development in a Coastal Change Management Area will be appropriate only where it is demonstrated that:
- a) it will be safe over its planned lifetime and not have an unacceptable impact on coastal change;
 - b) the character of the coast including designations is not compromised;
 - c) the development provides wider sustainability benefits; and
 - d) the development does not hinder the creation and maintenance of a continuous signed and managed route around the coast⁶¹.

⁶⁰ This includes householder development, small non-residential extensions (with a footprint of less than 250m²) and changes of use; except for changes of use to a caravan, camping or chalet site, or to a mobile home or park home site, where the sequential and exception tests should be applied as appropriate.

⁶¹ As required by the Marine and Coastal Access Act 2009.

179. Local planning authorities should limit the planned lifetime of development in a Coastal Change Management Area through temporary permission and restoration conditions, where this is necessary to reduce a potentially unacceptable level of future risk to people and the development.

15. Conserving and enhancing the natural environment

180. Planning policies and decisions should contribute to and enhance the natural and local environment by:
- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
 - b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
 - c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
 - d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
 - e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
 - f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.
181. Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework⁶²; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.
182. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks

⁶² Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality. The availability of agricultural land used for food production should be considered, alongside the other policies in this Framework, when deciding what sites are most appropriate for development.

and the Broads⁶³. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

183. When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development⁶⁴ other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:
- a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
 - b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
 - c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.
184. Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 182), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

Habitats and biodiversity

185. To protect and enhance biodiversity and geodiversity, plans should:
- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity⁶⁵; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation⁶⁶; and
 - b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

⁶³ *English National Parks and the Broads: UK Government Vision and Circular 2010* provides further guidance and information about their statutory purposes, management and other matters.

⁶⁴ For the purposes of paragraphs 182 and 183, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.

⁶⁵ Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

⁶⁶ Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.

186. When determining planning applications, local planning authorities should apply the following principles:
- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
 - b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
 - c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶⁷ and a suitable compensation strategy exists; and
 - d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.
187. The following should be given the same protection as habitats sites:
- a) potential Special Protection Areas and possible Special Areas of Conservation;
 - b) listed or proposed Ramsar sites⁶⁸; and
 - c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.
188. The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

⁶⁷ For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

⁶⁸ Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.

Ground conditions and pollution

189. Planning policies and decisions should ensure that:
- a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);
 - b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and
 - c) adequate site investigation information, prepared by a competent person, is available to inform these assessments.
190. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.
191. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:
- a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life⁶⁹;
 - b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and
 - c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.
192. Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

⁶⁹ See Explanatory Note to the *Noise Policy Statement for England* (Department for Environment, Food & Rural Affairs, 2010).

193. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.
194. The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.

16. Conserving and enhancing the historic environment

195. Heritage assets range from sites and buildings of local historic value to those of the highest significance, such as World Heritage Sites which are internationally recognised to be of Outstanding Universal Value⁷⁰. These assets are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations⁷¹.
196. Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:
- a) the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;
 - b) the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
 - c) the desirability of new development making a positive contribution to local character and distinctiveness; and
 - d) opportunities to draw on the contribution made by the historic environment to the character of a place.
197. When considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.
198. Local planning authorities should maintain or have access to a historic environment record. This should contain up-to-date evidence about the historic environment in their area and be used to:
- a) assess the significance of heritage assets and the contribution they make to their environment; and
 - b) predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future.

⁷⁰ Some World Heritage Sites are inscribed by UNESCO to be of natural significance rather than cultural significance; and in some cases they are inscribed for both their natural and cultural significance.

⁷¹ The policies set out in this chapter relate, as applicable, to the heritage-related consent regimes for which local planning authorities are responsible under the Planning (Listed Buildings and Conservation Areas) Act 1990, as well as to plan-making and decision-making.

199. Local planning authorities should make information about the historic environment, gathered as part of policy-making or development management, publicly accessible.

Proposals affecting heritage assets

200. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.
201. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.
202. Where there is evidence of deliberate neglect of, or damage to, a heritage asset, the deteriorated state of the heritage asset should not be taken into account in any decision.
203. In determining applications, local planning authorities should take account of:
- a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
 - b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
 - c) the desirability of new development making a positive contribution to local character and distinctiveness.
204. In considering any applications to remove or alter a historic statue, plaque, memorial or monument (whether listed or not), local planning authorities should have regard to the importance of their retention in situ and, where appropriate, of explaining their historic and social context rather than removal.

Considering potential impacts

205. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.
206. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:
- a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;
 - b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional⁷².
207. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:
- a) the nature of the heritage asset prevents all reasonable uses of the site; and
 - b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
 - c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
 - d) the harm or loss is outweighed by the benefit of bringing the site back into use.
208. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.
209. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

⁷² Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

210. Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.
211. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible⁷³. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.
212. Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.
213. Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 207 or less than substantial harm under paragraph 208, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.
214. Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.

⁷³ Copies of evidence should be deposited with the relevant historic environment record, and any archives with a local museum or other public depository.

17. Facilitating the sustainable use of minerals

215. It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation.
216. Planning policies should:
- a) provide for the extraction of mineral resources of local and national importance, but not identify new sites or extensions to existing sites for peat extraction;
 - b) so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously;
 - c) safeguard mineral resources by defining Mineral Safeguarding Areas and Mineral Consultation Areas⁷⁴; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked);
 - d) set out policies to encourage the prior extraction of minerals, where practical and environmentally feasible, if it is necessary for non-mineral development to take place;
 - e) safeguard existing, planned and potential sites for: the bulk transport, handling and processing of minerals; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material;
 - f) set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality;
 - g) when developing noise limits, recognise that some noisy short-term activities, which may otherwise be regarded as unacceptable, are unavoidable to facilitate minerals extraction; and
 - h) ensure that worked land is reclaimed at the earliest opportunity, taking account of aviation safety, and that high quality restoration and aftercare of mineral sites takes place.
217. When determining planning applications, great weight should be given to the benefits of mineral extraction, including to the economy⁷⁵. In considering proposals

⁷⁴ Primarily in two tier areas as stated in Annex 2: Glossary

⁷⁵ Except in relation to the extraction of coal, where the policy at paragraph 223 of this Framework applies.

for mineral extraction, minerals planning authorities should:

- a) as far as is practical, provide for the maintenance of landbanks of non-energy minerals from outside National Parks, the Broads, Areas of Outstanding Natural Beauty and World Heritage Sites, scheduled monuments and conservation areas;
- b) ensure that there are no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety, and take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality;
- c) ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations are controlled, mitigated or removed at source⁷⁶, and establish appropriate noise limits for extraction in proximity to noise sensitive properties;
- d) not grant planning permission for peat extraction from new or extended sites;
- e) provide for restoration and aftercare at the earliest opportunity, to be carried out to high environmental standards, through the application of appropriate conditions. Bonds or other financial guarantees to underpin planning conditions should only be sought in exceptional circumstances;
- f) consider how to meet any demand for the extraction of building stone needed for the repair of heritage assets, taking account of the need to protect designated sites; and
- g) recognise the small-scale nature and impact of building and roofing stone quarries, and the need for a flexible approach to the duration of planning permissions reflecting the intermittent or low rate of working at many sites.

218. Local planning authorities should not normally permit other development proposals in Mineral Safeguarding Areas if it might constrain potential future use for mineral working.

Maintaining supply

219. Minerals planning authorities should plan for a steady and adequate supply of aggregates by:

- a) preparing an annual Local Aggregate Assessment, either individually or jointly, to forecast future demand, based on a rolling average of 10 years' sales data and other relevant local information, and an assessment of all supply options (including marine dredged, secondary and recycled sources);
- b) participating in the operation of an Aggregate Working Party and taking the advice of that party into account when preparing their Local Aggregate Assessment;
- c) making provision for the land-won and other elements of their Local Aggregate

⁷⁶ National planning guidance on minerals sets out how these policies should be implemented.

Assessment in their mineral plans, taking account of the advice of the Aggregate Working Parties and the National Aggregate Co-ordinating Group as appropriate. Such provision should take the form of specific sites, preferred areas and/or areas of search and locational criteria as appropriate;

- d) taking account of any published National and Sub National Guidelines on future provision which should be used as a guideline when planning for the future demand for and supply of aggregates;
- e) using landbanks of aggregate minerals reserves principally as an indicator of the security of aggregate minerals supply, and to indicate the additional provision that needs to be made for new aggregate extraction and alternative supplies in mineral plans;
- f) maintaining landbanks of at least 7 years for sand and gravel and at least 10 years for crushed rock, whilst ensuring that the capacity of operations to supply a wide range of materials is not compromised⁷⁷;
- g) ensuring that large landbanks bound up in very few sites do not stifle competition; and
- h) calculating and maintaining separate landbanks for any aggregate materials of a specific type or quality which have a distinct and separate market.

220. Minerals planning authorities should plan for a steady and adequate supply of industrial minerals by:

- a) co-operating with neighbouring and more distant authorities to ensure an adequate provision of industrial minerals to support their likely use in industrial and manufacturing processes;
- b) encouraging safeguarding or stockpiling so that important minerals remain available for use;
- c) maintaining a stock of permitted reserves to support the level of actual and proposed investment required for new or existing plant, and the maintenance and improvement of existing plant and equipment⁷⁸; and
- d) taking account of the need for provision of brick clay from a number of different sources to enable appropriate blends to be made.

⁷⁷ Longer periods may be appropriate to take account of the need to supply a range of types of aggregates, locations of permitted reserves relative to markets, and productive capacity of permitted sites.

⁷⁸ These reserves should be at least 10 years for individual silica sand sites; at least 15 years for cement primary (chalk and limestone) and secondary (clay and shale) materials to maintain an existing plant, and for silica sand sites where significant new capital is required; and at least 25 years for brick clay, and for cement primary and secondary materials to support a new kiln.

Oil, gas and coal exploration and extraction

221. Minerals planning authorities should:

- a) when planning for on-shore oil and gas development, clearly distinguish between, and plan positively for, the three phases of development (exploration, appraisal and production), whilst ensuring appropriate monitoring and site restoration is provided for;
- b) encourage underground gas and carbon storage and associated infrastructure if local geological circumstances indicate its feasibility;
- c) indicate any areas where coal extraction and the disposal of colliery spoil may be acceptable;
- d) encourage the capture and use of methane from coal mines in active and abandoned coalfield areas; and
- e) provide for coal producers to extract separately, and if necessary stockpile, fireclay so that it remains available for use.

222. When determining planning applications, minerals planning authorities should ensure that the integrity and safety of underground storage facilities are appropriate, taking into account the maintenance of gas pressure, prevention of leakage of gas and the avoidance of pollution.

223. Planning permission should not be granted for the extraction of coal unless:

- a) the proposal is environmentally acceptable, or can be made so by planning conditions or obligations; or
- b) if it is not environmentally acceptable, then it provides national, local or community benefits which clearly outweigh its likely impacts (taking all relevant matters into account, including any residual environmental impacts).

Annex 1: Implementation

For the purposes of decision-making

224. The policies in this Framework are material considerations which should be taken into account in dealing with applications from the day of its publication⁷⁹. Plans may also need to be revised to reflect policy changes which this Framework has made.
225. However, existing policies should not be considered out-of-date simply because they were adopted or made prior to the publication of this Framework. Due weight should be given to them, according to their degree of consistency with this Framework (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given).
226. From the date of publication of this revision of the Framework, for decision-making purposes only, certain local planning authorities will only be required to identify and update annually a supply of specific deliverable sites sufficient to provide a minimum of four years' worth of housing (with a buffer, if applicable, as set out in paragraph 77) against the housing requirement set out in adopted strategic policies, or against local housing need where the strategic policies are more than five years old⁸⁰, instead of a minimum of five years as set out in paragraph 77 of this Framework. This policy applies to those authorities which have an emerging local plan that has either been submitted for examination or has reached Regulation 18 or Regulation 19 (Town and Country Planning (Local Planning) (England) Regulations 2012) stage, including both a policies map and proposed allocations towards meeting housing need. This provision does not apply to authorities who are not required to demonstrate a housing land supply, as set out in paragraph 76. These arrangements will apply for a period of two years from the publication date of this revision of the Framework.

For the purposes of plan-making

227. The policies in the original National Planning Policy Framework published in March 2012 will apply for the purpose of examining plans, where those plans were submitted on or before 24 January 2019. Where such plans are withdrawn or otherwise do not proceed to become part of the development plan, the policies contained in this Framework will apply to any subsequent plan produced for the area concerned.
228. For the purposes of the policy on larger-scale development in paragraph 22, this applies only to plans that have not reached Regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2012 (pre-submission) stage at the point the previous version of this Framework was published on 20

⁷⁹ As an exception to this, the policy contained in paragraph 76 and the related reference in footnote 8 of this Framework should only be taken into account as a material consideration when dealing with applications made on or after the date of publication of this version of the Framework.

⁸⁰ Unless these strategic policies have been reviewed and found not to require updating. Where local housing need is used as the basis for assessing whether a four year supply of specific deliverable sites exists, it should be calculated using the standard method set out in national planning guidance.

July 2021 (for Spatial Development Strategies this would refer to consultation under section 335(2) of the Greater London Authority Act 1999).

229. For the purposes of the policy on renewable and low carbon energy and heat in plans in paragraph 160, this policy does not apply to plans that have reached Regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2012 (pre-submission) stage, or that reach this stage within three months of the date of publication of the previous version of this Framework published on 5 September 2023. For Spatial Development Strategies, paragraph 160 does not apply to strategies that have reached consultation under section 335(2) of the Greater London Authority Act 1999 or that reach this stage within three months of the date of publication of the previous version of this Framework published on 5 September 2023.
230. The policies in this Framework (published on 19 December 2023) will apply for the purpose of examining plans, where those plans reach regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2012 (pre-submission) stage after 19 March 2024. Plans that reach pre-submission consultation on or before this date will be examined under the relevant previous version of the Framework in accordance with the above arrangements. For Spatial Development Strategies, this Framework applies to strategies that have reached consultation under section 335(2) of the Greater London Authority Act 1999 after 19 March 2024. Strategies that reach this stage on or before this date will be examined under the relevant previous version of the Framework in accordance with the above arrangements. Where plans or strategies are withdrawn or otherwise do not proceed to become part of the development plan, the policies contained in this Framework will apply to any subsequent plan or strategy produced for the area concerned.
231. The Government will continue to explore with individual areas the potential for planning freedoms and flexibilities, for example where this would facilitate an increase in the amount of housing that can be delivered.

Annex 2: Glossary

Affordable housing: housing for sale or rent, for those whose needs are not met by the market (including housing that provides a subsidised route to home ownership and/or is for essential local workers); and which complies with one or more of the following definitions⁸¹:

- a) **Affordable housing for rent:** meets all of the following conditions: (a) the rent is set in accordance with the Government's rent policy for Social Rent or Affordable Rent, or is at least 20% below local market rents (including service charges where applicable); (b) the landlord is a registered provider, except where it is included as part of a Build to Rent scheme (in which case the landlord need not be a registered provider); and (c) it includes provisions to remain at an affordable price for future eligible households, or for the subsidy to be recycled for alternative affordable housing provision. For Build to Rent schemes affordable housing for rent is expected to be the normal form of affordable housing provision (and, in this context, is known as Affordable Private Rent).
- b) **Starter homes:** is as specified in Sections 2 and 3 of the Housing and Planning Act 2016 and any secondary legislation made under these sections. The definition of a starter home should reflect the meaning set out in statute and any such secondary legislation at the time of plan-preparation or decision-making. Where secondary legislation has the effect of limiting a household's eligibility to purchase a starter home to those with a particular maximum level of household income, those restrictions should be used.
- c) **Discounted market sales housing:** is that sold at a discount of at least 20% below local market value. Eligibility is determined with regard to local incomes and local house prices. Provisions should be in place to ensure housing remains at a discount for future eligible households.
- d) **Other affordable routes to home ownership:** is housing provided for sale that provides a route to ownership for those who could not achieve home ownership through the market. It includes shared ownership, relevant equity loans, other low cost homes for sale (at a price equivalent to at least 20% below local market value) and rent to buy (which includes a period of intermediate rent). Where public grant funding is provided, there should be provisions for the homes to remain at an affordable price for future eligible households, or for any receipts to be recycled for alternative affordable housing provision, or refunded to Government or the relevant authority specified in the funding agreement.

Air quality management areas: Areas designated by local authorities because they are not likely to achieve national air quality objectives by the relevant deadlines.

Ancient or veteran tree: A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.

⁸¹ This definition should be read in conjunction with relevant policy contained in the Affordable Homes Update Written Ministerial Statement published on 24 May 2021.

Ancient woodland: An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS).

Annual position statement: A document setting out the 5 year housing land supply position on 1st April each year, prepared by the local planning authority in consultation with developers and others who have an impact on delivery.

Archaeological interest: There will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.

Article 4 direction: A direction made under [Article 4 of the Town and Country Planning \(General Permitted Development\) \(England\) Order 2015](#) which withdraws permitted development rights granted by that Order.

Best and most versatile agricultural land: Land in grades 1, 2 and 3a of the Agricultural Land Classification.

Brownfield land: See Previously developed land.

Brownfield land registers: Registers of previously developed land that local planning authorities consider to be appropriate for residential development, having regard to criteria in the Town and Country Planning (Brownfield Land Registers) Regulations 2017. Local planning authorities will be able to trigger a grant of permission in principle for residential development on suitable sites in their registers where they follow the required procedures.

Build to Rent: Purpose built housing that is typically 100% rented out. It can form part of a wider multi-tenure development comprising either flats or houses, but should be on the same site and/or contiguous with the main development. Schemes will usually offer longer tenancy agreements of three years or more, and will typically be professionally managed stock in single ownership and management control.

Climate change adaptation: Adjustments made to natural or human systems in response to the actual or anticipated impacts of climate change, to mitigate harm or exploit beneficial opportunities.

Climate change mitigation: Action to reduce the impact of human activity on the climate system, primarily through reducing greenhouse gas emissions.

Coastal change management area: An area identified in plans as likely to be affected by physical change to the shoreline through erosion, coastal landslip, permanent inundation or coastal accretion.

Community forest: An area identified through the England Community Forest Programme to revitalise countryside and green space in and around major conurbations.

Community Right to Build Order: An Order made by the local planning authority (under the Town and Country Planning Act 1990) that grants planning permission for a site-specific development proposal or classes of development.

Community-led developments: A development instigated and taken forward by a not-for-profit organisation set up and run primarily for the purpose of meeting the housing needs of its members and the wider local community, rather than being a primarily commercial enterprise. The organisation is created, managed and democratically controlled by its members. It may take any one of various legal forms including a community land trust, housing co-operative and community benefit society. Membership of the organisation is open to all beneficiaries and prospective beneficiaries of that organisation. The organisation should own, manage or steward the homes in a manner consistent with its purpose, for example through a mutually supported arrangement with a Registered Provider of Social Housing. The benefits of the development to the specified community should be clearly defined and consideration given to how these benefits can be protected over time, including in the event of the organisation being wound up.

Competent person (to prepare site investigation information): A person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation.

Conservation (for heritage policy): The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.

Decentralised energy: Local renewable and local low carbon energy sources.

Deliverable: To be considered deliverable, sites for housing should be available now, offer a suitable location for development now, and be achievable with a realistic prospect that housing will be delivered on the site within five years. In particular:

- a) sites which do not involve major development and have planning permission, and all sites with detailed planning permission, should be considered deliverable until permission expires, unless there is clear evidence that homes will not be delivered within five years (for example because they are no longer viable, there is no longer a demand for the type of units or sites have long term phasing plans).
- b) where a site has outline planning permission for major development, has been allocated in a development plan, has a grant of permission in principle, or is identified on a brownfield register, it should only be considered deliverable where there is clear evidence that housing completions will begin on site within five years.

Design code: A set of illustrated design requirements that provide specific, detailed parameters for the physical development of a site or area. The graphic and written components of the code should build upon a design vision, such as a masterplan or other design and development framework for a site or area.

Design guide: A document providing guidance on how development can be carried out in accordance with good design practice, often produced by a local authority.

Designated heritage asset: A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.

Designated rural areas: National Parks, Areas of Outstanding Natural Beauty and areas designated as 'rural' under Section 157 of the Housing Act 1985.

Developable: To be considered developable, sites should be in a suitable location for

housing development with a reasonable prospect that they will be available and could be viably developed at the point envisaged.

Development plan: Is defined in section 38 of the Planning and Compulsory Purchase Act 2004, and includes adopted local plans, neighbourhood plans that have been made and published spatial development strategies, together with any regional strategy policies that remain in force. Neighbourhood plans that have been approved at referendum are also part of the development plan, unless the local planning authority decides that the neighbourhood plan should not be made.

Edge of centre: For retail purposes, a location that is well connected to, and up to 300 metres from, the primary shopping area. For all other main town centre uses, a location within 300 metres of a town centre boundary. For office development, this includes locations outside the town centre but within 500 metres of a public transport interchange. In determining whether a site falls within the definition of edge of centre, account should be taken of local circumstances.

Environmental impact assessment: A procedure to be followed for certain types of project to ensure that decisions are made in full knowledge of any likely significant effects on the environment.

Essential local workers: Public sector employees who provide frontline services in areas including health, education and community safety – such as NHS staff, teachers, police, firefighters and military personnel, social care and childcare workers.

General aviation airfields: Licenced or unlicenced aerodromes with hard or grass runways, often with extensive areas of open land related to aviation activity.

Geodiversity: The range of rocks, minerals, fossils, soils and landforms.

Green infrastructure: A network of multi-functional green and blue spaces and other natural features, urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity.

Habitats site: Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.

Heritage asset: A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing).

Heritage coast: Areas of undeveloped coastline which are managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors.

Historic environment: All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past

human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

Historic environment record: Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.

Housing Delivery Test: Measures net homes delivered in a local authority area against the homes required, using national statistics and local authority data. The Secretary of State will publish the Housing Delivery Test results for each local authority in England annually.

International, national and locally designated sites of importance for biodiversity: All international sites (Special Areas of Conservation, Special Protection Areas, and Ramsar sites), national sites (Sites of Special Scientific Interest) and locally designated sites including Local Wildlife Sites.

Irreplaceable habitat: Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.

Local Development Order: An Order made by a local planning authority (under the Town and Country Planning Act 1990) that grants planning permission for a specific development proposal or classes of development.

Local Enterprise Partnership: A body, designated by the Secretary of State for Housing, Communities and Local Government, established for the purpose of creating or improving the conditions for economic growth in an area.

Local housing need: The number of homes identified as being needed through the application of the standard method set out in national planning guidance (or, in the context of preparing strategic policies only, this may be calculated using a justified alternative approach as provided for in paragraph 61 of this Framework).

Local Nature Partnership: A body, designated by the Secretary of State for Environment, Food and Rural Affairs, established for the purpose of protecting and improving the natural environment in an area and the benefits derived from it.

Local planning authority: The public authority whose duty it is to carry out specific planning functions for a particular area. All references to local planning authority include the district council, London borough council, county council, Broads Authority, National Park Authority, the Mayor of London and a development corporation, to the extent appropriate to their responsibilities.

Local plan: A plan for the future development of a local area, drawn up by the local planning authority in consultation with the community. In law this is described as the development plan documents adopted under the Planning and Compulsory Purchase Act 2004. A local plan can consist of either strategic or non-strategic policies, or a combination of the two.

Main town centre uses: Retail development (including warehouse clubs and factory outlet centres); leisure, entertainment and more intensive sport and recreation uses (including cinemas, restaurants, drive-through restaurants, bars and pubs, nightclubs, casinos, health and fitness centres, indoor bowling centres and bingo halls); offices; and arts, culture and tourism development (including theatres, museums, galleries and concert halls, hotels and conference facilities).

Major development⁸²: For housing, development where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more. For non-residential development it means additional floorspace of 1,000m² or more, or a site of 1 hectare or more, or as otherwise provided in the Town and Country Planning (Development Management Procedure) (England) Order 2015.

Major hazard sites, installations and pipelines: Sites and infrastructure, including licensed explosive sites and nuclear installations, around which Health and Safety Executive (and Office for Nuclear Regulation) consultation distances to mitigate the consequences to public safety of major accidents may apply.

Mansard roof: A type of roof that is characterised by two slopes, the lower steep and the upper shallow. It is generally regarded as a suitable type of roof extension for buildings which are part of a terrace of at least three buildings and at least two stories tall, with a parapet running the entire length of the front façade (reference: Create Streets, 2021, *Living Tradition*).

Minerals resources of local and national importance: Minerals which are necessary to meet society's needs, including aggregates, brickclay (especially Etruria Marl and fireclay), silica sand (including high grade silica sands), coal derived fly ash in single use deposits, cement raw materials, gypsum, salt, fluorspar, shallow and deep-mined coal, oil and gas (including conventional and unconventional hydrocarbons), tungsten, kaolin, ball clay, potash, polyhalite and local minerals of importance to heritage assets and local distinctiveness.

Mineral Consultation Area: a geographical area based on a Mineral Safeguarding Area, where the district or borough council should consult the Mineral Planning Authority for any proposals for non-minerals development.

Mineral Safeguarding Area: An area designated by minerals planning authorities which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.

National trails: Long distance routes for walking, cycling and horse riding.

Natural Flood Management: managing flood and coastal erosion risk by protecting, restoring and emulating the natural 'regulating' function of catchments, rivers, floodplains and coasts.

Nature Recovery Network: An expanding, increasingly connected, network of wildlife-rich habitats supporting species recovery, alongside wider benefits such as carbon capture, water quality improvements, natural flood risk management and recreation. It includes the existing network of protected sites and other wildlife rich habitats as well as

⁸² Other than for the specific purposes of paragraphs 182 and 183 in this Framework.

and landscape or catchment scale recovery areas where there is coordinated action for species and habitats.

Neighbourhood Development Order: An Order made by a local planning authority (under the Town and Country Planning Act 1990) through which parish councils and neighbourhood forums can grant planning permission for a specific development proposal or classes of development.

Neighbourhood plan: A plan prepared by a parish council or neighbourhood forum for a designated neighbourhood area. In law this is described as a neighbourhood development plan in the Planning and Compulsory Purchase Act 2004.

Non-strategic policies: Policies contained in a neighbourhood plan, or those policies in a local plan that are not strategic policies.

Older people: People over or approaching retirement age, including the active, newly-retired through to the very frail elderly; and whose housing needs can encompass accessible, adaptable general needs housing through to the full range of retirement and specialised housing for those with support or care needs.

Open space: All open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity.

Original building: A building as it existed on 1 July 1948 or, if constructed after 1 July 1948, as it was built originally.

Out of centre: A location which is not in or on the edge of a centre but not necessarily outside the urban area.

Out of town: A location out of centre that is outside the existing urban area.

Outstanding universal value: Cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations. An individual Statement of Outstanding Universal Value is agreed and adopted by the UNESCO World Heritage Committee for each World Heritage Site.

People with disabilities: People have a disability if they have a physical or mental impairment, and that impairment has a substantial and long-term adverse effect on their ability to carry out normal day-to-day activities. These persons include, but are not limited to, people with ambulatory difficulties, blindness, learning difficulties, autism and mental health needs.

Permission in principle: A form of planning consent which establishes that a site is suitable for a specified amount of housing-led development in principle. Following a grant of permission in principle, the site must receive a grant of technical details consent before development can proceed.

Planning condition: A condition imposed on a grant of planning permission (in accordance with the Town and Country Planning Act 1990) or a condition included in a Local Development Order or Neighbourhood Development Order.

Planning obligation: A legal agreement entered into under section 106 of the Town and Country Planning Act 1990 to mitigate the impacts of a development proposal.

Playing field: The whole of a site which encompasses at least one playing pitch as defined in the Town and Country Planning (Development Management Procedure) (England) Order 2015.

Previously developed land: Land which is or was occupied by a permanent structure, including the curtilage of the developed land (although it should not be assumed that the whole of the curtilage should be developed) and any associated fixed surface infrastructure. This excludes: land that is or was last occupied by agricultural or forestry buildings; land that has been developed for minerals extraction or waste disposal by landfill, where provision for restoration has been made through development management procedures; land in built-up areas such as residential gardens, parks, recreation grounds and allotments; and land that was previously developed but where the remains of the permanent structure or fixed surface structure have blended into the landscape.

Primary shopping area: Defined area where retail development is concentrated.

Priority habitats and species: Species and Habitats of Principal Importance included in the England Biodiversity List published by the Secretary of State under section 41 of the Natural Environment and Rural Communities Act 2006.

Ramsar sites: Wetlands of international importance, designated under the 1971 Ramsar Convention.

Renewable and low carbon energy: Includes energy for heating and cooling as well as generating electricity. Renewable energy covers those energy flows that occur naturally and repeatedly in the environment – from the wind, the fall of water, the movement of the oceans, from the sun and also from biomass and deep geothermal heat. Low carbon technologies are those that can help reduce emissions (compared to conventional use of fossil fuels).

Rural exception sites: Small sites used for affordable housing in perpetuity where sites would not normally be used for housing. Rural exception sites seek to address the needs of the local community by accommodating households who are either current residents or have an existing family or employment connection. A proportion of market homes may be allowed on the site at the local planning authority's discretion, for example where essential to enable the delivery of affordable units without grant funding.

Recycled aggregates: aggregates resulting from the processing of inorganic materials previously used in construction, e.g. construction and demolition waste.

Safeguarding zone: An area defined in Circular 01/03: *Safeguarding aerodromes, technical sites and military explosives storage areas*, to which specific safeguarding provisions apply.

Secondary aggregates: aggregates from industrial wastes such as glass (cullet), incinerator bottom ash, coal derived fly ash, railway ballast, fine ceramic waste (pitcher), and scrap tyres; and industrial and minerals by-products, notably waste from china clay, coal and slate extraction and spent foundry sand. These can also include hydraulically

bound materials.

Self-build and custom-build housing: Housing built by an individual, a group of individuals, or persons working with or for them, to be occupied by that individual. Such housing can be either market or affordable housing. A legal definition, for the purpose of applying the Self-build and Custom Housebuilding Act 2015 (as amended), is contained in section 1(A1) and (A2) of that Act.

Setting of a heritage asset: The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.

Significance (for heritage policy): The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each site's Statement of Outstanding Universal Value forms part of its significance.

Special Areas of Conservation: Areas defined by regulation 3 of the Conservation of Habitats and Species Regulations 2017 which have been given special protection as important conservation sites.

Special Protection Areas: Areas classified under regulation 15 of the Conservation of Habitats and Species Regulations 2017 which have been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds.

Site investigation information: Includes a risk assessment of land potentially affected by contamination, or ground stability and slope stability reports, as appropriate. All investigations of land potentially affected by contamination should be carried out in accordance with established procedures (such as BS10175 Investigation of Potentially Contaminated Sites – Code of Practice).

Site of Special Scientific Interest: Sites designated by Natural England under the Wildlife and Countryside Act 1981.

Spatial development strategy: A plan containing strategic policies prepared by a Mayor or a combined authority. It includes the London Plan (prepared under provisions in the Greater London Authority Act 1999) and plans prepared by combined authorities that have been given equivalent plan-making functions by an order made under the Local Democracy, Economic Development and Construction Act 2009 (as amended).

Stepping stones: Pockets of habitat that, while not necessarily connected, facilitate the movement of species across otherwise inhospitable landscapes.

Strategic environmental assessment: A procedure (set out in the Environmental Assessment of Plans and Programmes Regulations 2004) which requires the formal environmental assessment of certain plans and programmes which are likely to have significant effects on the environment.

Strategic policies: Policies and site allocations which address strategic priorities in line with the requirements of Section 19 (1B-E) of the Planning and Compulsory Purchase Act 2004.

Strategic policy-making authorities: Those authorities responsible for producing strategic policies (local planning authorities, and elected Mayors or combined authorities, where this power has been conferred). This definition applies whether the authority is in the process of producing strategic policies or not.

Supplementary planning documents: Documents which add further detail to the policies in the development plan. They can be used to provide further guidance for development on specific sites, or on particular issues, such as design. Supplementary planning documents are capable of being a material consideration in planning decisions but are not part of the development plan.

Sustainable transport modes: Any efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, ultra low and zero emission vehicles, car sharing and public transport.

Town centre: Area defined on the local authority's policies map, including the primary shopping area and areas predominantly occupied by main town centre uses within or adjacent to the primary shopping area. References to town centres or centres apply to city centres, town centres, district centres and local centres but exclude small parades of shops of purely neighbourhood significance. Unless they are identified as centres in the development plan, existing out-of-centre developments, comprising or including main town centre uses, do not constitute town centres.

Transport assessment: A comprehensive and systematic process that sets out transport issues relating to a proposed development. It identifies measures required to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling and public transport, and measures that will be needed deal with the anticipated transport impacts of the development.

Transport statement: A simplified version of a transport assessment where it is agreed the transport issues arising from development proposals are limited and a full transport assessment is not required.

Travel plan: A long-term management strategy for an organisation or site that seeks to deliver sustainable transport objectives and is regularly reviewed.

Wildlife corridor: Areas of habitat connecting wildlife populations.

Windfall sites: Sites not specifically identified in the development plan.

Annex 3: Flood risk vulnerability classification

ESSENTIAL INFRASTRUCTURE

- Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.
- Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including infrastructure for electricity supply including generation, storage and distribution systems; and water treatment works that need to remain operational in times of flood.
- Wind turbines.
- Solar farms

HIGHLY VULNERABLE

- Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding.
- Emergency dispersal points.
- Basement dwellings.
- Caravans, mobile homes and park homes intended for permanent residential use.
- Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure'.)

MORE VULNERABLE

- Hospitals
- Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.
- Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.
- Non-residential uses for health services, nurseries and educational establishments.
- Landfill* and sites used for waste management facilities for hazardous waste.
- Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

LESS VULNERABLE

- Police, ambulance and fire stations which are not required to be operational during flooding.

- Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; and assembly and leisure.
- Land and buildings used for agriculture and forestry.
- Waste treatment (except landfill* and hazardous waste facilities).
- Minerals working and processing (except for sand and gravel working).
- Water treatment works which do not need to remain operational during times of flood.
- Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.
- Car parks.

WATER-COMPATIBLE DEVELOPMENT

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

* Landfill is as defined in Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010.

Appendix 5.

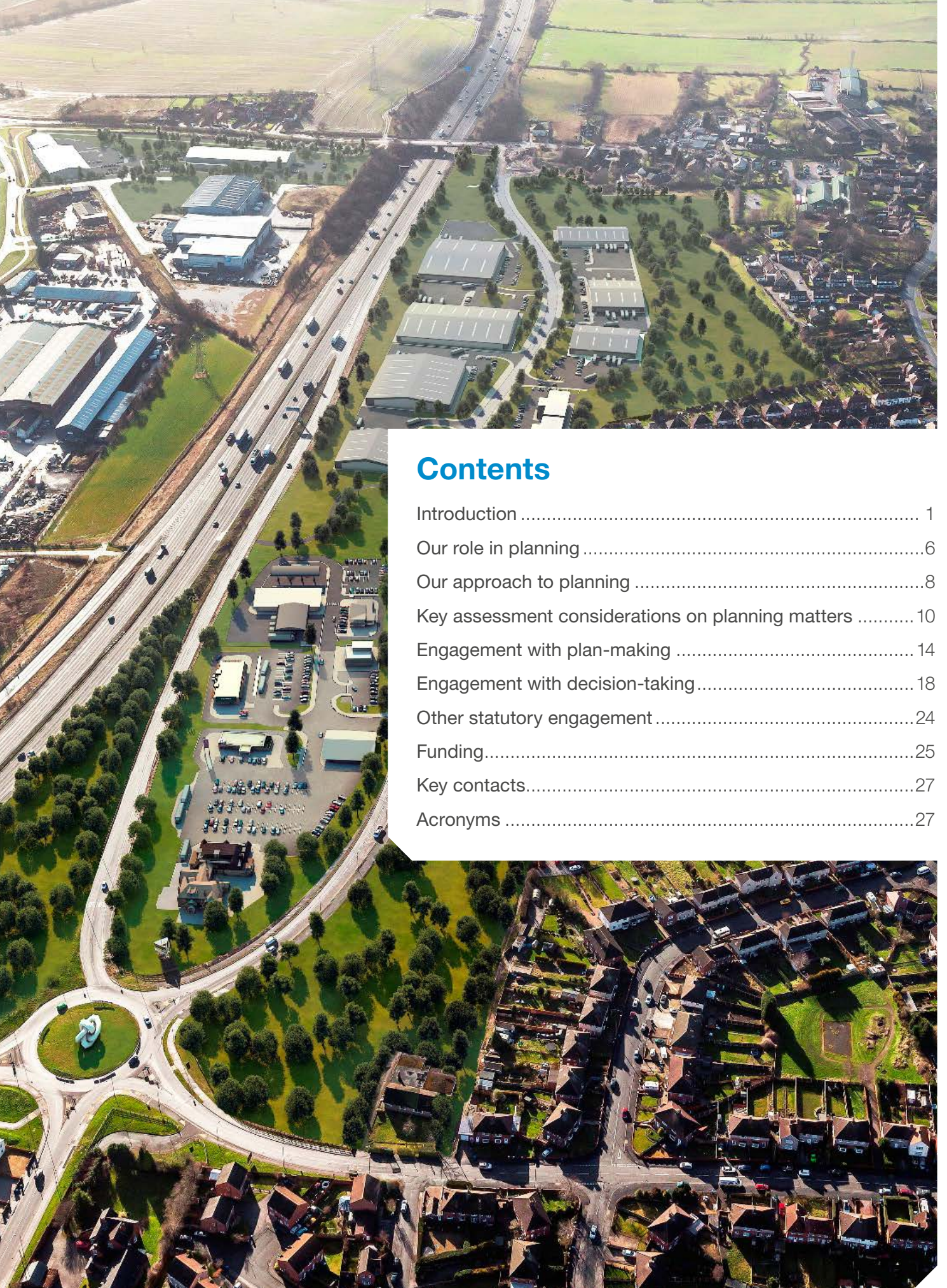
Planning for the future – A guide to working with National Highway on planning matters (October 2023)



Planning for the future

A guide to working with
National Highways on
planning matters

October 2023



Contents

Introduction	1
Our role in planning	6
Our approach to planning	8
Key assessment considerations on planning matters	10
Engagement with plan-making	14
Engagement with decision-taking	18
Other statutory engagement	24
Funding	25
Key contacts	27
Acronyms	27

Introduction

1. This document, our planning guide¹, describes the approach we take to engaging in the planning system and the issues we look at when considering draft planning documents and planning applications. It should be read in conjunction with the Department for Transport (DfT) Circular 01/2022²: *Strategic road network and the delivery of sustainable development*, which explains how National Highways will engage in the planning system and sets out the policy of the Secretary of State for Transport in relation to the strategic road network (SRN).
2. The guide provides further advice on the information we would like to see included in a planning proposal and outlines the support we can offer at every stage of the planning process. Like DfT Circular 01/2022, it is aimed at development promoters and their consultants, strategic policy-making authorities, local highway authorities, sub-national transport bodies, local enterprise partnerships, community groups and others involved in development proposals which may result in any traffic or other impact on the SRN.
3. This guide is written in the context of statutory responsibilities as set out in our operating licence and in planning legislation, and in support of Government policy including the *National Planning Policy Framework (NPPF)* and the DfT Circular 01/2022.

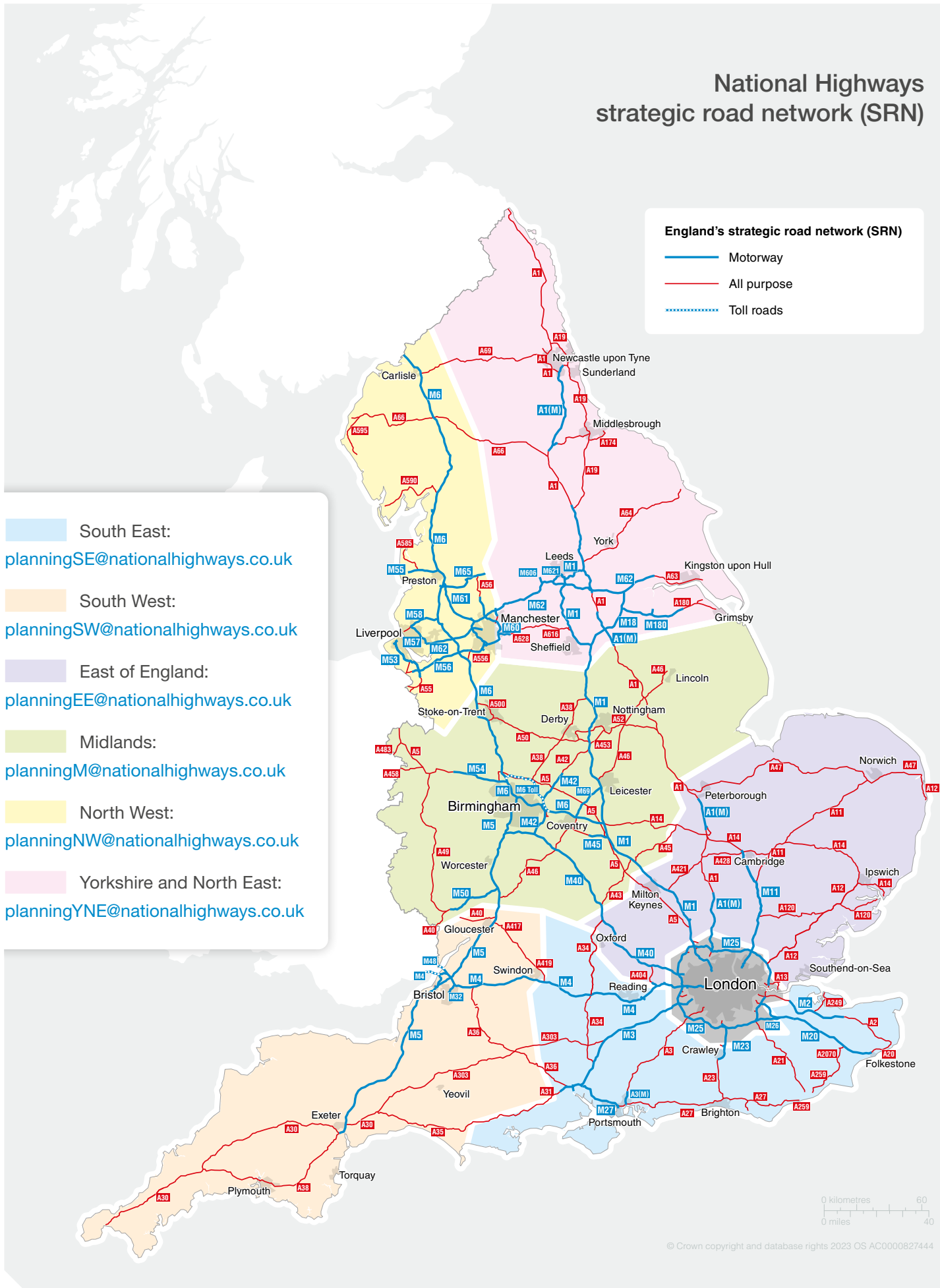
The role of the SRN in supporting a net zero Britain

4. The SRN is arguably the biggest and single most important piece of infrastructure in the country (at 31 March 2022, the assets we hold were valued at £144.2 billion). The trunk motorways and all-purpose trunk roads that comprise the SRN are the most heavily used part of the national road network; they carry a third of all traffic and two-thirds of all freight.



1 This version replaces the initial Planning Guide published in 2015.
2 <https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development>

Figure A: SRN and regional spatial planning areas



5. As set out in the *Road investment strategy 2: 2020 to 2025*³, the principal purpose of the SRN is to enable safe, reliable, predictable, efficient, often long distance journeys of both people (whether as drivers or passengers) and goods in England between:
 - main centres of population
 - major ports, airports and rail terminals
 - geographically peripheral regions of England
 - chief cross-border routes to Scotland and Wales
6. The SRN therefore provides critical links between our cities and other urban areas, serves as a gateway to global markets and travel destinations, connects our communities with families and job opportunities, and binds and strengthens our union. It drives productivity and prosperity by unlocking growth, encouraging trade and attracting investment, and plays a vital role in levelling up the country.
7. As set out in *Connecting the country: our long-term strategic plan to 2050*⁴, National Highways' 2050 vision is for the SRN to be part of a seamlessly-integrated transport system that meets our customers' needs by connecting the country safely and reliably, delivering economic prosperity, social value and a thriving environment.
8. Today, however, roads are seen by many to work against the ambitions of a zero carbon economy. Yet to deliver a net zero economy, our roads have to be net zero too. This is why:
 - **Britain relies on roads today** - roads and cars are an integral part of our transport system.
 - **Road travel will decarbonise fast** - while road travel represents a higher carbon way to travel in the UK today, this is changing fast.
9. For more information see *Net zero highways: our 2030 / 2040 / 2050 plan*⁵ which aims to ensure our roads support the social and economic goals of our nation, while making sure we do so in an environmentally sound way.
- **A new zero Britain will still travel by road in 2050** - while we support investment in all zero carbon transport options, investment in other forms of transport, such as rail, will make only a limited impact on how Britain moves.
- **Investment in Britain's roads supports a thriving net zero economy** - today every £1 investment in the SRN returns over £2 to the economy. Our roads directly support sectors which employ 7.4 million people in the UK and contribute £314 billion Gross Value Added to the economy. The industries that rely on the road network are expected to grow by 35% by 2030, which will generate an additional £110 billion of UK growth.



3 <https://www.gov.uk/government/publications/road-investment-strategy-2-ris2-2020-to-2025>

4 <https://nationalhighways.co.uk/our-roads/future-roads/connecting-the-country/>

5 <https://nationalhighways.co.uk/netzerohighways/>

Working with us - early engagement

10. National Highways is a statutory consultee in the planning system. In discharging this responsibility, we act as a proactive partner. This guide aims to help you get the best out of your relationship with us and to show what you can expect from us. It sets out our approach to planning and what we look for when preparing and making decisions on plans and development proposals. The pages that follow explain our position, providing guidance and clarity on the matters that we shall have regard to, and what we are likely to find acceptable and unacceptable, to help you shape your proposals and ensure that they are sustainable in every sense.
11. This guide sets out how we, along with those acting on our behalf, will work to help you to assess and successfully manage the relationship between your proposed development and the SRN. We encourage all parties promoting and preparing plans or planning applications that could have an impact on the SRN to engage with us as early as possible.
12. Engaging with us early helps to ensure that issues which may take time to analyse and resolve are identified as soon as possible. We can then work together to establish a shared vision for the plan or proposed development, including:
 - considering the most appropriate locations for development
 - assessing the potential impact of development proposals on the SRN
 - enabling appropriate sustainable development (including considering how best to deliver the development, and any associated mitigation works, whilst minimising the adverse impacts that it might give rise to)
 - promoting journeys made by a range of modes other than private car, for example, by considering public transport, walking and cycling routes, whilst

- maintaining the safety and efficiency of the SRN

Contacting us

13. Our response to planning enquiries is locally led through regional spatial planning teams who know and understand the SRN in their areas (see Figure A). This enables us to provide:
 - a) strong intelligence, evidence and an understanding of how the SRN and surrounding local transport networks operate
 - b) information on relevant local factors
 - c) named contacts who are able to establish positive and productive relationships with all involved in the planning process
14. We would advise local stakeholders – planning officers, highways officers and development promoters – to focus their engagement with us via our regional spatial planning teams:
 - **South-East:**
planningSE@nationalhighways.co.uk
 - **South-West:**
planningSW@nationalhighways.co.uk
 - **East of England:**
planningEE@nationalhighways.co.uk
 - **Midlands:**
planningM@nationalhighways.co.uk
 - **North-West:**
planningNW@nationalhighways.co.uk
 - **Yorkshire and North-East:**
planningYNE@nationalhighways.co.uk
15. We also have a national spatial planning policy team who lead our corporate approach around supporting growth and our engagement with the planning system, including the writing of this guide. You can contact us at: spatialplanning@nationalhighways.co.uk.

16. In certain circumstances our Third Party Infrastructure team leads on our engagement with a given project. This is typically for Nationally Significant Infrastructure Projects (NSIPs) where the scale of the application itself or impact on the SRN requires a more strategic approach and longer-term, more resource-intensive engagement. Where this is the case, we will clearly communicate this with the development promoter and other relevant parties.

Limitations of this document

17. While this document sets out general principles by which we seek to engage and support the planning process, it cannot provide answers to all the questions that might arise. If you are uncertain about how to engage with us, or how we might approach a particular issue, please contact us at the email addresses provided.



Our role in planning

18. National Highways was appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015. We are responsible for operating, maintaining and improving the strategic road network (SRN) in England, in accordance with our operating licence issued by the Secretary of State for Transport, and Government policies and objectives.
19. Paragraph 7 of the Department for Transport (DfT) Circular 01/2022 establishes three overarching objectives for us when engaging in the planning system:
 - To enable the delivery of sustainable development.
 - To support the needs of the freight and logistics sector.
 - To mitigate the impact of growth on the natural environment.
20. In exercising our function as a statutory consultee in the planning system, we must co-operate as reasonably practicable with other parties with regards to highways or planning⁶. We must also have regard to the environment and the safety of our road users. Consequently, we are obliged to consider all proposals received and to provide appropriate, timely and substantive responses to the local planning authority as the decision maker.
21. Our desire to be a proactive planning partner goes beyond just our statutory role and follows the spirit of our operating licence which stipulates that we should support local and national economic growth and regeneration. We would therefore strongly encourage you to engage with us as early as possible when considering planning matters that might have an impact on the SRN.

22. We also commit to co-operating with local highway authorities and recognise that we have a responsibility to support and develop a more coordinated approach to planning on the SRN and the local highway network, as well as with neighbouring jurisdictions and other key infrastructure providers.

Road Investment Strategy funding

23. The Road Investment Strategy (RIS) programme is the Government's primary means of investing significantly in the SRN. It provides 5-year programmes of funding to enable National Highways to operate, maintain and enhance the SRN in the context of the key priorities set out in each RIS. The ambitions for our network over the 5-year periods are set out in our *Strategic business plan*⁷ with our *Delivery plan*⁸ detailing how we will invest our funding.
24. Route strategies are one of the key steps of initial research in the development of a RIS - in May 2023 we published our Route Strategy Initial Overview Reports⁹. National Highways has produced route strategies since 2015 and these have guided the vision, performance expectations and investment plans for the SRN. In developing the latest route strategies, we have set out:
 - A planned set of future requirements for the network that is responsive to environmental needs; that accounts for the performance of today as well as the challenges and opportunities of the future.
 - Actions and investment that improve the performance of our roads for future road periods that are grounded in evidence and informed by interested parties and road user input.

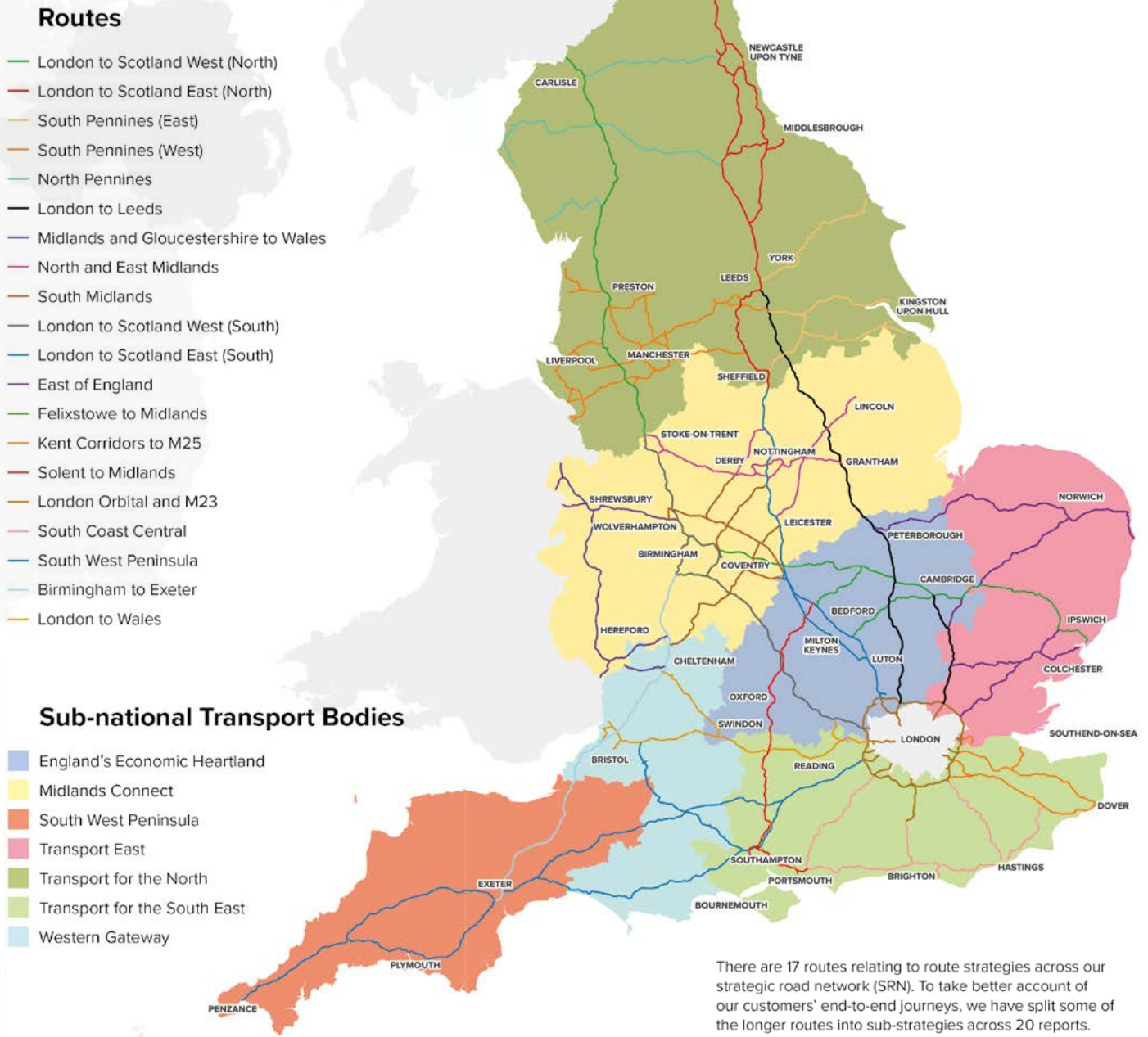
6 Section 5 of the Infrastructure Act 2015

7 <https://nationalhighways.co.uk/strategic-business-plan/>

8 <https://nationalhighways.co.uk/delivery-plan/>

9 <https://nationalhighways.co.uk/our-roads/our-route-strategies/>

Figure B: Route Strategies



- Opportunities for investment and integrated interventions that benefit the performance of our roads and meet wider connectivity needs of communities and economies.
25. In particular, we have identified future requirements for each route through collaboration with interested parties and road users, balancing the strategic need of our roads with the local needs of those using or living alongside them through:
- relevant local plans and priorities concerning local roads and other transport networks, wider socio-economic developments, and government policy
 - the need for effective integration with the rest of the transport system, including carrying out joint studies with other organisations where it benefits the SRN
 - the needs of each place contributing to connecting communities and supporting their growth aspirations
 - the views of relevant national and local interested parties and road users

Our approach to planning

Planning values

26. We are committed to six values that describe how we will always try to work when we engage in the planning system. We will:



Maintain safety

- We want everyone who uses and works on our roads to get home safe and well. By planning and designing roads that meet the highest levels of safety, we can reduce the number of fatal or serious injuries.

Engage early

- We encourage all parties promoting and preparing plans or planning applications that may have an impact on the strategic road network (SRN) to engage with us as early as possible so we can work together to deliver positive outcomes as quickly as possible. Our pre-application engagement service is offered in confidence¹⁰.
- Engaging early, such as through a pre-application process, gives all parties maximum time to understand the impacts of proposed development on the SRN, the level of assessment required to understand impacts, and to agree the most appropriate actions required as a result to help ensure the development proposal is sound and deliverable.

Work openly

- We are committed to being a proactive partner and will, at the earliest opportunity, assign a named officer who will work openly and collaboratively with you as you develop your plan or development proposal.

Share evidence

- Our *Route strategy initial overview reports*¹¹ set out our mid to long term strategies and needs for the SRN. Each report includes information on:
 - route characteristics
 - engagement with customers and neighbours
 - network collaboration
 - challenges and issues
 - initial route objectives
 - locational areas for consideration and potential collaboration
 - next steps

¹⁰ It should be noted that the Levelling-up and Regeneration Bill includes the following clause: “Power of certain bodies [including National Highways] to charge fees for advice in relation to applications under the planning Acts”.

¹¹ <https://routestrategies.nationalhighways.co.uk/>

- In addition, we collect and analyse significant amounts of information about the SRN and how it interacts with the local road network. This can be found on our Open Data website¹² and includes:
 - automated traffic count information, which is made available online through Webtris¹³
 - speed and flow information, which we can provide on request where it is available
 - several validated traffic models¹⁴ and land use models for certain areas of the network, which can be used by local authorities and development promoters to support decision-making and forecast the highways-related impact of future development
 - accident data
 - information on known local environmental issues
- We can provide access to other information and intelligence we hold about our network, where this is available, relevant to the development or proposal, and where we are legally entitled to do so.
- We can advise on how information should be used to identify and analyse potential highways-related impacts of your plans or proposed development, and to support the development of a robust transport evidence base for your plan or proposal.
- Where data needs to be extracted through a re-run of an existing model, we may make a reasonable charge for providing this and will provide quotes to those seeking such data at the earliest opportunity.
- Where the relevant data and models are not available, we work with the local planning authority, local highway authority and the development promoter to scope the work required.

Share knowledge and experience

- Our teams are highly experienced and knowledgeable about the complex issues of traffic management, driver behaviour, and the processes involved in the development, design and delivery of traffic schemes. We willingly share this knowledge and experience to help you ensure your plans and proposals are robust, appropriate and deliverable.

Work collaboratively

- We respond formally to consultations in a timely manner and with full regard to statutory requirements, as required at each stage of the planning process, whether this is for local plans, other statutory plans or planning applications.
- We also work with local authorities and other plan-making bodies prior to and between formal consultation periods to contribute to their thinking on the relevant plan, and support the analysis of options and development of robust plans and proposals that take full account of highways issues.



12 <https://opendata.nationalhighways.co.uk/>

13 <https://webtris.nationalhighways.co.uk/>

14 Models are released under licence and may have limitations.

Key assessment considerations on planning matters

Principles of sustainable development¹⁵

27. In accordance with our operating licence, we will act in a manner which conforms to the principles of sustainable development and fulfil our role as a statutory consultee in the planning system.
28. New development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable. Developments in the right places and served by the right sustainable infrastructure delivered alongside or ahead of occupancy must be a key consideration when planning for growth in all local authority areas.
29. Where developments are located, how they are designed and how well delivery and public transport services are integrated has a huge impact on people's mode of travel for short journeys. It is also important to ensure that associated business uses and infrastructure are well sited – for example, employment space or the location of freight and logistics facilities. We will therefore expect those responsible for preparing local and neighbourhood plans to only promote development at locations that are or can be made sustainable and where opportunities to maximise walking, wheeling, cycling, public transport and shared travel have been identified.
30. The Government has recognised, however, that local planning and highway authorities need help when planning for sustainable transport and developing innovative policies to reduce car dependency. One of the ways the Department for Transport (DfT) has addressed this is by publishing a toolkit to provide advice to local authorities on planning and taking measures to reduce carbon emissions from transport¹⁶. More recently the Government has established Active Travel England¹⁷.

31. Another includes moving away from transport planning based on predicting future demand to provide capacity ('predict and provide') to planning that sets an outcome communities want to achieve and provides the transport solutions to deliver those outcomes (vision-led approaches including 'vision and validate,' 'decide and provide' or 'monitor and manage'). We will support local authorities in achieving this aim through engagement at both plan-making and decision-taking stages, while recognising the varying challenges that will be presented by certain sites based on their land use, scale and/or location.

Vision-led approaches

32. Approaches such as 'decide and provide' involve two important elements: being vision-led and accommodating uncertainty. Both of these have been central in the creation of our long-term *Connecting the country*¹⁸ plan where we recognise that the future is uncertain and have adopted a 'decide and provide' approach where we have a clearer sense than ever before of our preferred vision for the future and the steps needed to make this a reality.
33. In broad terms, a vision-led approach can be summarised as follows:
 1. Establish a vision - understand the relevant national and local policy context; identify the drivers of change/key external factors acting on the plan or proposed development; set-out a place-based vision statement with associated outcomes that supports the principles of sustainable development.
 2. Develop scenarios - develop plausible future scenarios that help to understand the uncertainties that may impact on the ability to deliver the vision.

¹⁵ See paragraphs 11 to 17 in DfT Circular 01/2022.

¹⁶ <https://www.gov.uk/government/collections/transport-decarbonisation-local-authority-toolkit>

¹⁷ <https://www.gov.uk/government/organisations/active-travel-england>

¹⁸ <https://nationalhighways.co.uk/our-roads/future-roads/connecting-the-country/>

3. Generate options – generate, sift and prioritise options that can help achieve the vision.
 4. Test options – test how the prioritised options perform in each of the plausible future scenarios (for example, is every option effective in all scenarios or are some less resilient and have some significant risks?).
 5. Produce a vision strategy – produce a strategy for realising the vision that accounts for the identified uncertainty and includes a ‘monitor and manage’ approach to identify and address when the vision is unlikely to be achieved.
34. The vision-led approach is relevant to both the plan-making and decision-taking stages (proportionate to the scale, sensitivity and complexity of the development proposal).
 35. The DfT has addressed future uncertainty in the transport system in its *TAG Uncertainty Toolkit*¹⁹ and it is anticipated that further guidance on vision-led approaches will be forthcoming in due course, including in the Local Transport Plan Guidance due to be published by the DfT in late 2023. In the interim, there is relevant advice in the public domain including from TRICS Consortium Ltd²⁰ and Mott Macdonald/University of the West of England²¹.
 36. In engaging with local authorities and development promoters, we will seek to use our *Connecting the county* plan and relevant route strategy/strategies²² to help inform the vision for a local plan or development proposal.

Ensuring highways issues are addressed

37. Chapter 9 of the *National Planning Policy Framework* (NPPF) states that development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe. The policy test on whether the residual cumulative impacts on the SRN would be ‘severe’ will be assessed on a case-by-case basis. This will take into account the performance and character of the relevant link or junction of the SRN, and the predicted effects of the development on its safe operation.
38. In terms of infrastructure provision to support the freight and logistics sector, the NPPF further states that planning policies and decisions should recognise the importance of providing adequate overnight lorry parking facilities, taking into account any local shortages, to reduce the risk of parking in locations that lack proper facilities or could cause a nuisance.
39. Transport assessments should be carried out in line with prevailing government guidance and industry standards in agreement with us, through pre-application and scoping²³. Where modifications to the SRN are proposed, schemes must be subject to road safety, environmental and any other relevant assessment. Local authorities and developers also need to ensure that their proposals comply with requirements for access, design and audit as set out in the *Design Manual for Roads and Bridges* (DMRB)²⁴.

19 <https://www.gov.uk/government/publications/tag-uncertainty-toolkit>

20 <https://www.trics.org/decideandprovideguidance.html>

21 <https://www.mottmac.com/article/59966/futures-vision-led-planning-for-an-uncertain-world>

22 <https://nationalhighways.co.uk/our-roads/our-route-strategies/>

23 See also paragraphs 47 to 54 in DfT Circular 01/2022.

24 <https://nationalhighways.co.uk/suppliers/design-standards-and-specifications/design-manual-for-roads-and-bridges-dmrb/>

40. Although identification of the scale and nature of action required to support a particular development is the responsibility of the development promoter, we will advise on options for this and share with you any relevant information we hold to help you make informed decisions. The issues can be complex and take some time to work through, so we encourage engagement with us at the earliest opportunity.
41. It is important to note that the continued safe operation of the SRN will remain our primary consideration, even where proposals would not result in capacity issues.

New connections and capacity enhancements²⁵

42. We recommend any third party looking to propose works on the SRN engage with us as early as possible. This is so we can establish whether the principle of proposed works is acceptable, or what is needed to determine this, and to identify the potential impacts of any schemes on the SRN.
 43. Where relevant, planning conditions will be recommended to the local planning authority to ensure any third party works on the SRN are delivered as agreed.
 44. Where third party works are proposed as part of a Nationally Significant Infrastructure Project (NSIP) this may be subject to additional guidance and processes. For more information on NSIPs please see the 'Other statutory engagement' section.
- ### **Environmental impact²⁶**
45. Development promoters will need to provide sufficient environmental information to satisfy the relevant local planning authority, and any other consenting authorities, that all environmental implications of the proposals have been appropriately considered.
 46. We will expect to see measures implemented that fully mitigate all environmental impacts arising from and relating to the interaction between developments and the SRN. There are four aspects to this:
 - The environmental impacts arising from the temporary construction works.
 - The environmental impacts of the permanent transport solution associated with the development.
 - The environmental impacts of the road network upon the development itself (for example, vehicle emissions).
 - The environmental impacts of any decommissioning phase.
 47. To assist in this process, we will willingly participate in the screening and scoping processes to help identify any significant transport-related environmental impacts of proposals.
 48. To avoid potential delay or challenge, transport assessments and environmental statements should be mutually consistent and pay due regard to each other.
 49. If a development promoter wishes to use land within the highway boundary (including landscaped areas) for the storage of construction materials or other such reasons, they should discuss this at the earliest opportunity with the relevant regional spatial planning team.

²⁵ See paragraphs 18 to 25 in DfT Circular 01/2022.

²⁶ See paragraph 55 in DfT Circular 01/2022.

Physical impact of development on the SRN²⁷

50. There may be development proposals that the relevant local planning authority is not statutorily required to consult us on, but which nonetheless have the potential to impact the SRN. Examples include where there are considerations relevant to fire hazard, glint and glare, stability of embankments and cuttings, integrity of structures, water run-off, air quality, highway schemes on the local road network, or visibility of traffic signs. Development promoters and local authorities are encouraged to identify such potential risks and discuss these with us at the earliest opportunity so they can be quantified and addressed as necessary and appropriate.

Roadside facilities²⁸

51. We recognise the importance of roadside facilities for the safety and welfare of road users. We also recognise that lorry parking and adequate facilities are key to enabling the freight and logistics sector to operate safely and efficiently.

52. New and existing roadside facilities are subject to the provisions in DfT Circular 01/2022 which sets the framework for local planning authorities to consider the planning proposals for such developments and requirements for which operators must comply in order to be signed from the SRN.

53. Local planning authorities, development promoters and operators are encouraged to discuss with us at the earliest opportunity any proposals to develop new roadside facilities or to alter and/or sign existing sites. All such proposals should be referred to: roadsidefacilities@nationalhighways.co.uk.

Special types of development²⁹

54. The DfT Circular 01/2022 provides policy advice in relation to the following 'special types of development':

- advertisements
- gateway structures and public art
- electronic communications apparatus
- on-shore wind turbines
- developments with solar reflection

55. Other 'special types of development' will be kept under review where they have the potential to impact on the SRN.



27 See paragraphs 57 to 59 in DfT Circular 01/2022.

28 See paragraphs 71 to 112 and Annex A in DfT Circular 01/2022.

29 See paragraphs 60 to 70 in DfT Circular 01/2022.

Engagement with plan-making³⁰

General principles

- 56. Local plans and spatial development strategies set out policies and allocations to guide development in a locality, including proposals for specific sites to meet the housing, employment, environmental and social needs of the area. The suitability of sites for any of these uses depends on several factors, including local traffic flow, road and transport connections, and options for sustainable travel.
- 57. The preparation of plans and strategies provides an opportunity to support developments that reduce the need to travel, minimise journey lengths, encourage sustainable travel, and promote accessibility for all. This can contribute to the achievement of net zero carbon objectives and reduce the cost to the economy arising from the environmental, business and social impacts associated with traffic generation and congestion.
- 58. For all these reasons, we are keen to contribute to the development of local plans and spatial development strategies. We can help you identify the most suitable locations for development that make best use of the capacity on the strategic road network (SRN); so, we encourage plan-making authorities to engage with us from the earliest stages of preparation. Figure C, at the end of this section, sets out how we see ourselves engaging with plan-making authorities.

Evidence base

- 59. Paragraphs 31 to 33 of the Department for Transport (DfT) Circular 01/2022 set out the key considerations relating to the transport evidence base that should inform decisions at the plan-making stage. This includes the expectation that this process will explore all options to reduce a reliance on the SRN for local journeys including a reduction in the need to travel and integrating land use considerations with the need to maximise opportunities for walking, wheeling, cycling, public transport and shared travel.
- 60. We will support evidence base work where we are able to, as well as share evidence that we have, and input our knowledge and experience of the SRN.

Location of development

- 61. Development should be promoted at locations that are or can be made sustainable, that facilitate the uptake of sustainable transport modes, support wider social and health objectives, and which support existing business sectors as well as enabling new growth.
- 62. We will work with plan-making authorities, highway authorities and development promoters to identify opportunities to introduce travel reduction and demand management measures through the plan-making process.



30 See paragraphs 26 to 38 in DfT Circular 01/2022.

Site allocations

63. When a local plan or spatial development strategy proposes site-specific allocations, we will want to ensure that all relevant transport impacts and requirements are considered. To this end, we will work with plan-making authorities to:
- identify the impact that the proposed allocations are likely to have on the SRN on an individual and, insofar as is necessary, a cumulative basis, factoring in the demands arising from development planned in adjacent authorities where appropriate
 - assess the impact of the SRN on the development potential of sites that are proposed to be allocated (for example, vehicle emissions, light pollution and noise)
 - consider travel plan, travel demand and off-network improvements
 - as necessary, identify the infrastructure requirements and delivery of strategic infrastructure for the proposed allocations
64. Whilst allocating land for particular uses is a matter ultimately for plan-making authorities, we will provide comment on the suitability of locations where there is potential impact on the SRN, including from a safety, congestion, amenity and carbon emissions perspective. Certain allocations should also recognise the importance of providing and retaining adequate provision of lorry parking facilities, particularly in relation to proposals for new or expanded goods distribution centres and roadside facilities.

New connections and capacity enhancements (local plans)

65. Paragraphs 19 and 29 of DfT Circular 01/2022 set out that new connections and capacity enhancements to the SRN which are necessary to deliver strategic growth should be identified as part of the plan-making process. Where all reasonable options to deliver modal shift, promote active travel and public transport use, and locate development in areas of high accessibility have been exhausted, we will work with plan-making authorities in identifying funding mechanisms for planned works to the SRN.

Summary of local plan considerations

66. When formally consulted on development plan documents we will seek to provide a recommendation as to the appropriateness of proposed policies and allocations in relation to their interaction with the SRN. Where we have been engaged in the development of the plan or strategy, this process should be straightforward.
67. The list below highlights matters which we are likely to have particular interest in when engaging in the plan-making process, which is grouped into four categories:

Sustainability

- The **sustainability of policies** including how they have addressed the principles of sustainable development³¹ and support a place-based vision-led approach (informed by our Connecting the County³² plan and relevant route strategy/strategies³³).
- The **economic, social, and environmental benefits** of development plan policies and proposed site allocations.

31 See paragraphs 11 to 17 in DfT Circular 01/2022.

32 <https://nationalhighways.co.uk/our-roads/future-roads/connecting-the-country/>

33 <https://nationalhighways.co.uk/our-roads/our-route-strategies/>

Integration with other plans and strategies

- **Proposed works** to the transport network, including measures relating to sustainable travel infrastructure and delivery plans, including the anticipated costs and funding source(s) as well as the forecast outcome of the enhancement(s).
- **Our investment priorities** as identified in our *Delivery plan*³⁴ and route strategies³⁵.
- The **consistency** between the policy approach being promoted in the plan or strategy and any associated evidence base documents such as infrastructure delivery plans, where these would impact the SRN.
- The relationship between the plan or strategy and the relevant Sub-national Transport Body's **Strategic Transport Plan**.

Impacts

- The way in which the size, type and location of development proposals **impact on the operation of the SRN**.
- The **cumulative impacts** on the SRN associated with any known development sites within the plan area and in adjacent areas.
- Any **residual impacts** arising from the proposals that will not be mitigated by new connections or capacity enhancements.

Robustness and consistency

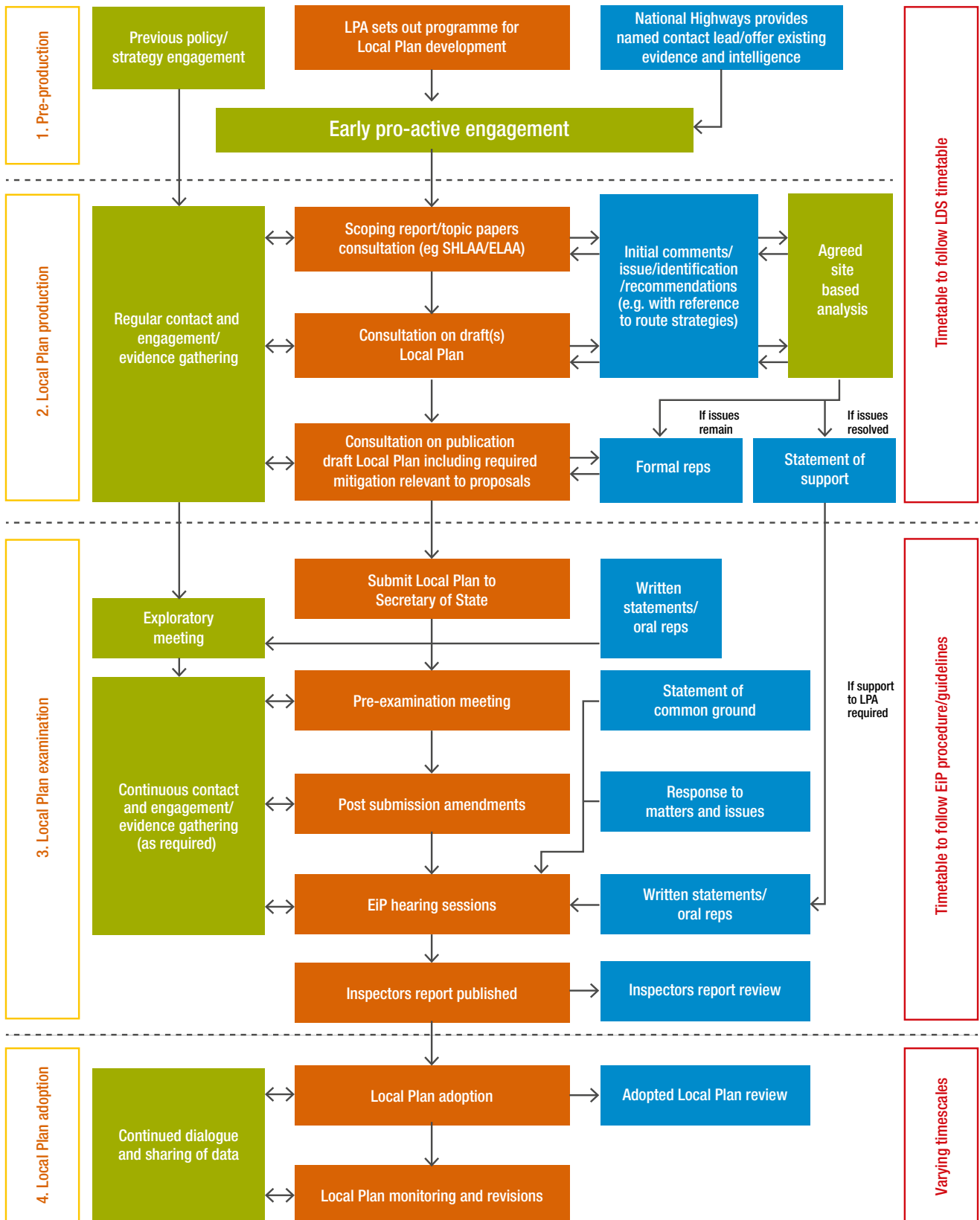
- The **robustness of the evidence base** that has informed decisions.
- The **methodology** used to determine the quantities, locations, likely phasing and mix, and viability of housing and employment development.
- The **accessibility** of sites that are proposed to be allocated.

68. Where appropriate, we will seek to participate in the plan examination.
69. We would wish to be advised of the publication of the Inspector's Report as soon as is practicable so we can consider the implications of the recommendations in a timely manner, and then work with the plan-making authority on modifications as necessary.
70. Once development plan documents are adopted, we will continue to work with plan-making authorities to ensure that relevant National Highways teams are fully cognisant of their policies and proposals, to confirm that up-to-date information about the SRN is used when such plans are reviewed, and to support the delivery of development.

34 <https://nationalhighways.co.uk/delivery-plan/>

35 <https://nationalhighways.co.uk/our-roads/our-route-strategies/>

Figure C: National Highways engagement with plan-making authorities



Key:

- The **blue boxes** identify what we will do.
- The **orange boxes** identify the key stages in the plan-making process from the perspective of the plan-making authority.
- The **green boxes** identify actions for both parties and relate mainly to engagement between ourselves and the plan-making authority.

Engagement with decision-taking³⁶

General principles

71. We encourage stakeholders to talk with us as early as possible where we are likely to be consulted on a planning application. This allows time for us to guide applicants and their consultants on preparing all the information we will need to fully consider the proposed development. Effective pre-application engagement is essential in meeting statutory deadlines later in the planning process. Figure D, at the end of this section, sets out how we engage with development proposals.

72. Where we are made aware that significant development proposals are being prepared that might impact the strategic road network (SRN), and we have not been engaged in pre-application discussions, we may contact the applicant through the local planning authority and invite them to scope the submission with us.

73. Paragraph 48 of the Department for Transport (DfT) Circular 01/2022 states that where a transport assessment is required, this should start with a vision of what the development is seeking to achieve and then test a set of scenarios to determine the optimum design and transport infrastructure to realise this vision. Where such development has not been identified in an up-to-date development plan (or an emerging plan that is at an advanced stage), developers should demonstrate that the development would be located in an area of high accessibility by sustainable transport modes and would not create a significant constraint to the delivery of any planned improvements to the transport network or allocated sites.



74. In submitting a planning application, the development promoter should provide all the information we will need to fully consider the interaction of the development with the SRN, and the suitability of any related actions proposed.

75. We will provide the relevant authority with our response to the assessed transport impact in line with DfT Circular 01/2022, the principles in this document and our statutory requirements. Our advice will reflect our conclusions on the likely impact of the proposal, as a result of assessing the transport-related information provided with the application, and drawing on our own expertise, knowledge and experience of the SRN and transport issues.

76. Where appropriate, we will recommend that planning conditions be attached to any planning permission granted, in order to address or reduce the effects that are predicted to occur. Wherever possible, we will make this recommendation in discussion with the applicant and local planning and highway authorities, as appropriate.

36 See also paragraphs 39 to 59 in DfT Circular 01/2022.

Pre-application stage

77. The *Town and Country Planning (Development Management Procedure) (England) Order 2015* sets out the legal requirements for local planning authorities to consult with us at application stage. However, we would encourage development promoters to engage with us earlier and to think more broadly than these minimum thresholds.
78. Pre-application discussions are an effective means of gaining a good, early understanding of the development, its benefits, its likely impacts and its infrastructure needs. Engaging with us at pre-application stage will ensure that the transport assessment is appropriately scoped and based on the most relevant and up-to-date data. It will also ensure that the development promoter is made aware of, and can take account of, any SRN issues that might have a bearing on how the development is planned and/or delivered. This, in turn, helps to avoid abortive work being undertaken.
79. When contacted in respect of any development proposal, we will engage in line with our planning principles. Specifically, we will:
- **Acknowledge** within 7 days to a request for initial discussion.
 - Provide a **named contact** for discussions, which will be someone with knowledge and experience of the area.
 - Advise the promoter whether the development proposal is likely to be **of interest** to us.
 - Advise the promoter of **known potential constraints** to the development, and jointly explore **potential solutions** within the context of a **vision-led approach** that facilitates a reduction in the need to travel by private car.
 - **Share** data and models relevant to the proposal, where this is available, and where we are legally entitled to do so.
- Review, comment on and, where acceptable, agree the **methodology** for assessing the likely impacts of the proposed development, as relevant to the SRN and net zero carbon considerations.
 - Review, comment on and, where acceptable, agree the principles of the scale and nature of **mitigation** required.
 - Review, comment on and, where appropriate, agree the principles of the **monitor and manage** strategy.
 - Discuss any other elements of the development or its likely impact that might be of interest to us.
80. Where it is likely that a proposal will be considered unacceptable in terms of its impact on the SRN, we will provide guidance as to what, if any, steps could be taken to address the concerns that we have.
81. Depending on the nature of the site and the proposed development, the development promoter may submit a written scoping report or arrange a meeting with us. Where a meeting is arranged, we would encourage other relevant parties to attend as necessary, including the local planning and highway authorities; we would particularly recommend this for larger and more complex sites.
82. If a scoping report is to be prepared, we would advise this includes:
- **details of the development**, such as location, access arrangements, use class, size or number of units, likely phasing, number of parking spaces and any other relevant information
 - a proposed methodology for the **vision-led approach** (including a monitor and manage strategy) that facilitates a reduction in the need to travel by private car
 - a proposed methodology for estimating the **vehicular trip generation** and distribution on the SRN, and resulting trip generation figures

- a proposed methodology for assessing the **impact** of this trip generation on the SRN and our assets
 - a proposed methodology for assessing the **environmental consequences** of the transport impacts of the development, and proposals to address net-zero carbon considerations
83. We will allow local authorities and development promoters access to all relevant data and models that we hold where this is readily available, free of charge. However, usage of data and models may be restricted at later stages in the process by our need to assess a proposed development within statutory timeframes.

Travel plans

84. In support of the principles of sustainable development and a place-based vision-led approach, we expect development promoters to bring forward sites in highly accessible locations and support initiatives that reduce the traffic impact of proposals. This is particularly necessary where the potential impact is on sections of the SRN that could experience capacity problems in the foreseeable future.
85. Early engagement enables us to support this thinking, and we will work with development promoters and local planning authorities to identify appropriate measures to facilitate the delivery of sustainable development.
86. The preparation, implementation, monitoring and updating of a robust travel plan that promotes the use of sustainable transport modes (such as walking, wheeling, cycling and public transport) can be an effective means of managing the impact of development on the road network, and reducing the need for major transport infrastructure. This contributes to the ongoing effectiveness of the SRN in ensuring swift connections nationally and regionally, minimising delays and congestion. Retaining some network capacity within the SRN also facilitates the provision for further developments.

87. We will cooperate with local planning authorities, local highway authorities, Active Travel England and development promoters in the creation of travel plans that identify opportunities to introduce route-based and/or area-wide travel plan measures that will support sustainable transport. We expect such plans to be supported by robust performance indicators which can be effectively monitored.
88. However, quite often the implementation of travel plan measures alone will not be sufficient to reduce the traffic demand of proposed developments to acceptable levels. In such instances we will work with relevant authorities to determine whether the implementation of other measures (e.g. more direct demand management measures) could regulate traffic flows. This will support the delivery of the travel plan outcomes and maximise efficient use of available capacity on the SRN.

New connections and capacity enhancements (planning applications)

89. As stated previously, paragraphs 19 and 29 of DfT Circular 01/2022 set out that new connections and capacity enhancements to the SRN which are necessary to deliver strategic growth should be identified as part of the plan-making process. Paragraph 43 adds that we expect development promoters to enable a reduction in the need to travel by private car and prioritise sustainable transport opportunities ahead of capacity enhancements and new connections on the SRN.
90. Where the principle of such works is accepted, we will work with a developer's transport consultant and other key stakeholders to establish the mitigation that is needed to appropriately support the scale and type of development. In circumstances where there is insufficient information to determine whether there would be an unacceptable impact on highway safety or the residual cumulative impacts on the road network would be severe, we will recommend that the application is not approved until further assessment work has

been carried out, allowing for a more definitive recommendation.

91. Where physical changes to the SRN are proposed to support a planning application, a Walking, Cycling & Horse-Riding Assessment and Review, and a Stage 1 Road Safety Audit should be prepared before planning permission is applied for. Pre-application engagement with us is particularly important in this situation.
92. Measures to address a development's impact upon the SRN will normally be delivered by means of a funding agreement between the development promoter(s) and ourselves, such as an agreement under Section 278 of the Highways Act.

Preliminary design requirements

93. The design elements that are considered essential and that should be provided prior to planning permission being granted, to enable us to properly assess the impact of proposals on the SRN, are as follows:

General Arrangement drawings

- General Arrangement drawings should include the existing and proposed road or site layout, drainage outfalls and any proposed attenuation, any environmental mitigation such as noise barriers or landscaping, and visibility splays for any proposed development access from our network. Depending on the scale and complexity of the proposals, development promoters may also be required to provide us with other drawings, such as land ownership, proposed cross section/levels and the existing ground levels.

Statement of compliance with Design Manual for Roads and Bridges (DMRB) standards

- Development promoters should provide a clear statement identifying which standards have been used in the development of the design and evidence of any discussions around departures from standards. Where proposals include a departure from

standards, they will need to be shown on the General Arrangement drawings.

Traffic Regulation Order

- Where development promoters have agreed a Traffic Regulation Order with the relevant local highway authority, or have a proposed Traffic Regulation Order not yet agreed, these should also be provided. Any agreed speed limits, parking restrictions, weight limits, one-way streets and prohibited turns should also be identified on the General Arrangement drawings.

Drainage strategy

- For developments adjacent to the SRN, a document should be provided identifying the site-specific drainage strategy and discharge requirements. This should include, but is not limited to, how the development meets drainage regulations, proposed outfalls and discharge rates, proposed attenuation requirements, surface and sub-surface water collection methodology and maintenance, pipe network methodology and maintenance and flood modelling results.

Lighting strategy

- This should identify all areas of proposed lighting compliant with the methodology set out in the DMRB, specifically TA 501, and allow us to assess the environmental impact of proposals. Lighting should also be clearly identified in the General Arrangement drawings.

94. Each scheme is different, and these are general guidelines for the information we need to progress our response to planning application consultations. Detailed design guidance is provided in the DMRB, and for larger and more complex schemes our team will provide more tailored guidance and advice as to what design elements are essential at the planning application stage.

95. On occasion we may also require the following, but this will be on an as-needed basis or subject to planning conditions. These are as follows:

- Highway engineering details
- Geotechnical investigation or design
- Approval in principle or technical approval of structures
- Detailed drainage design and specification
- Road lighting designs
- Glint and glare assessment
- Detailed traffic management proposals
- Detailed technical specification



Our formal responses to local planning authorities

96. Within the statutory consultation period for a planning application, we will respond in writing to local planning authorities with a formal recommendation that will take one of the following four forms:

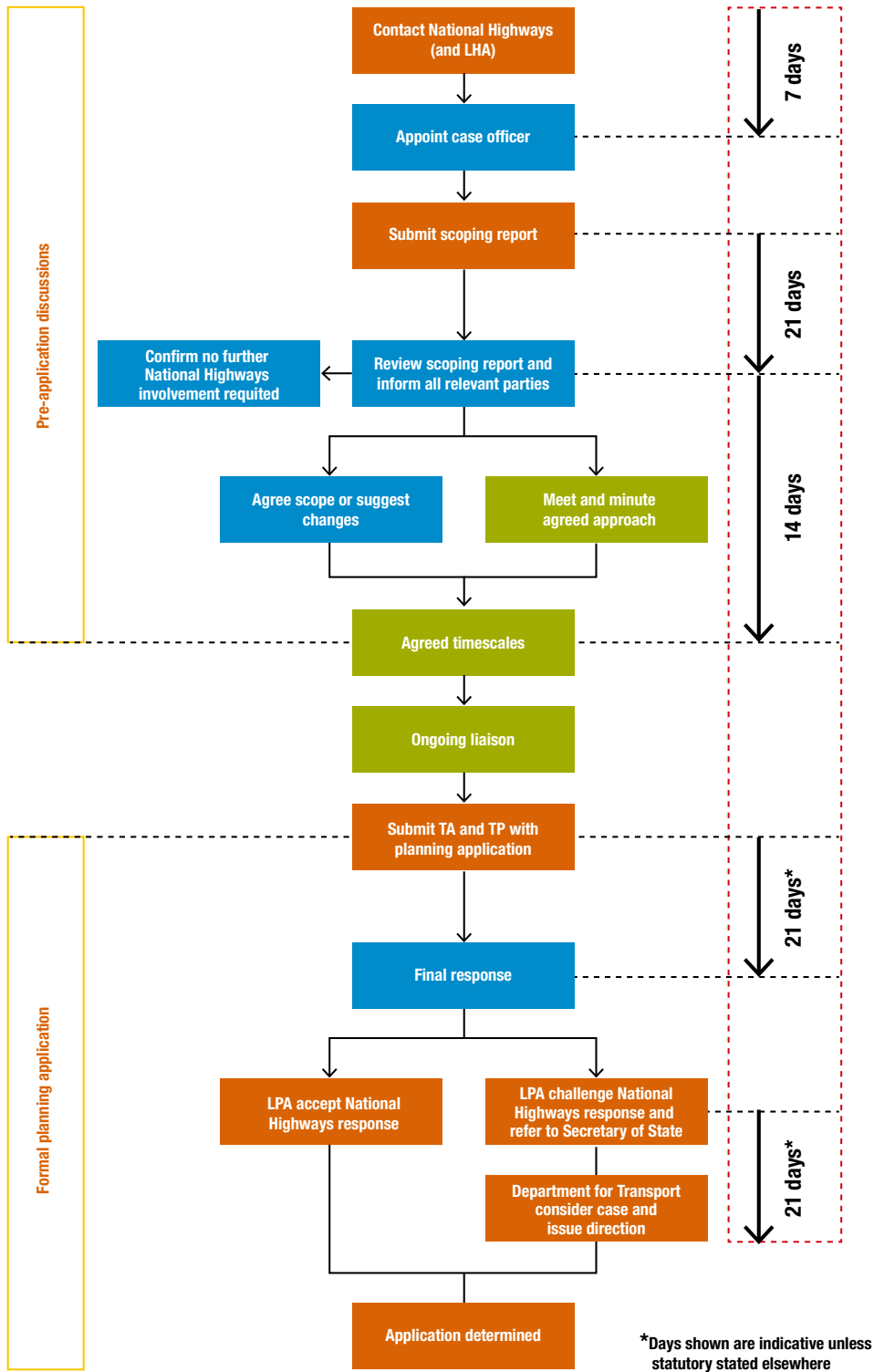
- a. Offering no objection to the development.
- b. Recommending conditions that should be attached to any planning permission that may be granted by the local planning authority.
- c. Recommending that permission not be granted for a specified period, usually to allow for the provision of any missing information or to allow for negotiations with the development promoter.
- d. Recommending refusal.

97. For all the above we will provide the local planning authority with a statement explaining our position and the assessment and analysis behind it. As per the conditions of our licence, we will also copy these responses to the Secretary of State for Transport.

98. Where a local planning authority decides that it does not wish to accept our recommendation, they must refer the case to the Secretary of State for Transport as soon as practicable³⁷. The decision of the Secretary of State will be binding on all parties.

³⁷ <https://www.gov.uk/guidance/development-affecting-trunk-roads-how-local-planning-authorities-can-challenge-a-national-highways-recommendation>

Figure D: How we engage with development proposals



Key:

- The **blue boxes** identify what we will do.
- The **orange boxes** identify the key stages in the decision-taking process from the perspective of the development promoter or local planning authority.
- The **green boxes** identify actions for both parties and relate mainly to engagement between us and the local planning authority.
- The flow chart indicates a desired maximum duration for these stages to be completed, unless longer timescales are agreed beforehand by the relevant parties, such as on large or complex applications.

Other statutory engagement

Nationally Significant Infrastructure Projects

99. As a statutory consultee in respect of Nationally Significant Infrastructure Projects (NSIPs), the promoters of such developments are required to consult with us where their proposals are likely to affect road or transport operations and/or planning on roads for which we are the highway authority. As with other planning matters, we recommend that you enter discussions with us at the earliest opportunity.
100. Promoters are encouraged to seek consensus with interested parties, including us where applicable, in order to satisfy the Planning Inspectorate that full and thorough pre-application consultation with interested parties has been carried out. Where possible, we will work towards agreeing a Statement of Common Ground at an early stage so that this can be an input to the examination.
101. In any case, when submitting the application and draft submission to the Planning Inspectorate (known as a Development Consent Order), promoters must provide sufficient detail to allow the assessment of the impact of their proposals on the SRN, and the suitability and deliverability of their proposed transport arrangements, including means of access.
102. Where necessary we will make representations on proposals and seek to ensure that requirements we deem essential are incorporated in the Development Consent Order. These actions will be carried out based on discussions held and the information provided to us.

Local Development Orders and Neighbourhood Development Orders

103. Local Development Orders and Neighbourhood Development Orders will be assessed in the same manner as planning applications. The relevant processes allow for compliance conditions to be imposed by the body making the Order. Should we consider that compliance conditions must be applied to mitigate the anticipated impact of development, we will work with the body making the Order with the intention of agreeing the inclusion of appropriate conditions. This might include conditions on the timing, scale or design of development.

Other development plans

104. Neighbourhood Development Plans and associated Orders³⁸ also have the potential to impact the strategic road network (SRN). Therefore, we will work proactively and collaboratively with parish councils and neighbourhood forums in the development and implementation of their proposals, applying the approach described above.



38 Including Community Right to Build Orders.

Funding

105. Where a landowner or development promoter proposes changes to the strategic road network (SRN) to serve a particular development, they are usually required to enter into an agreement with us to make these changes. Funding is often required to resource these interventions, but the scale of funding required will vary from case to case.
106. With this in mind, this document does not comprehensively cover each funding mechanism or scenario. Instead, we set out our general approach, having particular regard to the process under Section 278 of the Highways Act, the most common mechanism used for procuring works.
107. We will support proposals for third party investment into transport and highways schemes that enable sustainable development whilst maintaining the safe and efficient movement of goods and people on the SRN.
108. Our teams are experienced in exploring funding options and in delivering funding agreements for transport schemes and will be able to advise on the specific requirements of a particular scheme. As with other stages of the planning process, we encourage engagement with us as early as possible. Where public funding is sought to support schemes, we expect to be consulted and may contribute towards the application process.
109. Where a Section 278 agreement is appropriate, a named officer will be identified as the development promoter's main point of contact for all matters related to the delivery of the agreement and works. This may be different from the individual leading on our involvement in the planning application process. Where this is the case, we will ensure a joined-up approach and that where necessary, any handover is comprehensive.
110. In order to enable the scheme to be delivered expediently, the development promoter may seek to progress the detailed design and draft the Section 278 agreement in parallel with the planning process rather than delaying this work until planning approval is given. Nonetheless, the Section 278 agreement cannot be entered into and works cannot commence until planning permission for the development is in place and any relevant conditions have been satisfactorily discharged.
111. A programme for reporting on progress will be agreed and an 'open book' approach taken to the assessment of scheme costs. Our administrative costs will be based on the published schedule; the development promoter will be required to meet all costs associated with the development and delivery of the Section 278 agreement.
112. Depending on the form of agreement and the likely cost of the scheme, payment(s) may be made in stages, unless agreed otherwise. Under normal circumstances further work will only be undertaken when: we have received money from the promoter to cover the costs of that work; or an Abortive Cost Undertaking backed by a financial undertaking has been entered into by the promoter.
113. Underspend(s) left over at the end of each task or stage can be rolled over to meet costs of the next stage or repaid to the development promoter. Any money which has been paid to us that has not been spent in delivering the scheme will be repaid to the development promoter once the scheme is complete or cancelled.
114. Where possible, in situations where the Section 278 agreement involves both us and local highway authorities, a single agreement will be proposed with all the respective highway bodies working collaboratively on the agreed mitigation.
115. For further information about third party funding for mitigation, development promoters are encouraged to contact the relevant regional spatial planning team.

Third party funding agreements

109. Where a Section 278 agreement is appropriate, a named officer will be identified as the development promoter's main point of contact for all matters related to the delivery of the agreement and works. This may be different from the individual leading on our involvement in the planning application process. Where this is the case, we will ensure a joined-up approach and that where necessary, any handover is comprehensive.
110. In order to enable the scheme to be delivered expediently, the development promoter may



Key contacts

Location based planning enquiries:

South East:

planningSE@nationalhighways.co.uk

South West:

planningSW@nationalhighways.co.uk

East of England:

planningEE@nationalhighways.co.uk

Midlands:

planningM@nationalhighways.co.uk

North West:

planningNW@nationalhighways.co.uk

Yorkshire and North East:

planningYNE@nationalhighways.co.uk

Other planning enquiries:

Roadside Facilities:

roadsidefacilities@nationalhighways.co.uk

This document, as well as strategic planning issues: spatialplanning@nationalhighways.co.uk

Acronyms

DfTDepartment for Transport

DMRBDesign Manual for Roads and Bridges

EiPExamination in Public

ELAAEmployment Land Availability Assessment

LHALocal Highway Authority

LPALocal Planning Authority

NPPFNational Planning Policy Framework

NSIPNationally Significant Infrastructure Project

RISRoad Investment Strategy

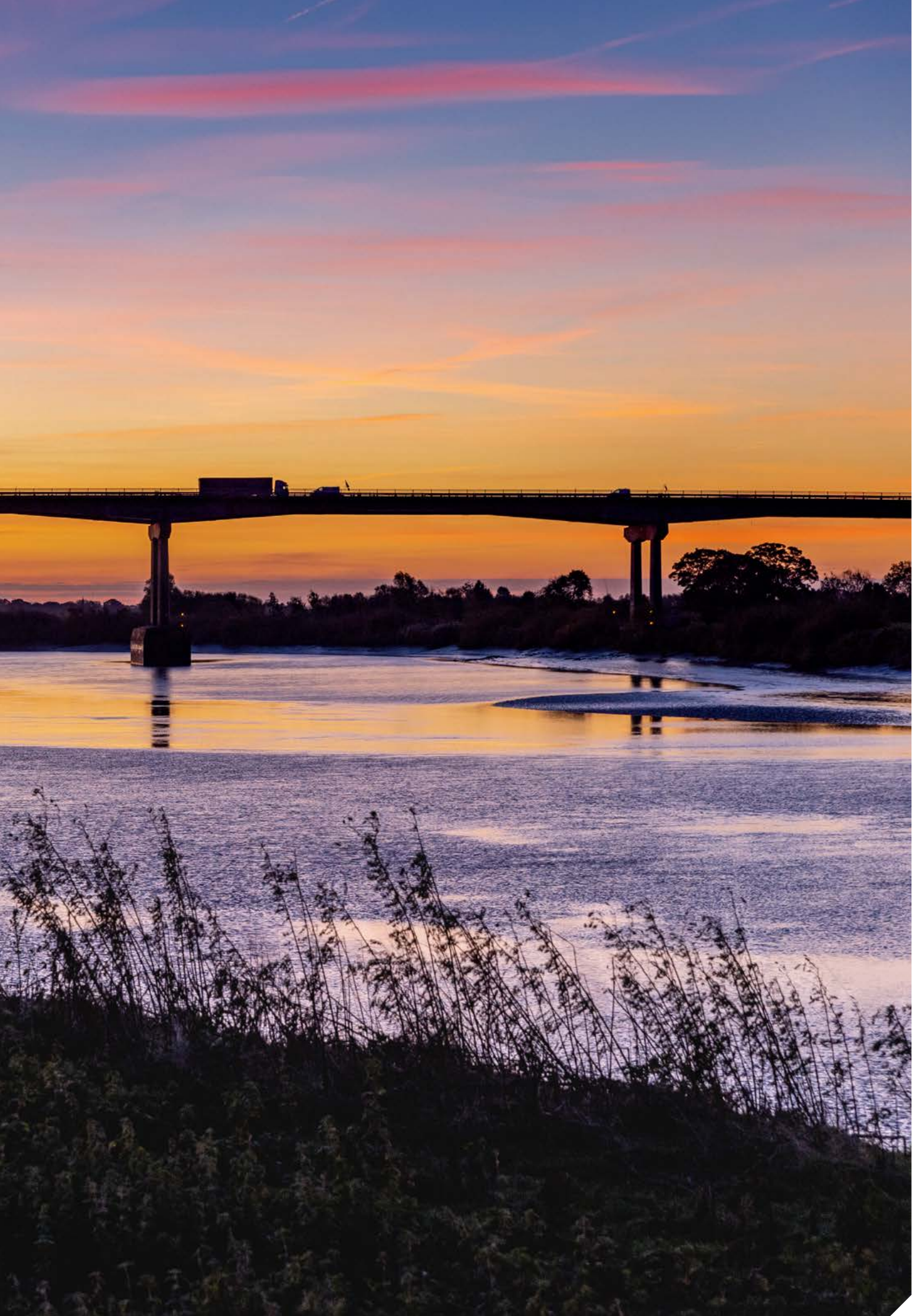
SHLAAStrategic Housing Land Availability Assessment

SRNStrategic Road Network

TATransport Assessment

TPTravel Plan





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Appendix 6.

Schedule of Engagement with Stakeholders

Table 1. National Highways Engagement with Stakeholders

Date	Event	Commentary
27/4/23	MSDC email NH	Following a hiatus regarding early, aborted WSCC enforcement action, the Council contacts National Highways to inform that MSDC had issued Enforcement Notice March 2023
18/5/23	NH email MSDC	KB confirms as matters hadn't changed NH 2022 or before stance (based on JSJV advice at that time) hadn't changed. Therefore, <u>subject to various considerations</u> , National Highways was willing to support Enforcement from a transport perspective
18/7/23	MSDC submit Rule 6	National Highways, liaising with JSJV and, in turn, the Council to input into MSDC Rule 6. Based on JV advice at that time our input comprised the following text:
3/8/23	Appellants Statement of Case received	National Highways commence an assessment of the Appellant's evidence
23/8/23	JSJV advice to NH	Commence refinement of JSJV advice regarding the Company's ability to sustain a safety case; however, more information/assessment required to ensure all aspects are considered in light of Circular 01/2022 being issued.
26/9/23	NH/JSJV	Discussion about case and NH stance. Included discussion of JSJV draft letter to send. A decision was made to investigate further
9/10/23	NH internal discussion	National Highways, on receipt of advice from JSJV determine that the Company should focus on a Conditions led approach following a review of historic accident records.
9/10/23	National Highways contacts the Council	<p>National Highways inform the Council that:</p> <ol style="list-style-type: none"> 1. Review of case leads to a conclusion that a safety-based case is not considered to be sustainable. 2. National highways is, therefore, looking for a Conditions based approach. 3. Conditions likely to include a requirement for and Operational Management Plan (OMP) and potential road signs; consequently 4. National Highways need to review the need for and level of appeal participation. <p>The Council accepted the change of stance but asked that National Highways clarify when this could be set out in writing but were not overly concerned as the appeal was expected to be progressed in March 2024.</p>

Autumn 2023	MSDC/WSCC/NH Stakeholder Meetings	These were scheduled as weekly meetings, but often were not held as there was nothing to report or attendees were unavailable.
12/10/23	National Highways Internal	<p>Spatial Planning team meet with SES team (safety) to discuss concerns and requirements. Email from SES. In summary:</p> <ul style="list-style-type: none"> • A Departure is required given the level of change in the use of the junction. • Departure needs to take account of the other local departure – layby/ Broxmead Lane. Likely package of submission to include surveys/ drawings/ assessments/ GG104 etc. • Any signing required may also require departure – would also need surveys/ drawings/ assessments etc.
16/10/23	MSDC/WSCC/NH	<p>National highways provide an update.</p> <p>The Council requests that National Highways do not contact the Appellant for at least 2 weeks. National Highways respect that request.</p> <p>There was a general discussion regarding whether the Appellant could/should have been more proactive. All agreed yes, as typically a response to original representations would be provided by the Appellant. A further discussion re Appellants Transport Statement of Case concluded that while the statement accepts that there are departures, it concludes that the access is compliant.</p>
13/11/23	MSDC/WSCC/NH	<p>The National Highways review continues. Awaiting updates from Highway Inspectors. National highways confirmed that:</p> <ul style="list-style-type: none"> • Continuing to respect MSDC wish not to contact the Appellant. • National Highways wish to pursue a Conditions led approach. • National Highways continuing to work up what the Appellant would need to submit either under conditions or in advance of the Inquiry – i.e., potential for conditions to be negatively worded.
14/11/23	National Highways	<p>The Highways Inspector revisited site.</p> <p>Potential issue with sightlines and forward visibility, hence, vegetation to be cut back Highway Inspector supports the use of signs and favours “slow moving HGVs” if achievable.</p>

8/1/24	MSDC/WSCC/National Highways	<p>No-one had any updates as such. The case was declared dormant:</p> <ul style="list-style-type: none"> • National Highways confirmed still seeking to refine its case, and want resolve ASAP • National Highways confirmed that its appeal appearance was still under consideration. • Appearance would depend on any evidence submitted • Council expressed concern regarding lack of clarity. National Highways trying hard to conclude matters ASAP. • At KBs request, AC agreed to share assumed timetable and hence facilitate NH fitting in with it. • The timetable email hadn't been received by time everything changed 22/1/24
18/01/2024	Email MSDC to National highways	<ul style="list-style-type: none"> • Inquiry scheduled for 16th April for 5 days. • Several issues identified: <ul style="list-style-type: none"> ○ On leave and out of the country from 19th to 22nd April. ○ Council chamber unavailable due to election bookings in early May; need to find an alternative venue. ○ Checking availability of the team, including consultants and counsel. • Six-week statements due by 4th March; preparation should start soon (will also be on leave during this period). • No Statement of Common Ground (SoCG) has been circulated yet; will contact appellants. • Querying if it's realistic to invite, submit, and determine a departure from standards application by early March—seems unlikely. • Considering asking PINS to reschedule the inquiry to May, although this might be difficult.
22/1/24	MSDC/WSCC/NH Meeting.	<p>PINS letter/timetable received and discussed. Confirmed National Highways internal meeting 23/1/24 to finalise a way forward.</p> <p>Council agreed to write to all setting out timetable for all to meet.</p>

26/1/24	National Highways internal meeting.	National Highways to attend 29/1/24 MSDC/WSCC/NH meeting to explain its now decided, final stance i.e., to rely fully on the no objection subject to conditions position.
29/1/2024	MSDC/WSCC/NH	Meeting occurred where National Highways set out its stance.
1/02/2024	Email from MSDC to National Highways	<p>Confirms:</p> <ul style="list-style-type: none"> • LPAs express concerns regarding National Highways (NH) changing their position on the enforcement appeal for the PJ Browns development. • NH's previous stance opposed the development due to safety risks; however, recent indications suggest NH may now withdraw objections subject to planning conditions. • LPAs have received no formal confirmation of NH's altered position, raising concerns about the appeal process. • Requests from LPAs include a full statement from NH on their current position, a list of proposed conditions, confirmation of NH's stance if conditions aren't met, and an undertaking to avoid direct contact with the Appellants. • LPAs also request NH bear any costs awarded against them if the appeal on highway safety grounds is lost. • LPAs request that NH refrain from contacting the Appellants (PJ Browns) unless agreed upon by the LPAs.
02/02/2024	Email to MSDC from National Highways	<ul style="list-style-type: none"> • Aiming to get a response to MSDC by the end of next week. • Need to understand the events that have transpired that culminated in our current impasse. • Finalising our current proposed planning conditions in order to submit them to yourselves. propose that we arrange a meeting to discuss our position. • Arrange this meeting on Monday 12th February 2024?
02/02/2024	Email to National Highways from MSDC	<ul style="list-style-type: none"> • Happy to meet to discuss w/c 12th but Monday might not be ideal as my counterpart at West Sussex CC is away that day.

09/02/2024	Email from MSDC to National Highways	<ul style="list-style-type: none"> • Further to the Councils' email to National Highways of 1st February 2024 we would urgently request a full response outlining National Highways position and answering directly the questions posed. • We would expect this no later than 12th February 2024. • We would thereafter wish to discuss the matter and would be available to meet at 2pm on Wednesday 14th February. • It is likely our Counsel will attend this meeting.
12/02/2024	Letter to MSDC from Nation Highways	<ul style="list-style-type: none"> • National Highways reviewed the Council's Planning Contravention Notice (PCN) and the related appeal and remains committed to cooperating with the Council. • Lacks sufficient evidence to confirm the alleged development's continuous operation for over ten years and will not engage with the Planning Inquiry on this matter. • Responsibility lies with the Appellant to present evidence to the Inquiry regarding continuous use. • If the evidence proves compelling, the development may be deemed legal, limiting National Highways' ability to enforce restrictions. If not, the development may be deemed unlawful. • National Highways seeks to establish a Statement of Common Ground with the Council and requests a Transport Assessment from the Appellant. • Emphasis on addressing substandard junction layout, road safety, and imposing relevant planning conditions, including an Operational Management Plan and a traffic signage scheme. • National Highways reviewed information related to the Council's Planning Contravention Notice (PCN) and the ongoing appeal, emphasizing the intention to maintain a productive working relationship with the Council. • National Highways lacks sufficient evidence to confirm the alleged development's continuous operation for over ten years and will not actively engage with the Planning Inquiry on this matter. The burden of proof lies with the Appellant to present convincing evidence at the Inquiry.

		<ul style="list-style-type: none"> • National Highways seeks to establish a Statement of Common Ground (SOCG) with the Council and will require detailed information from the Appellant to ensure compliance with planning policies, including Circular 01/2022, and to address road safety concerns. • The substandard access junction is a significant issue. National Highways requires a Transport Assessment from the Appellant to evaluate the access's compliance with current design standards and its impact on the Strategic Road Network (SRN). Mitigative measures may be necessary. • Planning conditions may be imposed, including an Operational Management Plan (OMP) and a traffic signage scheme, to manage and mitigate impacts on the SRN. National Highways will collaborate with the Council to ensure these conditions meet the necessary planning tests and are enforceable. • Road safety remains a priority for National Highways, and while historical data shows no significant safety issues at the site access, future risks cannot be ruled out. A detailed safety assessment is needed. • National Highways will continue to work with the Council to ensure that any planning decisions align with road safety and transport policy standards, while supporting the safe and efficient operation of the SRN.
22/07/2024	Email MSDC to National Highways	<ul style="list-style-type: none"> • PINS requested the Council's confirmation on highways regarding the National Highways letter dated 12th February 2024, as it may affect the inquiry procedure and timing. • Reconfirm your comments on the 12th of February letter and provide answers on: • Whether any application for a Departure from Standards for A23 access has been invited, received, or determined. • Status of suggested conditions from the 12th of February letter and potential expansion of condition 1 • Highway safety currently listed as a dispute in the draft SoCG; this position may need revising after today's meeting, pending legal advice. • Exploring a position of no objection, subject to conditions, with the Appellants' agreement. • No further information on highway safety has been provided by the Appellants since March.

23/07/2024	MSDC email to National Highways.	<p>Council confirms:</p> <ul style="list-style-type: none"> • LPA will only provide NH comments on highway safety and proposed conditions to the Inspector, <u>without presenting additional evidence on highway safety at the Inquiry.</u> • If NH has more information or wishes to appear at the inquiry, please inform us. • LPA is seeking a separate SoCG with NH and the Appellants focused solely on highway matters. • Written agreement to enter into the SoCG is requested; LPA will then confirm with the Appellant and provide a first draft for comment.
		<p>National Highways confirms:</p> <ul style="list-style-type: none"> • Appreciate the time and collaboration during the Monday meeting. • Aim to work amicably with both Councils to present solutions to the Inspector, reducing the need for NH's inquiry attendance. • No application for a Departure from Standards for the A23 access has been invited, received, or determined. • Conditions outlined in the NH letter of 12th February 2024 remain, with agreement to detail the Operational Management Plan. • Seeking agreement on conditions to avoid objections, while planning conditions would limit A23 junction use. • Intend to engage with the Appellant and work on a Statement of Common Ground before the Inquiry.
25/07/2024	Email from National Highways to Mr Brownjohn	<ul style="list-style-type: none"> • National Highways invites PJ Brown (Civil Engineering) Ltd to discuss the operation of the site access off the A23 in light of the pending planning appeal (Ref: APP/D3830/C23/3319435). • The aim is to address safety concerns and establish common ground between parties involved. • Proposes an initial meeting to discuss mutual concerns, a communication timeline, safety issues, and specifics of the planning appeal. • National Highways and PJ Brown's consultants are encouraged to attend to ensure a thorough discussion. • Meeting scheduling is requested to allow time for follow-up before the appeal submission deadline.

27/07/2024	MSDC email to National Highways	<p>Council confirms:</p> <ul style="list-style-type: none"> • PINS requested confirmation of the Council's position on highways regarding the NH letter dated 12th February 2024. • Reconfirm your comments on the 12th of February letter and provide responses to: <ul style="list-style-type: none"> ○ Any application for Departure from Standards for access onto A23 (invited, received, or determined). ○ Status of conditions from NH's 12th February letter and potential expansion of condition 1. • Draft SoCG lists highway safety as a dispute; this may require revision based on today's meeting and pending Counsel's advice. • Seeking agreement from Appellants on a no-objection stance, contingent on conditions. • No further information on highway safety from Appellants since March.
29/07/2024	Email and letter to Mr Brownjohn from National Highways.	<p>Confirming:</p> <ul style="list-style-type: none"> • National Highways requests additional information for assessment, including a Transport Assessment, Travel Plan, Safety Risk Assessment, and Departures from Standards Application. • Compliance with National Planning Policy Framework (NPPF) and Department for Transport (DfT) Circular 01/2022 emphasised. • Documents needed to evaluate traffic impact, safety risks, and ensure road safety on the Strategic Road Network. • Timely submission of documents is crucial for a thorough appeal review.
02/08/2024	Letter and Email from National Highways to Mr Brownjohn.	Invitation to participate in drafting a Statement of Common Ground (SoCG).
02/08/2024	MSDC email to National Highways	Council query regarding matters 9,10, and 11 of the statement of common ground.
05/08/2024	Letter and email to MSDC from National Highways	National Highways response to the Council query regarding matters 9,10, and 11 of the statement of common ground.

06/08/2024	Email from Mr. Brownjohn to National Highways.	<p>Mr Brownjohn confirmed:</p> <ul style="list-style-type: none"> • Appellant's highways team will be providing the requested documents, and these will be provided for review. • Appellant to review the SOCG and provide input. • In terms of timings for the SOCG, the deadline for Proofs of Evidence is 27 August. • LPA will not be calling highways witness and evidence; and • Requested a modest delay in discussions, submission of the SOCG.
20/08/2024	National Highways email to Mr Brownjohn.	<p>NH requested update from Appellant regarding the Statement of Common Ground (SoCG) and information about the progress of the is preparing for review.</p>
20/08/2024	National Highways/MSDC	<ul style="list-style-type: none"> • Response to emails dated 22nd July and 8th August 2024. National Highways appreciates the Council's engagement, particularly concerning the Statement of Common Ground (SoCG). • NH confirms its position that, based on the reviewed safety data, should the Inspector be minded considering a temporary planning consent for the alleged uses on the appeal site, the Company would seek supporting information from the Appellant. • As stated in letter of 12th February 2024, NH believe that the suggested conditions remain valid. • National Highways maintains that safety concerns related to the existing access onto the A23, and its historic use, are not substantiated by accident data collated over a 21-year period.
22/08/2024	Email from Mr Brownjohn to National Highways.	<ul style="list-style-type: none"> • Attached comments on the SOCG. • Overall, largely agreed, but the appellants position on matters is not explicitly as set out by WSPA in the SOC. • Comments therein are observations of what the understood issues were to be. The appellants position is as set out in Cora IHT's documentation. • Also attached Transport Statement and Travel Plan. • Appellant and their highways representatives are open to further discussions with yourself.

22/08/2024	Email, MSDC to National Highways	<ul style="list-style-type: none"> • Further to the appellants comments on the SoCG on highway matters, please also find attached the Council's comments on the original draft SoCG (this does not include any response to the appellant's comments). • As previously advised, we will be submitting and presenting evidence to the inquiry on highway safety matters and our comment reflect our position to be expanded upon in the proofs of evidence. • Should there be further discussion between the appellants and NH it is requested the Council is informed and any documentation submitted be made available for comment.
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List of references:

- Mr Brownjohn – Appellant's Agent (WS Planning and Architecture)
- MSDC – Mid Sussex District Council
- WSCC – West Sussex County Council
- NH – National Highways
- The Company – National Highways
- JSJV (Jacobs SYSTRA Joint Venture) – National Highways technical advisor

Appendix 7.

Excerpts from the Design Manual for Roads and Bridges.

CD 109 - Highway Link Design.

CD 123 - Geometric design of at-grade priority and signal-controlled crossings.



Road Layout
Design

CD 123

Geometric design of at-grade priority and signal-controlled junctions

(formerly TD 41/95, TD 42/95, TD 40/94, and those parts of TD 50/04 and TD 70/08 relating to priority and signal-controlled junctions.)

Version 2.1.0

Summary

This document provides requirements for the geometric design of at-grade priority and signal-controlled junctions.

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 National Highways team. The email address for all enquiries and feedback is: Standards_Enquiries@highwaysengland.co.uk

This is a controlled document.

Contents

Release notes	3
Foreword	4
Publishing information	4
Contractual and legal considerations	4
Introduction	5
Background	5
Assumptions made in the preparation of this document	5
Abbreviations	6
Terms and definitions	7
1. Scope	10
Aspects covered	10
Implementation	10
Use of GG 101	10
2. Junction selection	11
Priority junction selection	11
WS2+1 roads	12
Dual carriageway roads	14
Major road central treatment selection	15
Ghost island central treatment	15
Single lane dualling (SLD) central treatment	16
Permitted movements at SLD and dual-carriageway priority junctions	16
Crossroads and staggered junctions	17
Signal-controlled junctions	19
Direct accesses	19
3. Visibility	20
Minor road approach visibility	20
Priority junctions	20
Direct accesses	21
Junction visibility	22
Measurement of visibility at minor roads and direct accesses	22
Measurement of visibility in the central reserve	25
4. Geometric design of direct accesses	27
5. Geometric design of priority junctions	29
General	29
Corner radii and corner radii tapers	29
Carriageway widths	31
Minor road traffic islands	33
Diverge tapers and auxiliary lanes	34
General	34
Diverge taper and auxiliary lane widths and lengths	35
Merging tapers	36
General	36
Merging tapers widths and length	36

6. Geometric design of major road central treatments	38
General	38
Major road central treatment formation excluding on WS2+1 roads	38
Major road central treatment formation on WS2+1 roads	38
Major road central treatment right turning lane length	40
Ghost islands	43
Through lane widths	43
Island and right turning lane widths on WS2+1 roads	44
Island and right turning lane widths on all roads except WS2+1	44
SLD and dual carriageway	45
Through lane widths	45
Island and right turning lane dimensions	45
Physical central reserve layout on WS2+1	48
Through lane widths	48
Central island layout	48
Passing bays	49
7. Geometric design of signal-controlled junctions	51
Junction intersection	51
Visibility at signal-controlled junctions	51
Visibility of signals	51
Junction intervisibility zone	53
Entry lanes, exit lanes and storage capacity	54
Lane widths	54
Storage length	55
Exit lane continuity	55
Other geometrical elements of signal-controlled junctions	56
Swept path and corner radii	56
Traffic islands (including at left-turn slips)	57
Right-turning traffic movements	58
Location of controller cabinets	60
8. Normative references	61
9. Informative references	62
Appendix A. Examples of signal-controlled junction layouts and impact on signal operation	63
A1 Opposing right turns at signal-controlled junctions	63
A2 Signal-controlled T-junctions	63
A2.1 Small urban signal controlled T-junction	63
A2.2 Large urban or larger rural signal-controlled T-junction	63
A3 Signal-controlled crossroads	64
A3.1 Urban signal-controlled crossroads	64
A3.2 Complex urban / rural signal-controlled crossroads	65
A4 Signal-controlled staggered junctions	66
A4.1 Operation of signal-controlled staggered junctions	66
A4.2 Left/right staggers	67
A4.3 Right/left staggers	68
A5 Signal-controlled skew junctions	70
A6 Signal-controlled junctions on one-way roads	71
A7 Signal-controlled junctions with more than four arms	72

Latest release notes

Document code	Version number	Date of publication of relevant change	Changes made to	Type of change
CD 123	2.1.0	November 2021	Core document	Incremental change to requirements

Revision 2.1.0 – the scope of use for direct accesses has been expanded to include single use public utilities site and single use highway maintenance site; the definition of a through-route now includes 'for public use'; new geometrical parameters for such junctions where right turns out of the minor road are prevented have been included; the minimum spacing distance between the end of dual carriageway to a priority junction has been reduced from 1km to 500 metres (para 2.11); the way that traditional relaxation clauses are presented has been updated to be clearer; plus various wording improvement/corrections.

Previous versions

Document code	Version number	Date of publication of relevant change	Changes made to	Type of change
CD 123	2	August 2020		
CD 123	1	June 2020		
CD 123	1	January 2020		
CD 123	0	August 2019		

Foreword

Publishing information

This document is published by National Highways.

This document supersedes TD 41/95 and TD 42/95. In combination with CD 122 [Ref 4.N], this document supersedes TD 40/94. In combination with CD 116 [Ref 1.I], this document supersedes TD 50/04. This document also supersedes elements of TD 70/08 that relate to priority and signal-controlled junctions.

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 provides requirements and advice on the geometrical design of at-grade priority and signal-controlled junctions.

In addition to signal controlled junctions, this document provides a single point of reference for the geometric design of at-grade priority junctions that has been historically split across a number of documents. It merges and rationalises the content of TD 41/95 and TD 42/95 and incorporates the priority junction elements of compact grade separated junctions and wide single 2+1 lanes, which were previously covered by TD 40/94 and TD 70/08 respectively.

In order to remove duplication across the various types of priority junctions defined by the previous documents, priority junctions are now formed of two key elements. These two elements are the priority junction (the layout of the minor road arm) and the major road central treatment (the layout of the major road aspect of the junction, e.g. a ghost island arrangement). This approach allows for flexibility of varying the form of the layout of the minor road and/or major road while removing the repetition and ambiguity resulting from the entire junction being treated as a single component in the previous documents.

In order to rationalise and remove duplication between direct access layouts, the definition of a direct access is now only used for a single field, single dwelling, single-use public utilities site or single-use highway maintenance site. A priority junction is for anything greater; however, the requirements/advice for a priority junction differ depending on whether the road provides a through route or not (i.e. an entrance to a business park or development). (i.e. an entrance to a business park or development).

Other notable changes/additions from the previous documents listed above include:

- 1) advice on permitting particular movements at single lane dualling and dual carriageway priority junctions (predominantly relating to the right turns out of the minor road), along with new geometrical parameters for such junctions where right turns out of the minor road are prevented;
- 2) expanded advice on the use of nearside passing bays, including recommended dimensions; and,
- 3) improvements made to the way visibility splays are defined at priority junctions to ensure that a full splay is provided rather than just a line of visibility from the minor road set back point.

Assumptions made in the preparation of this document

The assumptions made in GG 101 [Ref 6.N] apply to this document.

Abbreviations

Abbreviations

Abbreviation	Definition
AADT	Annual average daily traffic
ASL	Advance stop-line
HGV	Heavy goods vehicle
SLD	Single lane dualling
SSD	Stopping sight distance
S2	Single carriageway cross-section, 1 lane each direction (see CD 127 [Ref 1.N])
WS2	Wide single-carriageway cross-section, 1 lane each direction (see CD 127 [Ref 1.N])
WS2+1	Wide single 2+1 carriageway cross-section, 2 lanes one direction, 1 lane opposing direction (see CD 127 [Ref 1.N])

Terms and definitions

Terms

Term	Definition
Auxiliary lane	An additional lane provided on the nearside of the major road carriageway at junctions to increase merge or diverge opportunity and/or provide additional space for weaving traffic.
Changeover	A carriageway layout which effects a change in the designated use of the middle lane of a WS2+1 road from one direction of traffic to the opposite direction.
Collector road	A road separate to the junction which collects other local roads and accesses into a link that connects to the minor road in advance of the junction.
Compact grade separated junction	A grade separated junction designed with a two-way unsegregated connector road between the major and minor road. The connector road joins the major road via a priority junction designed to this document.
Corner taper	A short taper following the corner radius provided to accommodate the swept path of larger vehicles.
Crossroads	For the purpose of this document, crossroad junctions are where the centre line of a minor road, when extended across the major road, fits within the carriageway of an opposing priority junction.
Design vehicle	The design vehicle for at-grade priority and signal controlled junctions is a 16.5 metres long articulated heavy goods vehicle (HGV).
Desirable minimum stopping sight distance	Desirable minimum stopping sight distance (SSD) is as defined in CD 109 [Ref 5.N].
Direct access	A connection to an all-purpose trunk road providing access to only one of the following, which does not provide a through route: 1) a single dwelling; 2) a single field; 3) a single-use public utilities site (such as an electric substation) where access is needed for maintenance of that specific site only; or, 4) a single-use highway maintenance site (such as an attenuation pond) where access is needed for maintenance of that specific site only.
Duplicate primary signal(s)	Where there is more than one primary signal, additional signals erected to the offside are duplicate primary signal(s).
Ghost island	A major road central treatment that uses road markings to create an additional lane to allow traffic waiting to turn right from the major road into the minor road to do so without impeding through traffic movement.

Terms (continued)

Term	Definition
Hatched area	An area of road marking hatching used to discourage and/or channel vehicle movements.
Intervisibility zone	The area within a signal-controlled junction that ensures road users can see other road users (including pedestrians) between each stop line.
Major road central treatment	A collective term for the central treatments associated with ghost island, single lane dualling or dual carriageway junctions.
Major road	A road on which traffic has priority of movement over adjoining roads.
Minor road	A road on which traffic concedes priority to traffic on the major road.
Overtaking sections	Sections of two-lane single carriageway where the combination of horizontal and vertical alignment, visibility and or width is such that there are clear opportunities for overtaking using the opposing lane, as described in CD 109 [Ref 5.N].
Phase	The sequence of conditions applied to one or more streams of vehicular traffic or pedestrian traffic which always receive identical light signal indications.
Primary signal	A light signal erected near the stop line. NOTE: Where there is more than one signal located near a stop line, the signal on the nearside is the primary signal.
Priority junction	A junction controlled by a 'Give Way' or 'Stop' arrangement. NOTE 1: Stop arrangements are only used where there are severe visibility restrictions. NOTE 2: Direct accesses can operate in a similar manner but are not classed as priority junctions. NOTE 3: A priority junction can include a merge taper where the formal 'Give Way' road marking is replaced by an edge of carriageway road marking.
Reservoir length	The length required for queuing between the opposing arms of a staggered junction.
Rural roads	Rural roads are as defined in CD 109 [Ref 5.N].
Secondary signal	Traffic signals located beyond the primary signal, facing the same direction of traffic flow. NOTE: The information given by a secondary signal is the same as that given by the primary signal with which it is associated, but additional information compatible with that of the primary can also be given.
Signal-controlled junction	A junction that has full or part-time signals on one or more of its arms.

Terms (continued)

Term	Definition
Simple priority junction	A form of priority junction where there is no major road central treatment, such as a ghost island or single lane dualling, and no merging/diverging tapers or auxiliary lanes.
Single lane dualling	A single carriageway major road central treatment that uses physical traffic islands to provide space for right turning movements in and/or out of the minor road in order to not impede through traffic movement.
Stagger distance	The distance along the major road between the centre lines of the two minor roads at a staggered junction.
Staggered junction	A junction arrangement where the major road is continuous through the junction and two opposing minor roads form priority junctions that are offset from one another. NOTE: Two opposing priority junctions are not staggered when the layout of any central treatments do not overlap or the junction spacing is greater than the major road SSD.
Storage length	Storage length is the length over which vehicles can queue without causing obstruction to, or being obstructed by, vehicles in the adjacent lane.
Swept path	The swept path of a vehicle is the movement and path of different parts of a vehicle when that vehicle is undertaking a turning manoeuvre. It is the envelope swept out by the sides of the vehicle body, or any other part of the structure of the vehicle.
Taper merge / diverge	An area of additional carriageway that is tapered to/from the major road, which is provided on the nearside of the major road carriageway at junctions to increase merge or diverge opportunity.
Through route	A road that is for public use, which provides a connection to the wider road network. NOTE: A road that does not form part of a through route requires a road user to access and leave a site through the same junction.
Traffic island	A traffic island is a raised (kerbed) or marked-off area on the road. NOTE: A traffic island can be used to accommodate pedestrian refuges and traffic signals, and as a means of separating lanes of traffic or opposing traffic flows.
Urban roads	Urban roads are as defined in CD 109 [Ref 5.N].
WS2+1 roads	A wide single carriageway road with two lanes of travel in one direction and a single lane in the opposite direction, with a 1 metre hatch separating opposing traffic flows.

1. Scope

Aspects covered

- 1.1 This document shall be used for the geometric design of at-grade priority junctions and signal-controlled junctions.

NOTE 1 This document is applicable to both new and improved junctions.

NOTE 2 This document does not cover the general provision of walking, cycling and horse riding facilities at at-grade priority junctions. Requirements and advice relating to this are provided in CD 143 [Ref 3.N] and CD 195 [Ref 2.N].

- 1.2 This document shall be used for the geometric design of the priority junction element of a compact grade separated junction.

NOTE Requirements for the link road element of a compact grade separated junction are provided in CD 122 [Ref 4.N].

Implementation

- 1.3 This document shall be implemented forthwith on all schemes involving the geometric design of at-grade priority and/or signal controlled junctions on the Overseeing Organisations' all-purpose trunk roads according to the implementation requirements of GG 101 [Ref 6.N].

Use of GG 101

- 1.4 The requirements contained in GG 101 [Ref 6.N] shall be followed in respect of activities covered by this document.

2. Junction selection

Priority junction selection

2.1 Priority junctions shall not be used on motorways or all-purpose dual three-lane carriageways.

2.1.1 Priority junctions should not be located on a sharp curve on a major road.

NOTE 1 *The placement of a priority junction on the inside of a sharp curve is particularly hazardous as this can restrict visibility to a much greater degree than on the outside of a curve, and is likely to create blind spots.*

NOTE 2 *The placement of a priority junction on the outside of a sharp curve can result in drivers on the major road misinterpreting the minor road as the ahead direction. Equally drivers on the minor road could misinterpret the layout as drivers on the mainline as having to give way.*

2.1.2 Priority junctions should only be located on level ground or where any approach that is on a downhill gradient does not exceed 2% over the applicable desirable minimum stopping sight distance (SSD).

2.1.3 The number of priority junctions providing access to the all-purpose trunk roads should be minimised.

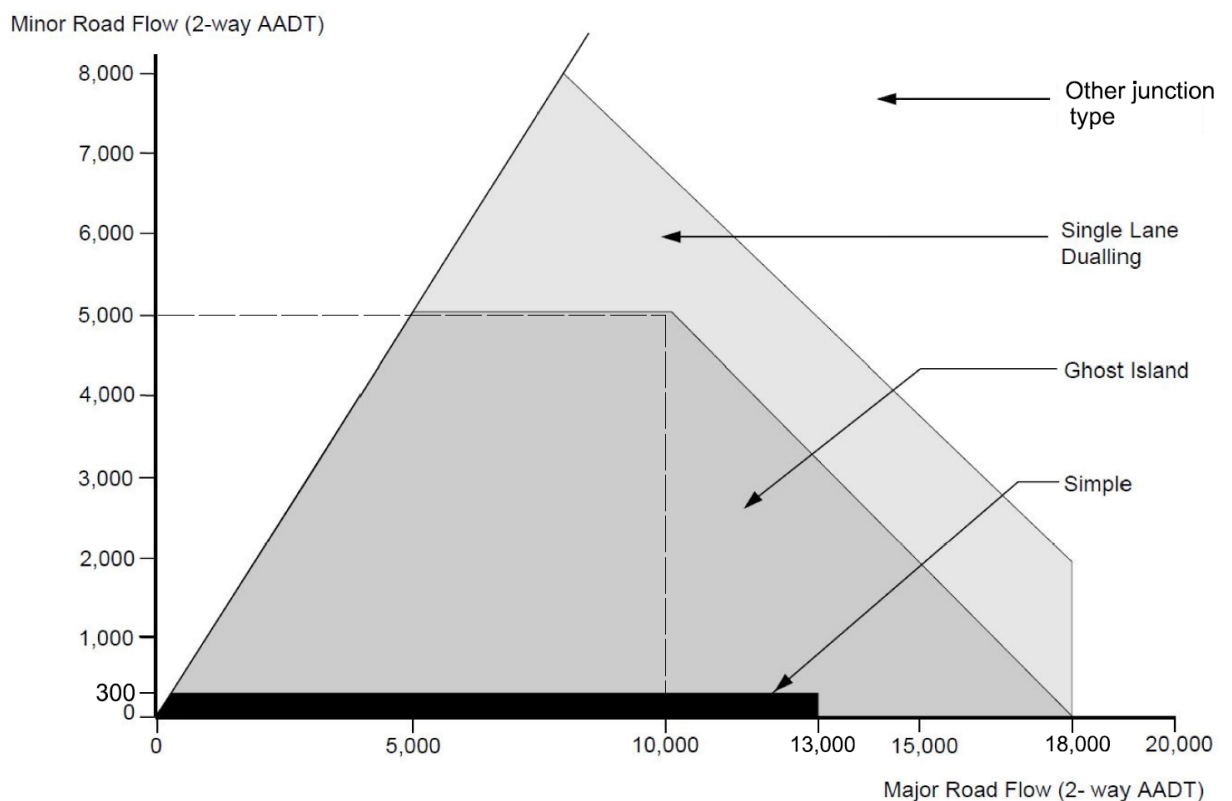
NOTE *Minimising the number of junctions on a road can be achieved by connecting side roads and accesses to a collector road running parallel to the main road.*

2.2 Priority junctions that do not form a through route shall not be provided on overtaking sections.

2.3 Simple priority junctions shall only be used on single-carriageway roads without a climbing lane.

2.3.1 The selection of priority junction and major road central treatment for single carriageway roads should be determined based on the standard of major road and traffic flows on both the major and minor roads. Figure 2.3.1 illustrates approximate levels of provision for varying traffic flows.

Figure 2.3.1 Approximate priority junction provision on single carriageway roads based on flows only



NOTE The 2-way AADT design year flows are used to determine the approximate level of junction provision prior to more detailed traffic modelling to check capacity.

2.3.2 At junctions where there are high seasonal variations, or short intense peaks in the traffic flows, then the appropriate seasonal or peak flows should be used.

NOTE 1 Figure 2.3.1 takes into account traffic delays, entry and turning traffic flows and collision costs.

NOTE 2 Seasonal or peak flows need to be extrapolated to determine revised 2-way AADT flows for use in Figure 2.3.1.

2.4 New priority junctions shall not be sited where they encroach on the visibility requirements of adjacent priority junctions on major roads with:

- 1) a speed limit of greater than 40 mph; or,
- 2) a speed limit of 40 mph or less, where the minor road forms part of a through route.

NOTE 1 In England and Wales, on major roads with a speed limit of 40 mph or less, decisions on priority junctions where the minor road does not form part of a through route, and direct accesses, are first dealt with by the local planning authority.

NOTE 2 The placement of priority junctions in relation to lay-bys is covered in CD 169 [Ref 3.].

WS2+1 roads

2.5 On WS2+1 roads, priority junctions shall only be;

- 1) located at changeovers;
- 2) located at WS2+1 to S2 interfaces; or,
- 3) on the adjoining S2 road, at least 500 metres from the point where the road cross-section changes from a WS2+1 cross section.

NOTE 1 Priority junctions can be used to facilitate a changeover of overtaking lanes on WS2+1 roads. This is shown diagrammatically in Figures 2.5N1a to 2.5N1d.

Figure 2.5N1a Priority junction layouts at changeovers - conflicting layout

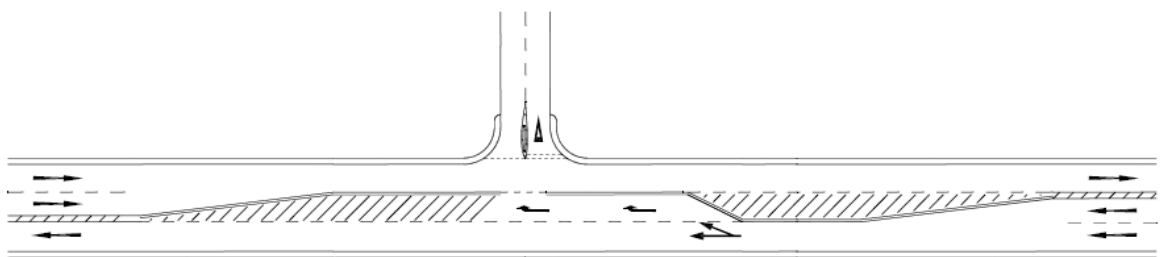


Figure 2.5N1b Priority junction layouts at changeovers - non-conflicting layout

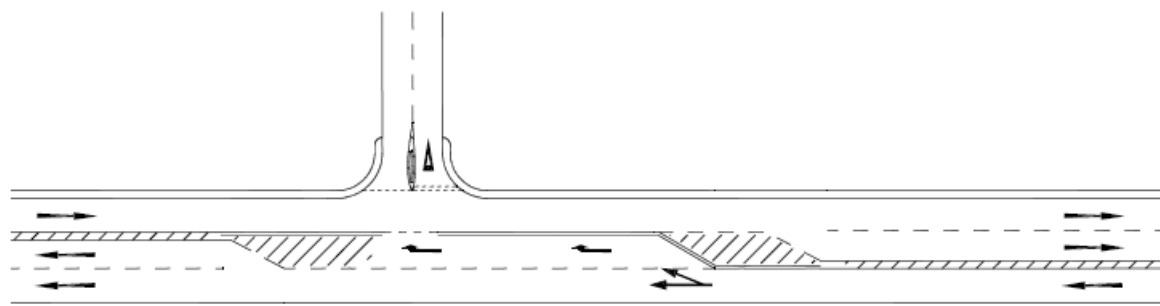


Figure 2.5N1c Staggered junction layouts at changeovers - conflicting layout

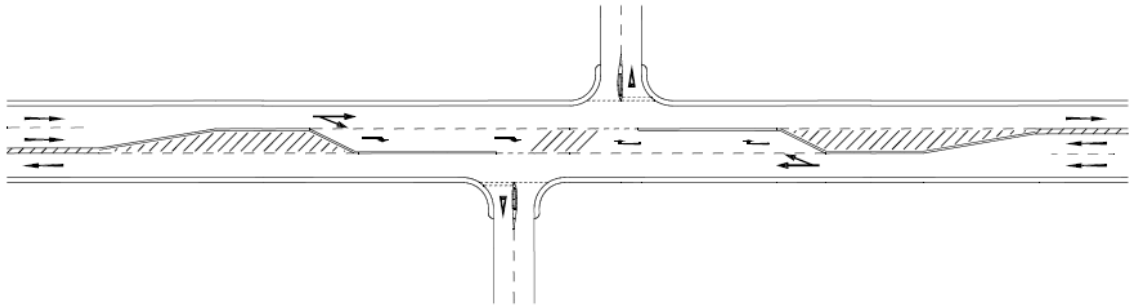
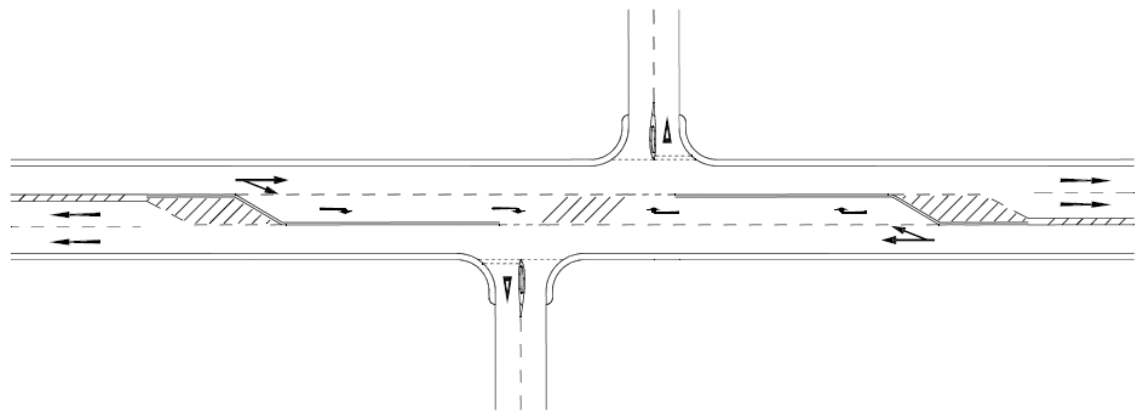


Figure 2.5N1d Staggered junction layouts at changeovers - non-conflicting layout



NOTE 2 Priority junctions can be used at the interface between WS2+1 roads and S2 single carriageway roads. This is shown diagrammatically in Figures 2.5N2a to 2.5N2e.

Figure 2.5N2a Right-turn at end of single lane section

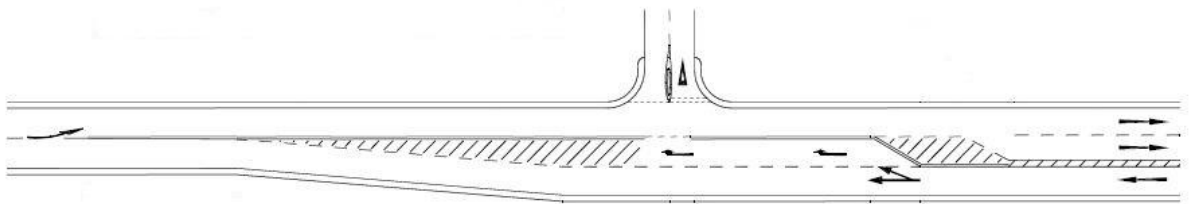


Figure 2.5N2b Right-turn at end of overtaking lane section

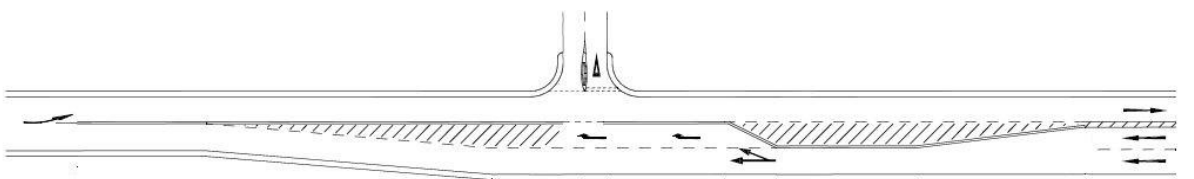


Figure 2.5N2c Right-turn at start of single lane section

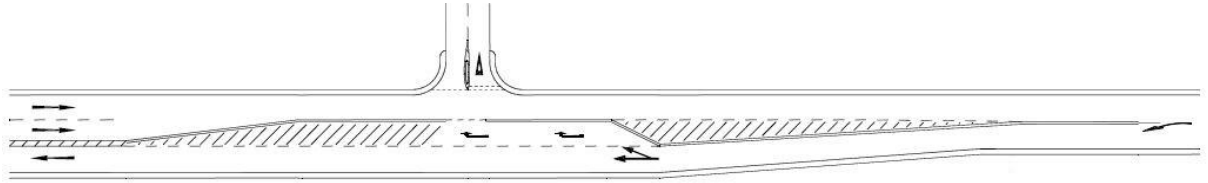


Figure 2.5N2d Right-turn at start of overtaking lane section

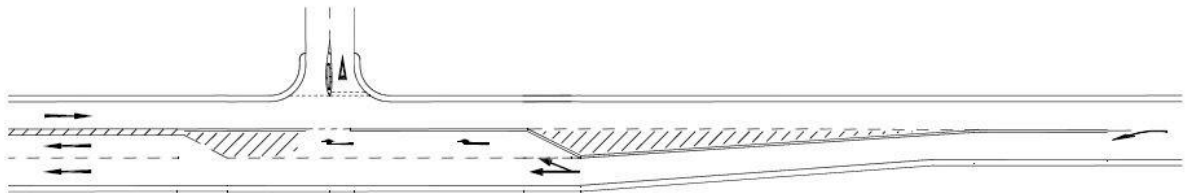
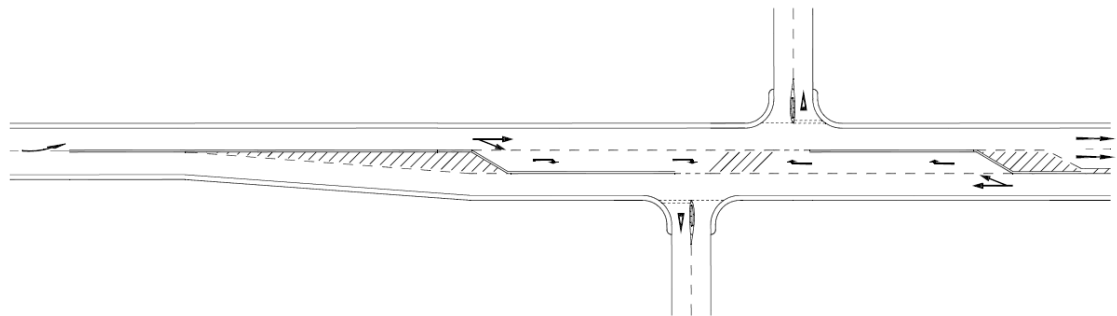


Figure 2.5N2e Staggered junction layouts at WS2+1 interface



2.6 Priority junctions on WS2+1 roads shall include either;

- 1) a ghost island central treatment; or,
- 2) a physical central reserve to prevent right turn movements.

NOTE At priority junctions the middle lane is dedicated to right-turning traffic, with a single lane provided in each direction through the junction.

2.7 Left-in/left-out priority junctions shall only be provided on WS2+1 roads where they are included as part of a compact grade separated junction, with a physical central reserve instead of the middle lane.

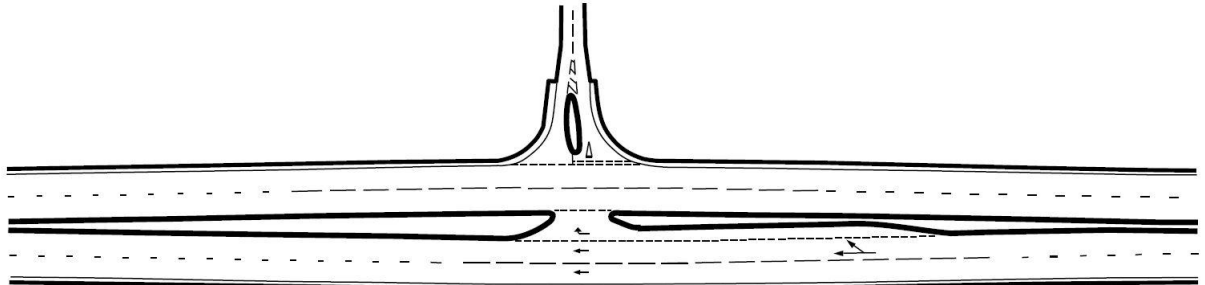
2.8 Where there is a physical central reserve on WS2+1 carriageways, u-turns shall be prohibited at both ends of the central island.

2.9 An additional fourth lane for right turning vehicles shall not be provided on WS2+1 roads.

Dual carriageway roads

2.10 At priority junctions on dual carriageways, where right turns in and/or out of the minor road are to be accommodated, the central reserve shall be widened to provide waiting space for vehicles turning right (as illustrated in Figure 2.10).

Figure 2.10 Example of dual carriageway central reserve widening for a priority junction



NOTE *Provision of turning facilities allows vehicles of nearly all lengths turning right from the minor road into the major road to carry out the manoeuvre in two stages.*

2.10.1 Priority junctions should not be provided on rural dual carriageway roads where the minor road flows exceed 3,000 vehicles AADT 2-way.

2.11 Priority junctions shall be located a minimum of 500 metres in both directions from the end of the physical central reserve where the carriageway changes from a single carriageway to a dual carriageway.

NOTE *Priority junctions at changes in carriageway cross section can lead to an increase in accident potential because of the merging manoeuvres that will be occurring on the major road at this point.*

Major road central treatment selection

2.12 Priority junctions shall include a major road central treatment when the minor road flow exceeds 300 vehicles 2-way annual average daily traffic (AADT), or the major road flow exceeds 13,000 vehicles 2-way AADT.

NOTE 1 *Priority junctions can be designed as all movement junctions or restricted movement junctions (with individual movements deterred or prevented).*

NOTE 2 *Priority junctions can be used in combination with a major road central treatment and as part of a compact grade separated junction.*

NOTE 3 *Priority junctions with no major road central treatment are simple priority junctions.*

Ghost island central treatment

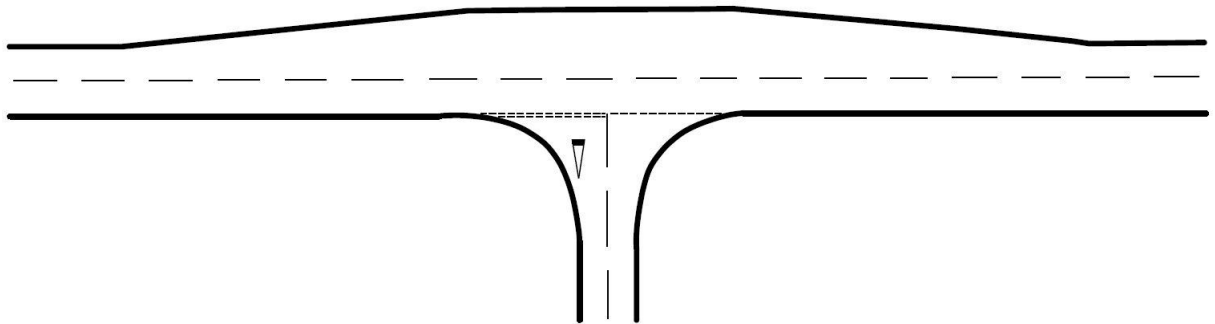
2.13 Ghost islands shall not be used where overtaking opportunities on adjacent links are restricted.

2.13.1 On new single carriageways where overtaking opportunity is limited, ghost island junctions should be sited on non-overtaking sections.

2.14 Ghost islands shall only be used where major road traffic flows allow traffic turning right out of the minor road to do so in one manoeuvre.

2.14.1 On urban roads with a speed limit of 30 mph or less, where a ghost island cannot be accommodated, a passing bay as illustrated in Figure 2.14.1 may be used.

Figure 2.14.1 Illustrative example of a passing bay



NOTE *A passing bay provides space for through vehicles to pass vehicles waiting to turn right into the minor road but only at low speed.*

Single lane dualling (SLD) central treatment

- 2.15 SLD shall not be used within 3 km of the tip of taper to a dual carriageway.
- 2.16 SLD shall not be used on WS2+1 or where there is a climbing lane in one direction through the junction.
- 2.17 SLD layouts shall only be used on roads with hard strips.
- 2.18 SLD shall be formed by widening the major road to provide a central reservation that includes waiting space for vehicles turning right.
- 2.18.1 SLD should be used in preference to ghost islands where overtaking opportunities on adjacent links are restricted, and/or where traffic turning right out of the minor road would need to make this manoeuvre in two stages.
- 2.18.2 On new single carriageways where overtaking opportunity is limited, SLD junctions should be sited on non-overtaking sections.

NOTE *The improved carriageway cross section can result in a tendency for drivers to speed up through the junction where slow moving vehicles can be crossing or turning.*

Permitted movements at SLD and dual-carriageway priority junctions

- 2.19 Where right turns in or out of a minor road at SLD junctions are restricted by traffic islands, u-turns shall be prohibited at both ends of the central island.
- 2.19.1 Right turning movements out of the minor road at SLD and dual-carriageway junctions should be restricted by traffic islands where these movements can be accommodated at a subsequent junction, such as a roundabout.

NOTE 1 *Restricting right turn movements out of the minor road at SLD and dual-carriageway junctions can reduce collision risk by:*

- 1) *removing interaction between vehicles turning right into the minor road and out of the minor road, which can cause confusion as to who has priority; and,*
- 2) *eliminating the need for larger vehicles that cannot be fully sheltered in the central gap having to undertake the right turn out in one stage or overhanging the through lanes if they decide to undertake the movement in two stages.*

NOTE 2 *A round trip of approximately 2 km can be considered an acceptable diversion to eliminate right turn movements out of the minor road for private accesses, developments and little used minor or unclassified roads at SLD and dual-carriageways junctions.*

NOTE 3 *Illustrative examples of SLD and dual carriageway priority junctions with restricted movements are shown in Figures 2.19.1N3a and 2.19.1N3b.*

Figure 2.19.1N3a Example of a SLD junction with the right turn out of the minor road prevented

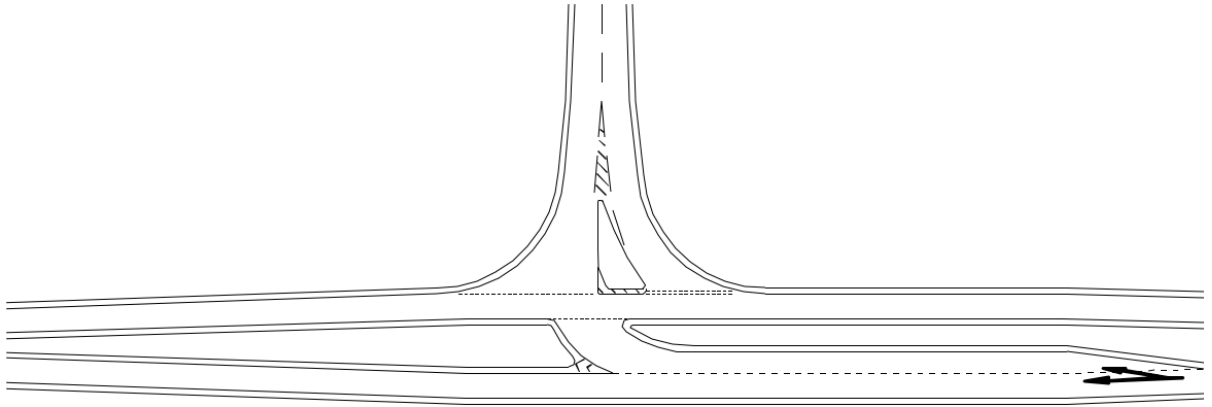
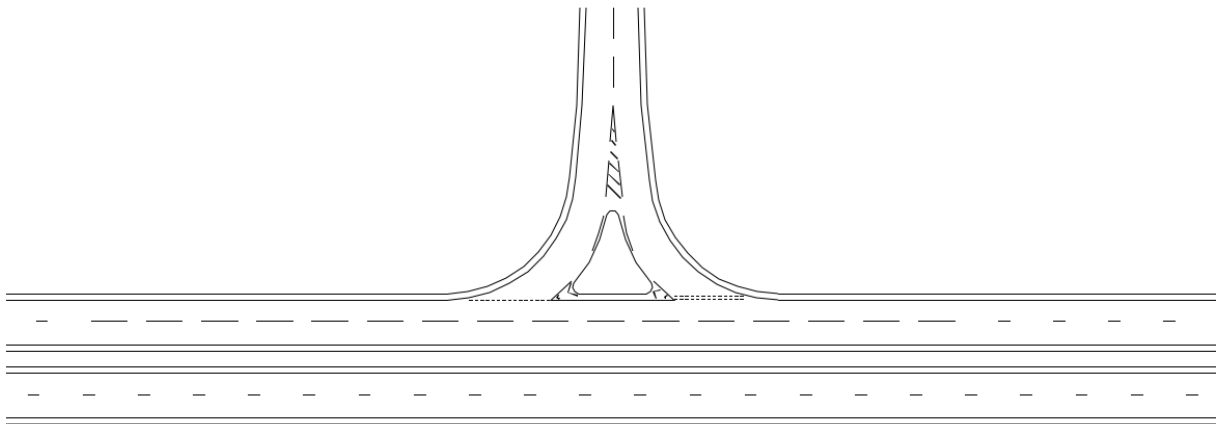


Figure 2.19.1N3b Example of a dual carriageway priority junction with right turns into and out of the minor road prevented

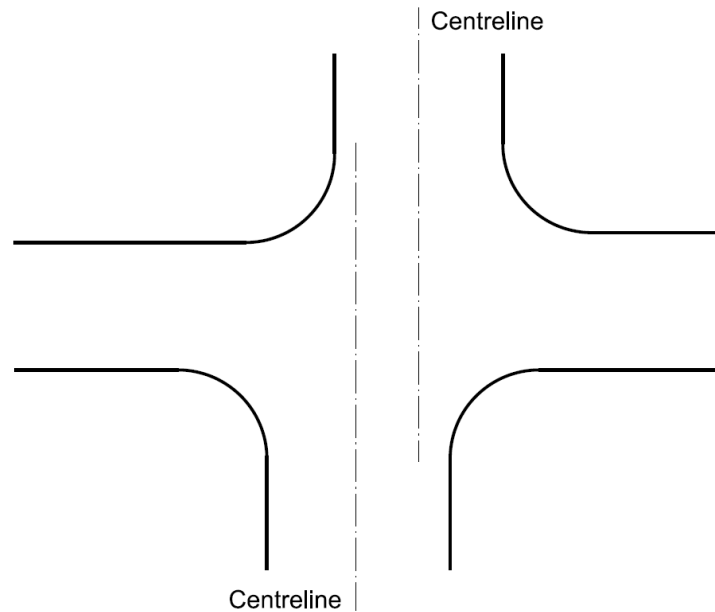


Crossroads and staggered junctions

2.20

Where the centre line of a minor road, when extended across the major road, fits within an opposite priority junction carriageway (as illustrated on Figure 2.20) the junction shall be designed as a crossroads and not a staggered junction.

Figure 2.20 Crossroad layout



- 2.21 Crossroads shall only comprise two opposing simple priority junctions.
- NOTE 1* As simple priority junctions are not permitted on dual carriageway roads, crossroads can only be used on single carriageway roads.
- NOTE 2* Staggered junctions are safer than crossroads where a significant proportion of the flow on the minor roads is a crossing movement.
- 2.22 The stagger distance of a junction shall be measured as the distance along the major road between the centre lines of the two minor roads.
- 2.22.1 Where staggered junctions are provided they should be right/left staggers (where minor road traffic crossing the major road first turns right, proceeds along the major road and then turns left).
- NOTE* Right/left staggers are preferred to left/right staggers because traffic turning between the minor roads is less likely to have to wait in the centre of the major road.
- 2.23 The minimum right/left stagger distance shall be:
 - 1) 50 metres for priority junctions with no major road central treatment;
 - 2) 50 metres for a ghost island junction;
 - 3) 40 metres for a SLD junction; and,
 - 4) 60 metres for a dual carriageway junction.
- 2.24 The minimum left/right stagger distance for a priority junction with no major road central treatment shall be 50 metres.
- 2.25 The minimum left/right stagger distance for a priority junction with no major road central treatments shall be as given in Table 2.25.

Table 2.25 Minimum stagger distances for left/right staggered junctions

Design speed (kph)	Stagger distance (metres)		
	Ghost island	Single lane dualling	Dual carriageway
50	50	--	60
60	50	--	60
70	60	--	60
85	75	75	75
100	100	100	100
120	--	--	130

NOTE For higher design speeds, the distance is based on the sum of the two deceleration lengths lying side by side plus the turning lengths (and queuing lengths, if appropriate) at each end, otherwise it is based on the manoeuvring requirements of the design vehicle.

2.26 Staggered junctions shall not be used on climbing lane sections.

Signal-controlled junctions

2.27 Where the 85th percentile speed on the approach roads is greater than or equal to 104 kph (65 mph), a signal-controlled junction shall not be provided.

Direct accesses

2.28 Direct accesses shall not be used on motorways, all-purpose dual three-lane carriageways and on WS2+1 roads.

2.29 Direct accesses shall not be provided on overtaking sections.

2.29.1 Direct accesses should be avoided where possible.

NOTE 1 The primary purpose of the trunk road network is to provide for the safe and expeditious movement of long distance through traffic. That means strictly limiting the number of direct accesses to trunk roads.

NOTE 2 Direct accesses can be joined together with a link or service road before they join the main carriageway of the trunk road.

2.29.2 Direct accesses on single carriageway roads should not be positioned facing each other.

2.30 On dual carriageways, gaps in the central reserve to accommodate right turns in and out of a direct access shall not be provided.

2.31 Direct accesses shall not be provided at locations where the major road gradient is greater than 4%.

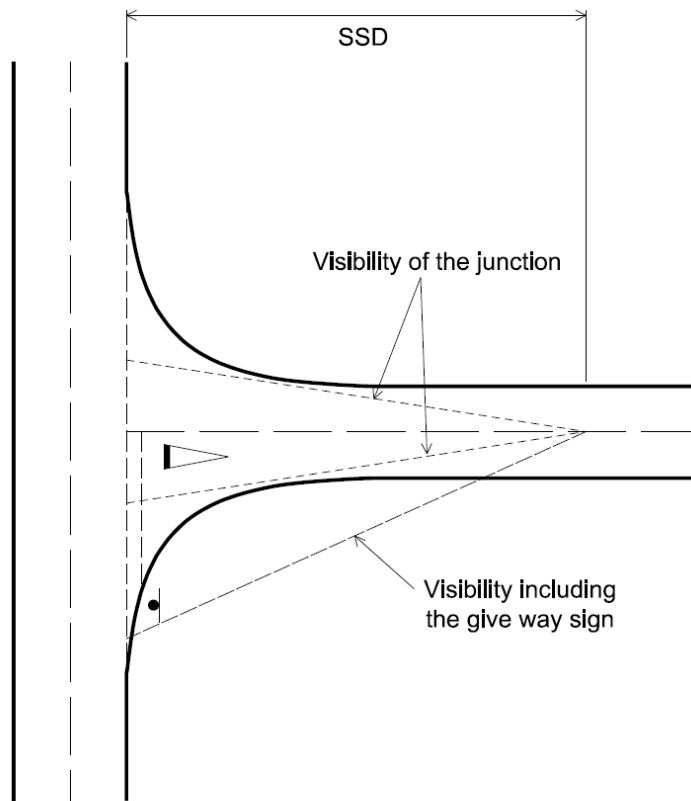
3. Visibility

Minor road approach visibility

Priority junctions

- 3.1 On a minor road approach to a priority junction, there shall be unobstructed visibility of the junction from a distance corresponding to the desirable minimum SSD for the design speed of the minor road, including the 'give way' sign where present, as illustrated in Figure 3.1.

Figure 3.1 Priority junction approach SSD visibility



NOTE SSD is measured from the eye heights and to the object heights given in CD 109 [Ref 5.N].

- 3.2 An approaching road user shall be able to clearly see the junction form from a minimum distance of 15 metres back along the centreline of the minor road, measured from the continuation of the line of the nearside edge of the running carriageway of the major road (as illustrated in Figure 3.2a and 3.2b).

Figure 3.2a Priority junction approach visibility

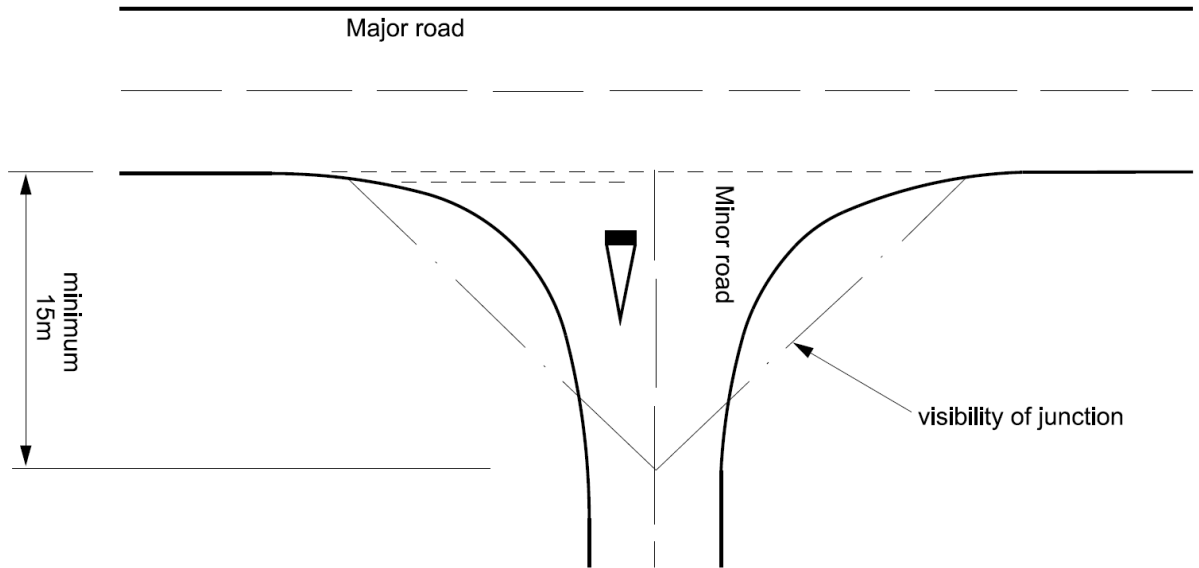
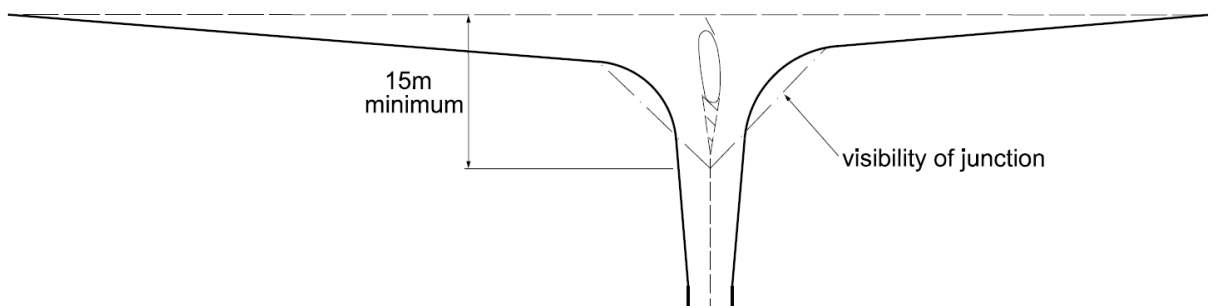


Figure 3.2b Priority junction approach visibility (incorporating tapers on the mainline and traffic island on the minor road)



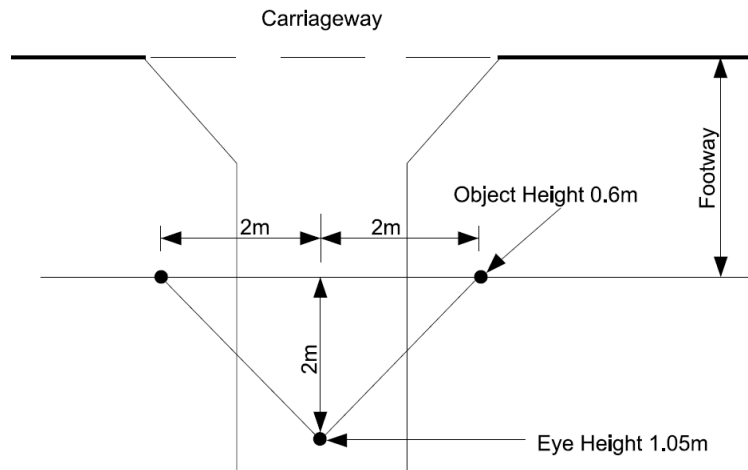
NOTE 1 The 15 metre measurement is from the continuation of the line of the nearside edge of the running carriageway not the continuation of the back of the major road hard strip if present.

NOTE 2 Visibility is measured from the eye heights and to the object heights using the envelope of visibility in CD 109 [Ref 5.N].

Direct accesses

3.3 Where a direct access crosses a footway, a visibility splay shall be provided in accordance with Figure 3.3.

Figure 3.3 Visibility at the back of footway crossing



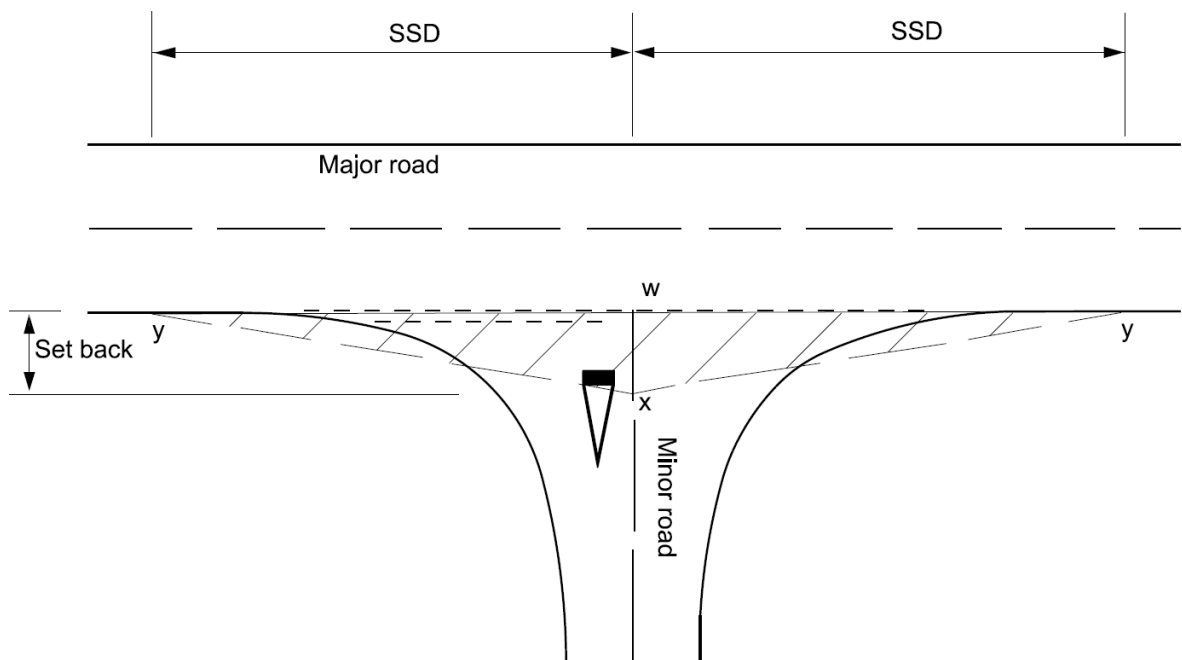
Junction visibility

Measurement of visibility at minor roads and direct accesses

3.4 Unobstructed visibility shall be provided at all priority junctions and direct accesses by a visibility splay formed between the following three points, as illustrated in Figure 3.4:

- 1) a point W corresponding to the intersection point between the minor road centreline and the major road edge of carriageway;
- 2) a point X setback along the minor road centreline measured from the continuation of the line of the nearside edge of the running carriageway of the major road; and,
- 3) a point Y on the major road nearside edge of carriageway, corresponding to the desirable minimum SSD for the speed of the major road measured along the edge of the major road carriageway from point W.

Figure 3.4 Priority junction visibility splays



NOTE 1 Visibility is measured from the eye heights and to the object heights given in CD 109 [Ref 5.N].

NOTE 2 The visibility splays shown are for a junction where left and right splays are required.

NOTE 3 Where there are hard strips on the major road, point X is measured from the continuation of the line of the nearside edge of the running carriageway of the major road.

NOTE 4 Inappropriate positioning of lay-bys, bus stops, traffic signs and other street furniture can result in obstruction to visibility splay.

NOTE 5 Parked vehicles can obstruct visibility splays and where necessary restrictions can be introduced to mitigate this risk.

3.5 The speed of the major road for determining point Y in the visibility splay shall be based on:

- 1) design speed only for direct accesses and priority junctions on new major roads;
- 2) design speed only for priority junctions that form part of a through route on existing major roads; and,
- 3) design speed or speed measurement for direct accesses and priority junctions that do not form part of a through route on existing major roads.

NOTE Speed measurement of an existing major road involves calculating the 85th percentile speed of traffic.

3.6 A visibility splay to the right on the minor road shall be provided:

- 1) at all priority junctions and direct accesses where minor road traffic can join a 2-way major road; and,
- 2) at all priority junctions and direct accesses where minor road traffic can turn left to join a 1-way major road.

3.6.1 Visibility splays to the right on the minor road should also be provided at priority junctions and direct access where minor road traffic can turn right to join a 1-way major road and there are contraflow provisions (e.g. for cyclists).

3.7 A visibility splay to the left on the minor road shall be provided:

- 1) at all priority junctions and direct accesses where minor road traffic join a 2-way single carriageway major road;
- 2) at all priority junctions and direct accesses where minor road traffic can turn right to join a 2-way dual-carriageway road and the central reserve gap is not wide enough to accommodate a waiting design vehicle; and,
- 3) at priority junctions and direct accesses where minor road traffic can turn right to join a 1-way major road.

3.7.1 Visibility splays to the left on a 1-way road should also be provided at priority junctions and direct access where minor road traffic can turn left to join a 1-way major road and there are contraflow provisions (e.g. for cyclists).

NOTE Where the minor road is one way leading from the major road, no visibility splays for vehicles turning out of the minor road are required as these movements are not permitted.

3.7.2 On a 1-way major road, visibility splays may be provided in both directions for vehicles turning out of the minor road.

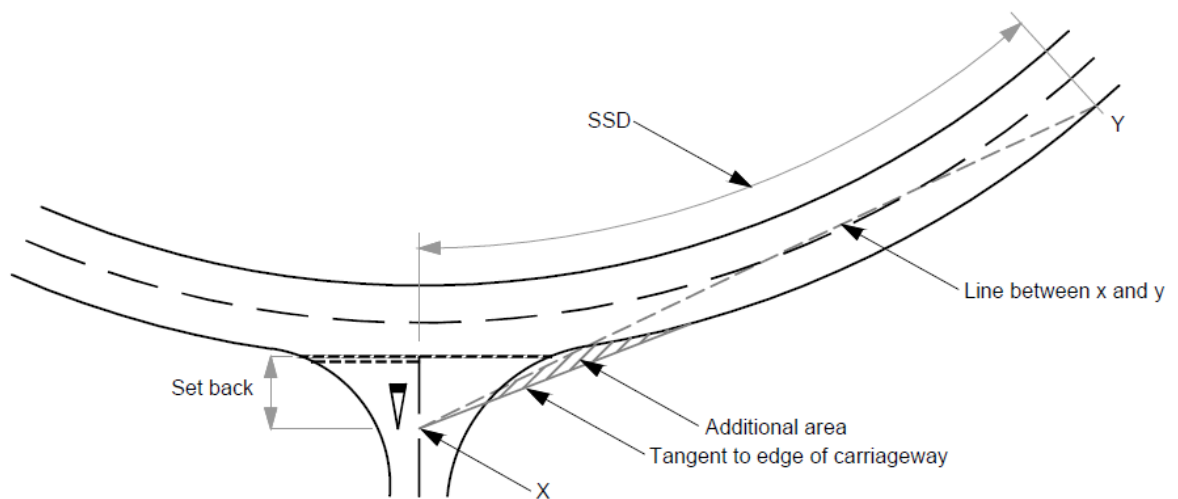
NOTE Visibility splays in both directions at a 1-way major road provides a level of future proofing, and accommodates potential traffic management arrangements.

3.8 The minimum distance used to locate point X shall satisfy one of the following:

- 1) for direct access:
 - a) 4.5 metres; or,
 - b) 2.0 metres.
- 2) for simple priority junctions:

- a) 9.0 metres; or,
- b) 2.4 metres.
- 3) for all other priority junctions:
 - a) 9.0 metres; or,
 - b) 4.5 metres.
- 3.8.1 The minimum distance used to locate point X should be in accordance with a) for each junction/access type.
- 3.8.2 Where it is not feasible to locate point X fully in accordance with a), the minimum distance used to locate point X should be as close to a) as practicable, but no less than b).
- 3.9 Where the line between points X and Y falls partially within the major road carriageway, an additional area shall be added to the visibility splay formed by drawing a line from X to a point tangential to the nearer edge of the major road running carriageway, as illustrated in Figure 3.9.

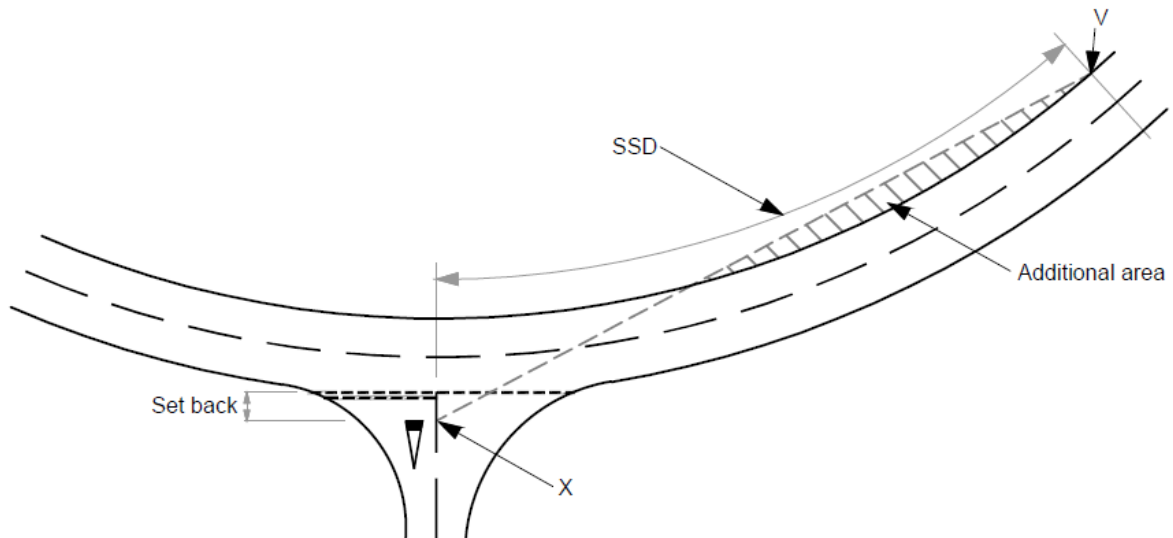
Figure 3.9 Additional area of visibility on the outside of a curved major road



NOTE *The additional area of visibility on the outside of the curve (as illustrated in Figure 3.9) applies to both the left and right of a priority junction/direct access.*

- 3.10 Where a priority junction/direct access is located on the outside of a major road curve, an additional area shall be added to the visibility splay in the verge on the inside of the major road curve, formed by a line between the following two points, as illustrated in Figure 3.10:
 - 1) a point X at a set back distance of 2.4 m; and,
 - 2) a point V on the major road offside edge of running carriageway, corresponding to the desirable minimum SSD for the speed of the major road.

Figure 3.10 Additional area of visibility on the inside of a curved major road



NOTE 1 The additional area of visibility on the inside of the curve (as illustrated in Figure 3.10) applies to both the left and right of a priority junction/direct access.

NOTE 2 Where there are hard strips on the major road, point V is measured to the nearside edge of the running carriageway not the back of the major road hard strip.

NOTE 3 Providing the additional visibility in the verge on the inside of a major road curve allows drivers to see the full extent of the carriageway and approaching vehicles for the desirable minimum SSD.

3.11 The desirable minimum SSD at all priority junctions shall not be available from an X distance greater than 9 metres.

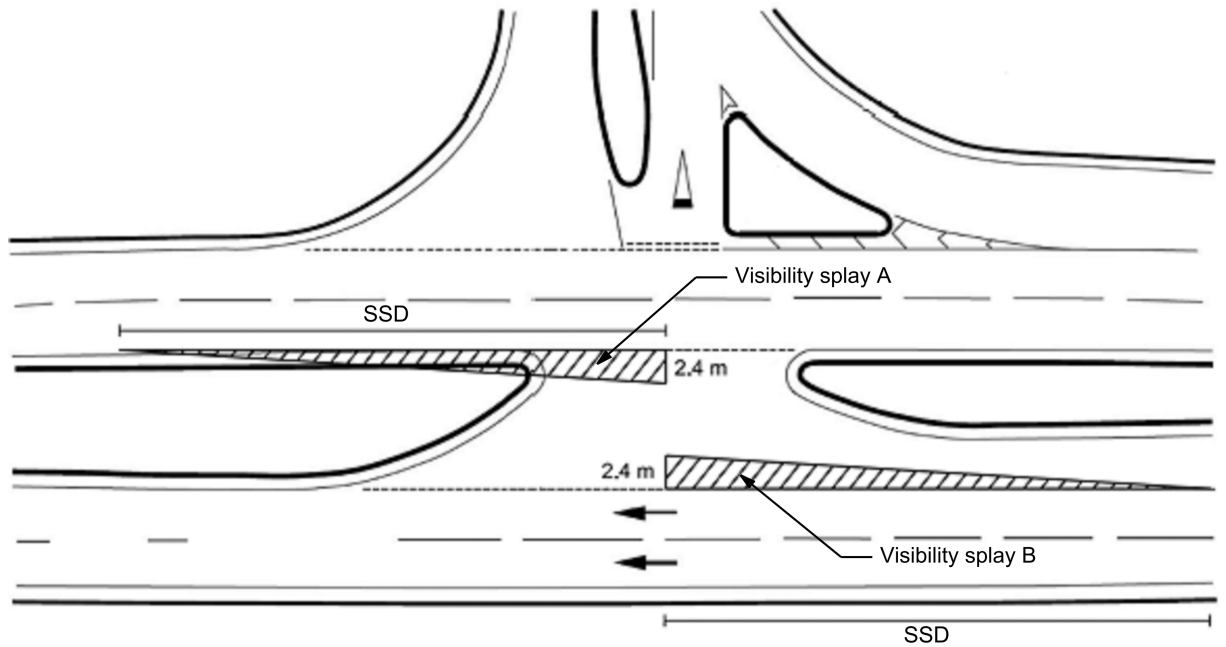
NOTE In open areas, it can be necessary to artificially restrict the visibility splay to prevent the desirable minimum SSD being available from an X distance of greater than 9 metres.

Measurement of visibility in the central reserve

3.12 Unobstructed visibility shall be provided in the centre of the major road, on dual carriageway and SLD junctions where right turns are permitted, by a visibility splay formed between the following three points, as illustrated in Figure 3.12:

- 1) the intersection point between the centre of the opening and the offside edge of major road carriageway;
- 2) a point 2.4 metre setback along the centre of the opening measured from the continuation of the line of the offside edge of the running carriageway of the major road; and,
- 3) a point Y on the major road offside edge of carriageway, corresponding to the desirable minimum SSD for the design speed of the major road measured from the 2.4 metre setback point.

Figure 3.12 Central reserve visibility splays



NOTE

Visibility is measured from the eye heights and to the object heights given in CD 109 [Ref 5.N].

3.13

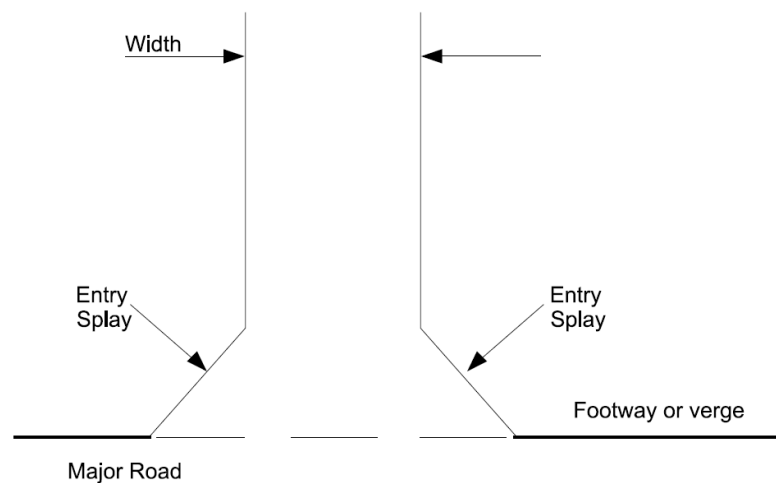
Visibility splays in the central reserve of dual carriageways or SLD shall be provided in the following circumstances:

- 1) visibility splay A, as illustrated in Figure 3.12, where right turn into the minor road is permitted/and/or;
- 2) visibility splay B, as illustrated in Figure 3.12, where right turn out of the minor road is permitted.

4. Geometric design of direct accesses

- 4.1 Direct accesses shall only be used where access is to only one of the following and that access will be subject to less than 50 vehicle movements per week:
- 1) a single dwelling;
 - 2) a single field;
 - 3) a single-use public utilities site (such as an electric substation) where access is needed for maintenance of that specific site only; or,
 - 4) a single-use highway maintenance site (such as an attenuation pond) where access is needed for maintenance of that specific site only.
- 4.1.1 A direct access should not be provided on trunk roads where it is feasible to provide an alternative access onto the local road network.
- 4.1.2 A priority junction may be provided instead of the direct access.
- 4.2 The layout in Figure 4.2 shall be provided as the minimum level of provision for a direct access.

Figure 4.2 Direct access layout



NOTE *Hardened strips can be provided at field accesses to assist in the removal of mud from tyres and equipment prior to entering the trunk road.*

- 4.2.1 The width of a direct access for a single dwelling should be a minimum of;
- 1) 3.1 metres where building regulations apply to the access width; or,
 - 2) 2.5 metres where building regulations do not apply to the access width.

NOTE *A minimum width of 3.1 metres allows access by a typical fire and rescue service vehicle as detailed in The Building Regulations 2010, Approved Document B - Fire Safety, Volume 1 - Dwellings [Ref. ISBN 9781 1 914124 02 0 [Ref 2.]].*

- 4.2.2 The width of a direct access for fields, public utilities sites and highway maintenance sites should be a minimum of 3.5 metres.
- 4.2.3 The entry splays at direct accesses should be a minimum of 1 metre by 1 metre for a single dwelling and 2 metre by 2 metre for fields, public utilities sites and highway maintenance sites.
- 4.3 Where entrance gates are provided across a direct access they shall be set back to accommodate one vehicle in the access, clear of the main running lane and footway if one is present.

NOTE *The vehicle to be accommodated is the largest type expected to use the access on a regular basis, which in the case of farm vehicles can include a trailer.*

- 4.3.1 Gates for direct accesses should open away from the highway.
- 4.3.2 Where it is not possible to accommodate gates opening away from the highway, the setback should be increased to accommodate them being fully open without encroaching into the carriageway.
- 4.4 For direct accesses, the gradient on the approach to the trunk road shall not exceed 10% either uphill or downhill.
- 4.5 For direct accesses, the gradient on the access approach shall not exceed 4% over one of the following distances, measured from the edge of the major road carriageway:
- 1) 10 metres; or,
 - 2) 5 metres.
- 4.5.1 The distance over which the gradient does not exceed 4% should be in accordance with 1).
- 4.5.2 Where it is not feasible to provide a distance over which the gradient does not exceed 4% fully in accordance with 1), the distance should be as close to 1) as practicable, but no less than 2).
- 4.5.3 For direct accesses, the gradient on the access approach should not exceed 2% immediately adjacent to the trunk road.
- NOTE** *Providing a relatively flat section prevents drivers having to perform a 'hill start', which reduces the risk of vehicles stalling or inadvertently rolling out into the major road.*

5. Geometric design of priority junctions

General

- 5.1 The road camber on the major road shall be retained through the junction with the minor road graded into the channel line of the major road.
- 5.2 Allowance shall be made for the swept turning paths of the worst case design vehicle which is expected to use the priority junction, unless:
 - 1) the design vehicle is expected to form only a very small percentage of the total number of vehicles that will use the junction; and,
 - 2) any swept path conflicts as a result of the design vehicle encroaching into other lanes will not occur on bends.

NOTE In cases where hard strips are present, the design vehicle is assumed to use the additional space during turns and at simple junctions, the design vehicle can encroach into opposing traffic lanes.

- 5.3 For priority junctions, the maximum gradient on the minor road approach shall satisfy one of the following over a minimum distance of 15 metres, measured from the edge of the major road carriageway:
 - 1) 2%; or,
 - 2) 4%.

- 5.3.1 The maximum gradient on the minor road approach should be in accordance with 1).
- 5.3.2 Where it is not feasible to provide a maximum gradient on the minor road approach fully in accordance with 1), the maximum gradient should be as close to 1) as practicable, but no less than 2).

NOTE Providing a relatively flat section prevents drivers having to perform a 'hill start', which reduces the risk of vehicles stalling or inadvertently rolling out into the major road.

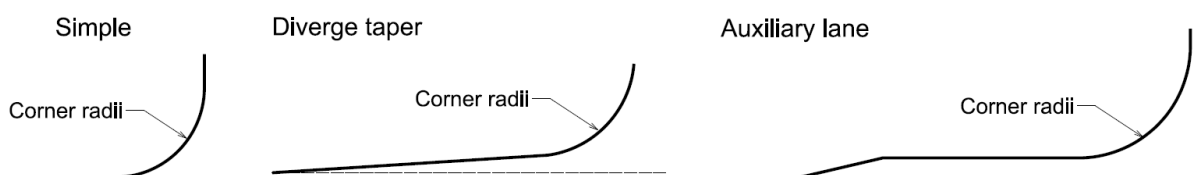
- 5.4 At new priority junctions, the angle of the minor road approach, measured over 15 metres from the edge of the major road carriageway, shall satisfy one of the following:
 - 1) 90 degrees; or,
 - 2) a minimum of 70 degrees.
- 5.4.1 The angle of the minor road approach should be in accordance with 1).
- 5.4.2 Where it is not feasible to provide the angle of the minor road approach fully in accordance with 1), the angle should be as close to 1) as practicable, but no less than 2).

NOTE Angles less than 70 degrees can result in drivers having to look excessively over their shoulders or the major road approach being in a vehicle blind spot.

Corner radii and corner radii tapers

- 5.5 At all priority junctions, corner radii shall be provided where the edge of the carriageways or kerb lines of the major and minor roads intersect at each corner where turning movements need to be accommodated.
- 5.6 Corner radii shall be measured for simple priority junctions, and priority junctions with merge/diverge tapers or auxiliary lanes in accordance with Figure 5.6.

Figure 5.6 Corner radii



5.6.1 At simple priority junctions where no provision is to be made for the design vehicle, the minimum corner radii should be:

- 1) 6 metres in urban areas; and,
- 2) 10 metres in rural areas.

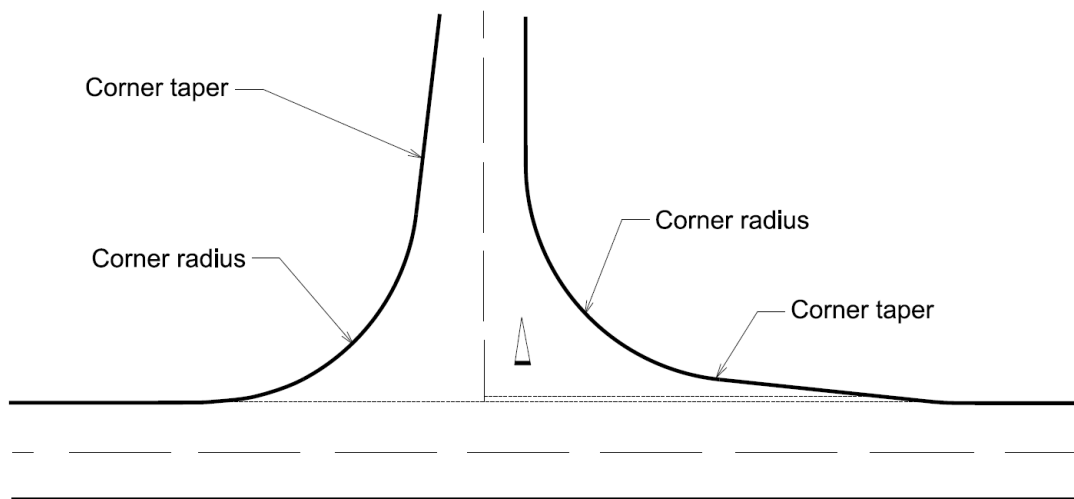
5.6.2 At simple priority junctions where provision is made for the design vehicle, the corner radii should be:

- 1) 10 metres in urban areas followed by a corner taper of 1:5 over a distance of 30 metres;
- 2) 15 metres in rural areas followed by a corner taper of 1:10 over a distance of 25 metres; and
- 3) 15 metres followed by a corner taper of 1:8 over a distance of 32 metres, when part of a staggered junction arrangement.

NOTE 1 Merge and diverge tapers allow mainline traffic to accelerate or decelerate, whereas corner tapers allow for the swept path of large vehicles while turning round the corner radii.

NOTE 2 For the left turn into the minor road, the corner taper is provided along the minor road, and for left turns out of the minor road the taper is provided along the major road, as illustrated in Figure 5.6.2N2.

Figure 5.6.2N2 Corner radius tapers at priority junctions without diverge tapers or auxiliary lanes



5.6.3 At ghost island junctions where no diverge or merge tapers are provided, the corner radii should be 15 metres followed by a corner taper of 1:6, over a distance of 30 metres.

5.6.4 At ghost island junctions, where a diverge taper/auxiliary lane is provided, the corner radii should be:

- 1) 15 metres followed by a corner taper of 1:6 over a distance of 30 metres at the merge;
- 2) a minimum of 20 metres at the end of the diverge taper/auxiliary lane where the major road design speed is 85 kph; or,
- 3) a minimum of 40 metres at the end of the diverge taper/auxiliary lane where the major road design speed is greater than 85 kph.

5.6.5 At SLD, dual carriageway priority junctions, and where there is a mainline physical central island on a single carriageway road, the diverge corner radii should be:

- 1) 20 metres where no diverge taper/auxiliary lane is provided; or,
- 2) a minimum of 20 metres at the end of the diverge taper/auxiliary lane where the major road design speed is 85 kph; or,

- 3) a minimum of 40 metres at the end of the diverge taper/auxiliary lane where the major road design speed is greater than 85 kph.

NOTE Mainline physical central islands on the single carriageway road are used as part of a compact grade separated junction layout.

5.6.6 At SLD, dual carriageway priority junctions, and where there is a mainline physical central island on a single carriageway road, the merge corner radii should be:

- 1) 20 metres where no merge taper/auxiliary lane is provided; or,
- 2) 25 metres where the major road design speed is 85 kph and a merge taper is provided; or,
- 3) 30 metres where the major road design speed is greater than 85 kph and a merge taper is provided.

NOTE Mainline physical central islands on the single carriageway road are used as part of a compact grade separated junction layout.

Carriageway widths

5.7 Where a physical traffic island is provided on the minor road, the minor road approach lanes shall be 4.0 metres wide at the tip of the associated hatched marking.

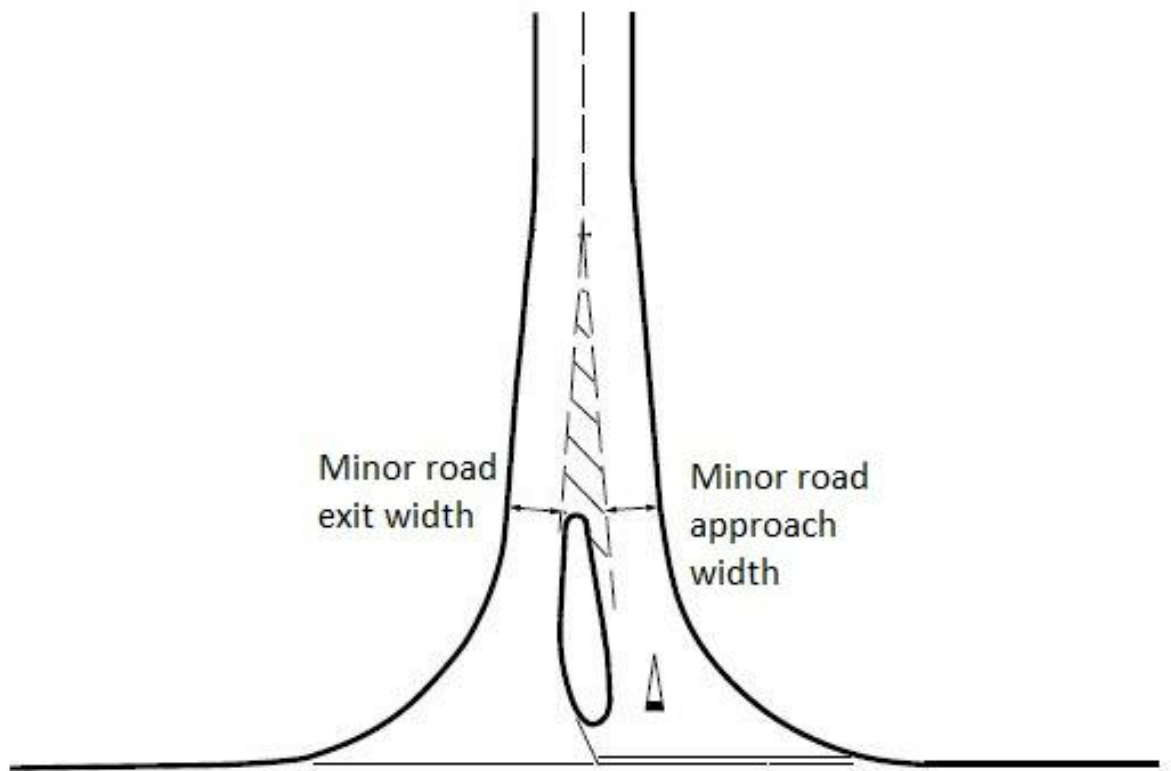
NOTE Lane widths do not include hard strips (if they are present).

5.7.1 Where no physical traffic island is provided on the minor road, the existing minor road lane width should at least continue up until the start of the corner radius, or 'give way' line if no corner radius is to be provided.

5.8 Where a physical traffic island is provided on a minor road, the width of the minor road approach lane adjacent to the island at its furthest point from the major road (as illustrated in Figure 5.8) shall be:

- 1) 4.0 metres at simple priority and ghost junctions where there is a single lane at the 'give way' line;
- 2) 4.5 metres at SLD and dual carriageway junctions where there is a single lane at the 'give way' line; and,
- 3) 5.5 metres where the approach widens to two lanes at the 'give way' line.

Figure 5.8 Minor road approach and exit lane widths



- 5.9 Where a physical traffic island is provided on a minor road, the width of the minor road exit lane adjacent to the island at its furthest point from the major road (as illustrated in Figure 5.8) shall be:
- 1) 4.0 metres at simple priority junctions;
 - 2) 4.5 metres for ghost island junctions; and,
 - 3) 5.0 metres for SLD and dual carriageway junctions.
- 5.10 For curves which have a radius of 90 metres or less, minimum lane widths shall be in accordance with Table 5.10.

Table 5.10 Lane widening on curves of 90 metre radius or less

Inside curve radius (metres)	Single lane carriageway or inside lane of two lane carriageway (metres)	Outside lane of two lane carriageway (metres)
10	8.4	6.5
15	7.1	6.0
20	6.2	5.6
25	5.7	5.2
30	5.3	5.0
40	4.7	4.6
50	4.4	4.3
75	4.0	4.0
90	3.8	3.8

NOTE 1 *Where carriageways are taken around short radius corners added width provides the necessary space to cater for the swept path of larger vehicles.*

NOTE 2 *Lane widths for radii greater than 90 metres are given in CD 109 [Ref 5.N].*

5.11 For actual curve radii that fall between two curve radius values given in Table 5.10, the minimum lane width shall be interpolated.

5.12 On single-lane sections greater than 50 metres in length, there shall be sufficient carriageway space to allow a broken down vehicle to be passed by other vehicles.

5.12.1 For curves which have a radius of 90 metres or less, hard strips that provide an additional 2.5 metres minimum of carriageway space should be added to the single-lane carriageway widths given in column 2 of Table 5.10 to allow a broken down vehicle to be passed by other vehicles.

NOTE *The addition of 2.5 metres carriageway width does not apply to two-lane carriageways in column 2 of Table 5.10.*

Minor road traffic islands

5.13 Physical traffic islands shall have an area of at least 4.5 square metres.

5.13.1 Traffic islands smaller than 4.5 square metres should be defined by road markings.

NOTE *Traffic islands can be used to :*

- a) give guidance to long vehicles carrying out turning movements;*
- b) channelise intersecting or merging traffic streams to reduce collision risk from overrun;*
- c) warn drivers on the minor road that a junction is ahead (this can be particularly useful at crossroads to highlight the need to give way and the location of the 'give way' line);*
- d) provide shelter for vehicles waiting to carry out manoeuvres such as waiting to turn right;*
- e) assist pedestrians and/or cyclists.*

5.13.2 Physical traffic islands should include features to make them conspicuous, e.g. traffic bollards and signage.

5.13.3 Traffic islands on minor roads should be physical islands.

5.14 Physical traffic islands shall be used on the minor road where one or more turning movements are prohibited to prevent or deter such movements.

5.15 Junctions that form part of a compact grade separated junction shall include physical islands to prevent right turn manoeuvres in to and out of the major road.

- 5.16 Traffic islands on the minor road shall be setback a minimum of 1 metre from the edge of running carriageway or in-line with the back of major road hard strip if the hard strip is equal to or greater than 1 metre wide.

Diverge tapers and auxiliary lanes

General

- 5.17 Nearside diverging tapers and auxiliary lanes shall not be provided:
- 1) at simple junctions;
 - 2) where the design speed of the major road is less than 85 kph; and/or,
 - 3) at all other priority junctions that are on the inside of curves.

NOTE Where the minor road is on the inside of a curve, the diverging lane can adversely affect visibility for drivers emerging from the minor road.

- 5.18 At non-simple junctions which are not on the inside of a curve, a nearside diverging taper or auxiliary lane shall be provided in accordance with Table 5.18a and 5.18b.

Table 5.18a Criteria for provision of nearside diverging tapers or auxiliary lanes on A class major roads with a design speed of 85kph or greater

Minor road		A class major roads with a design speed of ≥ 85 kph	
		Flow ≤ 7000 AADT	Flow > 7000 AADT
A and B class road		Yes	Yes
Non A or B class road	left turning traffic ≥ 600 AADT; or, left turning traffic ≥ 450 , $> 20\%$ HGV; or, left turning traffic ≥ 450 , $> 4\%$ gradient.	Yes	Yes
	left turning traffic ≥ 300 and < 600 AADT; or, left turning traffic ≥ 225 and < 450 , $> 20\%$ HGV; or, left turning traffic ≥ 225 and < 450 , $> 4\%$ gradient.	Optional	Yes

Table 5.18b Criteria for provision of nearside diverging tapers or auxiliary lanes all other major roads

Minor road	Major roads other than A class with a design speed of ≥ 85 kph	
	Flow ≤ 7000 AADT	Flow > 7000 AADT
left turning traffic ≥ 600 AADT; or left turning traffic ≥ 450 , $> 20\%$ HGV; or, left turning traffic ≤ 450 , $> 4\%$ gradient.	Yes	Yes
left turning traffic ≥ 300 and < 600 AADT; or, left turning traffic ≥ 225 and < 450 , $> 20\%$ HGV; or, left turning traffic ≥ 225 and < 450 , $> 4\%$ gradient.	Optional	Yes

NOTE Diverging tapers and auxiliary lanes can also be provided on major roads where the design speed is 85 kph or above, and the minor road flows are below the thresholds described in Tables 5.18a and 5.18b.

5.18.1 Where the major road flow exceeds 7000 AADT, auxiliary lanes should be provided instead of tapers for diverging traffic.

NOTE Vehicles decelerating on main carriageways can have an effect on the capacity of the through carriageway by impeding following drivers. The provision of an auxiliary lane allows turning traffic to perform the majority of its deceleration off the mainline.

Diverge taper and auxiliary lane widths and lengths

5.19 Nearside diverging tapers shall be formed by an increase in width to 3.5 metres at the start of the corner radii into the minor road.

5.20 Where right turns into the minor road are permitted, a 'Give Way' line shall be provided at the end of the diverging taper or auxiliary lane.

5.20.1 Where a 'Give Way' line is provided, a traffic island should be provided to segregate the give way from the major road.

5.21 The length of a nearside diverging taper or auxiliary lane shall be measured as the distance from the beginning of the taper up to the "Give Way" line, as shown in Figure 5.21a and 5.21b.

Figure 5.21a Major/minor priority junctions with nearside diverging taper

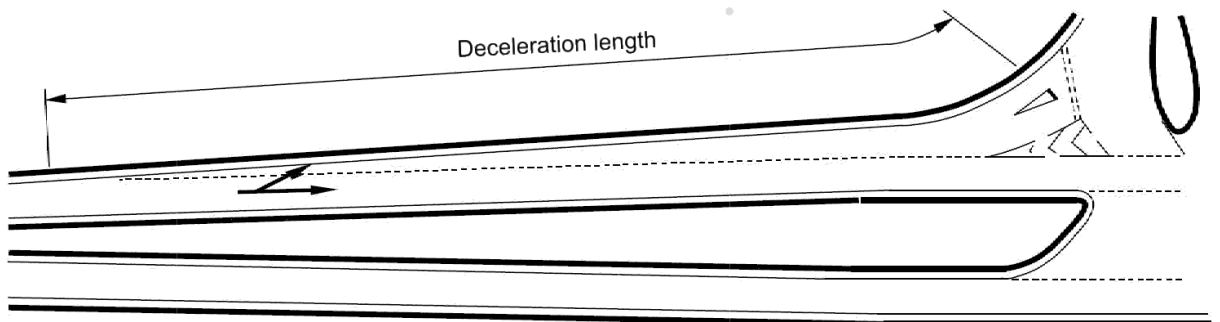
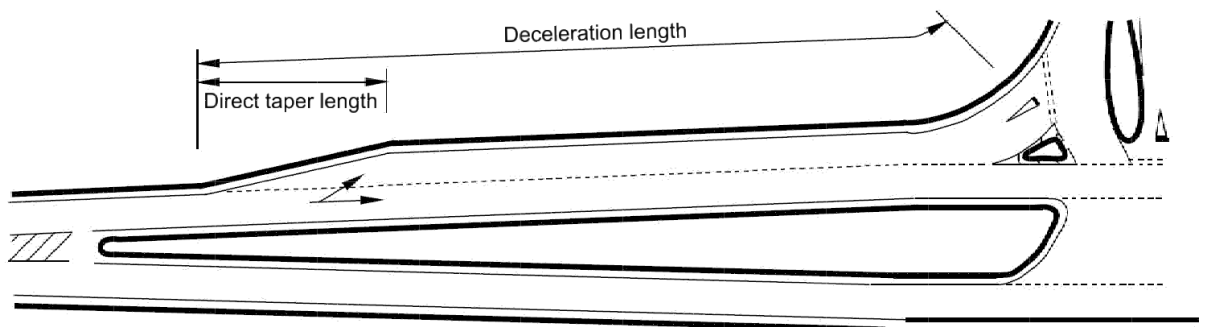


Figure 5.21b Major/minor priority junction with nearside auxiliary lane



5.22 The minimum length of a nearside diverging taper or auxiliary lane shall be in accordance with Table 5.22.

Table 5.22 Diverge taper, auxiliary lane and right turn lane lengths for deceleration

Design speed (kph)	Diverge taper or auxiliary lane deceleration lengths (metres)					Direct taper (metres)
	On 'up' gradient		On 'down' gradient			
	0 - 4 %	over 4 %	0 - 4 %	over 4%		
				Dual carriageways	Single carriageway (including ghost islands and SLD locations)	
50	25	25	25	25	25	5
60	25	25	25	40	25	5
70	40	25	40	55	40	15
85	55	40	55	80	55	15
100	80	55	80	110	80	25
120	110	80	110	150	110	30

NOTE The gradient is the average for a 500 metre length before the minor road.

5.22.1 For design speeds of 100 kph or less, auxiliary lane lengths should be a minimum of 80 metres, and sufficient to allow for the speed change from the major road to the turn into the minor road.

NOTE The auxiliary lane length can also be influenced by any need for reservoir space for turning traffic.

Merging tapers

General

5.23 Merging tapers shall only be used where the major road is a dual carriageway.

5.24 Where the major road is a dual carriageway with a design speed of 85 kph or above, merging tapers shall be provided where:

- 1) the volume of left turning traffic in the design year exceeds 600 vehicles AADT;
- 2) the volume of left turning traffic in the design year exceeds 450 vehicles AADT and the percentage of HGVs exceeds 20%; or,
- 3) the volume of left turning traffic in the design year exceeds 450 vehicles AADT and the merging taper is for an up-gradient of greater than 4%.

5.24.1 Merge tapers may be provided at dual carriageway priority junctions with lesser flows and/or lesser HGV percentages.

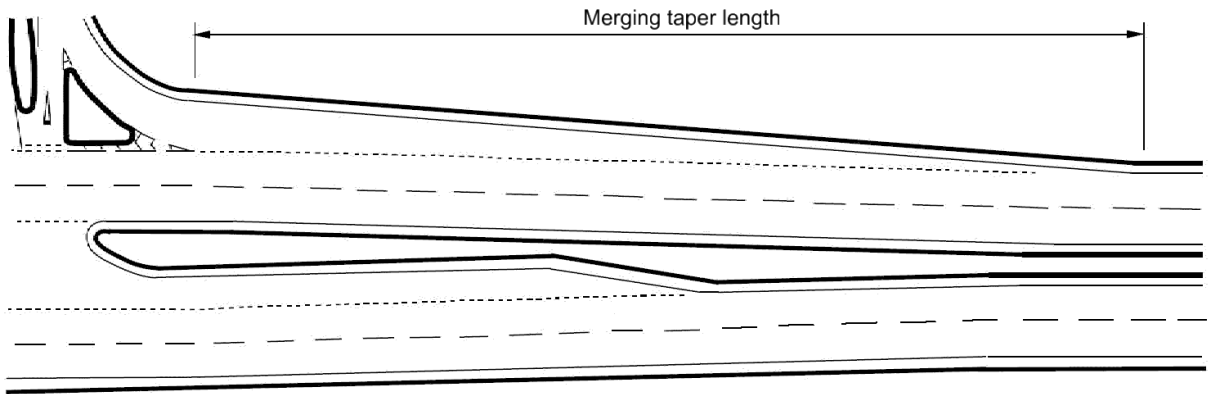
NOTE Merge tapers can be particularly useful where there is expected to be a high seasonal use by large or slow moving vehicles.

Merging tapers widths and length

5.25 Merging tapers shall be formed by a decrease in width from 3.5 metres at the end of the corner radii out of the minor road.

5.25.1 A traffic island should be provided to segregate the turning traffic from the major road prior to the commencement of the merging taper.

Figure 5.25.1 Major/minor priority junction with nearside merging taper



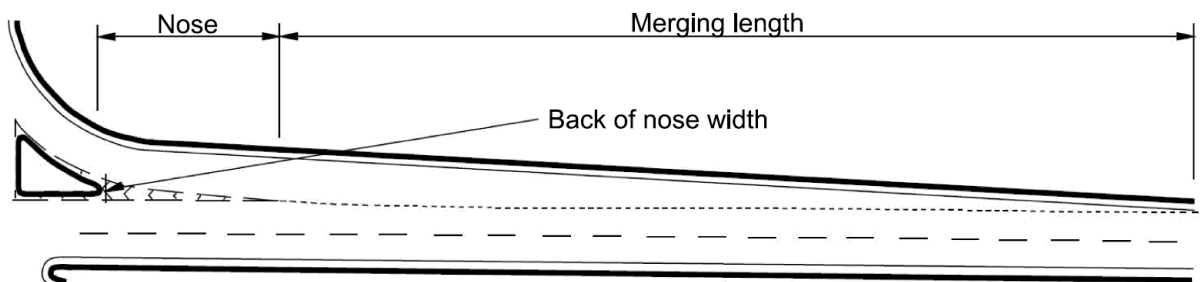
5.26 The minimum lengths of the merging tapers shall be as given in Table 5.26.

Table 5.26 Merging taper lengths (on dual carriageways)

Design speed (kph)	Merging length (metres)	
	Priority junctions where the minor road is not a through route.	All other priority junctions
85	70	90
100	90	110
120	110	130

5.26.1 On dual carriageways with a design speed of 120 kph, the merging taper should be preceded by a 40-metres nose, which has a minimum back of nose width of 2 metres (as indicated on Figure 5.26.1).

Figure 5.26.1 Major/minor priority junction with nearside merging taper (alternative for dual carriageway with a design speed of 120 kph)



6. Geometric design of major road central treatments

General

Major road central treatment formation excluding on WS2+1 roads

- 6.1 Carriageway widening for a central reserve treatment shall be formed using physical islands or islands defined by road markings.
- 6.1.1 Central treatments for SLD and ghost islands, on single carriageways, should be developed to their maximum width using the tapers shown in Table 6.1.1.

Table 6.1.1 Tapers for central islands on single carriageways

Design speed (kph)	Taper for ghost island and SLD
50	1:20
60	1:20
70	1:20
85	1:25
100	1:30
120	-

- 6.1.2 The tapers given in Table 6.1.1 on single carriageway roads, should be developed:
 - 1) symmetrically on straight sections of road;
 - 2) asymmetrically towards the outside of the curve on curved sections of road; and,
 - 3) asymmetrically away from the climbing lane on climbing lane sections.
- 6.1.3 For SLD, the central island should be introduced by means of hatched road markings until there is sufficient width to safely accommodate the keep left arrow traffic sign (at an appropriate size for the speed of the road) on the physical island.
- 6.1.4 Central treatments for dual carriageways should be developed to their maximum width using the tapers shown in Table 6.1.4.

Table 6.1.4 Tapers for central islands on dual carriageways

Design speed (kph)	Taper for dual carriageways
50	1:40
60	1:40
70	1:40
85	1:45
100	1:50
120	1:55

- 6.1.5 The maximum island width should continue through the junction to the tangent point of the minor road radius and the edge of the major road carriageway.

Major road central treatment formation on WS2+1 roads

- 6.2 On WS2+1 roads where compact grade separation is not provided, central treatments shall be formed as shown in Figures 6.2a to 6.2f.

Figure 6.2a Formation of conflicting central treatment layout on WS2+1 road

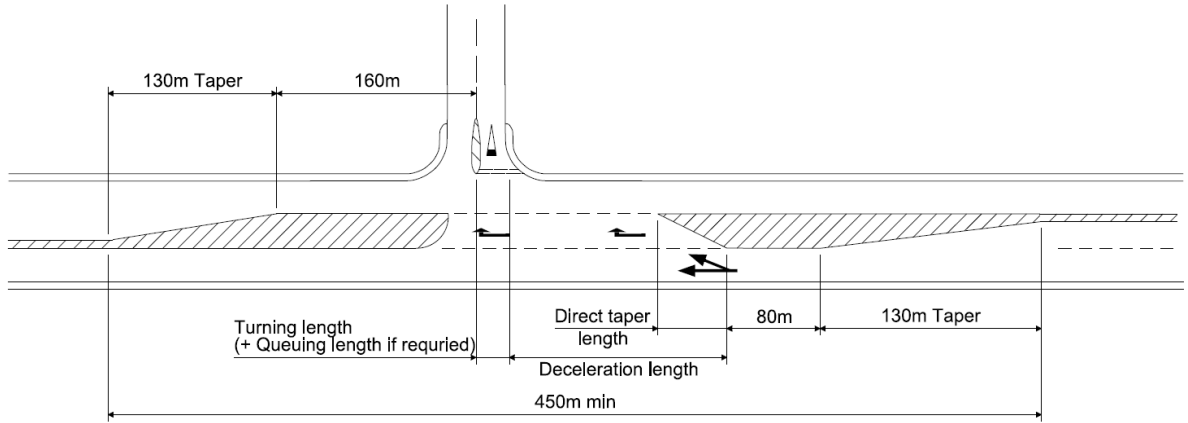


Figure 6.2b Formation of WS2+1 interface central treatment layout on WS2+1 road

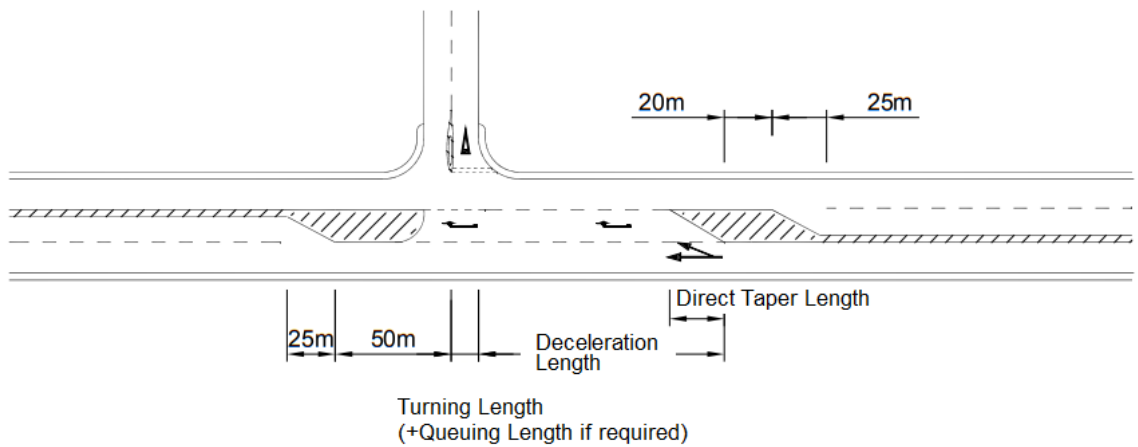


Figure 6.2c Formation of right-turn at end of overtaking lane section on WS2+1 road

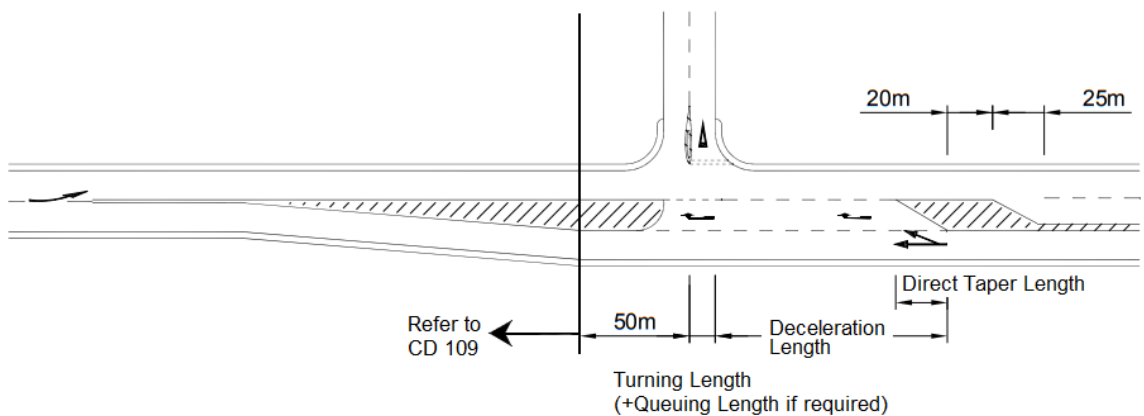


Figure 6.2d Formation of right-turn at end of overtaking lane section on WS2+1 road

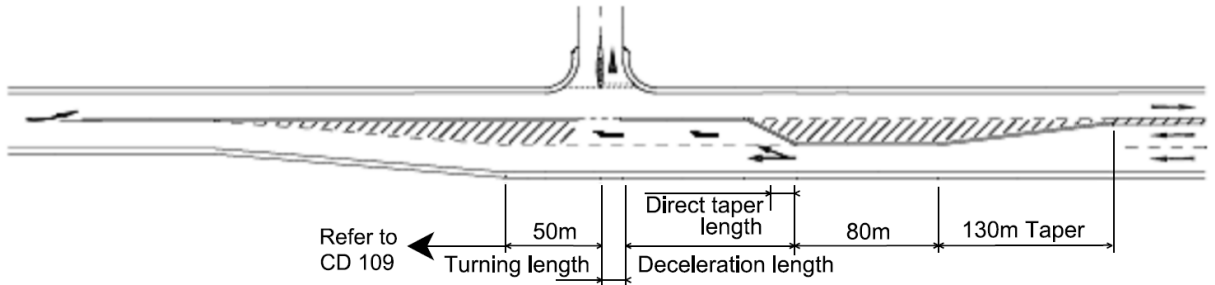


Figure 6.2e Formation of right-turn at start of overtaking lane section on WS2+1 road

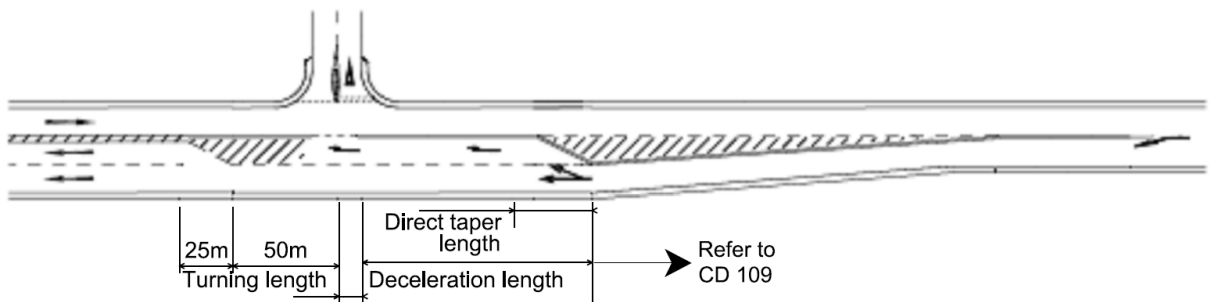
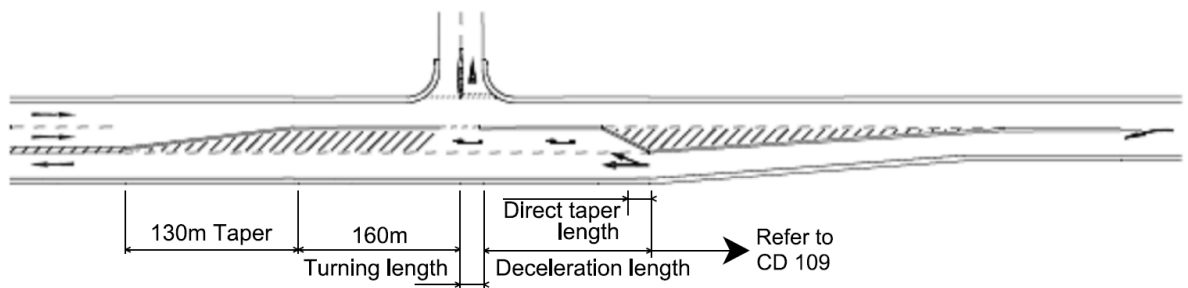


Figure 6.2f Formation of right-turn at start of single lane section on WS2+1 road



NOTE Where a junction is located at the interface between a WS2+1 and a single carriageway, requirements for the carriageway cross-section transition are provided in CD 127 [Ref 1.N].

Major road central treatment right turning lane length

6.3 For all central treatments, the right turning lane shall be comprised of a turning length, deceleration length and direct taper length as shown in Figures 6.3a to 6.3e.

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Figure 6.3a Major / minor priority junction with a ghost Island on single carriageway

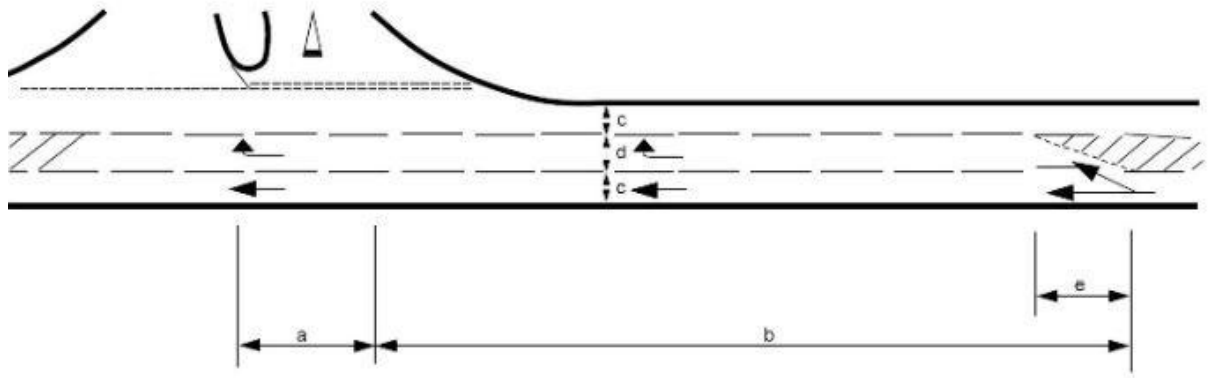


Figure 6.3b Major / minor priority junction with a up-gradient ghost island on climbing lane

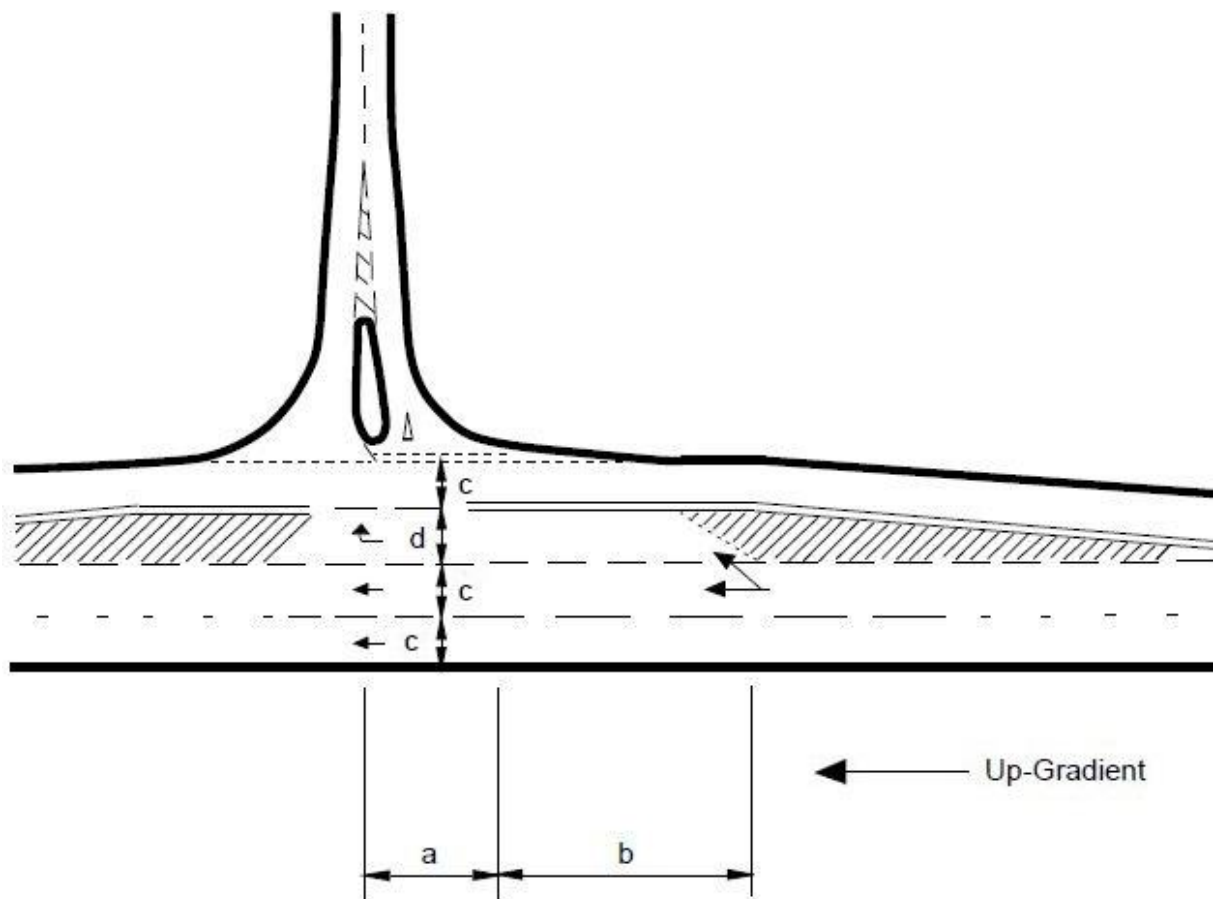


Figure 6.3c Major / minor priority junction with a down-gradient ghost island on climbing lane

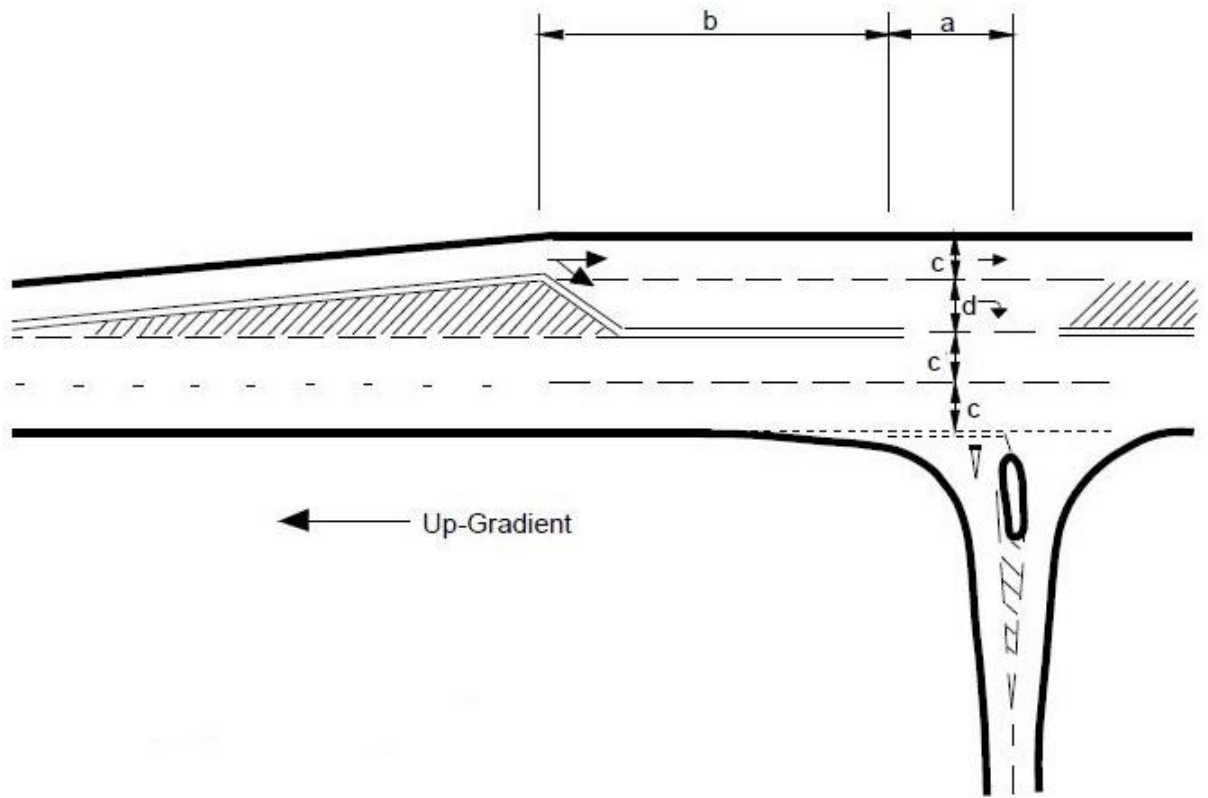


Figure 6.3d Major / minor priority junctions with SLD

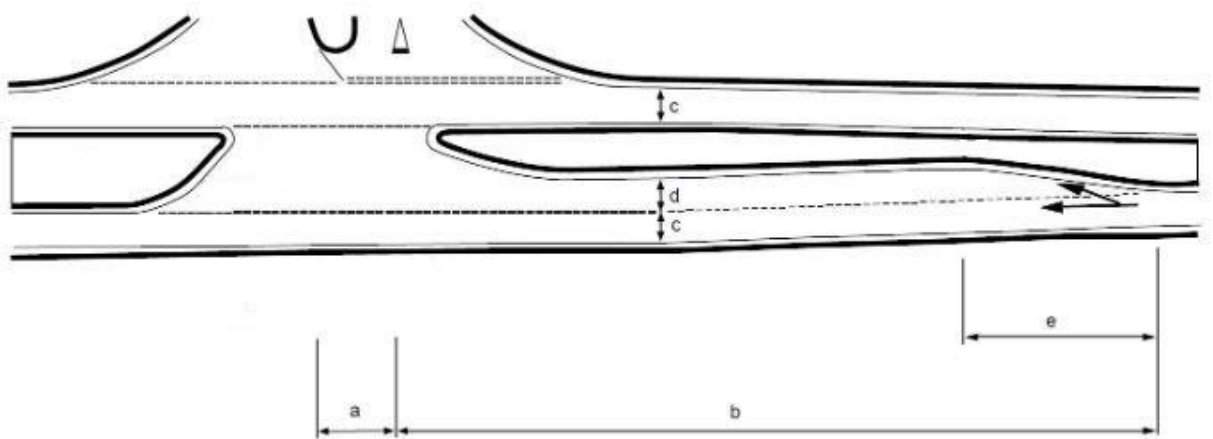
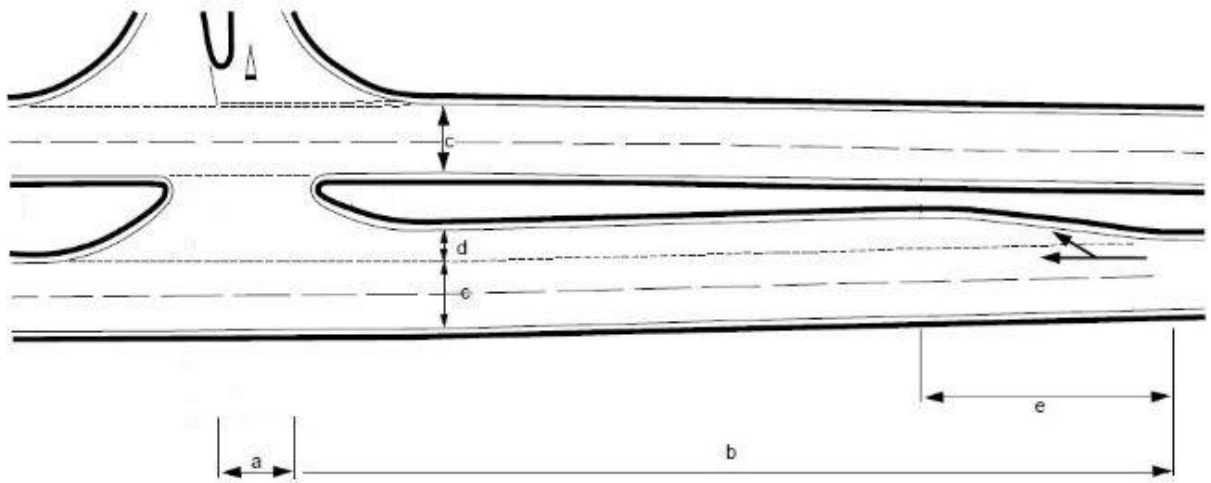


Figure 6.3e Dual carriageway major / minor priority junction



NOTE In Figures 6.3a to 6.3e the labelled dimensions are as indicated below:

- 1) a is the turning length (plus the queuing length, if required);
- 2) b is the deceleration length;
- 3) c is the through lane width;
- 4) d is the turning lane width; and,
- 5) e is the direct taper length.

6.3.1 The deceleration lengths at left/right staggered junctions on an SLD or dual carriageway may lie side by side.

6.4 The turning length shall be a minimum of 10 metres.

NOTE The turning length is provided to allow long vehicles to position themselves correctly for the right turn.

6.5 Where capacity calculations indicate that for significant periods of time there can be vehicles queuing to turn right from the major road, the turning length shall be increased to accommodate the forecast maximum queue length.

6.5.1 Where the turning length has been increased to the forecast queue length at a ghost island, physical islands should be provided within the hatched areas to provide greater protection to turning traffic.

6.6 For right turning lanes, the direct taper length and the minimum deceleration length shall be provided in accordance with Table 5.22.

6.6.1 The radii associated with the opening of the central reserve island for both SLD junctions (Figure 6.3d) and dual carriageway priority junctions (Figure 6.3e) should accommodate the turning movements of the largest vehicle type permitted to use the junction, such that overrunning of the physical islands are prevented.

Ghost islands

Through lane widths

6.7 At ghost island junctions on WS2+1 roads, the through lane widths in each direction shall be 3.5 metres, exclusive of hard strips.

6.8 At ghost island junctions on roads other than WS2+1 roads, the through lane widths in each direction shall be a minimum of 3.0 metres and a maximum of 3.65 metres wide, exclusive of hard strips.

6.8.1 At ghost island junctions on climbing lanes, the through lane widths in each direction should be 3.5 metres, exclusive of hard strips.

Island and right turning lane widths on WS2+1 roads

6.9 The width of the right turning lanes on WS2+1 roads shall be 4.5 metres.

NOTE A width of 4.5 metres is utilised to allow the 3.5 metre central lane width and 1 metre hatching to be continued through the junction.

Island and right turning lane widths on all roads except WS2+1

6.10 The minimum widths of right turning lanes (excluding those on WS2+1 roads), shall satisfy one of the following:

- 1) 3.5 metres; or,
- 2) 3.0 metres for new junctions; or,
- 3) 2.5 metres for improvements to existing junctions.

NOTE A narrow right turn lane down to 2.5m wide is only for improvements to existing junctions where space is limited and it is not possible to widen the carriageway cross section, e.g. in urban areas where the carriageway is bounded by buildings.

6.10.1 The widths of the right turning lanes should be in accordance with 1) for both new and existing junctions.

6.10.2 Where it is not feasible to provide the widths of the right turning lanes fully in accordance with 1), the widths should be as close to 1) as practicable, but no less than 2) or 3) depending on whether the junction is new or existing.

6.11 On urban roads the width of the right turning lane shall not exceed 5.0 metres.

NOTE Widths between 3.65 m and 5.0 m can be used on urban roads where it is considered necessary to provide a degree of shelter in the centre of the road for large goods vehicles turning out of the minor road to execute the turn in two separate manoeuvres.

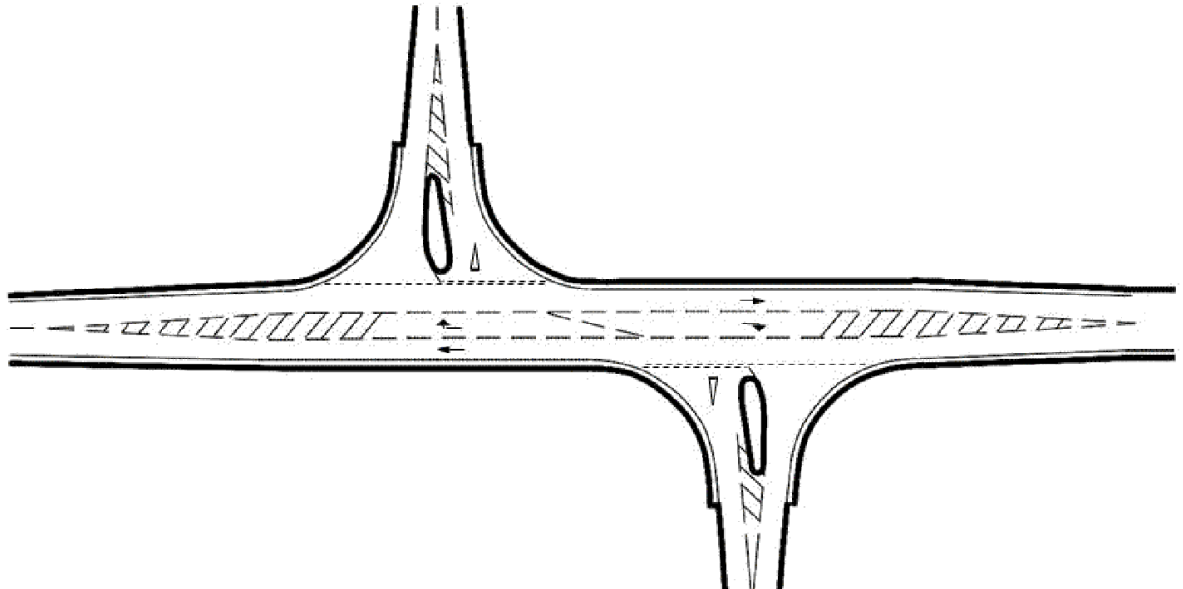
6.11.1 On rural roads, with design speeds above 85 kph or where hard strips are present, the width of the right turning lane at new and existing junctions should not exceed 3.65 metres.

NOTE Lane widths greater than 3.65m are inadvisable on higher speed rural roads because wide ghost islands in these situations create a sense of space that can encourage hazardous overtaking at junctions.

6.12 At left/right staggered junctions, where the deceleration lengths have the potential to overlap, the width of the ghost island shall not be increased to make them lie side by side.

6.13 At left/right staggered junctions, where the deceleration lengths have the potential to overlap, the starting points of the right turn lanes shall be joined by a straight road marking, as shown in Figure 6.13.

Figure 6.13 Ghost island configuration at left/right staggered junction



NOTE At higher design speeds, the full width of the turning lane on the ghost island is not developed until the end of the diverging section (as shown in Figure 6.13).

SLD and dual carriageway

Through lane widths

6.14 At SLD junctions, the through lane in each direction shall be 4.0 metres wide exclusive of hard strips.

NOTE A 4.0 metre width of the through lane with hard strips allows traffic to pass a stopped vehicle within the paved width.

6.15 At dual-carriageway junctions the through lane widths shall be the same as those either side of the junction.

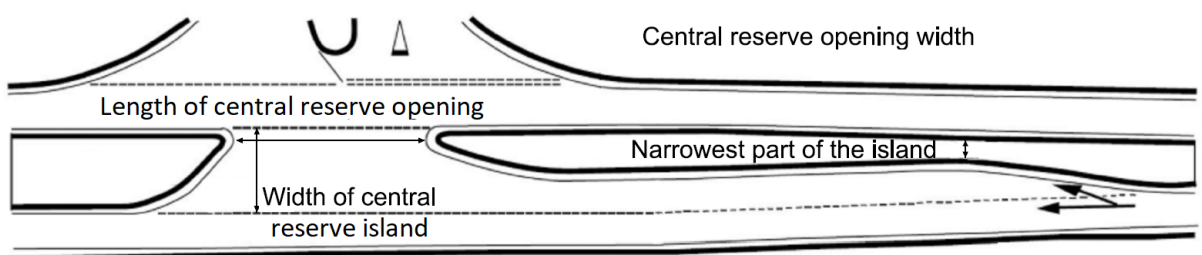
NOTE For central reserve openings on dual carriageway, the requirements for the through lane cross-sections are provided in CD 127 [Ref 1.N].

Island and right turning lane dimensions

6.16 The width of the central reserve island (including hard strips) adjacent to the minor road (see Figure 6.16), shall be a minimum of:

- 1) 10 metres where the right turn out of the minor road is permitted; or,
- 2) 8.5 metres at new junctions where the right turn out of the minor road is prevented; or,
- 3) 8 metres at existing junctions where the right turn out of the minor road is prevented.

Figure 6.16 Major / minor priority junctions with SLD



6.16.1 Where use by long vehicles is expected at junctions where the right turn out of the minor road is permitted, the width of the central island adjacent to the minor road should be 14.0 metres or 16.5 metres (including central reserve hard strips) to accommodate the design vehicle and drawbar trailer vehicle respectively.

6.17 The minimum width of any part of an SLD or central reserve island shall be 3.5 metres.

NOTE The narrowest part of the physical island is usually located at the end of the direct taper, (shown in Figure 6.16).

6.18 The length of central reserve opening (excluding hard strips) adjacent to the minor road (see Figure 6.16) shall be

- 1) 15.0 metres where the right turn out of the minor road is permitted; or,
- 2) a minimum of 8.0 metres where the right turn out of the minor road is prevented.

6.18.1 The length of the central reserve opening at junctions where the right turn out of the minor road is prevented should be increased over the minimum if site-specific swept vehicle path analysis using the largest vehicle permitted to use the junction indicates that this is necessary.

NOTE Increasing the amount of overlap of the physical islands will further discourage road users from attempting to turn right out of the minor road where this movement is prevented.

6.18.2 Sections in the central reserve opening at SLD and dual carriageway junctions should fall towards, rather than away, from the minor road.

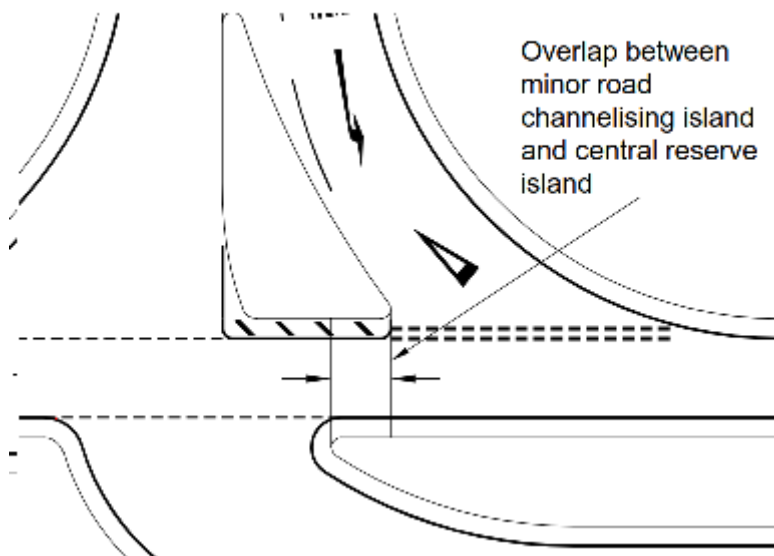
NOTE 1 The carriageway falling towards, rather than away, from a minor road is particularly important where there is super-elevation across the main carriageway.

NOTE 2 Where the carriageway does not fall towards the minor road at a central reserve opening, drivers can potentially:

- 1) fail to see the full width of the furthest carriageway from their position on the minor road;
- 2) not immediately appreciate the road they are joining is a dual carriageway (particularly with SLD); or,
- 3) attempt to perform the right turn out of the minor road in one stage (by thinking that the width available in the central reserve appears insufficient to accommodate waiting vehicles).

6.19 Where the right turn out of the minor road is prevented, a minimum of 3 metres overlap between the minor road central island and the mainline central reserve (as illustrated in Figure 6.19) shall be provided.

Figure 6.19 Overlap between physical islands at SLD and dual carriageway priority junctions where the right turn out of the minor road is prevented.



6.20 Where deceleration lengths at left/right staggered junctions on an SLD or dual carriageway lie side by side, a physical island shall be provided to separate them, as illustrated in Figures 6.20a and 6.20b.

Figure 6.20a SLD configuration at left/right staggered junction

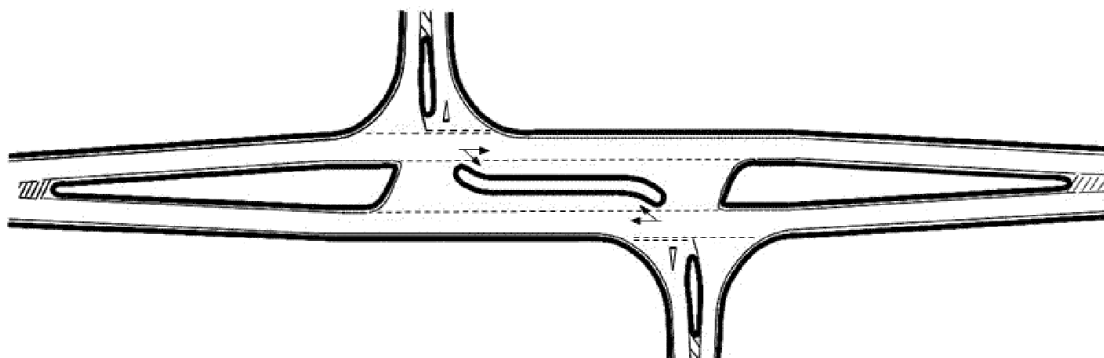
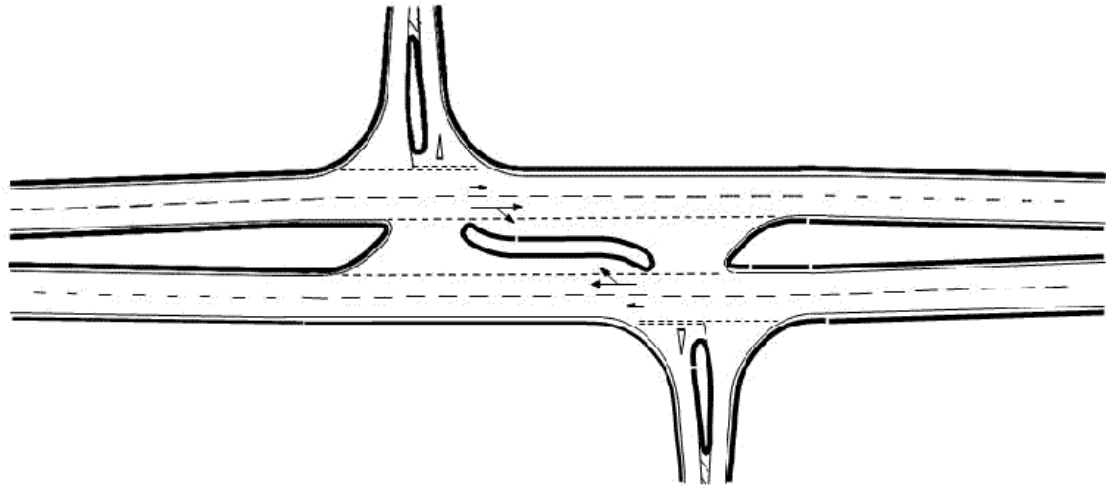


Figure 6.20b Dual carriageway configuration at left/right staggered junction

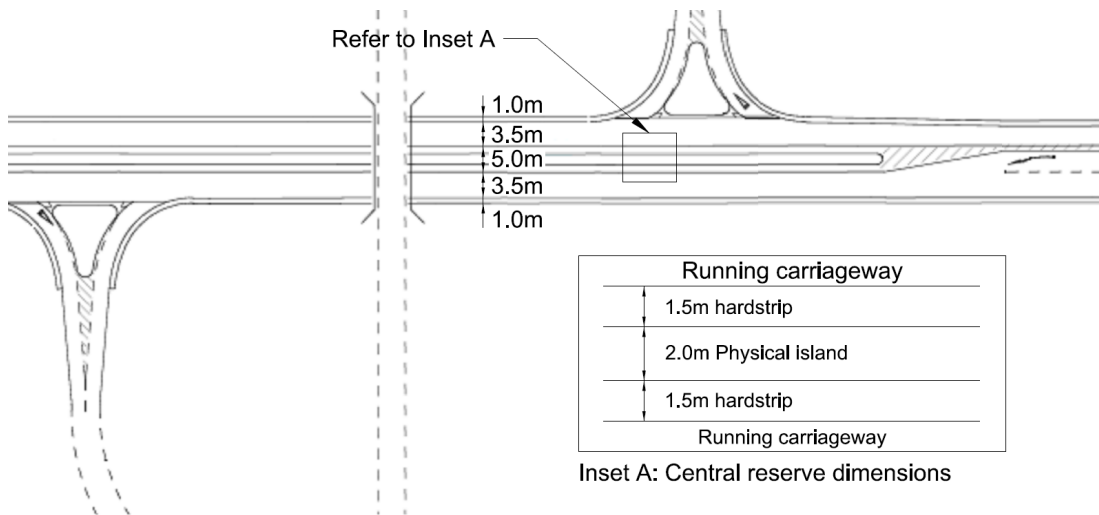


Physical central reserve layout on WS2+1

Through lane widths

6.21 The through lane in each direction shall be 3.5 metres wide with a 1 metre wide nearside hard strip, as illustrated in Figure 6.21.

Figure 6.21 Through lane and island widths on dualled sections of WS2+1 roads

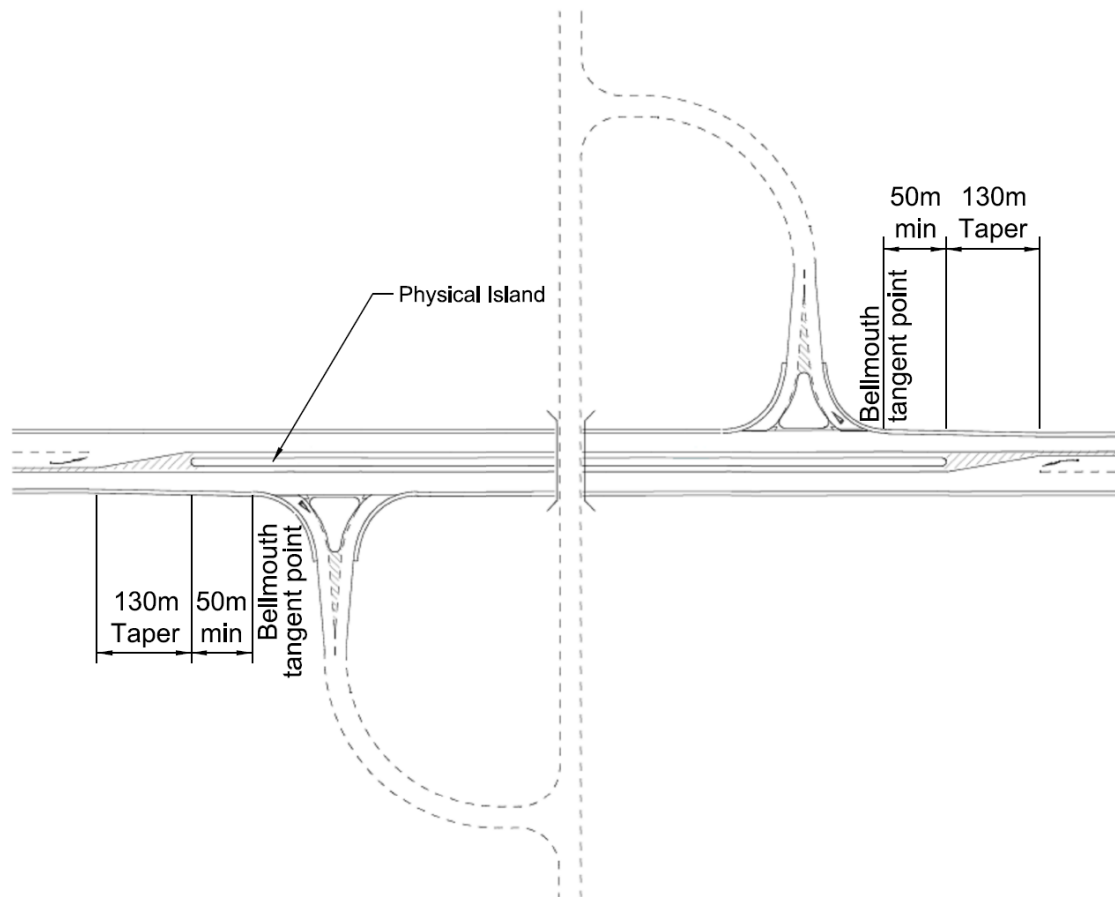


NOTE The central reserve is formed by terminating the overtaking lane section prior to the junction, so that one 3.5 metre lane runs in each direction through the junction.

Central island layout

6.22 The central island shall be introduced by means of hatched road markings over a taper of 130 metres as illustrated in Figure 6.22.

Figure 6.22 Introduction of dualling at grade separated junctions on WS2+1 road



- 6.23 The central island shall be 5 metres wide, made up of a 2-metre physical island and 1.5-metre hard strips either side.
- 6.24 The central reserve shall extend a minimum of 50 metres at each end, measured from the end of the nearside radius of the minor road entry lanes, to prevent right turns.
- 6.24.1 The central reserve may be extended further than 50 metres at either end to further reduce the risk of right turns and/or u-turns.

Passing bays

- 6.25 Dimensions for passing bays shall be based on swept path analysis and the number and size of vehicles expected to be waiting to turn right at a given time.

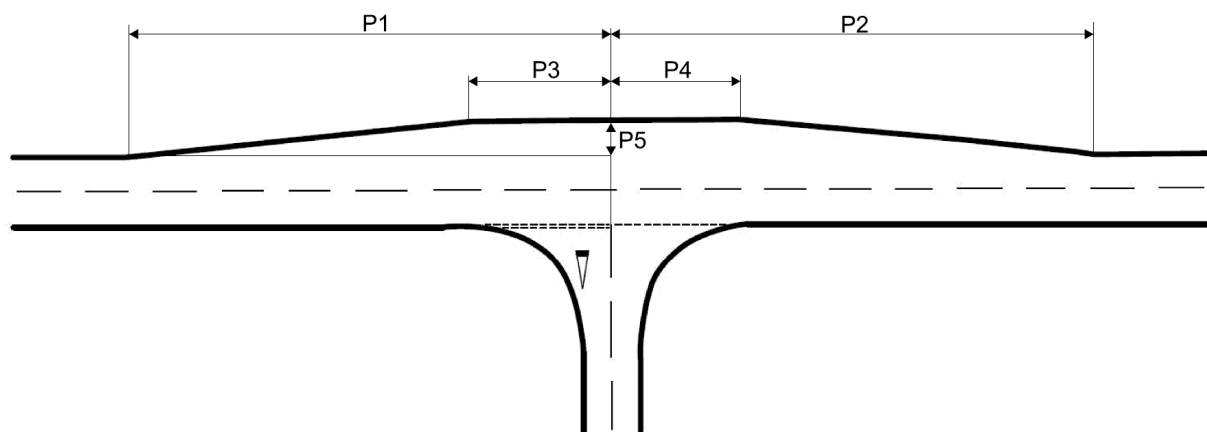
NOTE 1 Passing bays allow through vehicles to pass vehicles waiting to turn right in the centre of the major road, albeit at a reduced speed.

NOTE 2 Figure 6.25N2 and Table 6.25N2 provide typical dimensions for passing bays to accommodate different combinations of waiting vehicles where the major and minor road are both nominally 7.3 metres wide.

Table 6.25N2 Geometric parameters for a passing bay

Expected vehicles	Dimensions (metres)				
	P1	P2	P3	P4	P5
Car and car	18.8	13.0	10.9	5.0	0.8
Car and HGV	28.7	18.5	15.2	5.0	1.35
HGV and HGV	30.5	33.2	15.2	5.0	2.8

Figure 6.25N2 Passing bay dimensions

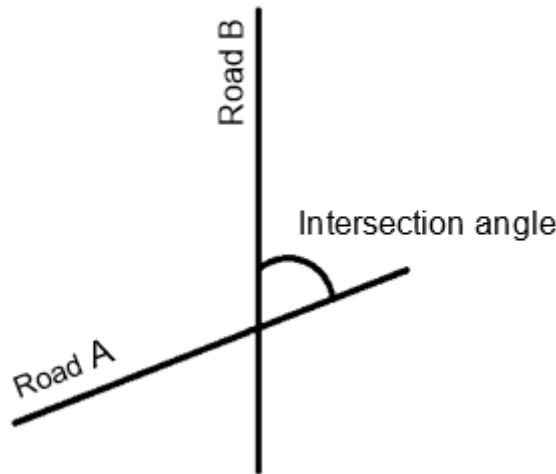


7. Geometric design of signal-controlled junctions

Junction intersection

- 7.1 At new signal controlled junctions, the minimum intersection angle of the roads (refer to Figure 7.1.2) shall satisfy one of the following:
 - 1) 90 degrees; or,
 - 2) a minimum of 70 degrees.
- 7.1.1 The intersection angle of the roads should be in accordance with 1).
- 7.1.2 Where it is not feasible to provide an intersection angle fully in accordance with 1), the angle should be as close to 1) as practicable, but no less than 2).

Figure 7.1.2 Intersection angle of roads forming a signal controlled junction



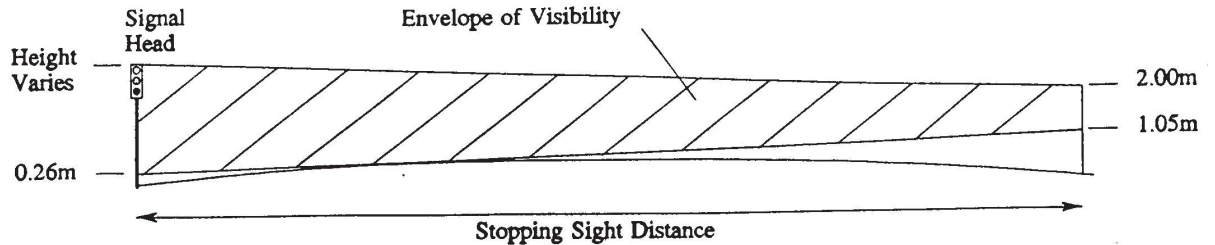
NOTE *Intersection angles of less than 70 degrees can cause problems with driver comprehension of the junction, intervisibility, tight turning manoeuvres and turning speeds.*

Visibility at signal-controlled junctions

Visibility of signals

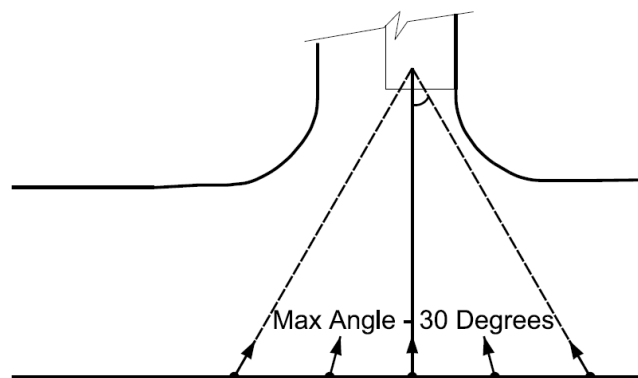
- 7.2 Each traffic lane shall have clear visibility of at least one primary signal associated with its particular movement, from a distance equivalent to the desirable minimum SSD of the approach road.
 - 7.2.1 Duplicate primary signals should be provided on approaches with a speed of 85 kph or above.
- 7.3 Visibility to the primary signal shall be in accordance with the CD 109 [Ref 5.N] visibility envelope, but with the high object height amended to incorporate the signal head where this exceeds 2 metres, as indicated in Figure 7.3.

Figure 7.3 Visibility requirements on approach to junction



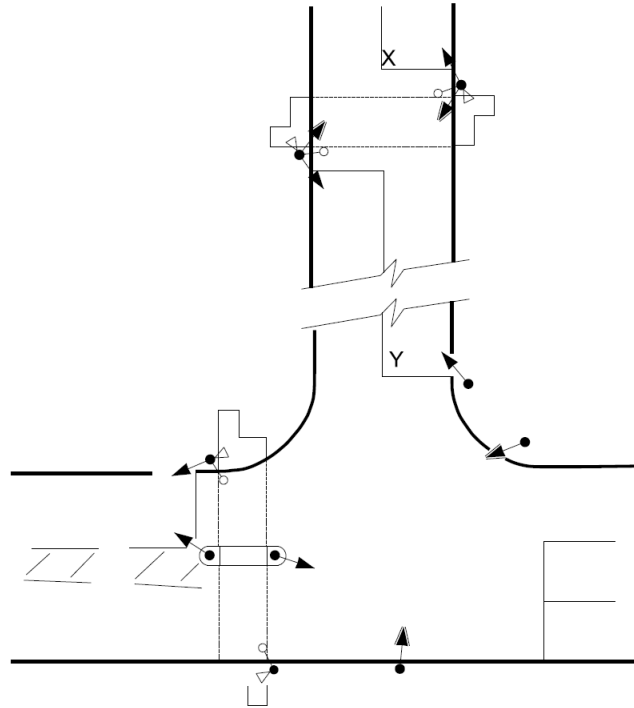
- 7.3.1 Where multiple lanes are provided on the approach, a signal-controlled junction may have offside primary, double-headed or overhead additional signals to ensure visibility of the signals from all lanes.
- 7.3.2 A minimum of 2 signals should be visible from each approach arm and each stop-line.
- NOTE The 2 signals usually comprise a primary and a secondary signal.*
- 7.3.3 Additional signal heads may be provided where a driver's vision of the signal head could be obscured (for example by a lorry in the lane adjacent to the signal).
- 7.3.4 Where separate signalling of turning movements is employed, a minimum of 2 signals should be visible from each approach lane associated with each of the turning movements and each associated stop-line.
- NOTE Where separate signalling of turning movements is employed, a signal post can then display information applicable to more than one turning movement.*
- 7.3.5 Primary signal heads should be located a minimum of 1 metre beyond the stop-line.
- 7.3.6 Primary signal heads should be located in advance of crossing studs or marks if pedestrian facilities are provided.
- 7.3.7 At junctions with angled approaches, the secondary signal should be displaced a maximum angle of 30° from the driver's line of forward sight, as indicated in Figure 7.3.7.

Figure 7.3.7 Locating secondary signals



- 7.3.8 The distance between the stop-line and an associated secondary signal should not exceed 50 metres.
- 7.3.9 Where multi-phased signal layouts are provided, an additional secondary signal may be utilised.
- NOTE Multi-phased signal layouts can result in "see through" where road users (at point X) could be confused by the signal at the next stop-line (point Y), as indicated in Figure 7.3.9N where a displaced pedestrian crossing is illustrated. In these situations, an additional secondary signal can aid driver understanding.*

Figure 7.3.9N Example of a small signal-controlled T-junction multi-phased signal layout



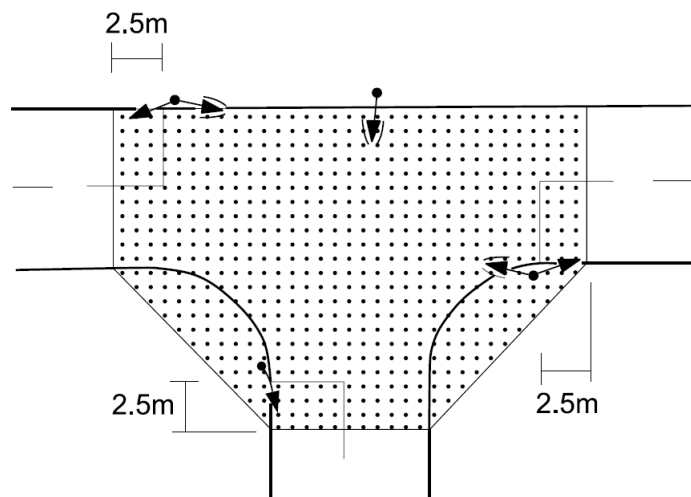
7.3.10 The desirable minimum SSD should be provided to the back of the queue.

NOTE The back of the queue could be in excess of the immediate approach to the junction as defined in CD 109 [Ref 5.N].

Junction intervisibility zone

7.4 An intervisibility zone shall be provided that incorporates an area that extends across the full carriageway width of each arm from a distance of 2.5 metres back from each stop line, as illustrated in Figure 7.4.

Figure 7.4 Junction intervisibility zone (without crossings)



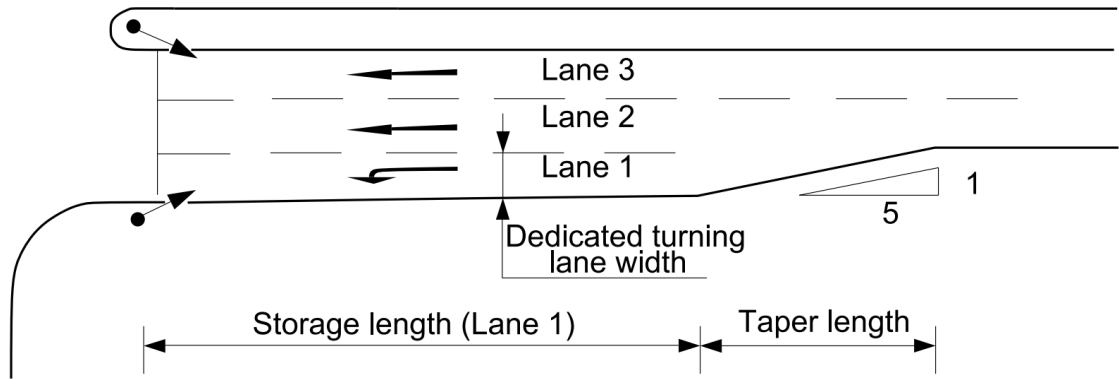
- 7.5 Where an advance stop-line (ASL) is provided, the intervisibility zone shall be measured from a point 2.5 m behind the cyclists' stop-line.
- 7.5.1 Where a staggered pedestrian crossing is provided, the section of the crossing immediately adjacent to the junction should be included in the junction intervisibility zone.
- NOTE* *The junction intervisibility zone does not need to be extended to incorporate a crossing facility that is remote from the junction and operates independently of the junction.*
- 7.6 No substantial fixed obstructions shall be located within the intervisibility zone of new junctions.
- NOTE* *Details of what constitutes a substantial fixed obstruction are provided in CD 109 [Ref 5.N].*
- 7.6.1 No substantial fixed obstructions should be located within the intervisibility zone of existing junctions.

Entry lanes, exit lanes and storage capacity

Lane widths

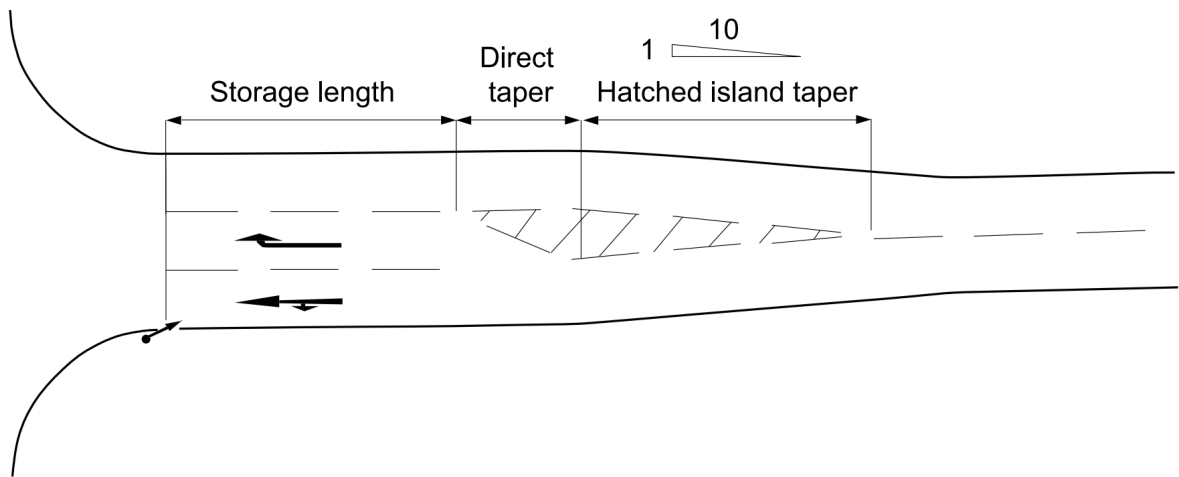
- 7.7 At new junctions, the minimum width of straight ahead lanes shall be 3.0 metres.
- 7.8 At existing junctions, the minimum width of straight ahead lanes shall satisfy one of the following:
- 1) 3.0 metres; or,
 - 2) 2.5 metres where the 85th percentile approach speed exceeds 56 kph (35 mph) and/or it is necessary to make provision for HGVs; or,
 - 3) 2.25 metres where the 85th percentile approach speed does not exceed 56 kph (35 mph) and it is not necessary to make provision for HGVs.
- NOTE* *Existing junctions can be an existing signal-controlled junction or an existing priority junction being upgraded.*
- 7.8.1 The minimum width of the straight ahead lanes should be in accordance with 1) for all situations.
- 7.8.2 At existing junctions, straight ahead lanes should only be reduced to 2.5m or less, if this allows the total number of lanes to be increased.
- 7.8.3 Straight ahead lanes should be a maximum of 3.65 metres wide at both new and existing junctions.
- 7.8.4 A minimum width of 4.0 metres should be provided between physical islands where cycle demand indicates a need.
- 7.9 Dedicated lanes for left or right turning traffic shall be a minimum of 3.0 metres wide.
- NOTE 1* *Junction capacity can be increased by widening the road in the vicinity of the junction to provide dedicated left or right turn lanes.*
- NOTE 2* *Vehicles in dedicated turning lanes can often move independently to those in other lanes and therefore lane widths greater than 3 metres are often necessary to allow for this.*
- 7.10 Dedicated lanes for left-or right-turning traffic shall be developed with tapers of 1 in 5, as illustrated in Figure 7.10.

Figure 7.10 Dedicated turning lane arrangement for a left-turn approach lane



- 7.10.1 On single carriageway roads, right-turn entry lanes may be accommodated by the provision of a hatched island, as illustrated in Figure 7.10.2.
- 7.10.2 On single carriageway roads, hatched islands for right-turn lanes should be developed symmetrically from the centre line of the road with a minimum taper of 1 in 10 and a direct taper of 7.5 metres, as illustrated in Figure 7.10.2.

Figure 7.10.2 Right turn lane hatched island layout



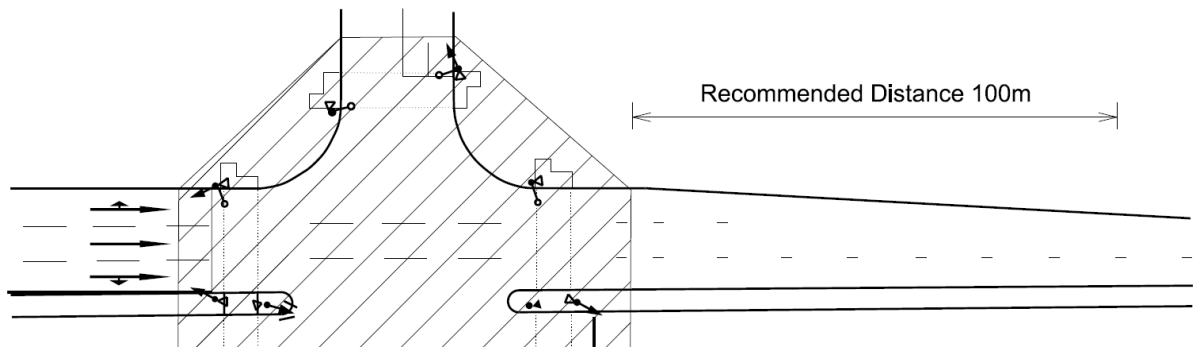
Storage length

- 7.11 The storage length shall be measured from the stop line to the furthest point upstream where the total number of entry lanes are at full width, as illustrated in Figure 7.10.2.
- 7.11.1 The storage length of the left- and right-turn entry lanes should be designed:
 - 1) to meet the capacity requirements of the junction;
 - 2) to accommodate the longest queue of stopped traffic (to avoid turning traffic blocking the adjacent lane); and,
 - 3) to avoid traffic being prevented from entering the left- or right-turn lane where there is a high proportion of straight ahead traffic queuing in the adjacent lane.

Exit lane continuity

- 7.12 Where it is necessary to reduce the numbers of lanes on an exit, this shall be carried out on either the nearside or the offside depending on the prevailing traffic flows on the exit arm.
- 7.12.1 Where it is necessary to reduce the number of lanes on the exit arm, a single lane should be reduced over a distance of 100 metres starting at or beyond the limit of the junction intervisibility zone, as illustrated in Figure 7.12.1.

Figure 7.12.1 Lane continuity through junction intervisibility zone



NOTE *The use of lane markings within the junction intervisibility zone, can be beneficial to direct traffic streams and reduce conflict where entry- and exit-lane widths vary or the alignment through the junction is not a direct path.*

Other geometrical elements of signal-controlled junctions

Swept path and corner radii

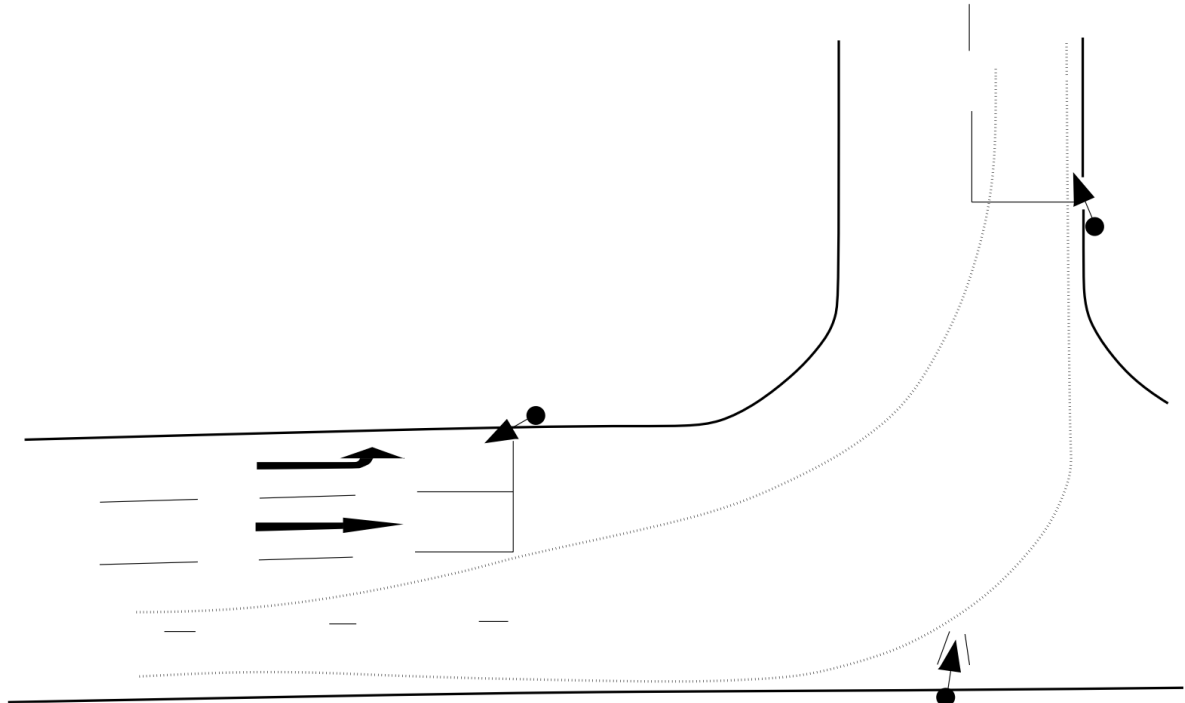
- 7.13 The design of a signal-controlled junction shall allow for the swept turning paths of the design vehicle where provision is to be made for large goods vehicles.
- 7.13.1 The design of a signal-controlled junction should incorporate turning radii to cater for the swept paths of the worst case vehicle that can be reasonably expected to use the junction on a frequent basis.

NOTE *The worst case vehicle is the vehicle that has the most onerous swept path.*

- 7.14 Where provision is to be made for large goods vehicles, the values for corner radii and associated tapers shall be the same as for a priority junction (refer to Section 5).
- 7.14.1 Where no provision is to be made for large goods vehicles, the minimum corner radii should be the same as for a priority junctions (refer to Section 5).

NOTE 1 *Where the layout of a signal controlled junction has not generally be designed to cater for large goods vehicles, these vehicles can have difficulty in completing a manoeuvre without encroaching into opposing lanes. In such situations, stop-lines (and crossings if present) can be set back to beyond where such a conflict would occur. This is illustrated in Figure 7.14.2N1.*

Figure 7.14.1N1 Setting back stop-lines



NOTE 2 When offsetting stop lines as illustrated in Figure 7.14.2N, the junction intervisibility zone will need to be enlarged to suit.

7.14.2 Stop-lines on adjacent entry lanes should not be staggered.

NOTE At staggered stop-lines, large goods vehicles in the nearside entry lane can prevent vehicles in the offside entry lane seeing the nearside primary signal or pedestrians.

Traffic islands (including at left-turn slips)

7.15 The nosing of central reserves and pedestrian refuges shall be set back a minimum distance of 1.5 metres from the edge of carriageway of the intersecting road.

7.15.1 Pedestrian crossings and any associated refuges should be located beyond the limits of the junction radii to minimise crossing distance.

7.16 A minimum clearance of 450 mm shall be provided between the edge of carriageway and any street furniture.

NOTE It can be necessary to provide additional clearance between the edge of carriageway and any street furniture where the carriageway crossfall is greater than 2.5%

7.17 Traffic islands shall be provided to separate uncontrolled traffic from controlled traffic where left-turn slip lanes are provided.

7.17.1 Traffic islands may be provided to separate two independently controlled lanes of traffic on the same entry.

7.17.2 Left-turn slip lanes may be signal-controlled or uncontrolled.

7.17.3 A left-turn slip lane should be provided where:

- 1) the left-turn traffic movement is high;
- 2) left-turn manoeuvres for large goods vehicles need to be facilitated;
- 3) delay for left-turn vehicles would otherwise be significant;

4) left-turn traffic capacity requirements would extend the green time required for the straight ahead traffic movement phase.

7.17.4 A single pedestrian crossing route through a signal-controlled junction should not include a mix of controlled and uncontrolled crossing points.

NOTE 1 Pedestrian crossings at uncontrolled left-turn slip lanes can be particularly hazardous due to the potential for higher traffic speeds at these locations. When deciding to site crossings at uncontrolled left-turn slips, it is important to consider the:

- 1) visibility levels between pedestrians and approaching traffic; and,
- 2) availability of suitable gaps in traffic flow for pedestrians to cross.

NOTE 2 Further design requirements for pedestrian crossings on segregated left-turn lanes are provided in CD 116 [Ref 1.I].

NOTE 3 Traffic islands can assist in providing safe crossings for pedestrians whilst improving traffic capacity by the incorporation of pedestrian call stages.

NOTE 4 Design requirements for pedestrian refuges are provided in CD 143 [Ref 3.N].

Right-turning traffic movements

7.18 On roads with a design speed of 85 kph or higher, right turning lane(s) shall be separately signalled and segregated from the adjacent ahead-only lane(s) by a traffic island.

NOTE Where opposing right turn lanes can be aligned directly opposite each other, layouts that encourage traffic to pass in front rather than behind each other can be used to improve traffic flow. They can also allow a small number of right turning vehicles to wait within the junction intervisibility zone. This is illustrated in Figures 7.18Na and 7.18Nb.

Figure 7.18Na Aligned non-hooking arrangement

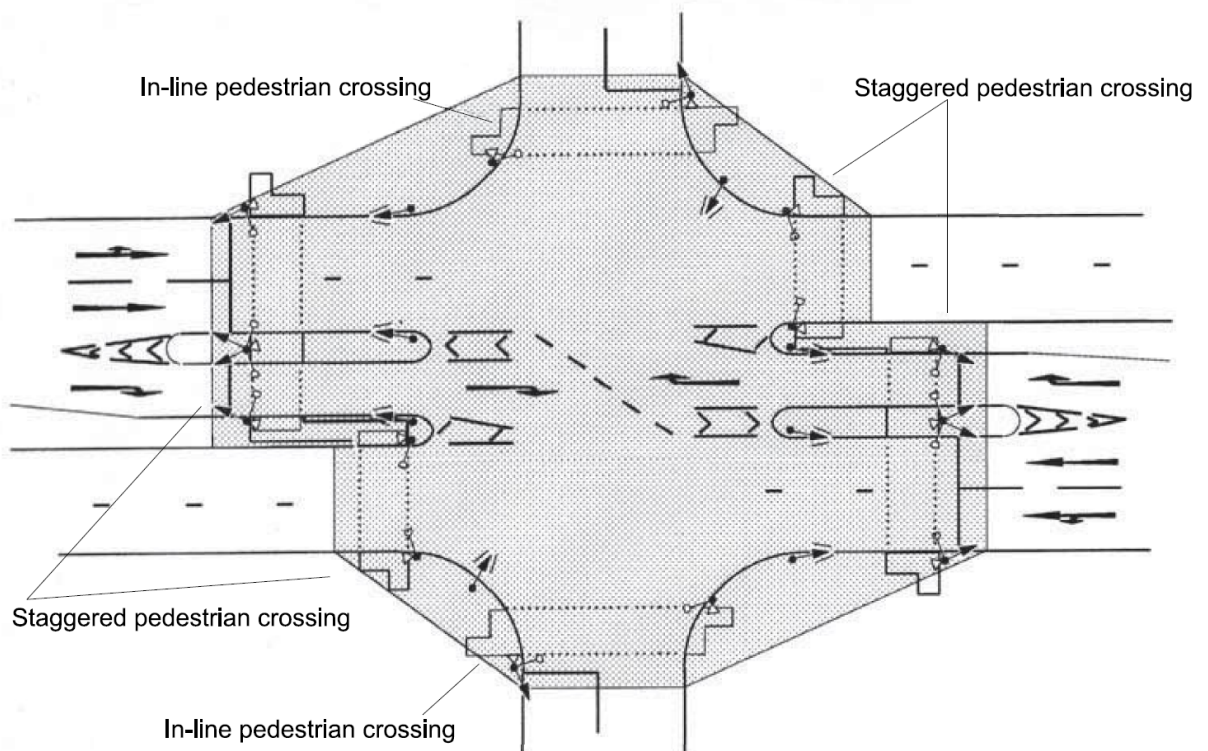
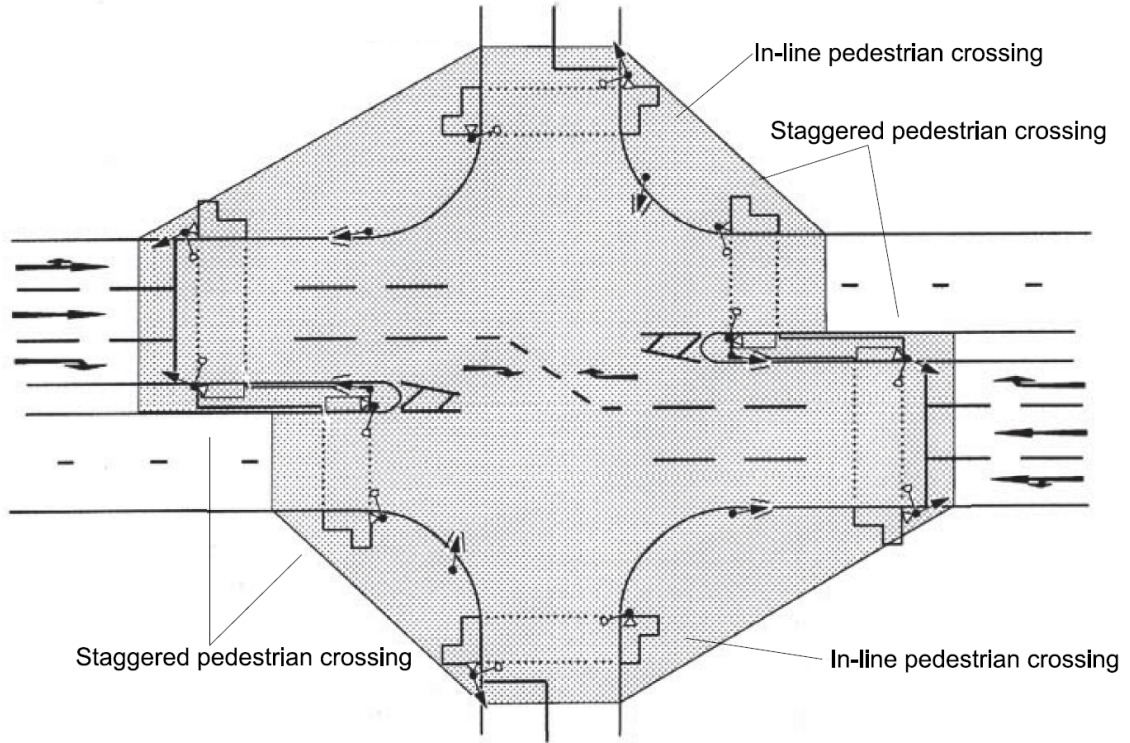


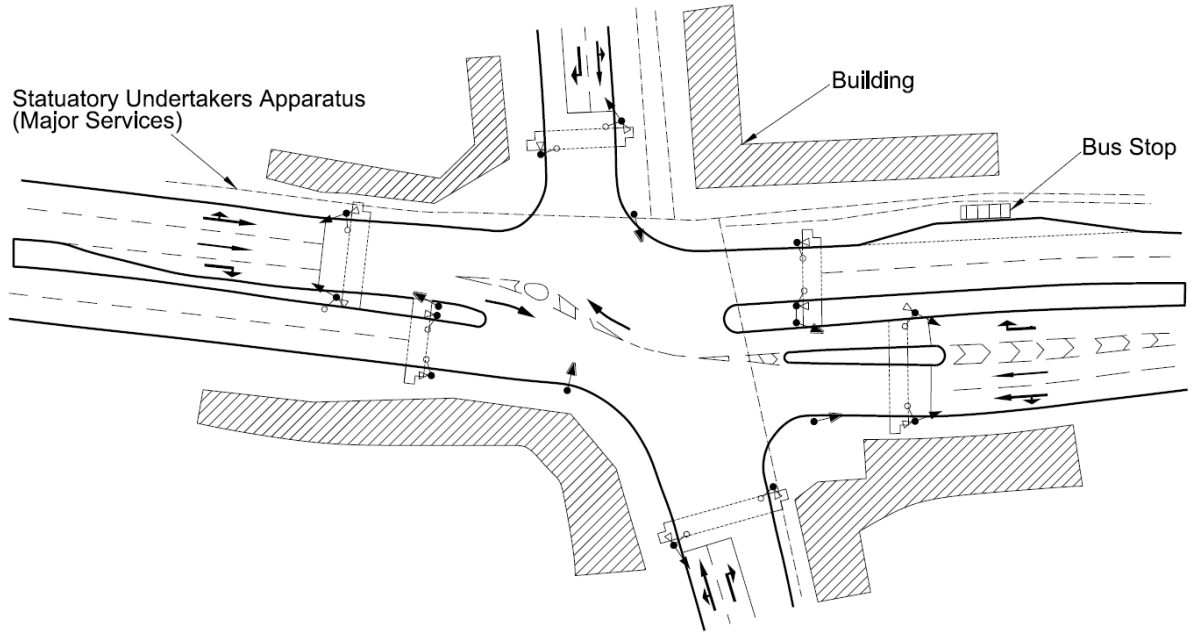
Figure 7.18Nb Offset non-hooking arrangement



7.18.1 The central reserves on the major road may be offset to encourage right turning traffic to pass in front rather than behind each other. This is illustrated in Figure 7.18Nb.

NOTE *The inclusion of a separation island as part of a right turning arrangement that encourages traffic to pass in front rather than behind each other can be useful to deflect traffic where the two arms are offset from each other. This is illustrated in Figure 7.18.1N.*

Figure 7.18.1N Example of existing signal-controlled junction subject to design constraints



7.18.2 Where the 85th percentile approach speed is greater than 72 kph (45 mph), right-turns should be separately signalled.

NOTE Where the 85th percentile approach speed is greater than 72 kph (45 mph), there is an increased risk of accidents between right-turning vehicles seeking gaps and on-coming vehicles travelling at speed.

Location of controller cabinets

7.19 The controller cabinet shall not be situated such that it causes either physical or visual obstruction to road users and pedestrians.

7.19.1 The controller cabinet should be positioned to allow visibility from the controller cabinet to the signal head and stop-line for each junction arm.

NOTE Access and parking arrangements for the servicing of the signal equipment form part of the junction layout design.

8. 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 127, 'Cross-sections and headrooms'
Ref 2.N	Highways England. CD 195, 'Designing for cycle traffic'
Ref 3.N	Highways England. CD 143, 'Designing for walking, cycling and horse riding (vulnerable users)'
Ref 4.N	National Highways. CD 122, 'Geometric design of grade separated junctions'
Ref 5.N	Highways England. CD 109, 'Highway link design'
Ref 6.N	National Highways. GG 101, 'Introduction to the Design Manual for Roads and Bridges'

9. Informative references

The following documents are informative references for this document and provide supporting information.

Ref 1.l	Highways England. CD 116, 'Geometric design of roundabouts'
Ref 2.l	The National Archives. HM Government. ISBN 9781 1 914124 02 0, 'The Building Regulations 2010, Fire Safety - Approved Document B - Volume 1 - Dwellings'
Ref 3.l	Highways England. CD 169, 'The design of lay-bys, maintenance hardstandings, rest areas, service areas and observation platforms'

Appendix A. Examples of signal-controlled junction layouts and impact on signal operation

A1 Opposing right turns at signal-controlled junctions

Collisions at signal-controlled junctions can occur as a result of conflicts arising from right turning traffic movements. To mitigate this risk, opposing right turns should run separate phases or with a late start wherever the signal timings, junction capacity and geometric layout can facilitate this.

A2 Signal-controlled T-junctions

A2.1 Small urban signal controlled T-junction

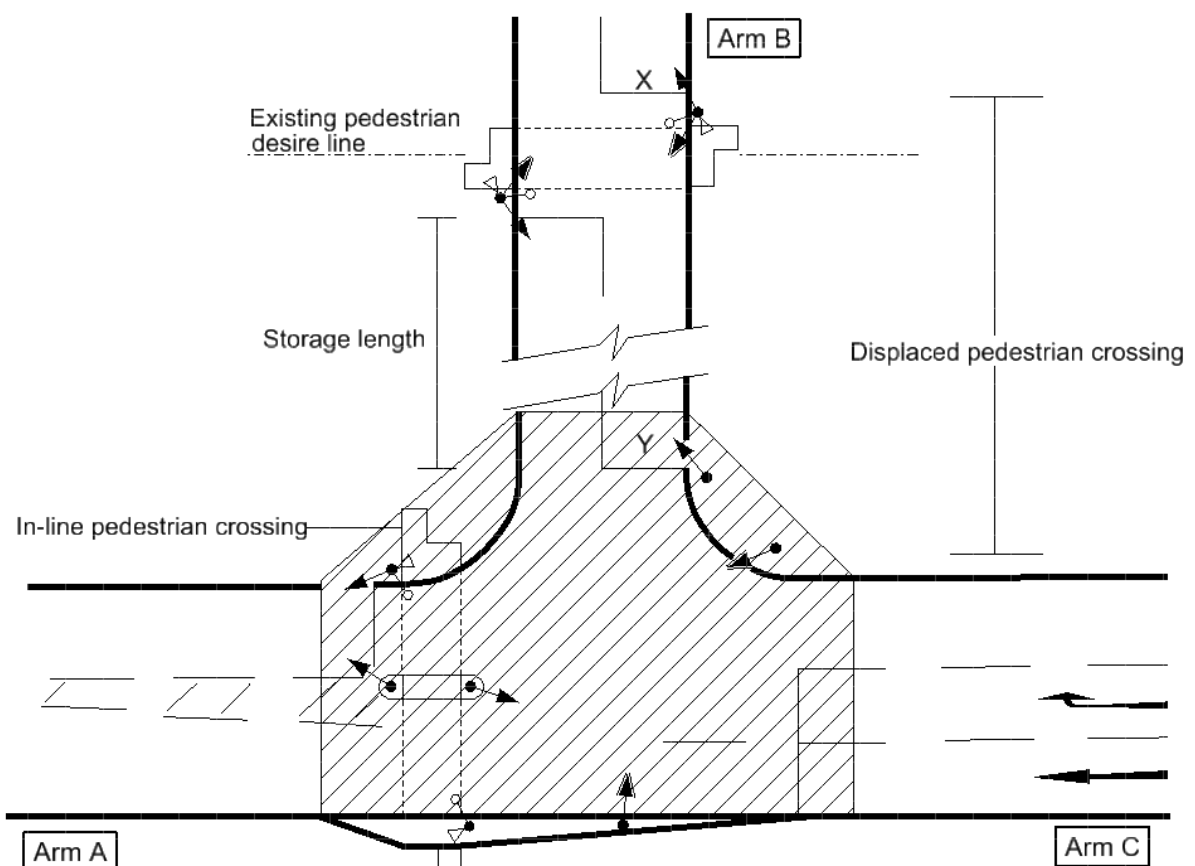
Figure A.1 illustrates a simple, small urban signal-controlled T-junction, typical of a situation where available road space is restricted and usage by large goods vehicles is expected to be low.

For the purpose of this example, it is assumed that the low pedestrian movements combined with the necessity to provide a right turn from Arm C to Arm B have led to a decision not to provide a pedestrian crossing on Arm C.

The following specific design features are incorporated into the example:

- 1) circular corner radii without tapers (no provision for swept paths of large goods vehicles);
- 2) a 'displaced' pedestrian crossing on Arm B linked to the junction signals; and
- 3) an in-line pedestrian crossing on Arm A.

Figure A.1 Example of a small signal-controlled T-junction



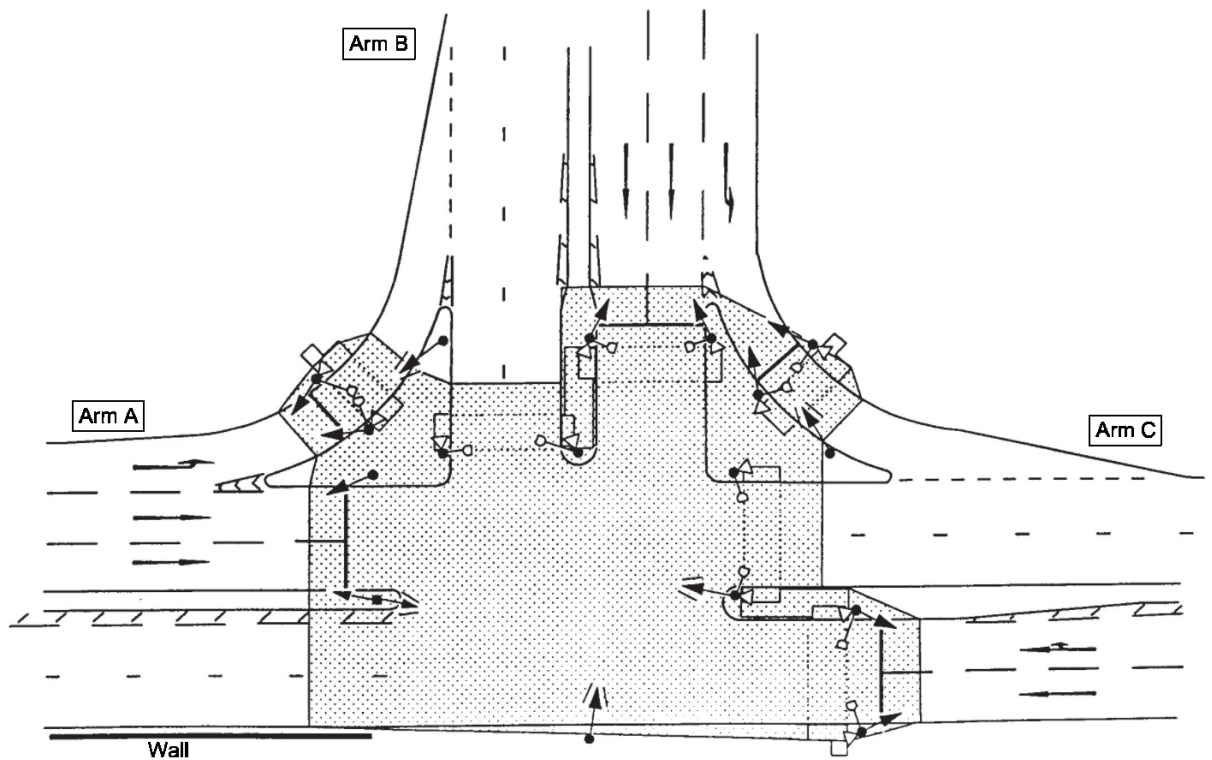
A2.2 Large urban or larger rural signal-controlled T-junction

Figure A.2 indicates an example of a large urban or larger rural signal-controlled T-junction between two dual carriageways, typical of a situation where available road space is not severely restricted, and a significant proportion of large goods vehicles is anticipated on all arms. It is assumed that a pedestrian crossing cannot be provided on Arm A due to localised physical constraints.

The following specific design features are incorporated into the example:

- 1) signal-controlled left turn slip lanes and separation islands (Arm A to B and B to C);
- 2) larger corner radii with tapers (provision for swept paths of large goods vehicles);
- 3) all staggered pedestrian crossings are indicated in the preferred orientation; and
- 4) road markings provided to channelise traffic.

Figure A.2 Example of a large signal-controlled T-junction



A3 Signal-controlled crossroads

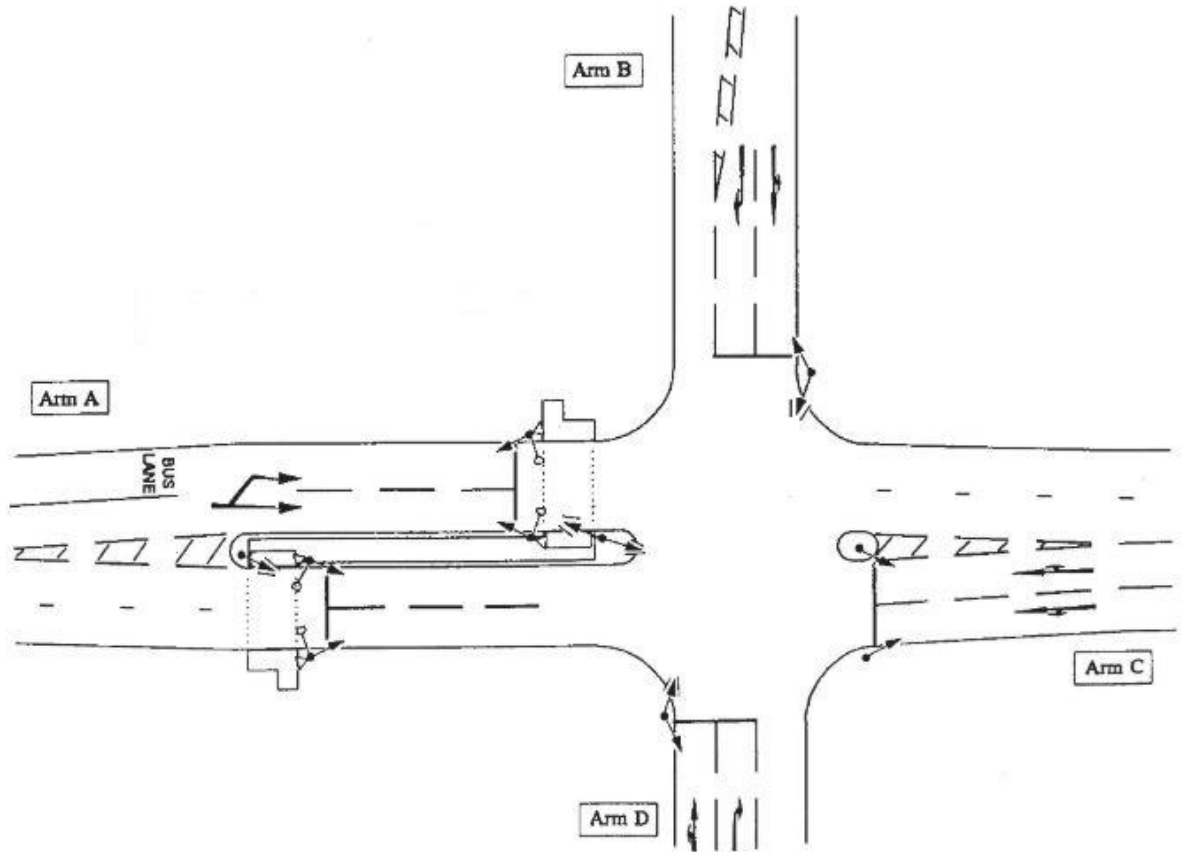
A3.1 Urban signal-controlled crossroads

Figure A.3 illustrates an example of an urban signal-controlled crossroads, typical of a situation where available road space is restricted but there is sufficient width to provide a localised central reserve on the major road. The presence of large goods vehicles in significant proportions is not expected and the major road is an important bus route. The following design features are incorporated into the example:

- 1) localised widening on the major road to facilitate a staggered pedestrian crossing facility;
- 2) circular corner radii without tapers (no provision for large goods vehicles); and
- 3) bus lane discontinued on approach to junction (Arm A).

In Figure A.3, the bus lane has been terminated in advance of the junction intervisibility zone and the associated pedestrian crossing. In this example, the staggered pedestrian crossing, which is part of the junction signal operation, is not in the preferred orientation.

Figure A.3 Example of a signal-controlled crossroads with a staggered pedestrian crossing



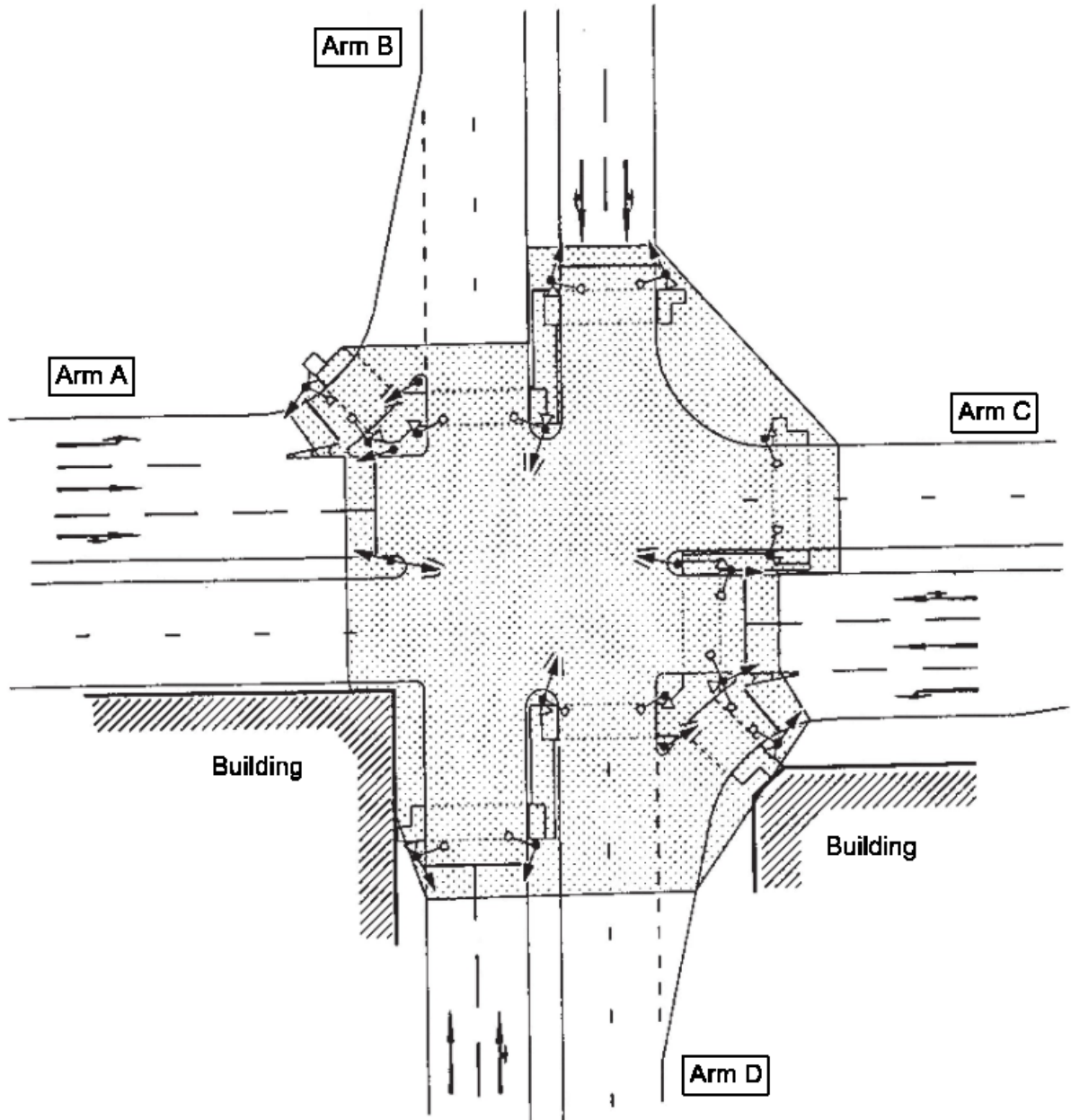
A3.2 Complex urban / rural signal-controlled crossroads

Figure A.4 illustrates an example of a larger, more complex urban or rural signal-controlled crossroad junction between two major dual carriageways. This example is intended to illustrate a situation where, although available road space is not generally restricted, there are some physical constraints which impose limitations on the turning provisions, junction intervisibility and the orientation of the staggered pedestrian crossings. The following design features are incorporated into the example:

- 1) uncontrolled left turn slip lane (A to B);
- 2) circular radius without tapers (Arm B to C);
- 3) controlled left turn slip lane (C to D);
- 4) left turn ban (Arm D to A);
- 5) due to the constraints imposed by the separation island, the staggered pedestrian crossing on Arm C is not in the preferred orientation; and
- 6) the staggered pedestrian crossing on Arm D is in the preferred orientation.

In Figure A.4, the left turn from Arm D to Arm A is prohibited.

Figure A.4 Example of a large signal-controlled crossroad



A4 Signal-controlled staggered junctions

A4.1 Operation of signal-controlled staggered junctions

A large stagger may result in the need to treat the layout as two separately signal-controlled junctions, whereas a small stagger, possibly with a banned turn, could allow the junction to be treated as a simple signal-controlled crossroad. The stagger distances will usually determine the phasing, stages and timing of the traffic signals.

Where the stagger distance is greater than 250 metres the junctions are normally be considered as two separate independent signal-controlled T-junctions.

Where the stagger distance is between 75 metres and 250 metres the junctions are normally treated as two separate, signal-controlled T-junctions with local linking of the signals to favour the major flows of traffic through the junction.

Where the stagger distance is below 75 metres the junction is normally considered a single signal-controlled staggered junction, provided there is sufficient reservoir length.

As the stagger distance reduces below 75 metres, it becomes more difficult to provide for the inner stop lines, pedestrian crossing facilities and associated signals. The shortest effective reservoir length is 15 metres. With a reservoir length below 15 metres, the junction is normally treated as a signal-controlled crossroad with special account being taken of longer clearance distances.

Staggered signal-controlled junctions with short stagger distances could suffer from junction blocking due to a limited reservoir length between the two staggered arms.

A4.2 Left/right staggers

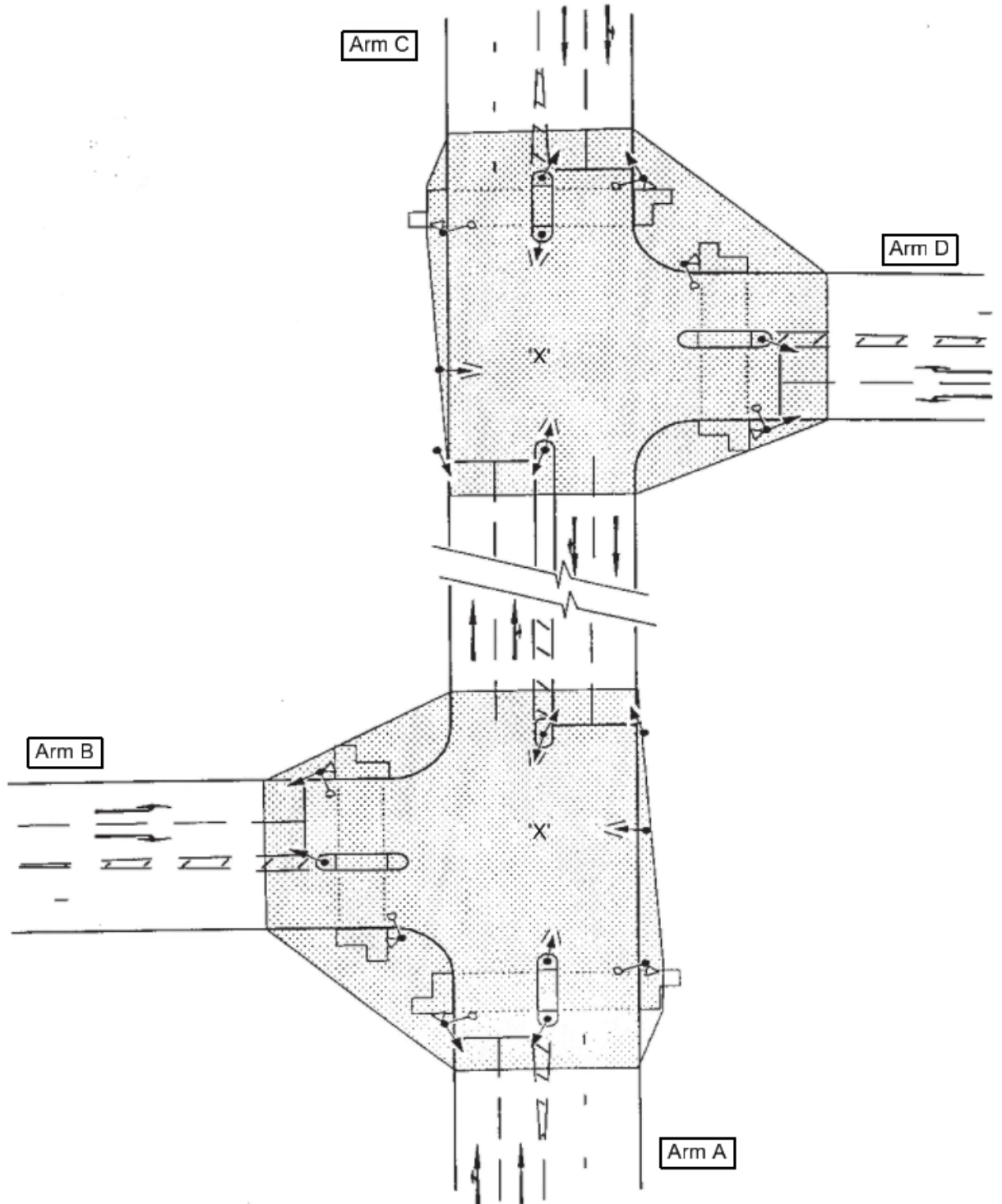
Figure A.5 illustrates an example of an urban left/right staggered signal-controlled junction, typical of a situation where the stagger distance is less than 75 metres, the reservoir length is greater than 15 metres and the presence of large goods vehicles in significant proportions is not expected. The following design features are incorporated in the example illustrated:

- a) two lane approach and departure on all arms;
- b) circular corner radii without tapers (no provision for large goods vehicles); and
- c) inner stop lines.

A left/right stagger will usually have more onerous signal control due to the greater level of right turn traffic than a right/left stagger.

If a left/right staggered junction with less than a 75 metre stagger is signal-controlled using a 2-stage control (i.e. both the staggered arms run together), there will be a conflict as the traffic emerging from one of the arms turns right across the path of vehicles turning right into the same arm (refer to the points marked "X" in Figure A.6). This could be hazardous if there is no intervisibility approaching the conflict point. Unless these movements are very low in volume and the length of stagger is small, 3-stage signalling is normally used with separate stages for each of the staggered approaches.

Figure A.5 Example of a left/right staggered junction



A4.3 Right/left staggers

Figure A.6 illustrates an example of an urban right/left staggered junction, typical of a situation where the stagger distance is less than 75 metres, the reservoir length is greater than 15 metres and the presence of large goods vehicles in significant proportions is not expected. The following design features are incorporated into the example illustrated:

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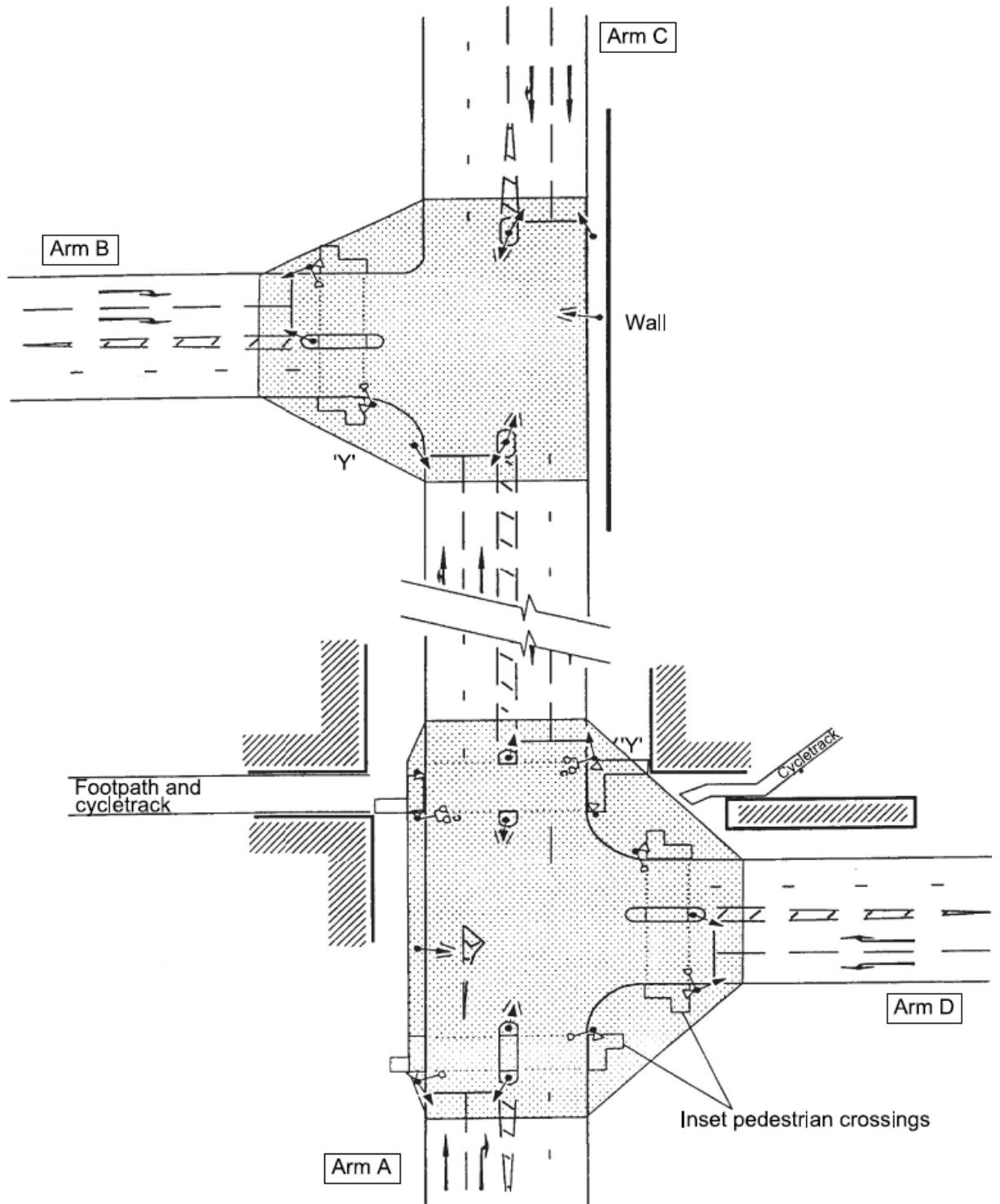
- 1) two lane approach and departure on all arms;
- 2) circular corner radii without tapers (no provision for large goods vehicles); and
- 3) inner stop-lines.

With a stagger distance of 75 metres or greater, the inner stop-lines (marked "Y" on Figure A.6) are normally included to eliminate the very long clearance distances and extended inter-green periods which would otherwise be necessary.

Where a significant volume of pedestrian movement is anticipated, it could be beneficial to provide pedestrian facilities at each stop-line as illustrated on Arms A, C and D of the lower half of Figure A.6. Where no pedestrian desire lines exist, and the stagger distance is not great, a reduced number of pedestrian crossing facilities could be justified, as indicated on Arms B and C of the upper half of Figure A.6.

In Figure A.6, the left turn from Arm B to Arm C is prohibited.

Figure A.6 Example of a right/left staggered junction



A5 Signal-controlled skew junctions

Figure A.7 illustrates an example of an existing urban signal-controlled skew junction between two single carriageways intersecting at 70 degrees, typical of a situation where available road space is restricted and the presence of large goods vehicles in significant proportions is not expected. The following specific design features are incorporated into the example:

- a) single lane approach and departure on all arms;
- b) circular corner radii without tapers (no provision for large goods vehicles);
- c) a simple left turn slip lane and priority junction (Arm D to A); and
- d) left turn movements from Arm B to C are prohibited due to the tight corner radius.

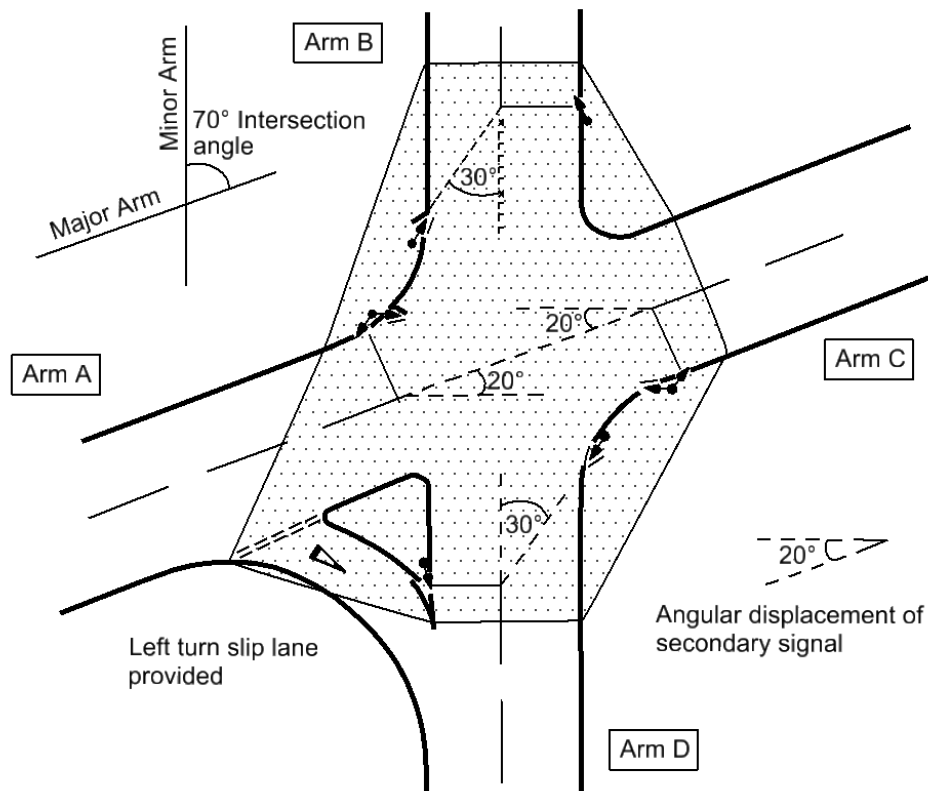
Where the roads intersect at angles other than 90 degrees, the following problems can be encountered:

- 1) priority might not be obvious to drivers;
- 2) intervisibility could be adversely effected;
- 3) the possibility of high speed turning movements on the obtuse angles of the junction;
- 4) difficulty for drivers to turn around the acute angles of the junction (particularly those of larger vehicles); and
- 5) difficulty in locating secondary signals.

Turning radii can be improved by the introduction of left turn slip lanes. It may also be beneficial to set stop-lines back by a reasonable distance to accommodate the junction corner radii, any left turn slip lanes and to assist in locating secondary signals.

In Figure A.7, the left left turn from Arm B to Arm C is prohibited.

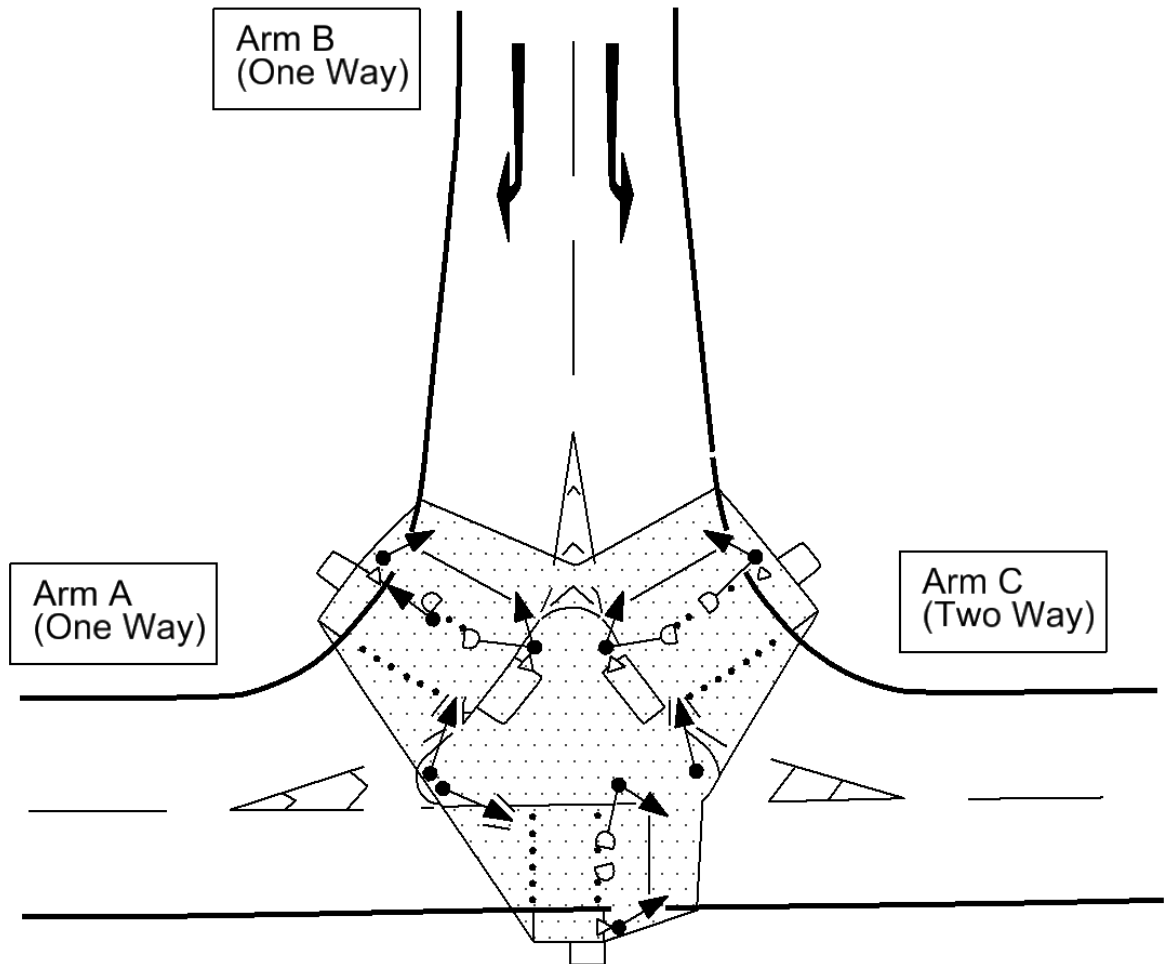
Figure A.7 Example of a signal-controlled skew junction



A6 Signal-controlled junctions on one-way roads

Figure A.8 illustrates an example of a signal-controlled junction between two one-way roads (Arms A and B) and a two-way road (Arm C) incorporating a traffic island and pedestrian crossing facilities.

Figure A.8 Example of a signal-controlled junction on one-way roads



A7 Signal-controlled junctions with more than four arms

When signal-controlled junctions have more than 4 arms, efficient signalling is difficult to design. The banning of one or more right turns or directing traffic away from the junction will assist in alleviating these difficulties.

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Design Manual for Roads and Bridges



Road Layout
Design

CD 109

Highway link design

(formerly TD 9/93, TD 70/08)

Revision 1

Summary

This document provides requirements and advice for all aspects of highway link design to be used for both new and improved all-purpose and motorway trunk roads including connector 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	3
Foreword	4
Publishing information	4
Contractual and legal considerations	4
Introduction	5
Background	5
Assumptions made in the preparation of this document	5
Design principles	5
General	5
Connection to existing roads	5
Wide single 2 + 1 roads and climbing lanes	5
Coordinated link design	5
Abbreviations and symbols	6
Terms and definitions	7
1. Scope	8
Aspects covered	8
Implementation	8
Use of GG 101	8
2. Design speed	9
Selection of design speed	9
Rural roads	9
Urban roads	12
Harmonic mean visibility (VISI)	12
Design speed related parameters and relaxations	13
3. Sight distance	18
Stopping sight distance	18
Full overtaking sight distance	18
Obstructions to sight distance	18
Relaxations	19
4. Horizontal alignment	20
Road camber and superelevation	20
Relaxations	20
Application of superelevation	21
Widening on curves	21
Transitions	22
Length of curve:	22
5. Vertical alignment	23
Gradients	23
Minimum gradient	23
Vertical curves	23
General	23
Crest curves	23
Sag curves	24
Relaxations	24
Crest curves	24
Sag curves	24

6. Wide single 2+1 roads	26
Design principles	26
Geometric standards	27
Cross-section	27
Lengths of overtaking lane sections	29
Changeovers	29
WS2+1 interfaces	30
Traffic signs and road markings	31
7. Climbing lanes - single carriageways	38
Introduction	38
Layout	38
Layout at the start of a climbing lane	38
Layout at the end of climbing lane	40
Sight distance requirements	45
Road markings	45
8. Climbing lanes - dual carriageways and motorways	50
Introduction	50
Layout	50
Lane widths	50
Layout at the start of climbing lane	50
Layout at the end of climbing lane	51
9. Single carriageway road overtaking sections	56
Overtaking sections	56
Overtaking value	56
Lengths of road over 2km	56
Lengths of road less than 2 km	56
Level overtaking sections	56
Commencement of level overtaking sections	57
Termination of level overtaking sections	57
Climbing lane sections	58
Commencement of climbing lane overtaking sections	58
Termination of climbing lane overtaking sections	58
Single lane downhill sections at climbing lanes	58
Commencement of single lane downhill overtaking sections at climbing lanes	58
Termination of single lane downhill overtaking sections at climbing lanes	61
Dual carriageway overtaking sections	61
Commencement of dual carriageway overtaking sections	61
Termination of dual carriageway overtaking sections	61
Wide single 2+1 roads (WS2+1)	61
Commencement of WS2+1 overtaking sections	61
Termination of WS2+1 overtaking sections	61
Obstructions to overtaking	61
Horizontal curve design	62
Vertical curve design	64
Changes in carriageway type	65
10. Normative references	66
11. Informative references	67
Appendix A. Coordinated link design	68

Release notes

Version	Date	Details of amendments
1	Mar 2020	Revision 1 (March 2020) Update to references in England National Application Annex only. Revision 0 (November 2019) CD 109 replaces TD 9/93 and TD 70/08. This 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 TD 9/93 "Highway Link Design" and TD 70/08 "Design of Wide Single 2+1 Roads", 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 sets out the design requirements and advice to be used when developing the design of a highway / road link.

Assumptions made in the preparation of this document

The assumptions made in GG 101 [Ref 5.N] apply to this document.

Design principles

General

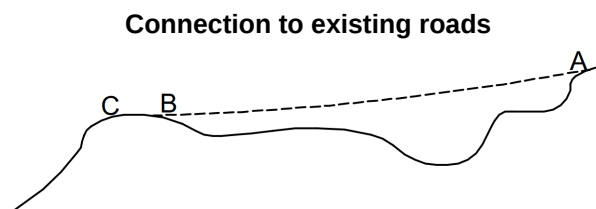
This document provides requirements and advice to derive the design speed and the appropriate values of geometric parameters for use in the design of the road alignment. It states the basic principles to be used for coordinating the various geometrical elements of the road design, which together form the three dimensional design of the road.

This document provides requirements for maximum and minimum levels of provision for the various design features and also identifies where relaxations from these requirements are permitted.

Connection to existing roads

Where an improved section of road rejoins an unimproved section of existing road, providing a similar standard of curvature and stopping sight distance as provided for the improvement will create a consistent standard at the interface.

The figure below shows the connection of an improvement to an existing road. The curvature and stopping sight distance at point C is adequate for the approach design speed which has increased due to the improvement between points A and B.



Wide single 2 + 1 roads and climbing lanes

This document includes requirements and advice for the design of wide single 2 + 1 roads and climbing lanes when improving an existing carriageway or in a new build situation.

Coordinated link design

The various geometrical elements detailed in this document need to be coordinated, together with cross-section (CD 127 [Ref 1.N]) and junction layouts (CD 122 [Ref 3.N], CD 123 [Ref 2.N] and roundabouts CD 116 [Ref 4.N]), so the three-dimensional layout as a whole is appropriate in terms of traffic safety, operation and economic / environmental effects. Single carriageway design is given particular emphasis due to the problems of driver understanding and provision for overtaking. A general guide of the layout features, such as edge treatments, access treatments and junction types, that can be appropriate for various types of rural roads is given in Appendix A. It is not possible to tabulate overall layout characteristics for roads in urban areas in the same way as for rural areas, as the constraints of the existing urban fabric will result in designs tailored to meet the site-specific requirements.

Abbreviations and symbols

Abbreviations

Abbreviation	Definition
AADT	Annual average daily traffic
C/way	Carriageway
D2AP	Dual 2 lane all-purpose
D3AP	Dual 3 lane all-purpose
D2M	Dual 2 lane motorway
D3M	Dual 3 lane motorway
D4M	Dual 4 lane motorway
FOSD	Full overtaking sight distance
Km	Kilometres
Kph	Kilometres per hour
S2	Single 2 lane carriageway
TSRGD	Traffic Signs Regulations and General Directions
VRS	Vehicle Restraint System
WS2	Wide Single 2 lane carriageway
WS2+1	Wide Single 2+1 carriageway

Symbols

Symbol	Definition
Ac	Alignment constraint
B	Bendiness Degrees / km
L	Length of basic transition (metres)
Lc	Layout constraint
n	Number of observations
q	Rate of change of centripetal acceleration (metres / second ³) travelling along curve at constant speed V(kph)
R	Radius of curve (metres)
S	Superelevation %
V	Design speed kph
VW	Average verge width (averaged for both sides of the road)
VISI	Harmonic mean visibility

Terms and definitions

Terms and definitions

Term	Definition
Adverse camber	A road profile where the carriageway surface slopes away from the inside of a bend, resulting in the carriageway being higher on the inside of the bend than on the outside.
Alignment constraint	The degree of constraint imparted by the road alignment.
Bendiness	The total change of direction in horizontal alignment in degrees / km measured over a minimum length of 2km.
Changeover	A carriageway layout which effects a change in the designated use of the middle lane of a WS2+1 road from one direction of traffic to the opposite direction.
Climbing lane	The nearside lane when a lane is added to a single carriageway, dual carriageway or motorway in order to improve capacity and / or safety because of the presence of a steep gradient.
Conflicting changeover	A changeover where the vehicles using the middle lane on a WS2+1 road are travelling towards each other.
Full overtaking sight distance	The sight distance required for overtaking vehicles using the opposing traffic lane on single carriageway roads.
Harmonic mean visibility	The harmonic mean of individual measurements of sight distance.
Layout constraint	The degree of constraint imparted by the road cross-section, verge width and frequency of junctions and accesses.
Link	A length of road between junctions.
Non-conflicting changeover	A changeover where the vehicles using the middle lane on a WS 2+1 road are travelling away from each other.
Non-overtaking section	Sections of a 2 lane single carriageway road which are not overtaking sections.
Overtaking lane section	A two lane section of a WS2+1 road provided in one direction to facilitate overtaking, with the opposing traffic confined to one lane.
Overtaking section	Sections of 2 lane single carriageway road where the combination of horizontal / vertical alignment, visibility, or width provision is such that clear opportunities for overtaking using the opposing lane occur.
Single lane section	A single lane section of a WS2+1 road provided in one direction running parallel to an overtaking lane section in the opposite direction.
Stopping sight distance	The distance within which drivers need to be able to see ahead to stop from a given speed as required by this document.
WS2 carriageway	A wide single carriageway road with one lane in each direction.
WS2+1 carriageway	A road with two lanes of travel in one direction and a single lane in the opposite direction as outlined in Section 6 of this document.
WS2+1 interface	The interface between a WS2+1 road and a two-lane single carriageway road (S2).

1. Scope

Aspects covered

- 1.1 This document provides requirements and advice for all aspects of highway / road link design and shall be used for both new and improved motorway and all-purpose trunk roads.
- 1.2 This document shall apply to WS2 roads where they are equal to or less than 2km in length.

Implementation

- 1.3 This document shall be implemented forthwith on all schemes involving highway / road link design on the Overseeing Organisations' motorway and all-purpose trunk roads according to the implementation requirements of GG 101 [Ref 5.N].

Use of GG 101

- 1.4 The requirements contained in GG 101 [Ref 5.N] shall be followed in respect of activities covered by this document.

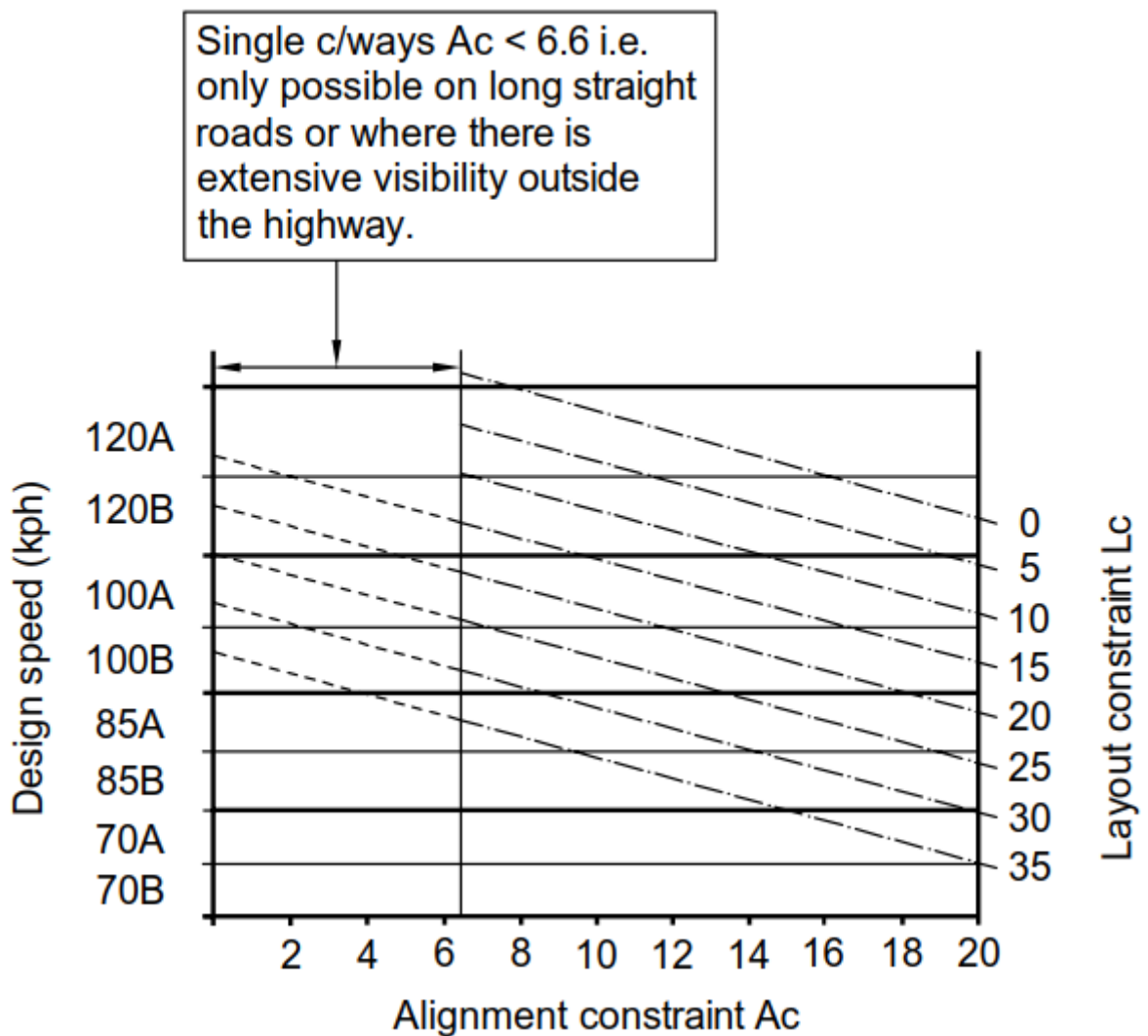
2. Design speed

Selection of design speed

Rural roads

2.1 For new rural roads, design speed shall be derived from Figure 2.1 using alignment constraint (Ac) and layout constraint (Lc).

Figure 2.1 Selection of design speed (rural roads)



NOTE 1 In Figure 2.1 the design speeds are arranged in bands (i.e. 120kph, 100kph, 85kph, etc). Suffixes A and B indicate the higher and lower categories of each band.

NOTE 2 As an example using Figure 2.1 to derive a design speed, an A_c value of 12 and an L_c value of 15 would give a design speed of 100A.

2.2 Alignment constraint (A_c) shall be calculated using Equation 2.2a and Equation 2.2b for dual carriageways and single carriageways respectively:

Equation 2.2a Dual carriageways

$$Ac = 6.6 + \frac{B}{10}$$

Equation 2.2b Single carriageways

$$Ac = 12 - \frac{VISI}{60} + \frac{2B}{45}$$

where:

B = Bendiness degrees / km.

VISI = Harmonic mean visibility (metres) (see harmonic mean visibility section below).

NOTE *Bendiness is calculated by dividing the sum of the change in direction (in degrees) of a road by the length (in km) over which it occurs. For example, a 3km length of road with a total change in direction of 180 degrees would have a bendiness of 60 degrees / km.*

2.3 Layout constraint (Lc) shall be derived using Table 2.3.

Table 2.3 Layout constraint (Lc)

Road type	S2				WS2		WS2+1		D2AP		D3AP	D2M	D3M	D4M
	6 metres		7.3 metres		10 metres		11.5 metres		Dual 7.3 metres		Dual 11 metres	Dual 7.3 metres & hard shoulder	Dual 11 metres & hard shoulder	Dual 14.7 metres & hard shoulder
Carriageway width (excluding hard strips and hard shoulder)	6 metres		7.3 metres		10 metres		11.5 metres		Dual 7.3 metres		Dual 11 metres	Dual 7.3 metres & hard shoulder	Dual 11 metres & hard shoulder	Dual 14.7 metres & hard shoulder
Frequency of commercial accesses, lay-bys and junctions	H	M	M	L	M	L	M	L	M	L	L	L	L	L
Standard verge width	29	26	23	21	19	17	19	17	10	9	6	4	0	0
1.5 metre verge	31	28	25	23	-	-	-	-	-	-	-	-	-	-
0.5 metre verge	33	30	-	-	-	-	-	-	-	-	-	-	-	-
L = Low number of commercial accesses, lay-bys and junctions, less than or equal to 5 per km														
M = Medium number of commercial accesses, lay-bys and junctions, between 6 to 8 per km														
H = High number of commercial accesses, lay-bys and junctions, greater than or equal to 9 per km														

NOTE 1 *Layout constraint (Lc) measures the degree of constraint provided by the road cross-section, verge width, and frequency of junctions, lay-bys and commercial accesses.*

NOTE 2 *Values of Lc are obtained from Table 2.3 by reading along the appropriate verge width rows and down the road type columns corresponding to the appropriate frequency of commercial accesses, lay-bys and junctions. The appropriate value of Lc is denoted by the number read at the intersection of the verge width row and the road type column.*

2.4 For road improvements of up to 2km in length on existing rural roads, the design speed shall be derived using Figure 2.1 with the value of Ac calculated for a minimum road length of 2 km incorporating the section of road improvement.

Urban roads

2.5 On urban roads, design speeds shall be selected with reference to the speed limits for the road, as shown in Table 2.5.

Table 2.5 Urban roads speed limit/design speed relationship

Speed limit		Design speed
Mph	Kph	Kph
30	48	60B
40	64	70A
50	80	85A
60	96	100A

NOTE *Design speeds are higher than the speed limit and therefore permit a small margin for vehicle speeds in excess of the speed limit.*

Harmonic mean visibility (VISI)

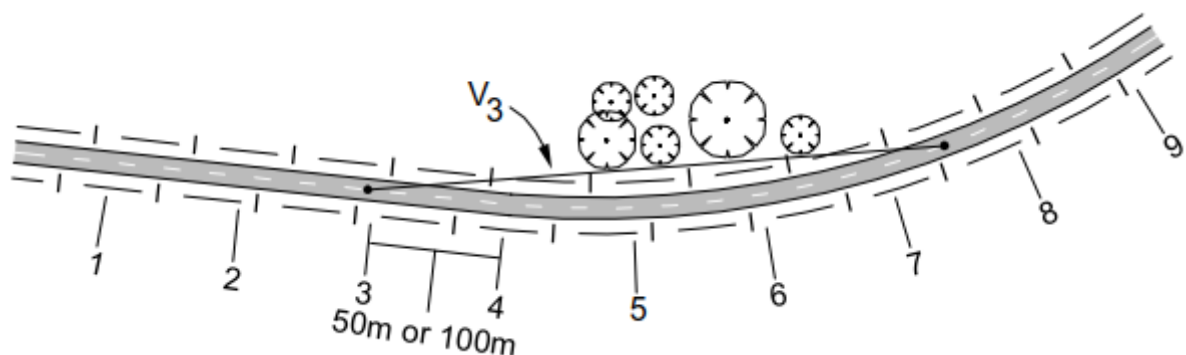
2.6 The harmonic mean visibility (VISI) shall be measured over a minimum length of 2km.

2.6.1 Measurements of sight distance should be taken in both directions at regular intervals (50 metres for sites of restricted visibility, 100 metres for sites with unrestricted visibility).

2.7 Sight distance shall be measured from an eye height of 1.05 metres to an object height of 1.05 metres, with both measurements taken above the centre line of the road surface.

2.8 Sight distance shall be the true sight distance available at any location, including any sight distance available across verges and outside of the highway boundary or across embankment slopes or adjoining land, as shown in Figure 2.8.

Figure 2.8 Measurement of harmonic mean visibility



2.8.1 The harmonic mean visibility for new roads should be calculated using Equation 2.8.1.

Equation 2.8.1 Formula for calculating harmonic mean visibility

$$VISI = \frac{n}{\frac{1}{V_1} + \frac{1}{V_2} + \frac{1}{V_3} \cdots + \frac{1}{V_n}}$$

where:

- n = Number of observations.
 V₁ = Sight distance at point 1, etc.

2.8.2 The harmonic mean visibility for existing roads should be calculated using an empirical relationship given in Equation 2.8.2.

Equation 2.8.2 Empirical relationship

$$\text{Log}_{10} VISI = 2.46 + \frac{VW}{25} - \frac{B}{400}$$

where:

- VW = Average verge width (averaged for both sides of the road)
 B = Bendiness (degree per km - minimum length of 2 km)

NOTE 1 Equation 2.8.2 is applicable up to VISI = 720 metres.

NOTE 2 On long straight roads, or where sight distance is available outside of the highway boundary, the relationship between the average verge width and bendiness can result in values of harmonic visibility calculated using Equation 2.8.1 being significantly underestimated.

2.8.3 For preliminary route analysis, where detailed measurements of sight distance are not available, the following typical values should be used:

- 1) VISI = 700 metres for long virtually straight roads, or where the road is predominantly on embankment affording high visibility across embankment slopes or adjoining level land;
- 2) VISI = 500 metres where a new road is designed with continuous overtaking visibility, with large crest K values and wide verges for visibility;
- 3) VISI = 300 metres where a new road is designed with frequent overtaking sections, but with stopping sight distance provision at all sharp curves;
- 4) VISI = 100 - 200 metres where an existing single carriageway contains sharp bends, frequent double white line sections and narrow verges.

NOTE The empirical relationship provided by Equation 2.8.2 can be used for the preliminary analysis of existing routes if values of bendiness (B) are available.

Design speed related parameters and relaxations

2.9 Designs shall provide at least the desirable minimum values for stopping sight distance, horizontal curvature, vertical crest curvature and sag curvature as shown in Table 2.10, except for the following situations:

- 1) where a relaxation is permitted by sections 2, 3, 4 or 5 of this document;
- 2) the design of a vertical crest curve on a 2 lane single carriageway road (see Section 9).

2.9.1 Design parameters should meet or exceed desirable minimum values except where particular circumstances relating to 2 lane single carriageway roads exist (see Section 9).

NOTE Requirements and advice on the application of relaxations below desirable minimum is provided in GG 101 [Ref 5.N].

- 2.9.2 Interfaces between sections of road with different design speeds should be designed so as not to suddenly present the driver with low radius horizontal curves, sharp crests or shorter sight distances.
- 2.10 Minimum geometric parameters for full overtaking sight distance (FOSD) and overtaking crest K values that shall be used for the corresponding design speed are shown in Table 2.10.

Table 2.10 Design speed related parameters

Design speed kph	120	100	85	70	60	50	V ² /R
Stopping sight distance (metres)							
Desirable minimum	295	215	160	120	90	70	-
One step below desirable minimum	215	160	120	90	70	50	-
Horizontal curvature (metres)							
Minimum R* with adverse camber and without transitions	2880	2040	1440	1020	720	520	5
Minimum R* with superelevation of 2.5%	2040	1440	1020	720	510	360	7.07
Minimum R* with superelevation of 3.5%	1440	1020	720	510	360	255	10
Desirable minimum R (superelevation 5%)	1020	720	510	360	255	180	14.14
One step below desirable Minimum R (superelevation 7%)	720	510	360	255	180	127	20
Two steps below desirable minimum radius (superelevation 7%)	510	360	255	180	127	90	28.28
Vertical curvature							
Desirable minimum* crest K value	182	100	55	30	17	10	-
One step below desirable min crest K value	100	55	30	17	10	6.5	-
Desirable minimum sag K value	37	26	20	20	13	9	-
Overtaking sight distances							
Full overtaking sight distance FOSD (metres)	-	580	490	410	345	290	-
FOSD overtaking crest K value	-	400	285	200	142	100	-
* Not recommended for use in the design of single carriageways (see Section 9)							
The V ² /R values shown above simply represent a convenient means of identifying the relative levels of design parameters, irrespective of design speed.							

- NOTE 1** *The limit for relaxations is defined by a given number of design speed steps below a specific bench mark, usually the desirable minimum. Relaxations vary according to the type of road - motorway or all-purpose, and whether the design speed is band A or band B. Details for permitted relaxations are given in:*
- 1) *Section 3 for stopping sight distance;*
 - 2) *Section 4 for horizontal alignment; and*
 - 3) *section 5 for vertical alignment.*
- NOTE 2** *GG 101 [Ref 5.N] provides requirements and advice on recording the decision process when applying relaxations.*
- NOTE 3** *When preparing design options that include relaxations, a number of site specific factors need to be assessed, including, whether the site is:*
- 1) *isolated from other relaxations;*
 - 2) *isolated from junctions;*
 - 3) *one where drivers have desirable minimum stopping sight distance;*
 - 4) *subject to momentary visibility impairment only;*
 - 5) *subject to low traffic volumes;*
 - 6) *on geometry that is readily understandable to road users;*
 - 7) *on a road with no frontage access;*
 - 8) *one where traffic speeds are reduced locally due to adjacent road geometry (e.g. uphill sections, approaching roundabouts and priority junctions where traffic has to give way or stop, etc), or speed limits.*
- NOTE 4** *The safety risk of using a relaxation in the design can be mitigated by providing:*
- 1) *collision prevention measures;*
 - 2) *specific warning signs and road markings.*
- 2.11 Values for stopping sight distance, horizontal curvature and vertical curvature shall not be less than those given in Table 2.10 for 50kph design speed regardless of permitted relaxations.
- 2.12 Except for stopping sight distance relaxations of up to 1 design speed step below desirable minimum coincident with horizontal curvature relaxations of up to 1 design speed step below desirable minimum, relaxations shall not be used in combination.
- 2.13 The relaxations below desirable minimum in stopping sight distance, desirable minimum vertical curvature for crest curves and sag curves, described in Sections 3 and 5 of this document respectively, shall not be used on the immediate approaches to junctions.
- NOTE** *For the purposes of this document the immediate approaches to a junction are defined as:*
- 1) *for minor road approaches at at-grade priority junctions without diverge and merge tapers, those lengths of carriageway on the minor roads between a point 1.5 times the desirable minimum stopping sight distance upstream of the stop line or give way line and the stop line or give way line itself;*
 - 2) *for major road approaches at at-grade priority junctions without diverge and merge tapers, those lengths of carriageway on the mainline between a point 1.5 times the desirable minimum stopping sight distance from the centre line of the minor road and the centre line itself;*
 - 3) *for at-grade junctions with a diverge taper the length of carriageway from a point 1.5 times the desirable minimum stopping sight distance upstream of the start of the diverge taper to a point level with the minor road centre line;*
 - 4) *for at-grade junctions with a diverge auxiliary lane the length of carriageway from a point 1.5 times the desirable minimum stopping sight distance upstream of the start of the auxiliary lane taper to a point level with the minor road centre line;*

- 5) *for at-grade junctions with a merge taper the length of carriageway from a point 1.5 times the desirable minimum stopping sight distance upstream of a point level with the minor road centre line to the end of the merge taper;*
- 6) *for roundabouts, those lengths of carriageway on the approach to the roundabout between a point 1.5 times the desirable minimum stopping sight distance from the give way line and the give way line itself;*
- 7) *for grade separated diverges with a diverge taper, the length of carriageway from a point 1.5 times the desirable minimum stopping sight distance upstream of the start of the diverge taper to the back of the diverge nose. For diverges without a diverge taper, the length of carriageway 1.5 times the desirable minimum stopping sight distance upstream of a point equivalent to the diverge exit taper length for the appropriate road class (see CD 122 [Ref 3.N]) upstream from the tip of nosing or ghost island head to the back of nosing;*
- 8) *for grade separated merges with a merge taper, the length of carriageway from a point 1.5 times the desirable minimum stopping sight distance upstream of the back of the merge nose to the end of the merge taper. For merges without a merge taper, the length of carriageway from a point 1.5 times the desirable minimum stopping sight distance upstream of the back of the merge nose to a point equivalent to merge entry taper length downstream of the tip of nosing or ghost island tail (see CD 122 [Ref 3.N]).*

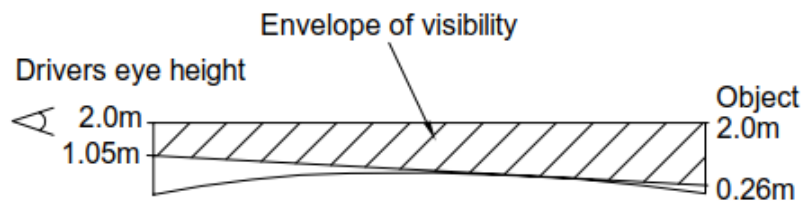
2.13.1 Where the design speed of an alignment changes from a higher to a lower value, permitted relaxations in design standards should be avoided on the length of road with the lower design speed adjacent to its interface with the section of road with the higher design speed.

3. Sight distance

Stopping sight distance

3.1 Stopping sight distance as identified in Table 2.10 shall be measured between driver's eye heights of 1.05 metres and 2.00 metres to object heights of between 0.26 metres and 2.00 metres measured from the road surface, as shown in Figure 3.1.

Figure 3.1 Measurement of stopping sight distance

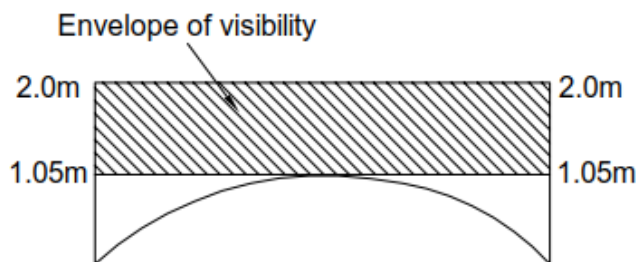


3.2 Desirable minimum stopping sight distance shall be available between any two points in the centre of each lane within the horizontal and vertical extents of the visibility envelope (measured for each carriageway in the case of dual carriageways and motorways).

Full overtaking sight distance

3.3 Where an overtaking section is provided, at least full overtaking sight distance shall be available between eye heights of 1.05 metres and 2.00 metres to object heights of 1.05 metres and 2.00 metres above the centre of the carriageway as shown in Figure 3.3.

Figure 3.3 Measurement of full overtaking sight distance



3.3.1 On 2 lane single carriageway roads, overtaking sections should be provided on as much of the road as practicable, especially where daily traffic flows are expected to approach the maximum design flows.

NOTE 1 Where an overtaking section is provided on a 2 lane single carriageway road, the full overtaking sight distance to be used is shown in Table 2.10 for the corresponding design speed.

NOTE 2 Full overtaking sight distance can normally only be economically provided in flat terrain where the combination of vertical and horizontal alignment permits the design of a level and relatively straight road alignment. It can be more economical to design a single carriageway road to provide clearly identifiable overtaking sections with full overtaking sight distance in relatively level areas, with individual sections of overtaking lane interspersed with non-overtaking sections.

NOTE 3 Designs which provide the driver with overtaking sections have been found to have a lower frequency of serious collisions than roads with continuous large radius curves without overtaking sections.

Obstructions to sight distance

- 3.4 The stopping sight visibility envelope shall be free of obstructions by fixed objects with the exception of:
- 1) a fixed object with a width / length less than or equal to 550mm;
 - 2) a group of fixed objects with a combined width / length of 550mm or less
 - 3) those obstructions covered by the relaxations below.

NOTE 1 Isolated slim objects less than or equal to 550mm in width / length, such as lighting columns, sign supports, or slim footbridge supports, only result in intermittent obstructions to sight lines.

NOTE 2 On horizontal curves where the road is in a cutting, or at bridge crossings, verges and central reserves can be widened or bridge clearances increased to ensure the appropriate stopping sight distance is not obstructed.

NOTE 3 Verge and central reserve widening is sometimes required on horizontal curves to provide stopping sight distance in front of VRS.

- 3.4.1 Stopping sight distance and FOSD may be measured across opposing lanes or carriageways.

Relaxations

- 3.5 Except for the restrictions to relaxations noted in Section 2 (Relaxations) of this document and in the clauses below, relaxations to the desirable minimum stopping sight distance requirements shall be permitted as identified in Table 3.5.

Table 3.5 Number of steps permitted below desirable minimum - stopping sight distance

Road type	Design speed band	Permitted relaxation
Motorways	Band A	1 step
Motorways	Band B	2 steps
All-purpose	Band A	2 steps
All-purpose	Band B	3 steps

- 3.6 Further relaxations to those shown in Table 3.5 shall be permitted as follows:
- 1) for all band A roads where the stopping sight distance is reduced by features such as bridge piers, bridge abutments, communications equipment, lighting columns, supports for gantries and traffic signs in the verge or central reserve which form momentary obstructions greater than 550mm in width / length, the scope for relaxations can be extended by 1 design speed step;
 - 2) long bridge parapets or safety fences or safety barriers on horizontal curves can obscure stopping sight distance to the 0.26 metre object height, although the appropriate sight distance to the tops of other vehicles, represented by the 1.05 metre object height, can be obtained above the parapet or safety fence or safety barrier. For band A roads where the appropriate stopping sight distance to the high object is available in this way, the scope for relaxation of stopping sight distance for sight lines passing in front of the obstruction to the 0.26 metre object height can be extended by 1 design speed step;
 - 3) at or near the top of up gradients on single carriageways steeper than 4% and longer than 1.5 km, the scope for relaxation can be extended by 1 step due to reduced speeds uphill.

- 3.7 The permitted relaxations identified in Table 3.5 shall be reduced by 1 design speed step:
- 1) on and immediately following long grades on dual carriageways steeper than 3% and longer than 1.5km;
 - 2) immediately following an overtaking section on single carriageway roads.

4. Horizontal alignment

Road camber and superelevation

4.1 On horizontal curves, with radii less than shown in Table 2.10 (Minimum R with adverse camber and without transitions), (i.e. $V^2/R > 5$) but greater or equal to radii shown in Table 2.10 (Minimum R* with superelevation of 2.5%), 2.5% superelevation falling towards the inside of the curve shall be provided.

4.1.1 On sections of road with radii greater than shown in Table 2.10 (Minimum R with adverse camber and without transitions), (i.e. $V^2/R < 5$), the crossfall or camber should be 2.5% falling from the centre of single carriageways, or the central reserve of dual carriageways, to the outer channels.

NOTE 1 Document CG 501 [Ref 1.] provides further advice on the design of crossfall for highway drainage.

NOTE 2 It can be necessary to eliminate adverse camber on larger radii for drainage reasons.

4.2 For curves with radii less than those shown in Table 2.10 (Minimum R with superelevation of 2.5%), (i.e. $V^2/r > 7$) superelevation shall be provided in accordance with Equation 4.2 subject to maximum values for rural and urban roads.

Equation 4.2 Superelevation

$$S = \frac{V^2}{2.828R}$$

where:

V	Design speed (kph)
R	Radius (metres)
S	Superelevation (%)

4.3 In rural areas superelevation shall not exceed 7% except on:

- 1) existing roads, or
- 2) connector road loops (see CD 122 [Ref 3.N]).

4.4 In urban areas the maximum superelevation shall be 5%.

NOTE The maximum superelevation in urban areas is influenced by the need to accommodate at-grade junctions and accesses.

Relaxations

4.5 Except for the restrictions to relaxations noted in Section 2 (Relaxations) of this document and in the clauses below, relaxations to the desirable minimum horizontal alignment requirements shall be permitted as identified in Table 4.5.

Table 4.5 Number of steps permitted below desirable minimum - horizontal alignment

Road type	Design speed band	Permitted relaxation
Motorways	Band A	2 steps
Motorways	Band B	3 steps
All-purpose	Band A	3 steps
All-purpose	Band B	4 steps

4.6 Further relaxations of 1 design speed step from those shown in Table 4.5 shall be permitted for band B roads at, and immediately before the top of up gradients on single carriageways steeper than 4% and longer than 1.5 km.

NOTE *At locations immediately before the top of gradients the scope for relaxations can be extended due to reduced speeds uphill.*

4.7 The permitted relaxations identified in Table 4.5 shall be reduced by 1 design speed step for band B roads:

- 1) on, and immediately following long grades on dual carriageways steeper than 3% and longer than 1.5km;
- 2) immediately following an overtaking section on single carriageway roads.

NOTE *At locations following long grades on dual carriageways and following overtaking sections on single carriageways the scope for relaxations is reduced due to the potential for increased vehicle speeds.*

Application of superelevation

4.8 Superelevation shall not be introduced, nor adverse camber removed, so gradually as to create large flat areas of carriageway, nor so sharply as to cause road user discomfort due to the change in carriageway profile.

NOTE *Progressive superelevation or removal of adverse camber can be achieved over the length of the transition curve, from the arc end, where transitions are provided.*

4.8.1 The carriageway edge profile should not vary in grade by more than 1% from the line about which the carriageway is pivoted.

4.8.2 On motorways, a smoother edge profile should be provided by reducing the variation in grade of the edge profile to a maximum of 0.5% where practicable, i.e. where local drainage conditions permit.

4.8.3 A minimum longitudinal gradient of at least 0.5% should be maintained wherever superelevation is to be applied or reversed.

NOTE 1 *In some locations the application of superelevation can lead to drainage problems, options for mitigating against potential drainage problems can include:*

- 1) *modifying the horizontal alignment to move the superelevation area,*
- 2) *increasing the variation in grade of the edge profile, or*
- 3) *applying a rolling crown.*

NOTE 2 *Situations where the superelevation can lead to drainage problems include locations where the superelevation is applied against the longitudinal gradient.*

4.9 For improvements to existing roads without transitions, between half and two thirds of the superelevation shall be introduced on the approach straight with the remainder provided at the beginning of the curve.

Widening on curves

4.10 For carriageways of standard width as defined in CD 127 [Ref 1.N], an increase of 0.3 metre per lane shall be provided when the horizontal radius is greater than 90 metres but below 150 metres.

NOTE *Two lane roads of width greater than 7.9 metres require no additional lane widening when the horizontal radius is greater than 90 metres but below 150 metres.*

4.11 For carriageways less than the standard widths as defined in CD 127 [Ref 1.N], widening shall be:

- 1) 0.6 metres per lane where the radius is greater than 90 metres but below 150 metres subject to maximum carriageway widths of 7.9 metres, 11.9 metres and 15.8 metres (for 2, 3 and 4 lanes carriageways respectively);
- 2) 0.5 metres per lane where the radius is between 150 metres and 300 metres, subject to a maximum width not being greater than the standard lane widths in CD 127 [Ref 1.N];
- 3) 0.3 metres per lane, where the radius is between 300 metres and 400 metres subject to a maximum width not greater than the standard lane widths in CD 127 [Ref 1.N].

NOTE 1 Widening of curves on links, including where the mainline passes through junctions, need to be provided for carriageways of less than standard width and for low radius curves of standard width.

NOTE 2 Widening on curves is provided to allow for the swept path of long vehicles.

4.11.1 Where curve widening is applied, the extra lane width should be applied uniformly along the transition curve where a transition curve is provided.

4.11.2 Where curve widening is applied as an improvement to an existing curve, the widening should be applied on the inside of the curve.

Transitions

4.12 Transition curves shall be provided on curves with radii less than shown in Table 2.10 (minimum R with adverse camber and without transitions).

NOTE The calculation of transition curves is a two-step process where firstly the length of basic transition is calculated using Equation 4.13 then the results of this calculation are compared with a further calculation using $\sqrt{(24R)}$.

Length of curve:

4.13 The length of basic transition curves shall be derived from the formula:

Equation 4.13 Calculation of basic transition length

$$L = \frac{V^3}{46.7qR}$$

where:

L = Length of basic transition (metres)

V = Design speed (kph)

q = Rate of increase of centripetal acceleration (metres / sec³) travelling along curve at constant speed V (kph)

R = Radius of curve (metres)

4.14 The value of q used in the basic transition length calculation shall not exceed 0.6 metres / sec³.

4.14.1 The value of q used in the basic transition length calculation should not exceed 0.3 metres / sec³.

4.15 Where the results of the calculation of basic transition length gives a value less than $\sqrt{(24R)}$ metres, the basic transition length calculated by the formula shall be used.

4.15.1 Where the results of the calculation of basic transition length gives a value greater than $\sqrt{(24R)}$ metres, the $\sqrt{(24R)}$ metres value should be used.

NOTE 1 Where a transition length of $\sqrt{(24R)}$ is used this can result in a transition curve with a q value greater than 0.6 metres / sec³.

NOTE 2 The use of transition lengths in excess of $\sqrt{(24R)}$ metres can create flat areas of carriageway resulting in drainage issues.

4.15.2 Where the basic transition appropriate to the design speed results in insufficient transition length to accommodate superelevation turnover, longer transitions to match the superelevation design should be provided.

5. Vertical alignment

Gradients

5.1 Longitudinal gradients of links shall not exceed the permitted relaxation values given in Table 5.1.

Table 5.1 Desirable maximum and permitted relaxations to gradients

	Desirable maximum	Permitted relaxations
Motorways	3%	4%
All-purpose dual carriageways	4%	8%
All-purpose single carriageways	6%	8%

5.1.1 Wherever practicable desirable maximum values for longitudinal gradients of links should not be exceeded.

NOTE Climbing lanes (see Sections 7 and 8 of this document) can be appropriate for gradients above 2% on single carriageway and for gradients of 3% and above on dual carriageways.

Minimum gradient

5.2 On kerbed roads with a minimum gradient of 0.5% the drainage path shall be provided by false channel paths.

5.2.1 In flatter areas, the vertical alignment should not be manipulated by the introduction of vertical curvature simply to achieve the required surface water drainage gradients.

NOTE The creation of false channel paths involves providing a drainage path steeper than the adjacent road surface gradient. Methods of achieving this can include providing kerb units with integral drainage channels.

5.2.2 The desirable minimum gradient for a kerbed road should be 0.5% to enable effective drainage.

5.2.3 Where kerbs are inappropriate, false channel paths may be avoided by using over-edge drainage.

Vertical curves

General

5.3 Vertical curves shall be provided at all changes in gradient.

NOTE The use of permitted vertical curve parameters normally results in compliance with the visibility requirements; however, the horizontal alignment of the road, the presence of crossfall, superelevation or verge treatment and features such as signs, vehicle restraint systems and structures adjacent to the carriageway can affect the interaction between vertical curvature and visibility. Therefore stopping sight distance still needs to be checked.

Crest curves

5.4 The lengths of vertical crest curves shall be determined by multiplying the K values shown in Table 2.10 by the algebraic change of gradient expressed as a percentage.

NOTE 1 As an example, the length of crest curve connecting a gradient of +3% with a gradient of -2% on a road with a design speed of 120kph would be calculated in the following way. The difference between the +3% gradient and the -2% gradient creates a total grade change of 5%. For a design speed of 120 kph, the desirable minimum K value obtained from Table 2.10 is 182. Multiplying the grade change by the K value (5 x 182) gives a vertical crest curve length of 910 metres.

NOTE 2 There are two factors that affect the choice of crest curvature: these are visibility and comfort. The crest in the road can restrict forward visibility to the desirable minimum stopping sight distance before driver comfort is affected.

Sag curves

5.5 The lengths of vertical sag curves shall be determined by multiplying the K values shown in Table 2.10 by the algebraic change of gradient expressed as a percentage.

NOTE 1 As an example, the length of sag curve connecting a gradient of +3% with a gradient of -2% on a road with a design speed of 120kph would be calculated in the following way. The difference between the +3% gradient and the -2% gradient creates a total grade change of 5%. For a design speed of 120 kph, the desirable minimum K value obtained from Table 2.10 is 37. Multiplying the grade change by the K value (5 x 37) gives a vertical sag curve length of 185 metres.

NOTE 2 The provision of sag curves based on desirable minimum K values does not usually result in obstruction to stopping sight distance (unless overbridges, signs or other features are present). Road user comfort is usually affected before desirable minimum stopping sight distance is impacted.

Relaxations

Crest curves

5.6 Except for the restrictions to relaxations noted in Section 2 (Relaxations) of this document and in the clauses below, relaxations to the desirable minimum crest curve requirements shall be permitted as identified in Table 5.7.

5.7 Further relaxations to those shown in Table 5.7 shall be permitted as follows:

- 1) on, and immediately following the top of up gradients on single carriageways steeper than 4% and longer than 1.5 km, the scope for relaxations can be extended by 1 step due to reduced speeds uphill;
- 2) for band A roads when the crest curve is within a straight section the scope for relaxations can be extended by 1 design speed step.

Table 5.7 Number of steps permitted below desirable minimum - crest curves

Road type	Design speed band	Permitted relaxation
Motorways	Band A	1 step
Motorways	Band B	2 steps
All-purpose	Band A	2 steps
All-purpose	Band B	3 steps

5.8 The permitted relaxations identified in Table 5.7 shall be reduced by 1 design speed step immediately following an overtaking section on single carriageway roads.

Sag curves

5.9 Except for the restrictions to relaxations noted in Section 2 (Relaxations) of this document and in the clauses below, relaxations to the desirable minimum sag curve requirements shall be permitted as identified in Table 5.9.

Table 5.9 Number of steps permitted below desirable minimum - sag curves

Road Type	Permitted relaxation
Motorways	None
All-purpose 50B, 60B, and 70B	2 steps
All-purpose all others	1 step

5.10 The permitted relaxations identified in Table 5.9 shall be extended by 1 design speed step for design speeds of 70kph and less where the road is illuminated.

- 5.11 The permitted relaxations identified in Table 5.9 shall be reduced by 1 design speed step for roads in design speed bands 50B, 60B and 70B immediately following an overtaking section on single carriageway roads.

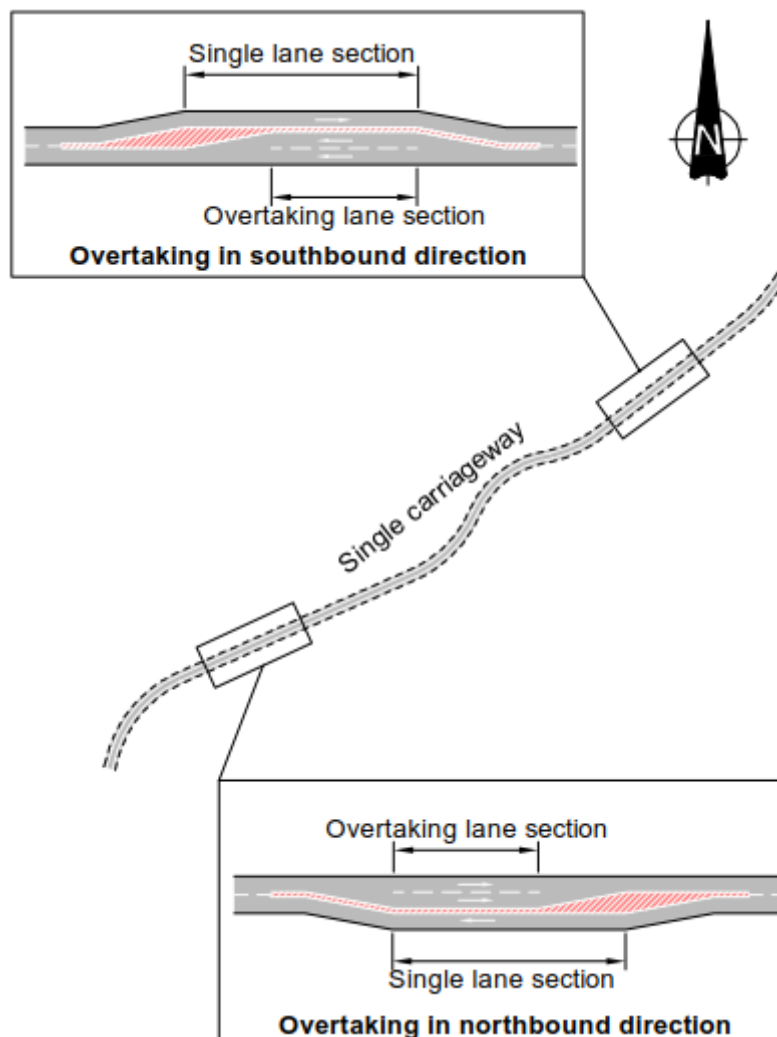
6. Wide single 2+1 roads

Design principles

- 6.1 Wide single 2+1 (WS2+1) roads shall only apply to rural all-purpose single carriageway roads.
- 6.1.1 WS2+1 roads should only be used for routes with a traffic flow of up to 25,000 vehicles annual average daily traffic (AADT).
- 6.1.2 Factors such as the number of accesses, junction spacing, grade separation and gradient can have a significant impact on the design of a WS2+1 road, therefore reference should be made to CD 123 [Ref 2.N] and Section 5 of this document.
- 6.1.3 Individual sections of WS2+1 road providing overtaking opportunities in one direction (i.e. without changeovers) may be introduced within standard single carriageway roads or wide single roads.
- 6.1.4 Where individual sections of WS2+1 are provided, overtaking opportunities should also be available in the opposite direction as part of a route strategy, see Section 9 of this document.

NOTE *Overtaking opportunities can be achieved by the provision of additional WS2+1 sections in close proximity, as illustrated in Figure 6.1.4N.*

Figure 6.1.4N Individual sections of WS2+1 road providing overtaking opportunities in one direction



- 6.2 For existing single carriageway roads converted to WS2+1, where desirable minimum stopping sight

distance is available, the provision of section C curves shall be permitted.

NOTE The horizontal and vertical alignment design parameters for single carriageway roads, given in this document, apply to the design of WS2+1 roads.

6.3 Direct interfaces between WS2+1 roads and dual carriageways shall not be permitted unless the interface occurs at a roundabout.

6.4 Where a roundabout does not provide a direct interface between a WS2+1 road and a dual carriageway, a 2km section of single carriageway shall be provided between the WS2+1 layout and the dual carriageway section.

NOTE 1 Overtaking lane sections can start directly at the exit from the roundabout.

NOTE 2 Where there is a need to provide overtaking opportunities on a single carriageway road at an isolated uphill gradient of greater than 2% and longer than 500 metres, Section 7 of this document provides requirements and advice for providing climbing lanes.

Geometric standards

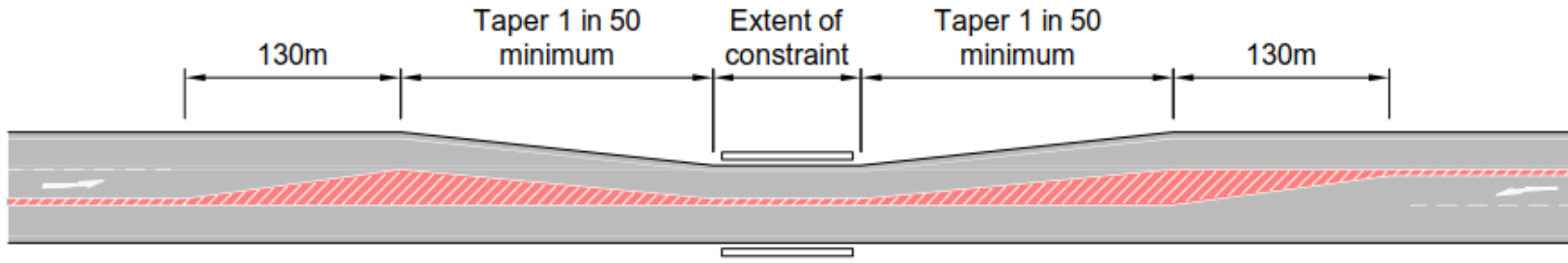
Cross-section

6.5 On sections of WS2+1 between junctions, the crown of the road shall be located within the double white lines and not within traffic lanes.

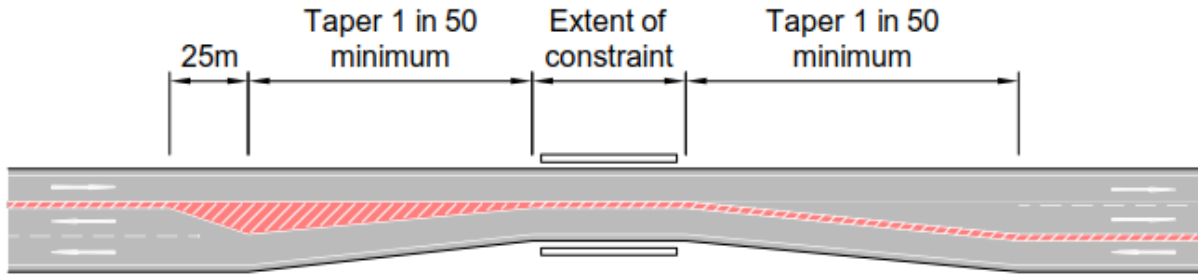
NOTE For requirements and advice for cross-sectional elements of WS2+1 roads see CD 127 [Ref 1.N].

6.5.1 When improving existing roads at restricted locations, the cross-section may be reduced by the use of a changeover to omit the overtaking lane as shown in Figure 6.5.1.

Figure 6.5.1 Removal of overtaking lanes at restricted locations



a) Conflicting changeover



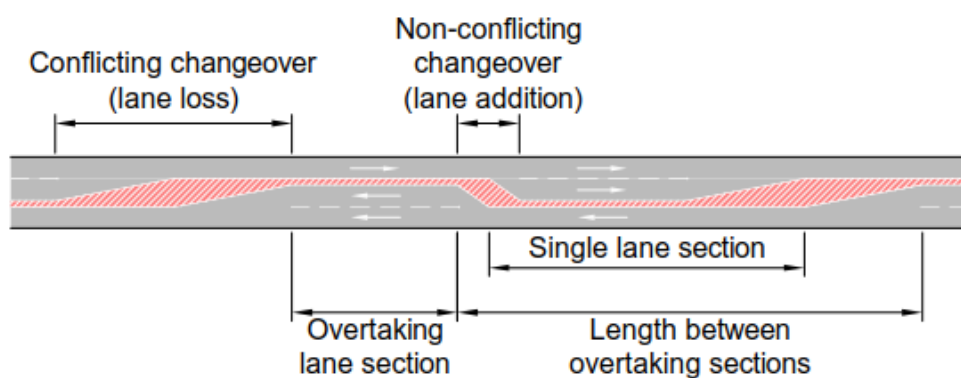
b) Non-conflicting changeover

- 6.5.2 Where a changeover is provided to remove the overtaking lane at a constrained location, the double white line system should be continued through the restricted location as illustrated in Figure 6.5.1.

Lengths of overtaking lane sections

- 6.6 The minimum length of an overtaking lane section shall be 800 metres (see Figure 6.1.4N and Figure 6.7).
- 6.7 The maximum length of an overtaking lane section shall be 1500 metres.

Figure 6.7 Typical layout of a WS2+1 road with changeover

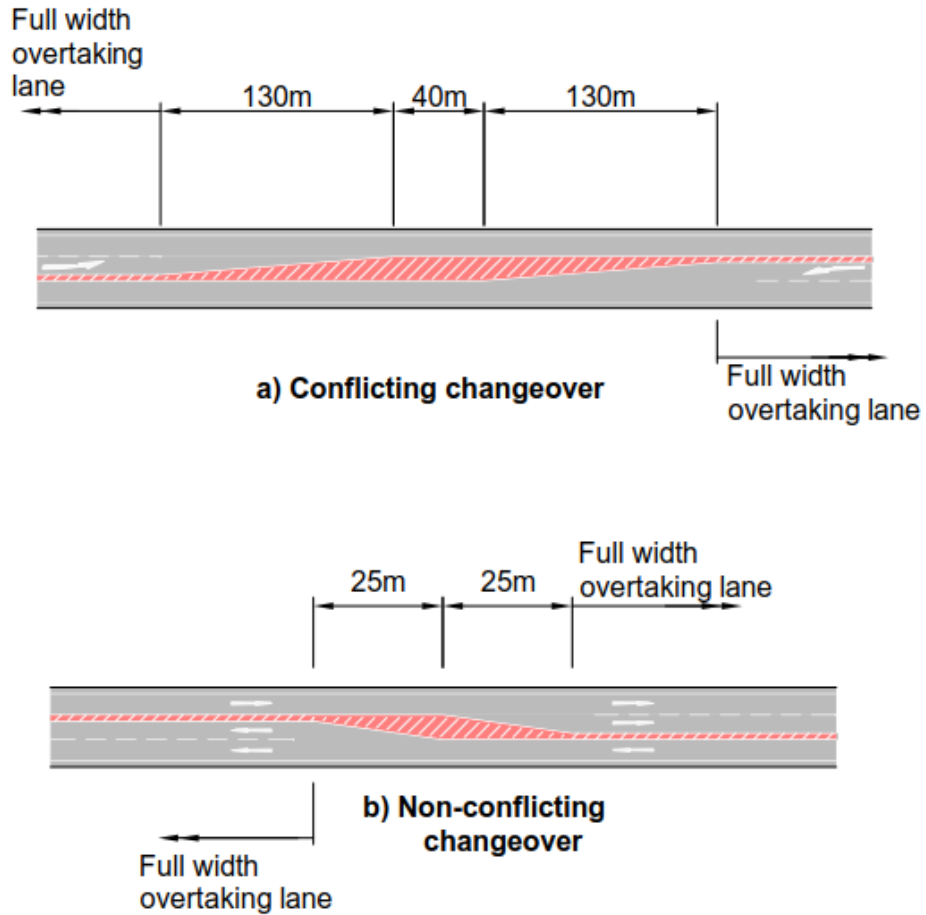


NOTE Overtaking lane sections between 800 metres and 1500 metres in length provide sufficient length to disperse platoons of traffic but are not so long as to cause frustration for drivers in the single lane section.

Changeovers

- 6.8 Where changeovers are remote from junctions they shall be in accordance with the layouts shown in Figure 6.8.

Figure 6.8 Dimension of changeovers



NOTE Details of layouts where junctions are incorporated in changeovers are given in CD 123 [Ref 2.N].

6.9 Conflicting changeovers shall not be located where the curve radius falls within section C or below of Figure 9.24N2 (see Section 9 of this document).

6.10 At least desirable minimum stopping sight distance shall be provided on the immediate approach to and through all changeovers.

NOTE For the purposes of this document, the immediate approach to a changeover is the length of carriageway from a point 1.5 times the desirable minimum stopping sight distance upstream of the start of the changeover taper through the changeover to a point where the cross-section returns to the standard WS 2+1 layout (as defined in CD 127 [Ref 1.N]).

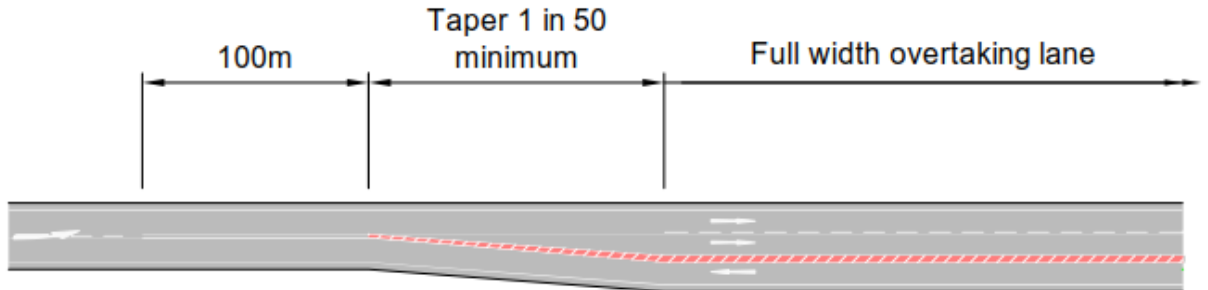
WS2+1 interfaces

6.11 WS2+1 interfaces shall not coincide with horizontal curves less than the required desirable minimum radius for the link as identified in Section 2 of this document.

6.11.1 Where a WS2+1 carriageway terminates, the same standards of horizontal and vertical alignment and visibility that apply to the WS2+1 road as defined in Sections 2 to 5 of this document should be applied to the length of two lane single carriageway road within 1.5 times desirable minimum stopping sight distance of the WS2+1 interface.

6.11.2 The layout at the start of a section of WS2+1 road should be designed by widening to the right-hand side (from the perspective of traffic entering the WS 2+1 overtaking section), as shown in Figure 6.11.2.

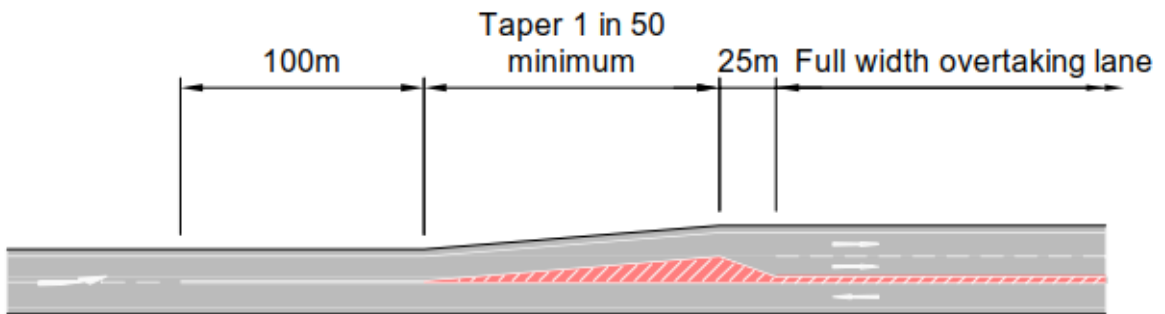
Figure 6.11.2 WS2+1 start of overtaking lane section with widening on right-hand side



NOTE *The widening of the nearside channel to the right-hand side encourages drivers to maintain their position on the nearside.*

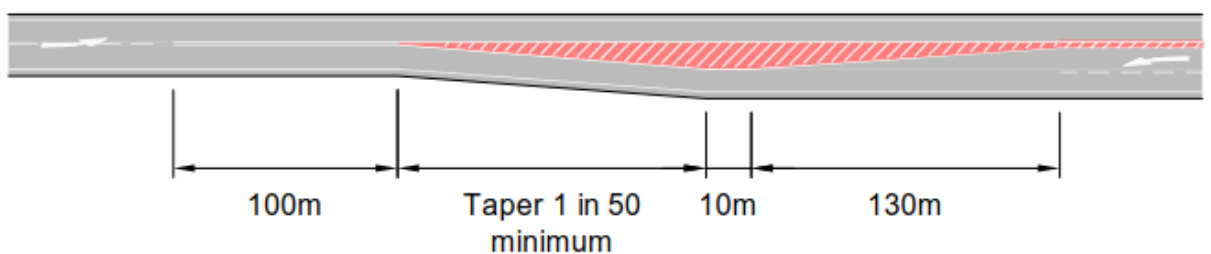
6.11.3 Where physical constraints necessitate widening to the left-hand side (from the perspective of traffic entering the WS 2+1 overtaking section), the layout should guide traffic into the left hand lane, as shown in Figure 6.11.3.

Figure 6.11.3 WS2+1 start of overtaking lane section with widening on left-hand side



6.11.4 The layout for a WS2+1 interface where the WS2+1 road ends at a single lane section should be as shown in Figure 6.11.4.

Figure 6.11.4 WS2+1 end of overtaking lane section



Traffic signs and road markings

6.12 Traffic signs to TSRGD 2016 [Ref 6.N] diagram 521 (schedule 2, part 2, item 16), prescribed to indicate the resumption of two-way traffic at the end of a dual carriageway road, shall not be used.

6.12.1 Traffic signs and road markings that should be used on WS2+1 roads are shown in Figure 6.12.1a to 6.12.1d.

Figure 6.12.1a Traffic signs and road markings at WS2+1 interface (commencing on single lane section)

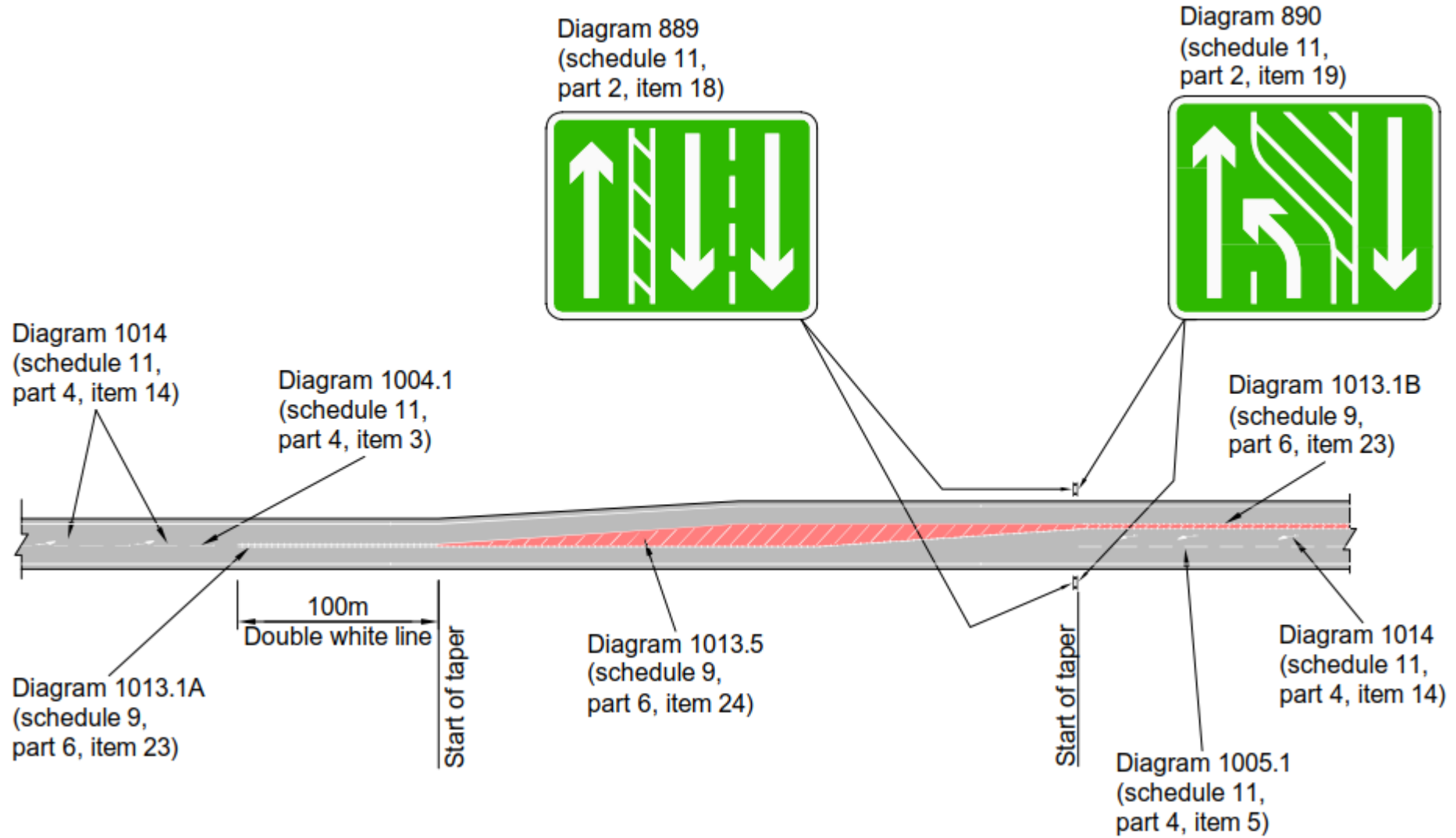


Figure 6.12.1b Traffic signs and road markings at WS2+1 interface (commencing on overtaking lane section)

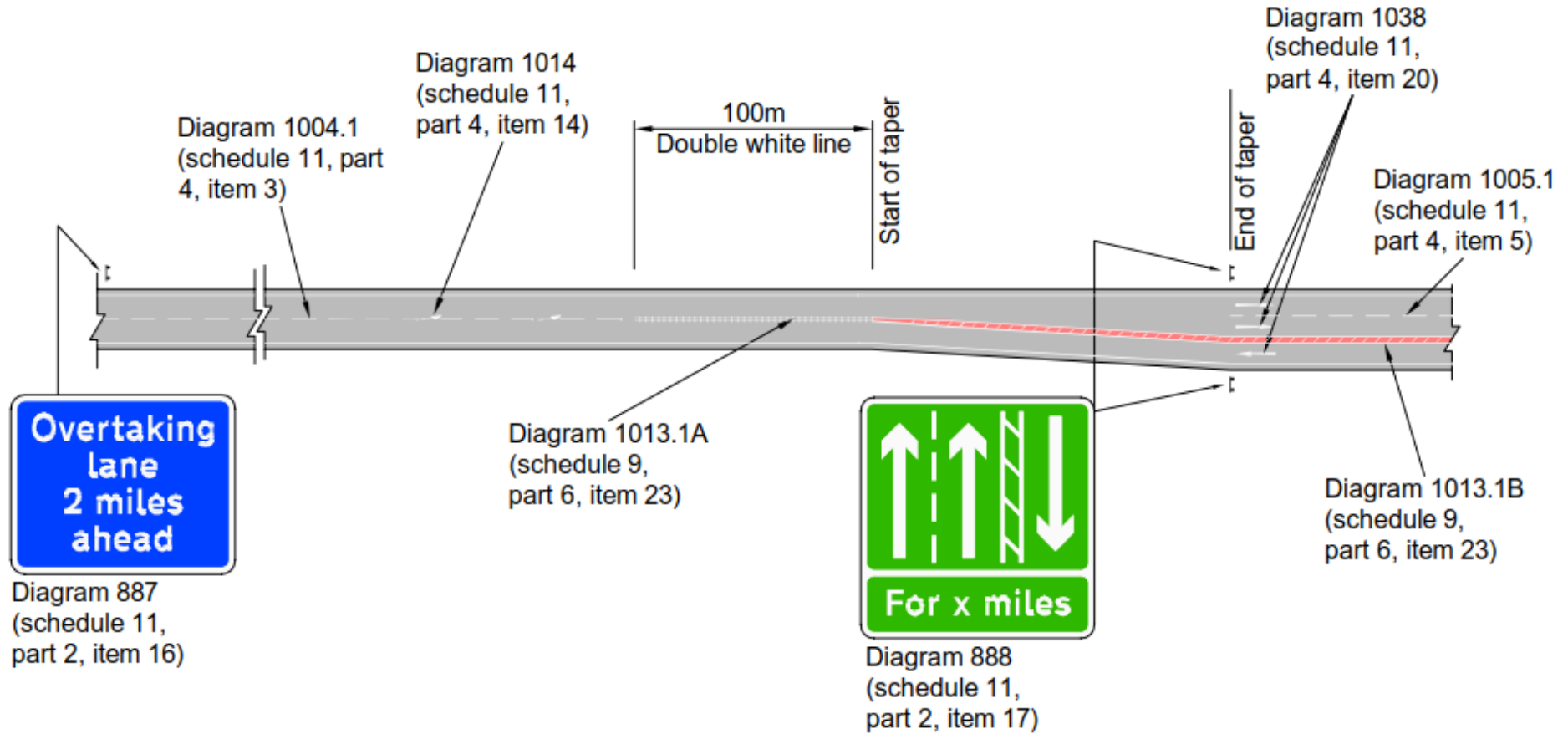


Figure 6.12.1c Traffic signs and road markings at a conflicting changeover

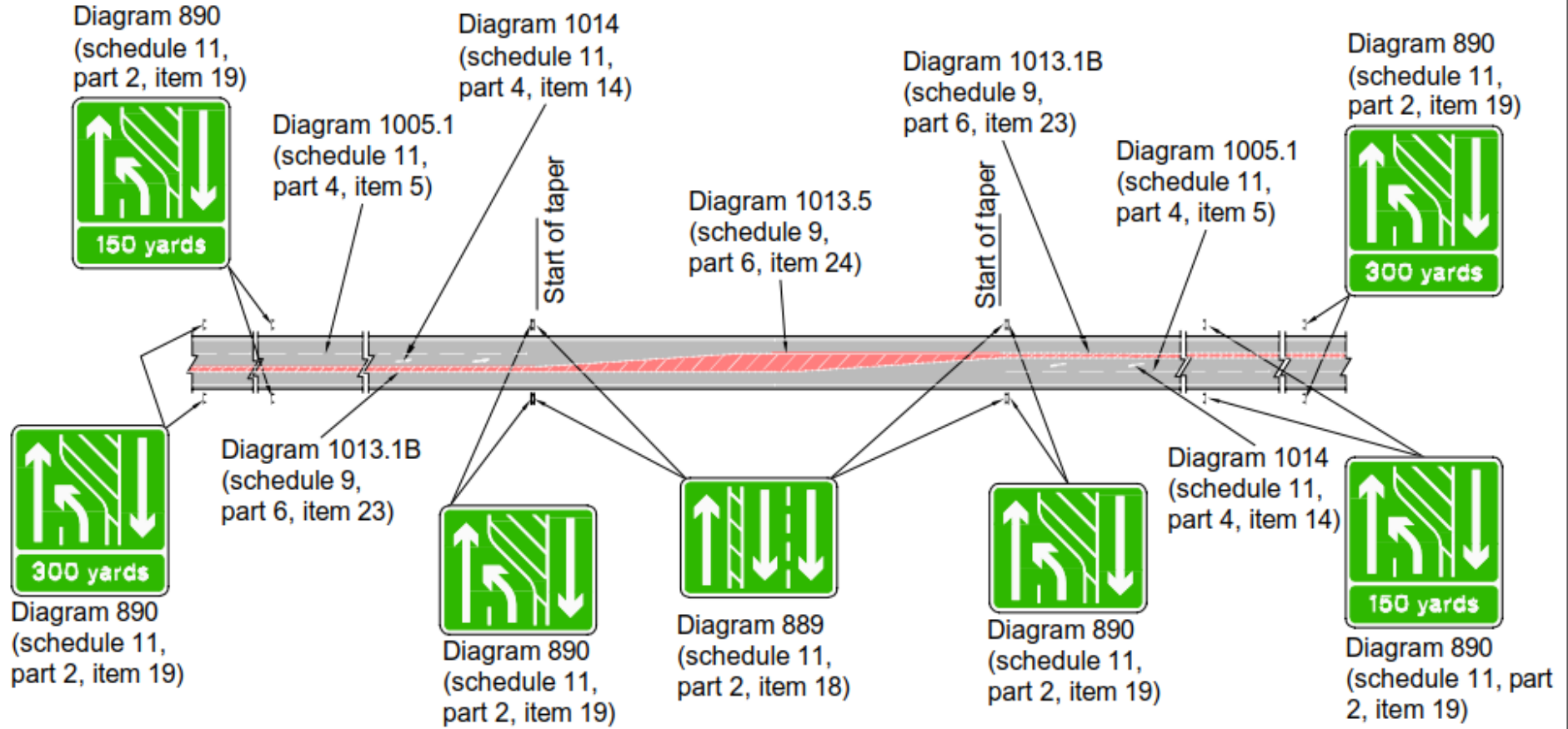
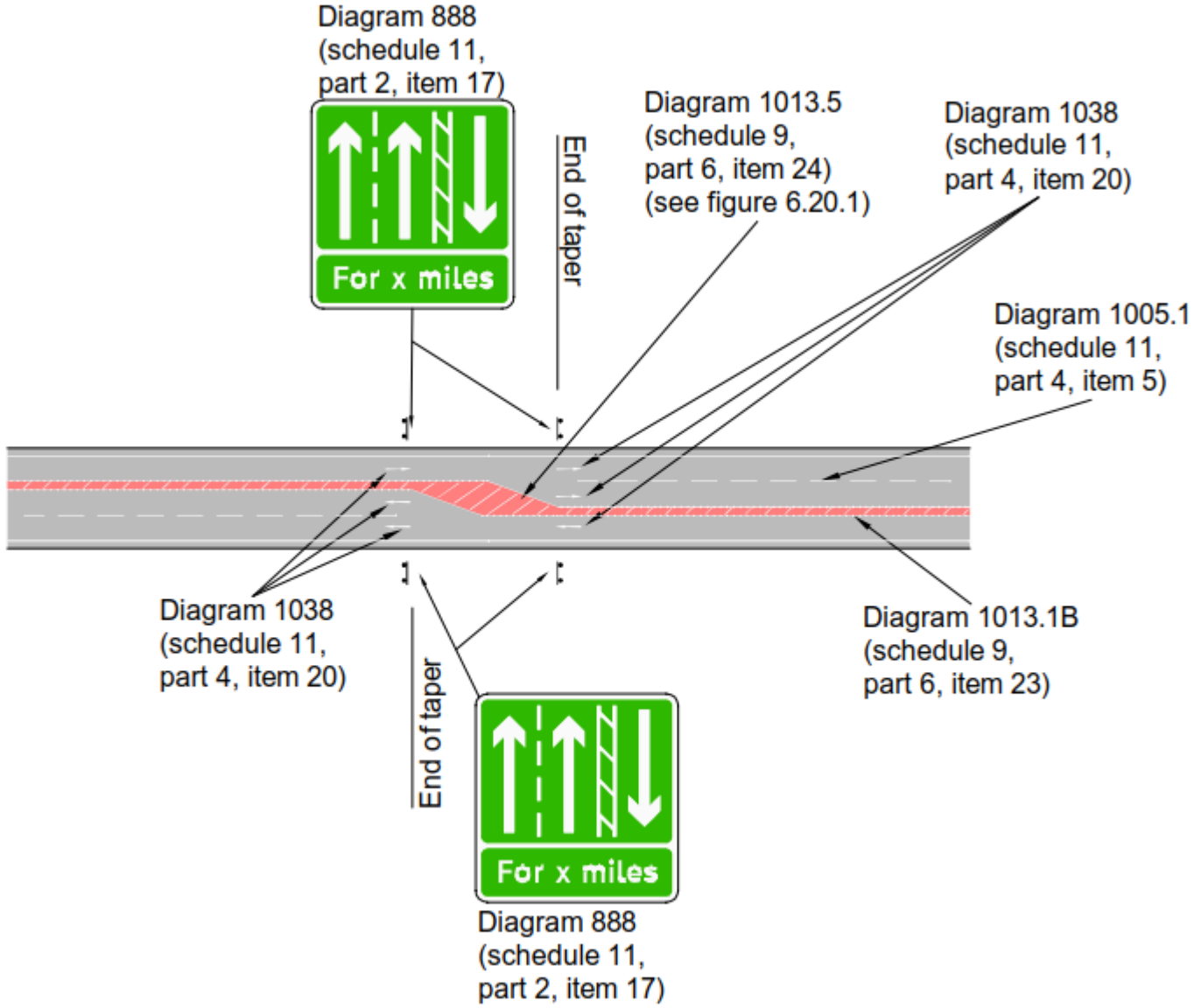


Figure 6.12.1d Traffic signs and road markings at a non-conflicting changeover



- NOTE 1* Diagram numbers shown in Figures 6.12.1a to 6.12.1d refer to TSRGD 2016 [Ref 6.N].
- NOTE 2* Arrow road markings to TSRGD 2016 [Ref 6.N] diagram 1014 (schedule 11, part 4, item 14) are to be placed in accordance with the TSM Chapter 5 [Ref 9.N].
- NOTE 3* Road studs are to be placed in accordance with TSRGD 2016 [Ref 6.N] and TSM Chapter 5 [Ref 9.N].
- NOTE 4* See TSM Chapter 4 [Ref 8.N] for distance information on informatory traffic signs.
- 6.12.2 Advance information up to a distance of two miles prior to the start of the overtaking lane section may be given by the use of the signs shown in Figure 6.12.1b.
- NOTE* Traffic signs as shown in Figure 6.12.1b can reduce frustration and encourage drivers to delay overtaking until the overtaking lane section is reached.
- 6.12.3 Traffic signs as shown in Figure 6.12.1a should be used at the WS2+1 interface.
- NOTE* At priority junctions, traffic signs and road markings are such that drivers do not confuse the right turning lane with the start of an overtaking lane section.
- 6.13 The double white line road marking system separating the directions of flow on a WS2+1 road shall be to TSRGD 2016 [Ref 6.N] diagram 1013.1B (schedule 9, part 6, item 23).
- 6.14 The width of the road marking to TSRGD 2016 [Ref 6.N] diagram 1013.1B (schedule 9, part 6, item 23) shall be 1.0 metre including white lines.
- 6.15 Road marking to TSRGD 2016 [Ref 6.N] diagram 1013.1B (schedule 9, part 6, item 23) shall incorporate differential coloured surfacing.
- 6.16 The white line for the TSRGD 2016 [Ref 6.N] diagram 1013.1B (schedule 9, part 6, item 23) shall be 150mm wide.
- 6.17 At changeovers, interfaces and junctions, the road marking to TSRGD 2016 [Ref 6.N] diagram 1013.1B (schedule 9, part 6, item 23) shall change to the wider road marking to TSRGD 2016 [Ref 6.N] diagram 1013.5 (schedule 9, part 6, item 24) as shown in Figures 6.12.1a to 6.12.1d and 6.17.1.
- 6.17.1 Road markings to TSRGD 2016 [Ref 6.N] diagram 1013.1B (schedule 9, part 6, item 23) and 1013.5 (schedule 9, part 6, item 24) should be fitted with studs in pairs, within the width of each of the two lines, as shown in Figure 6.17.1 (also see TSM Chapter 5 [Ref 9.N]).

Figure 6.17.1 Interface between TSRGD diagram 1013.1B (shedule 9, part 6, item 23) and 1013.5 (shedule 9, part 6, item 24)



NOTE 1 Diagram numbers shown in Figure 6.17.1 refer to TSRGD 2016 [Ref 6.N].

NOTE 2 Road studs are to be placed in accordance with TSRGD 2016 [Ref 6.N] and TSM Chapter 5 [Ref 9.N].

6.17.2 The studs used in the road markings should be uni-directional so that only reflectors on the line of studs adjacent to the road users direction of travel face the road user.

7. Climbing lanes - single carriageways

Introduction

7.1 Where there is a need to provide overtaking opportunities on a single carriageway road at an isolated uphill gradient of greater than 2% and longer than 500 metres, the overtaking section shall be designed as a climbing lane.

7.2 This section shall be used for the design of climbing lanes on single carriageway all-purpose road schemes including improvements to the existing all-purpose trunk road network.

NOTE 1 For the widths of cross-sectional elements of single carriageway climbing lanes see CD 127 [Ref 1.N].

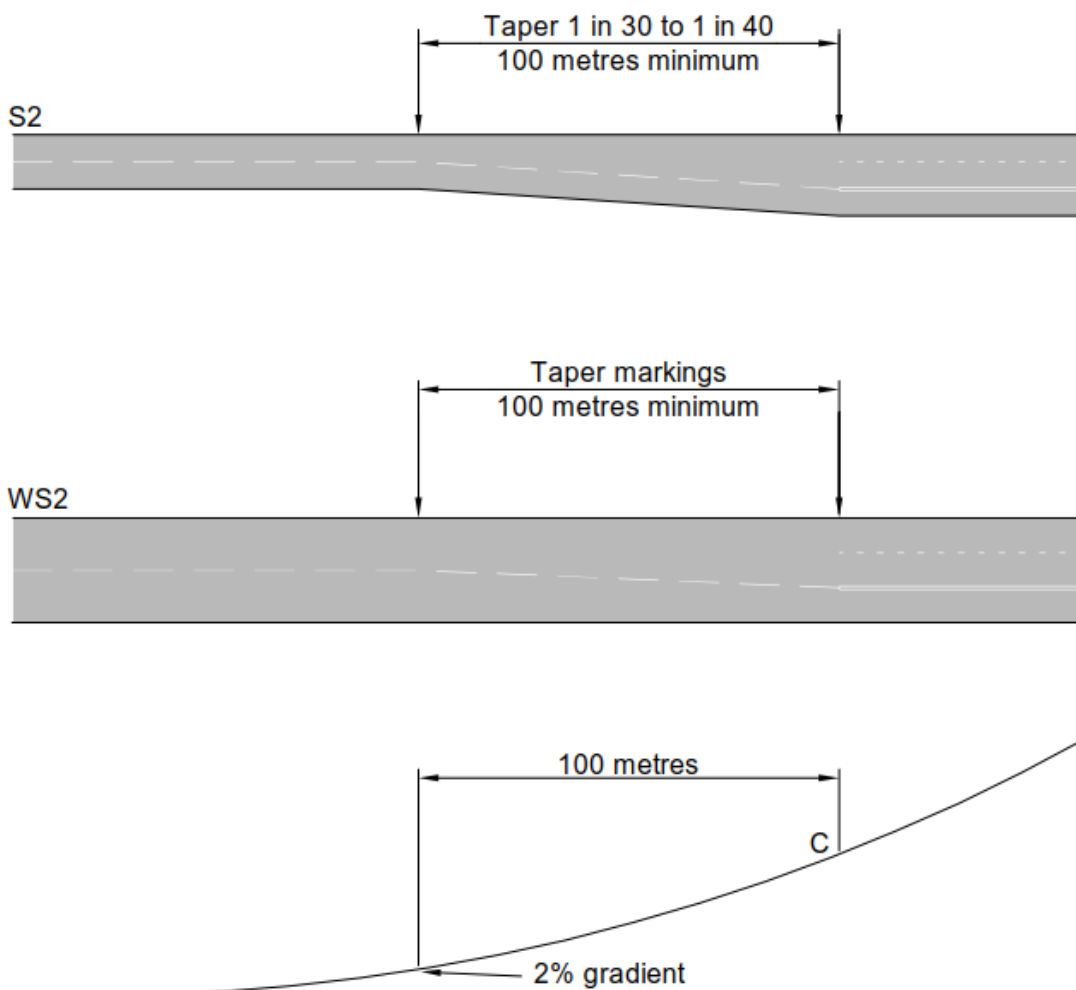
NOTE 2 For details of the layout of junctions on climbing lanes see CD 123 [Ref 2.N].

Layout

Layout at the start of a climbing lane

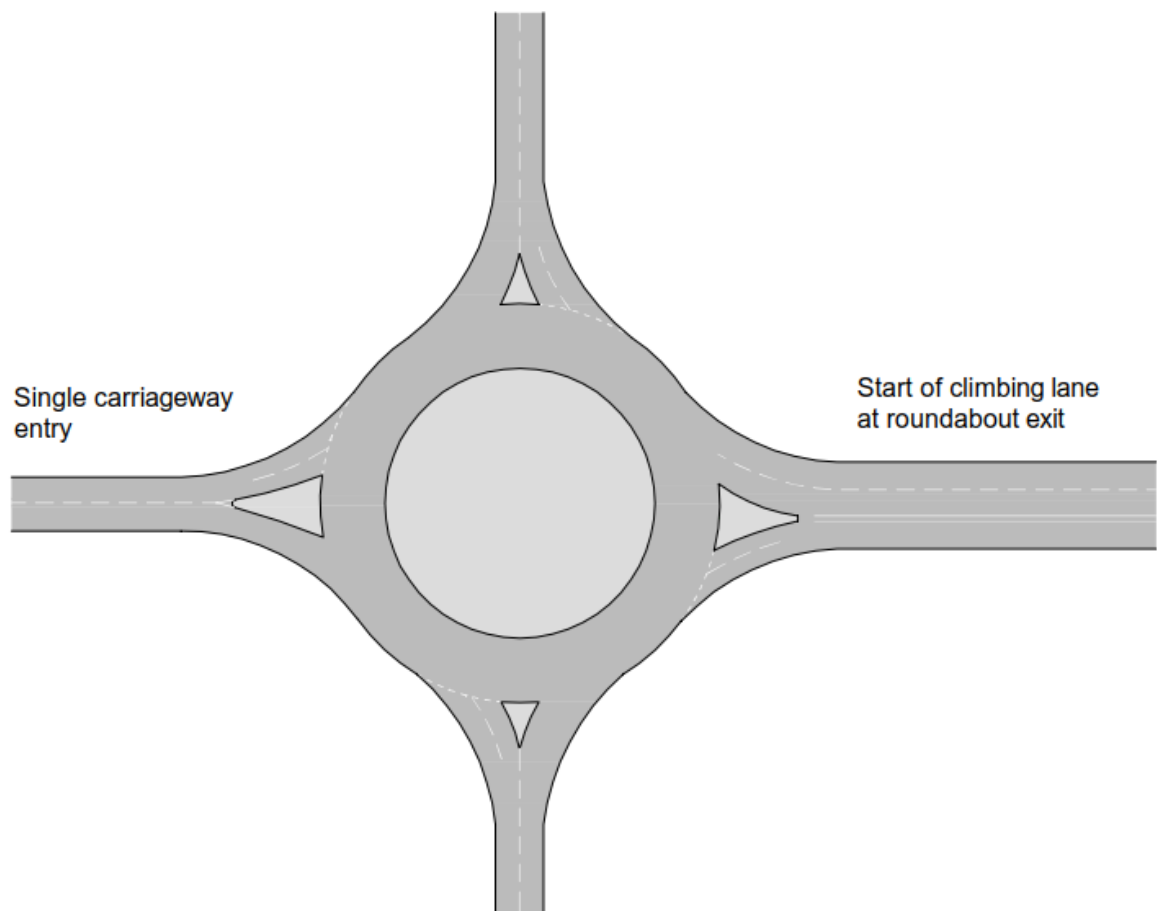
7.3 The full width of a climbing lane shall be provided at a point C, 100 metres uphill from the 2% point of sag curve, as shown in Figure 7.3.

Figure 7.3 Layout at the start of climbing lanes



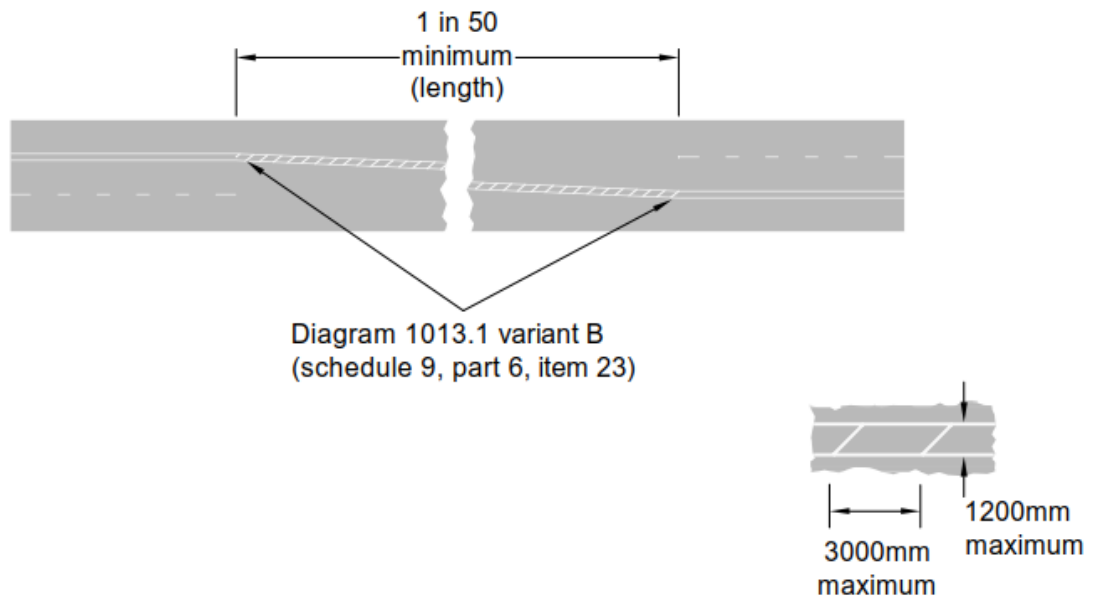
- 7.4 The full width of the climbing lane shall be preceded by a taper of between 1 in 30 and 1 in 40, as shown in Figure 7.3.
- 7.4.1 The alignment at the commencement of the climbing lane should encourage drivers to follow the nearside channel unless overtaking.
- 7.4.2 The taper should provide a smooth transition, by utilising the road curvature to develop the extra width, wherever practicable.
- 7.4.3 Climbing lanes may also commence directly from the exit lane of a roundabout where the geometry does not allow the use of conventional taper layout, as shown in Figure 7.4.3.

Figure 7.4.3 Climbing lane starts at roundabout exit - single carriageway



- 7.4.4 Where there are climbing lanes at both ends of a sag curve, and conditions can lead to a conventional 2 lane road layout between tapers which is less than 500 metres in length, the intervening carriageway paved width should be maintained at the same width as the climbing lanes section and road markings provided as shown in Figure 7.4.4.

Figure 7.4.4 Road markings at sags between climbing lanes

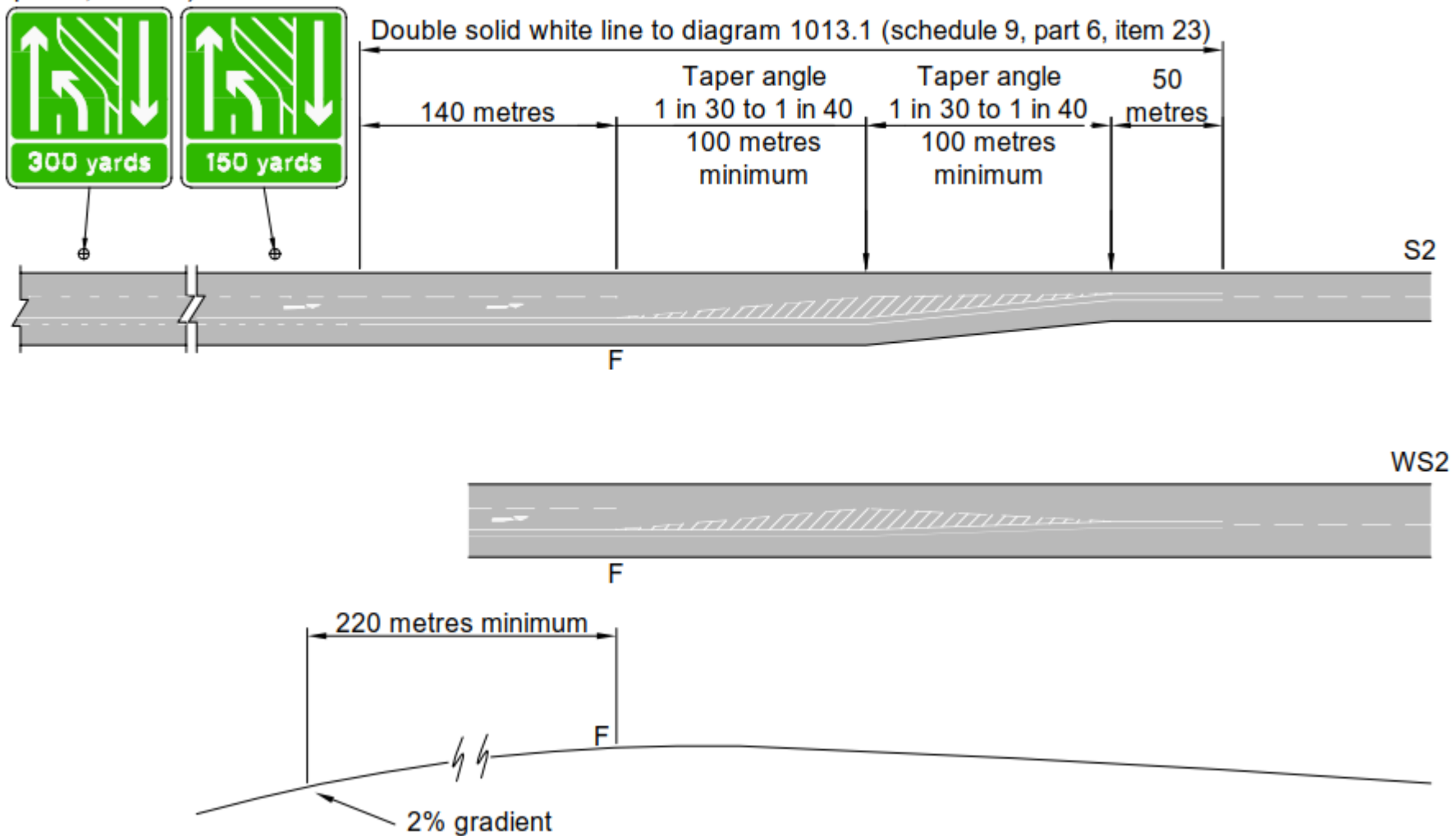


Layout at the end of climbing lane

7.5 The full width of the climbing lane shall be maintained up or down the gradient to a point F, at least 220 metres beyond the end of the 2% point of the crest curve as shown in Figure 7.5.

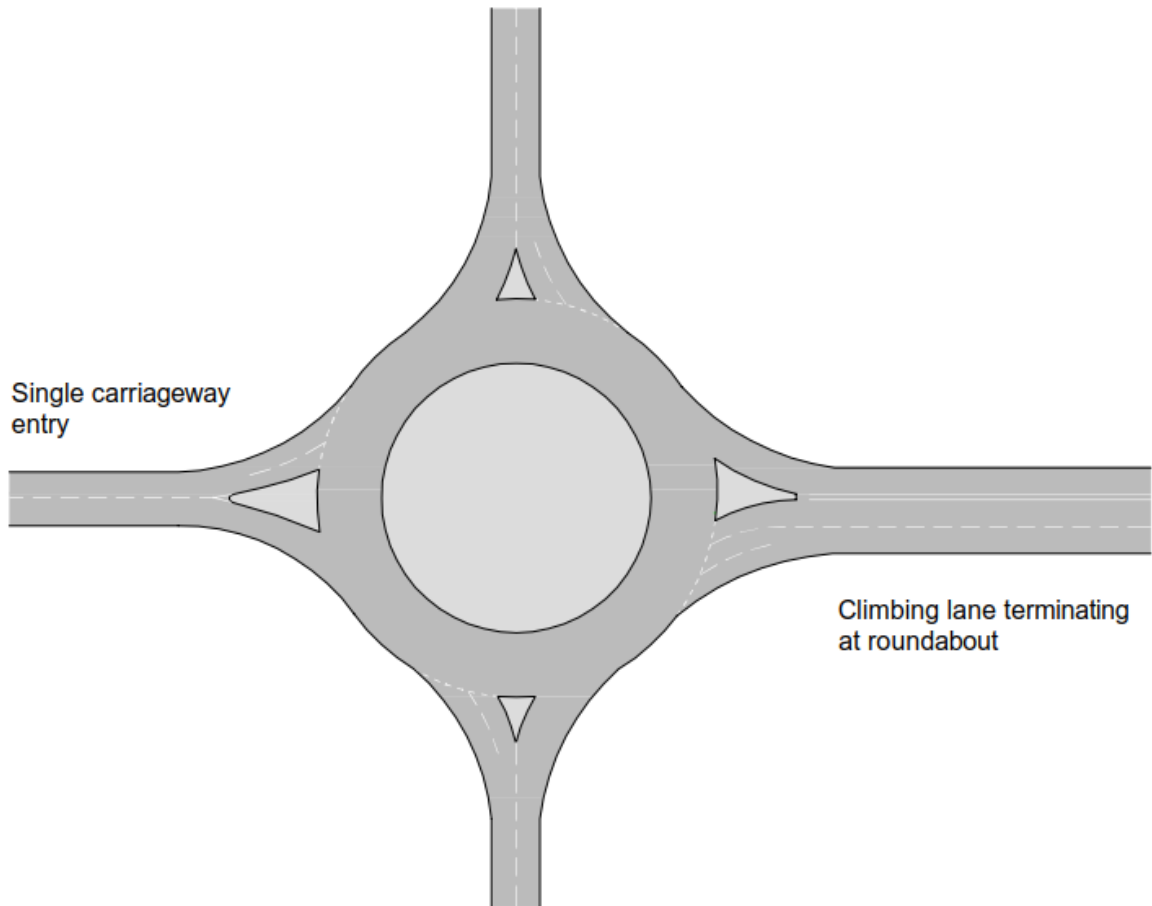
Figure 7.5 Layout at end of climbing lane

Diagram 890 (schedule 11, part 2, item 19)



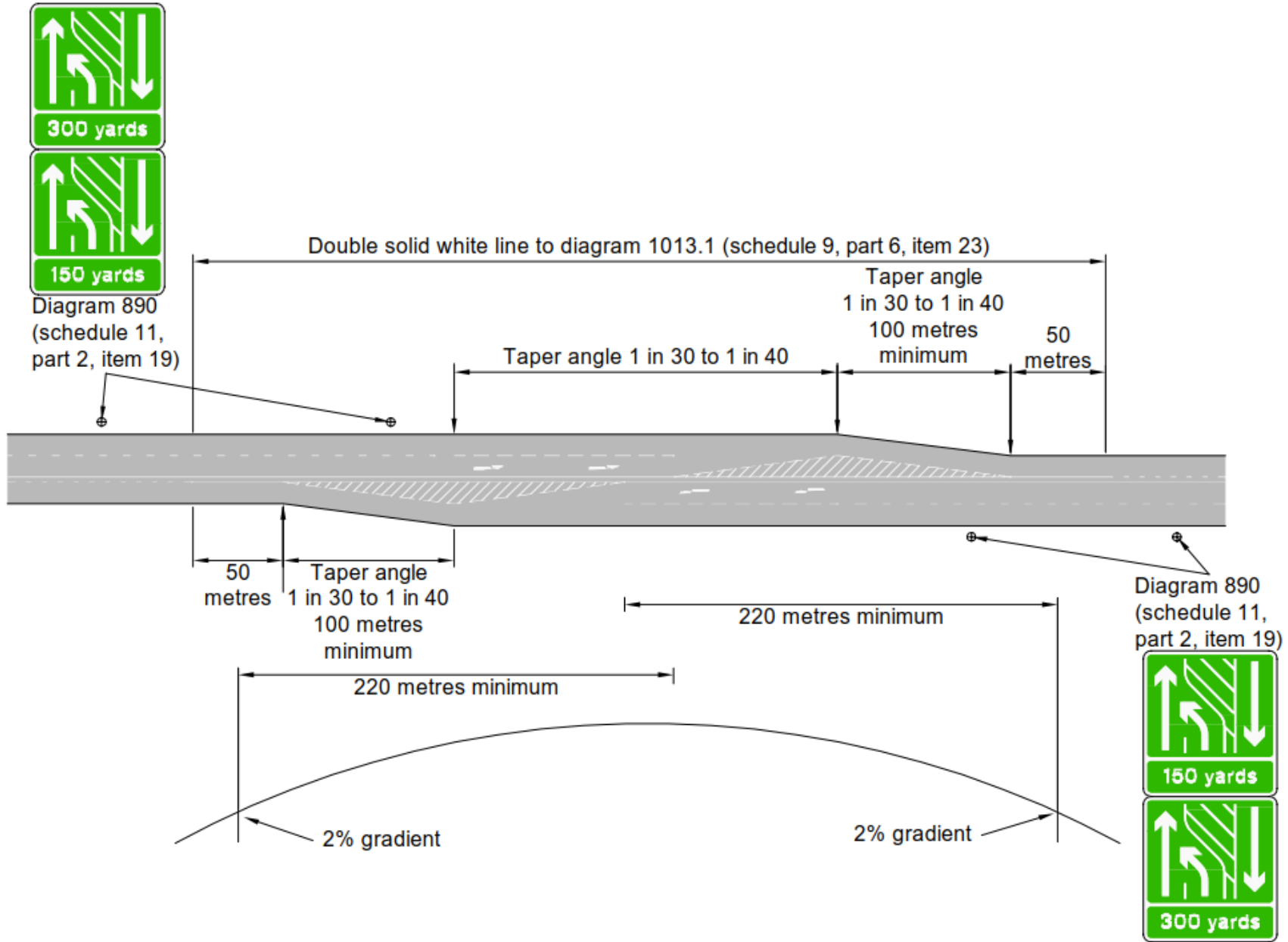
- 7.5.1 The distance between the 2% point and point F (the end of the full width of the climbing lane), should be extended beyond the minimum value if:
- 1) an existing junction is in the vicinity of the existing merge taper area and / or where the extension enables traffic to merge more safely;
 - 2) the climbing lane is part of an overall route strategy for overtaking and the climbing lane is extended to maximise overtaking opportunities;
 - 3) a high proportion of HGVs, or slow moving vehicles, currently cause problems or significantly reduce capacity in the merge taper area.
- 7.6 Commencing from point F, the carriageway shall be narrowed from the offside using a taper of between 1 in 30 and 1 in 40 in order to gradually remove the climbing lane (see Figure 7.5).
- NOTE In situations where the climbing lane termination point is extended greater than 220 metres beyond the 2% point, the taper arrangement at the end of the climbing lane is the same as that of the climbing lane terminating at 220 metres beyond the 2% point.*
- 7.7 Where a climbing lane terminates advance warning signs shall be provided in accordance with TSRGD 2016 [Ref 6.N] diagram 890 (schedule 11, part 2 item 19).
- NOTE Clear signing and road markings at the end of a climbing lane is provided to ensure road users are fully aware of potential lane changing movements of other vehicles. This is important both from the point of view of the safety and efficient operation of the climbing lane.*
- 7.7.1 The transition from a climbing lane to a single lane should not coincide with junctions or curves below desirable minimum radius for the design speed of the road.
- 7.7.2 The climbing lane may terminate at a roundabout so the overtaking lane becomes the right hand entry lane into the roundabout (see Figure 7.7.2).

Figure 7.7.2 Climbing Lane ends at roundabout entry - single carriageway



- 7.7.3 Where climbing lanes are provided on both sides of a hill, resulting in a four lane road and the length between tapers is equal to or greater 500 metres, the taper should be terminated as shown in Figure 7.5.
- 7.7.4 Where climbing lanes are provided on both sides of a hill, resulting in a four lane road and the length between tapers is less than 500 metres, the taper should be terminated as shown in Figure 7.7.4.

Figure 7.7.4 Crest curve at overlapping climbing lanes



Sight distance requirements

7.8 Desirable minimum stopping sight distance appropriate for the design speed of the road (see Table 2.10) shall be provided throughout the length of the climbing lane (including tapers), except in constrained locations where a relaxation of 1 design step below desirable minimum stopping sight distance is permitted.

NOTE 1 Relaxations in stopping sight distance on climbing lanes can be used where difficult or constrained locations result in provision of desirable minimum stopping sight distance not being practicable.

NOTE 2 FOSD need not be provided over the length of a climbing lane.

7.8.1 For climbing lanes provided as part of a new scheme, crest curves should be designed to just above one step below the desirable minimum K value, with a double white line road marking as in Figure 7.7.4 to clearly establish the climbing lane priority.

NOTE If vehicles on the crest approaching the downhill section are provided with a high visibility crest curve, there can be a possibility of road users illegally crossing the continuous double white line road marking.

Road markings

7.9 On a climbing lane, a double white line road marking shall separate the two uphill lanes from the downhill lane with a continuous line for uphill traffic in all cases.

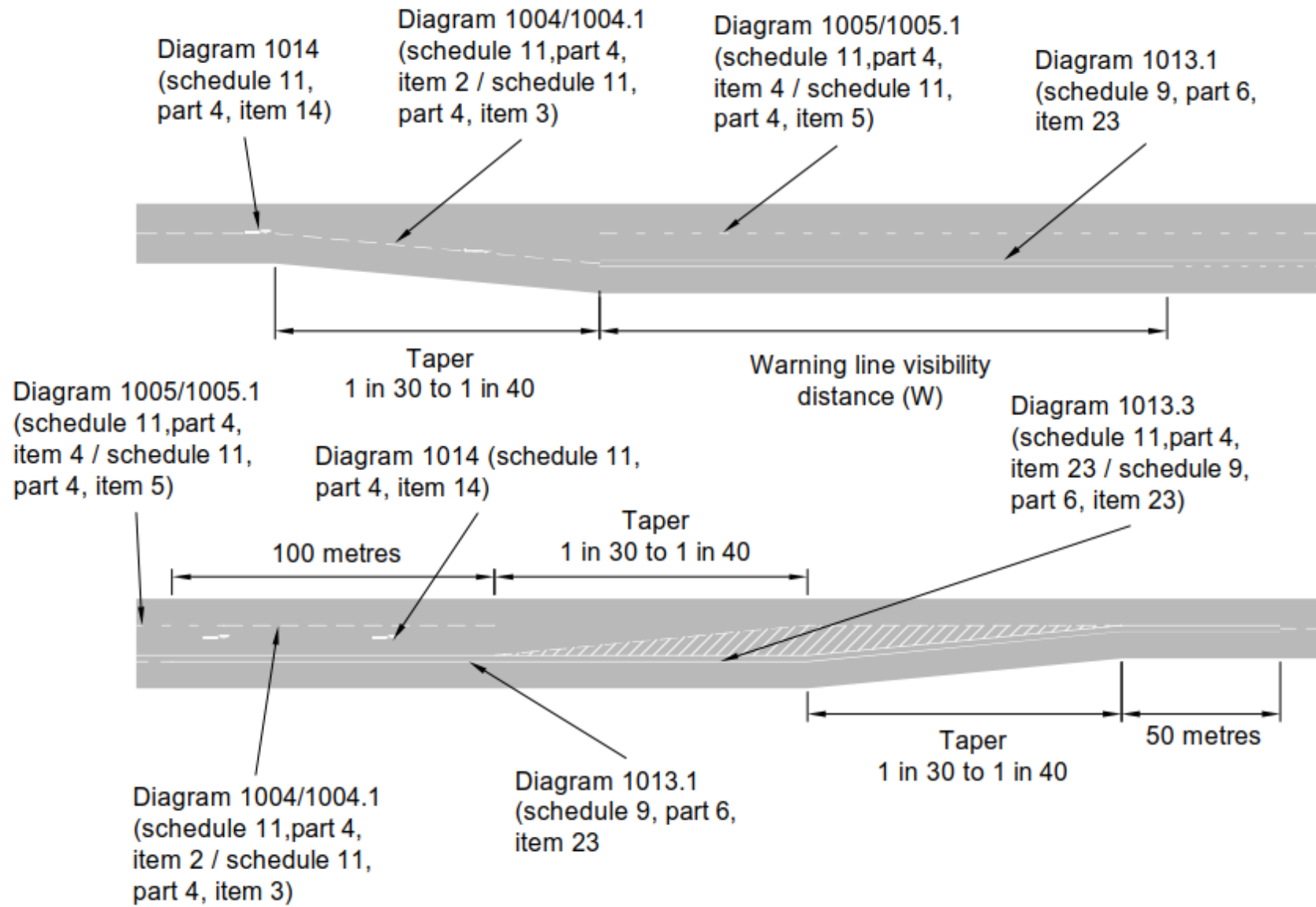
7.9.1 On a climbing lane a continuous line for downhill traffic should be provided except where the criteria for adopting a broken line is satisfied, as identified in TSM Chapter 5 [Ref 9.N].

NOTE 1 The use of a continuous road marking for downhill traffic, even when the visibility criteria for an intermittent road marking line are satisfied, can avoid frequent changes to road markings on long hills.

NOTE 2 On a climbing lane the two uphill lanes are separated by road markings in accordance with TSM Chapter 5 [Ref 9.N].

7.9.2 The road marking at the commencement of the climbing lane should be designed to encourage uphill drivers to keep to the nearside lane unless overtaking (see Figure 7.9.2).

Figure 7.9.2 Road markings at start / end of a climbing lane



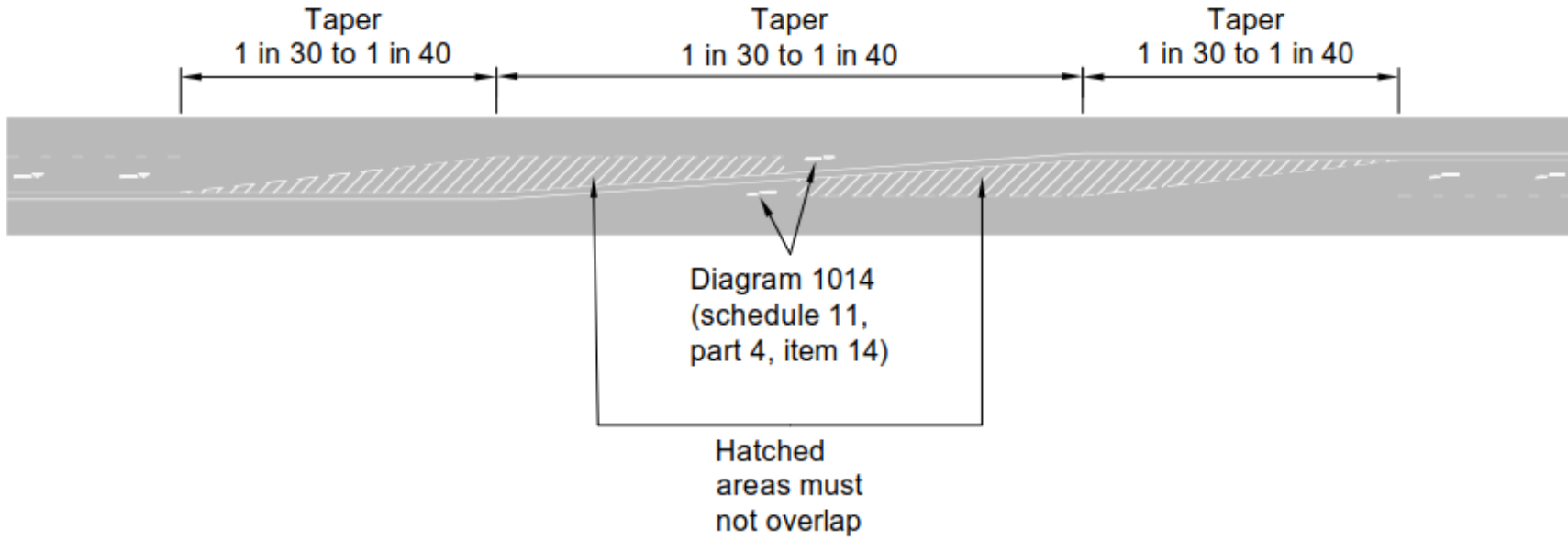
- 7.9.3 At the commencement of the climbing lane a length of double continuous line road marking should be provided for a length equal to the warning line visibility distance (W), according to the speed of uphill traffic (see Table 7.9.3).

Table 7.9.3 Length of double white line to be provided at the commencement of a climbing lane

85 percentile speed (kph)	Warning line visibility distance W (metres)
60	145
70	175
85	205
100	245
120	290

- NOTE 1 The length of double continuous line at the commencement of the climbing lane can reduce the potential for conflict between uphill and downhill overtaking traffic.*
- NOTE 2 The length of double continuous line at the commencement of the climbing lane encourages a driver of an overtaking vehicle travelling downhill to return to the nearside lane reducing the potential for conflict with a vehicle travelling uphill.*
- 7.9.4 The double white line at the commencement of the climbing lane may be extended to divide opposing traffic over the taper in order to discourage overtaking by downhill traffic.
- 7.9.5 The road marking layout that should be used at overlapping climbing lanes at hill crests is shown in Figures 7.7.4 and 7.9.5 .

Figure 7.9.5 Road marking at crests - climbing lanes terminate in advance



7.10 At overlapping climbing lanes, the hatched road markings at the end of opposing lanes must not overlap in accordance with TSRGD 2016 [Ref 6.N].

NOTE Ensuring the hatched areas of the overlapping climbing lanes do not overlap maintains the differentiation between the opposing lanes.

7.10.1 Figure 7.7.5 should be applied to situations where conventional exit taper layout would lead to a distance between ends of tapers of less than 500 metres.

7.10.2 Where opposing climbing lanes are provided on a crest and the climbing lane carriageway width is to be retained, Figure 7.9.5 shows the road marking layout that should be used over the crest.

7.10.3 The road marking layout that should be used at adjoining climbing lanes at sag curves is shown in Figure 7.4.4.

7.10.4 At sag curves the taper road marking between opposing traffic streams at adjoining climbing lanes should not be sharper than 1 in 50.

8. Climbing lanes - dual carriageways and motorways

Introduction

8.1 This section shall be used for the design, assessment and construction of climbing lanes on all motorway and dual carriageway trunk road schemes including improvements to the existing trunk road network that result in climbing lanes being introduced on motorways and dual carriageways.

8.1.1 A climbing lane may be provided by means of entry and exit tapers.

8.1.2 Where climbing lanes are provided by means of entry and exit tapers, the climbing lane should be a continuation of the nearside lane and the overtaking traffic merge into the slower moving traffic at the termination point.

NOTE On dual carriageways, climbing lanes can be justified on gradients of 3% and above over distances of at least 500 metres.

Layout

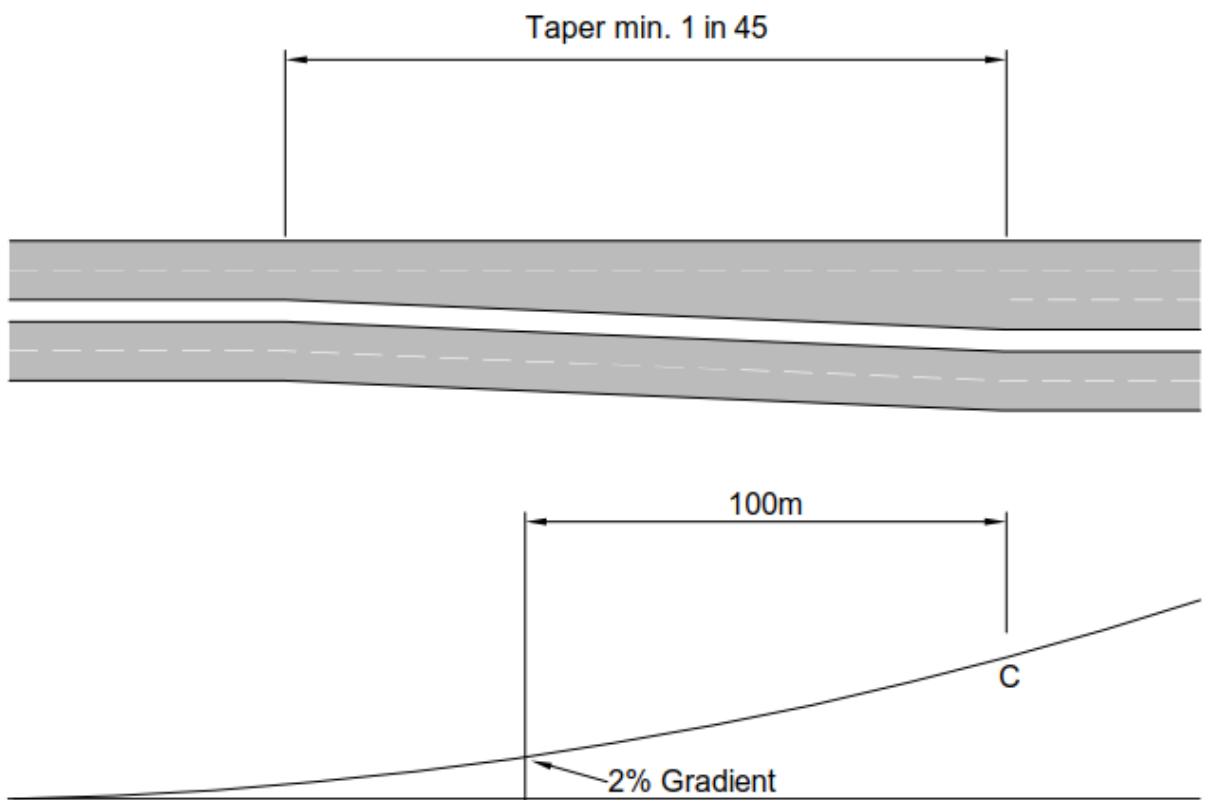
Lane widths

8.2 The climbing lane shall be 3.65 metres wide.

Layout at the start of climbing lane

8.3 The full width of the climbing lane shall be provided at a point C, 100 metres uphill from the 2% point of sag curve as shown in Figure 8.3.

Figure 8.3 Start of dual carriageway climbing lane

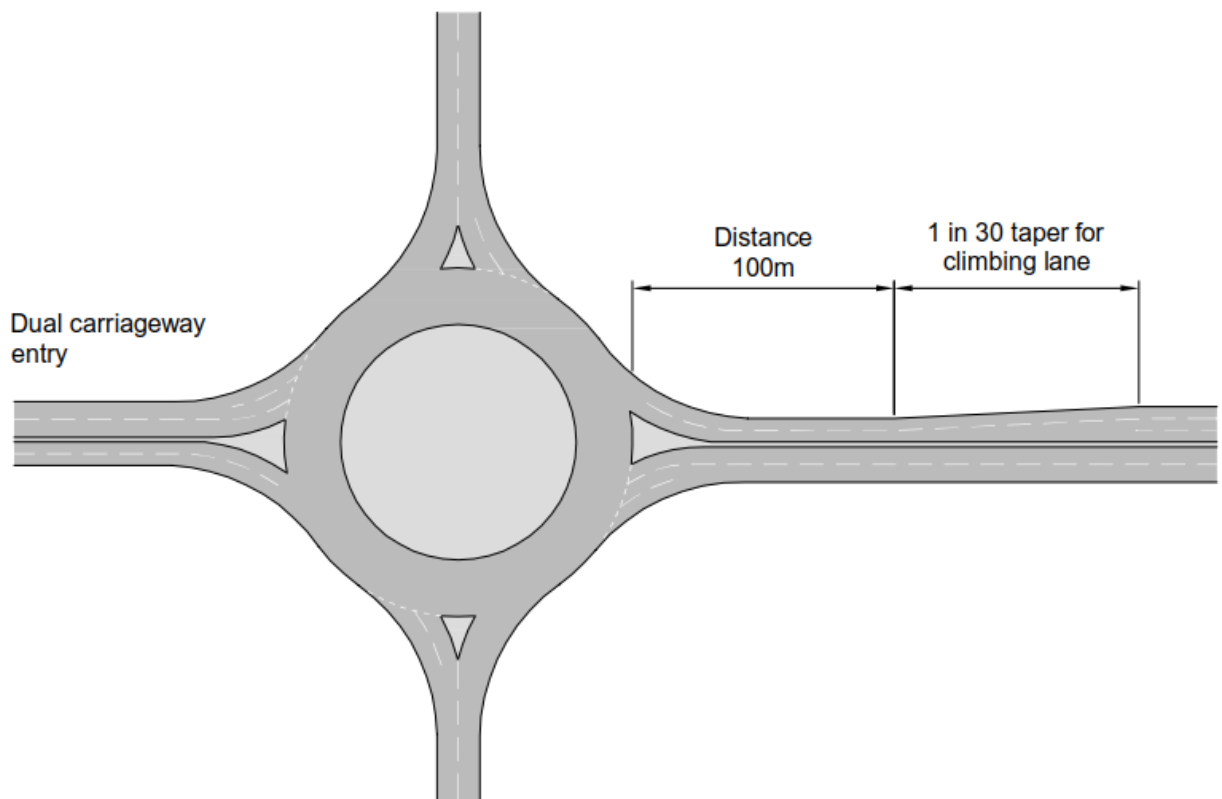


8.4 The full width of the climbing lane shall be preceded by a taper of at least 1 in 45, as shown in Figure 8.3, except for where it is provided at a roundabout exit on a dual carriageway.

8.4.1 The additional width should be developed by utilising the road curvature to provide a smooth transition.

- 8.5 Climbing lanes on dual carriageways shall not be provided directly at the exit of a roundabout.
- 8.5.1 Climbing lanes on dual carriageways located near the exit from a roundabout should allow for a distance of at least 100 metres before the entry taper to avoid conflicting traffic movements on exiting the roundabout.
- 8.6 The minimum entry taper shall be 1 in 30 where a climbing lane is provided on the exit from a roundabout as shown in Figure 8.6.

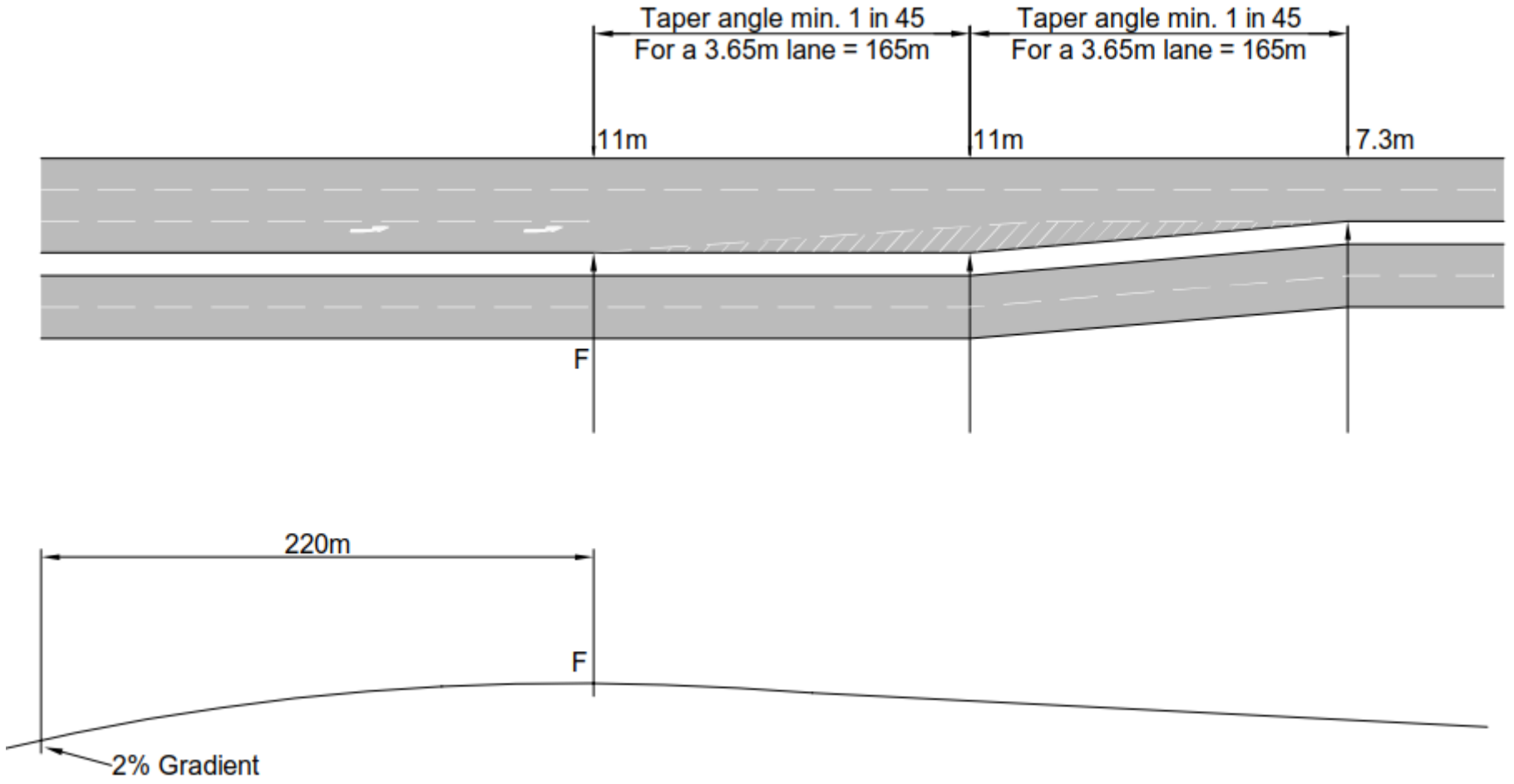
Figure 8.6 Start of climbing lane at roundabout



Layout at the end of climbing lane

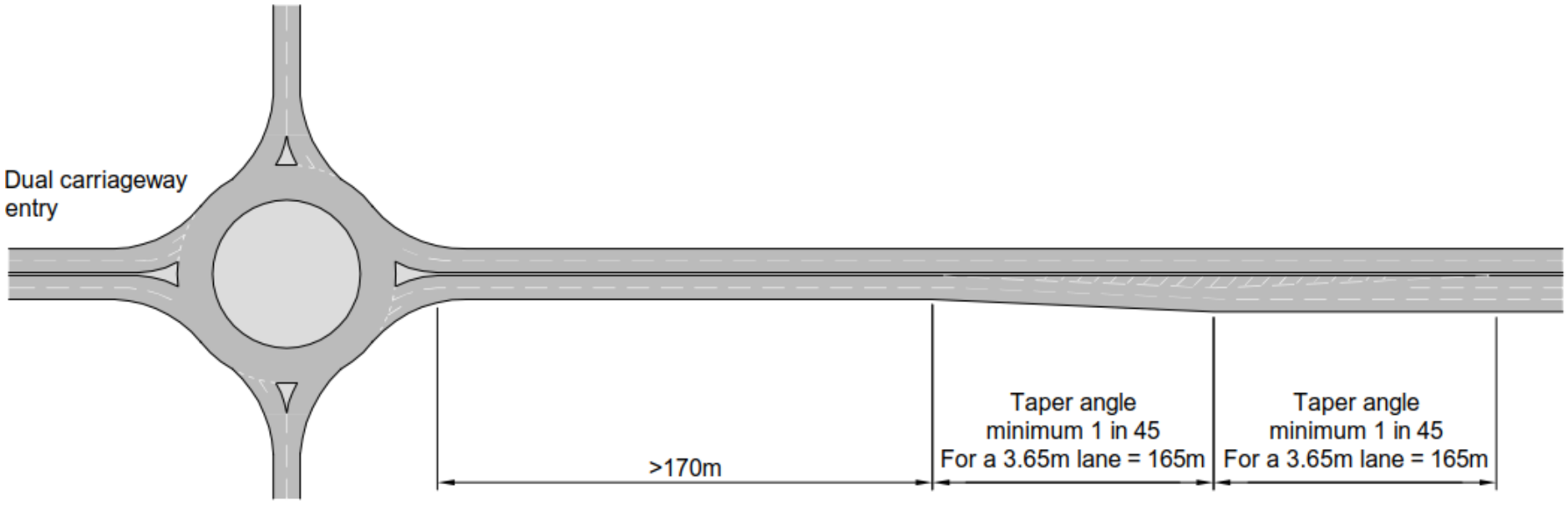
- 8.7 The full width of the climbing lane shall be maintained up the gradient to point F, which is at least 220 metres beyond the 2% gradient point of the crest curve as shown in Figure 8.7N.
- NOTE** *The distance between the 2% gradient point and point F can be extended if a high proportion of HGVs or other slow moving vehicles currently cause problems or significantly reduce capacity.*

Figure 8.7N End of dual carriageway climbing lane



- 8.8 The taper at the end of the climbing lane shall be at least 1 in 45, as shown in Figure 8.7N.
- 8.8.1 Longer tapers than 1 in 45 should be provided wherever practicable.
- 8.8.2 A smooth transition should be used wherever possible.
- 8.8.3 The climbing lane may precede a roundabout so the overtaking lane becomes the right hand entry lane into the roundabout.
- 8.8.4 Where the climbing lane ends at a distance greater than 500 metres from the roundabout it should be terminated as shown in Figure 8.8.4.

Figure 8.8.4 Climbing lane end at roundabout entry - dual carriageway



- 8.8.5 Where the climbing lane ends within 500 metres of the roundabout, the climbing lane should be extended to the roundabout and hatching at the end of the climbing lane omitted.

9. Single carriageway road overtaking sections

Overtaking sections

9.1 Overtaking sections on single carriageway roads shall comprise of any of the following:

- 1) level overtaking sections;
- 2) climbing lane sections;
- 3) single lane downhill sections at climbing lanes;
- 4) dual carriageway overtaking sections;
- 5) wide single 2+1 road overtaking lanes.

NOTE Dual carriageway overtaking sections are lengths of dual carriageway forming part of a route which is otherwise predominantly single carriageway. The dual sections can be taken into account when calculating the percentage of the route length that provides overtaking sections.

9.1.1 Clearly identifiable overtaking sections for both directions of travel should be provided throughout a single carriageway so vehicles can maintain the design speed in off-peak conditions therefore minimising the potential for driver frustration.

Overtaking value

9.2 The minimum overtaking value for rural S2 roads shall be 30%.

NOTE The overtaking value is the length of overtaking sections expressed as a percentage of the route.

9.3 The minimum overtaking value for WS2 roads shall be 30%.

9.3.1 The minimum overtaking value for WS2 roads should be 40%.

NOTE Overtaking values at or above the recommended value of 40% are appropriate for WS2 roads with single lane dualling at junctions with minor roads and at-grade roundabouts at junctions with major roads.

Lengths of road over 2km

9.4 The calculation of overtaking value shall apply to new single carriageway roads exceeding 2km in length.

9.5 The total length of overtaking sections for each direction shall be summed and divided by the total length of the new road to obtain the overtaking value in each direction, expressed as a percentage.

9.5.1 Overtaking sections should be distributed along a length of road such that no individual non-overtaking section exceeds 3km in length.

Lengths of road less than 2 km

9.6 New single carriageway roads less than 2km in length shall be integrated with the contiguous sections of existing road when calculating the overtaking value.

9.6.1 Where contiguous sections afford little or no overtaking opportunities, the overtaking value should only be provided for the length of the new single carriageway road.

NOTE 1 Where contiguous existing sections of road provide good overtaking opportunities, it can relieve the necessity to provide the required overtaking value for the proposed section of new road.

NOTE 2 The minimum overtaking values do not apply to isolated improvements to existing roads such as the treatment of bends, junctions, and narrow sections of road.

Level overtaking sections

9.7 Level overtaking sections on 2 lane single carriageway roads shall consist of:

- 1) straight or nearly straight horizontal alignment with a minimum radius of curvature as shown in Table 9.7 (also see Figure 9.23N2), and/or;
- 2) right hand curves which provide at least FOSD at their commencement (see Figure 9.23N2).

Table 9.7 Minimum radius of straight or nearly straight sections at level overtaking sections

Design speed (kph)	100	85	70	60	50
Minimum radius of straight or nearly straight sections (metres)	8160	5760	4080	2880	2040

NOTE *Level overtaking sections are lengths of 2 lane single carriageway that provide clear opportunities for overtaking. Lengths of road that form level overtaking sections have central road markings that can be legally crossed.*

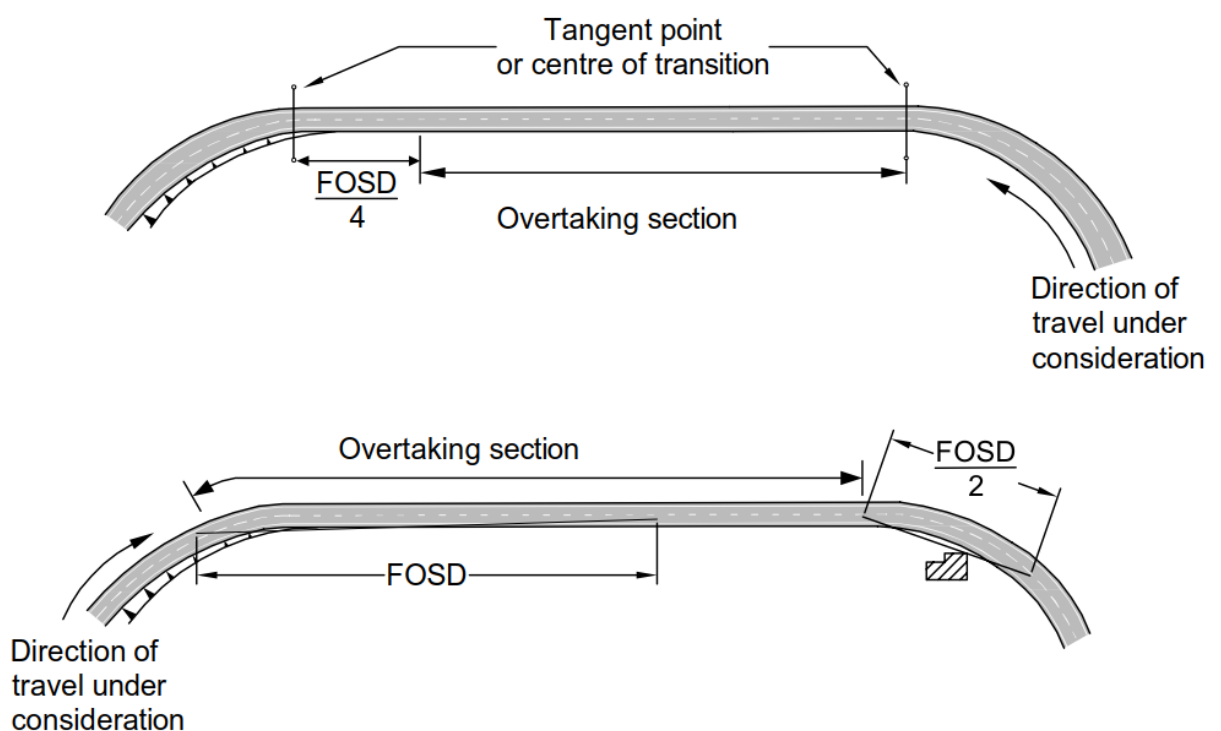
Commencement of level overtaking sections

- 9.8 Level overtaking sections shall be measured from the point on a straight, nearly straight or right hand curve where FOSD is achieved either within or outside of the highway / road boundary.
- 9.9 Where FOSD is measured outside of the highway / road boundary this visibility shall be permanently maintained.

Termination of level overtaking sections

- 9.10 Level overtaking sections shall terminate at one of the following:
 - 1) a point FOSD/4 prior to the tangent point (or centre of transition) of a left hand curve (see Figure 9.10); or
 - 2) the point on a right hand curve where sight distance has reduced to FOSD/2 (see Figure 9.10); or
 - 3) a point FOSD/4 prior to an obstruction to overtaking (see the section on Obstructions to overtaking below).

Figure 9.10 Commencement and termination of level overtaking sections



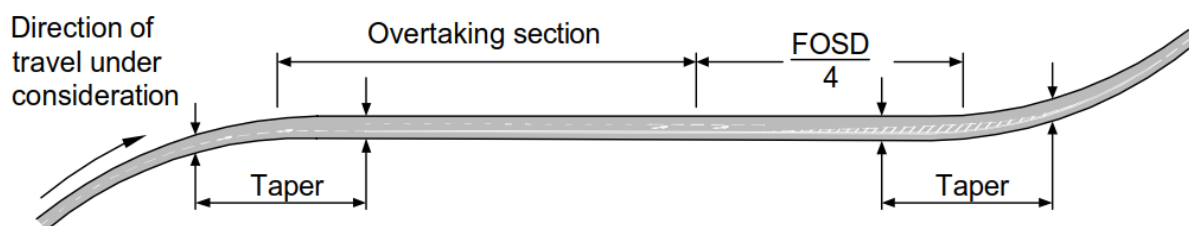
NOTE Figure 9.10 shows diagrammatically the commencement and termination points of level overtaking sections.

Climbing lane sections

Commencement of climbing lane overtaking sections

9.11 Climbing lane overtaking sections shall be measured from the mid-point of the commencing taper at the start of the two uphill lanes, see Figure 9.11.

Figure 9.11 Commencement and termination of climbing lane overtaking sections



Termination of climbing lane overtaking sections

9.12 The termination point of a climbing lane overtaking section shall be measured to a point FOSD/4 prior to the mid-point of the finishing taper, see Figure 9.11.

9.12.1 If the section of road following a climbing lane overtaking section is also an overtaking section, it should be treated as being contiguous with the climbing lane section.

Single lane downhill sections at climbing lanes

9.13 Single lane downhill overtaking sections at climbing lanes shall only consist of straight or nearly straight sections (see Table 9.7 and Figure 9.23N2), or right hand curves with minimum radii as shown in Table 9.13.

Table 9.13 Minimum right hand curve radii for single lane downhill sections at existing climbing lanes

Design speed (kph)	100	85	70	60	50
Minimum right hand curve radius of single lane downhill sections (metres)	2880	2040	1440	1020	720

NOTE 1 Single lane downhill overtaking sections are sections of a single downhill lane constrained by a double white line system, with a solid line provided adjacent to the two lane side and a broken line provided adjacent to the single lane, where the combination of visibility and horizontal curvature provide clear opportunities for overtaking when the opposing traffic permits.

NOTE 2 Climbing lane road markings confine downhill traffic to a single lane, unless there is ample forward visibility unobstructed by slow-moving vehicles in the climbing lane. Where the length of a climbing lane exceeds about 3km, it can be beneficial that some sections are provided with a straight or large radius right hand curvature in order to provide an overtaking section for downhill traffic.

9.14 Verges shall not be widened on single lane downhill lane sections to give FOSD.

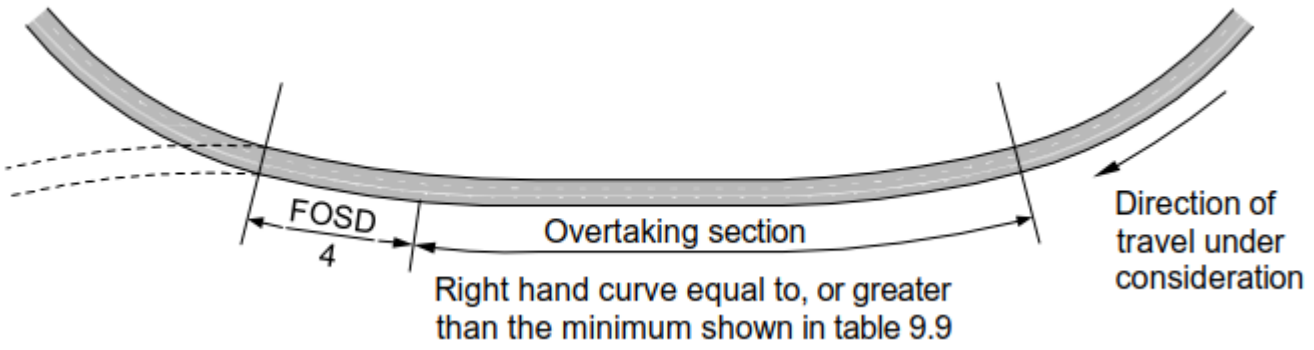
NOTE On single downhill lane sections the sight distance naturally occurring within the normal highway / road boundaries along straights, near straights and at the radii shown in Table 9.8 for right hand curves is sufficient for downhill overtaking.

9.14.1 Single lane downhill sections should only be used as overtaking sections on straight grades or sag curves where FOSD is achieved.

Commencement of single lane downhill overtaking sections at climbing lanes

- 9.15 Single lane downhill overtaking sections shall be measured from the point where the right hand curve radius achieves or exceeds the requisite value from Table 9.13, see Figure 9.15.

Figure 9.15 Commencement and termination of single lane downhill climbing lane overtaking sections



Termination of single lane downhill overtaking sections at climbing lanes

- 9.16 The termination point of a single lane downhill overtaking section shall be measured to a point FOSD/4 prior to the end of the straight or nearly straight section or end of radius equal to or greater than shown in Table 9.13, see Figure 9.15.

Dual carriageway overtaking sections**Commencement of dual carriageway overtaking sections**

- 9.17 Dual carriageway overtaking sections shall be measured from the mid-point of the commencing taper where the carriageway widens from 1 to 2 lanes.

Termination of dual carriageway overtaking sections

- 9.18 The termination point of dual carriageway overtaking sections shall be measured to a point FOSD/4 prior to the mid-point of the finishing taper where the carriageway reduces from 2 lanes to 1 lane.

NOTE Details of the appropriate road marking layout of the finishing taper where the carriageway reduces from 2 lanes to 1 lane are shown in TSM Chapter 5 [Ref 9.N].

Wide single 2+1 roads (WS2+1)**Commencement of WS2+1 overtaking sections**

- 9.19 WS2+1 overtaking sections shall be measured from a point where the full width overtaking lane commences, see Figures 6.11.2 and 6.11.3.

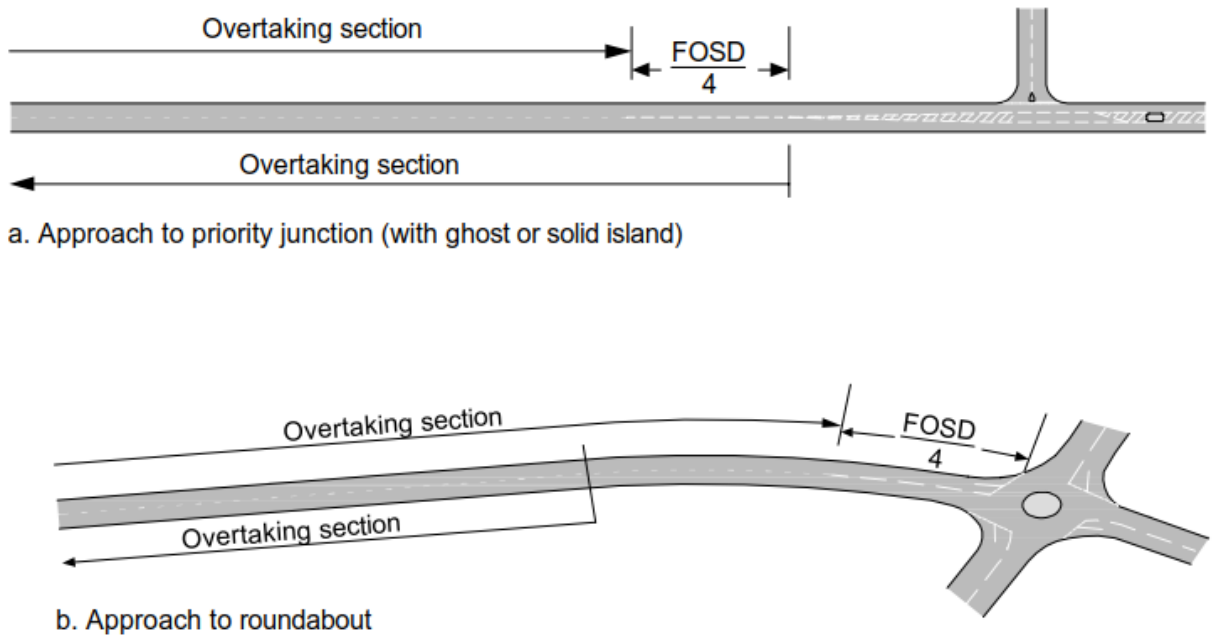
Termination of WS2+1 overtaking sections

- 9.20 The termination point of WS2+1 overtaking sections shall be measured to a point FOSD/4 prior to the mid-point of the 130 metres long taper immediately following the full width overtaking lane see Figure 6.15.

Obstructions to overtaking

- 9.21 On 2 lane single carriageway roads the termination point for overtaking sections on the approach to obstructions shall be a distance of FOSD/4 prior to the nose of the ghost island or physical island, or the roundabout give way line, as shown in Figure 9.21.

Figure 9.21 Termination of overtaking sections at obstructions

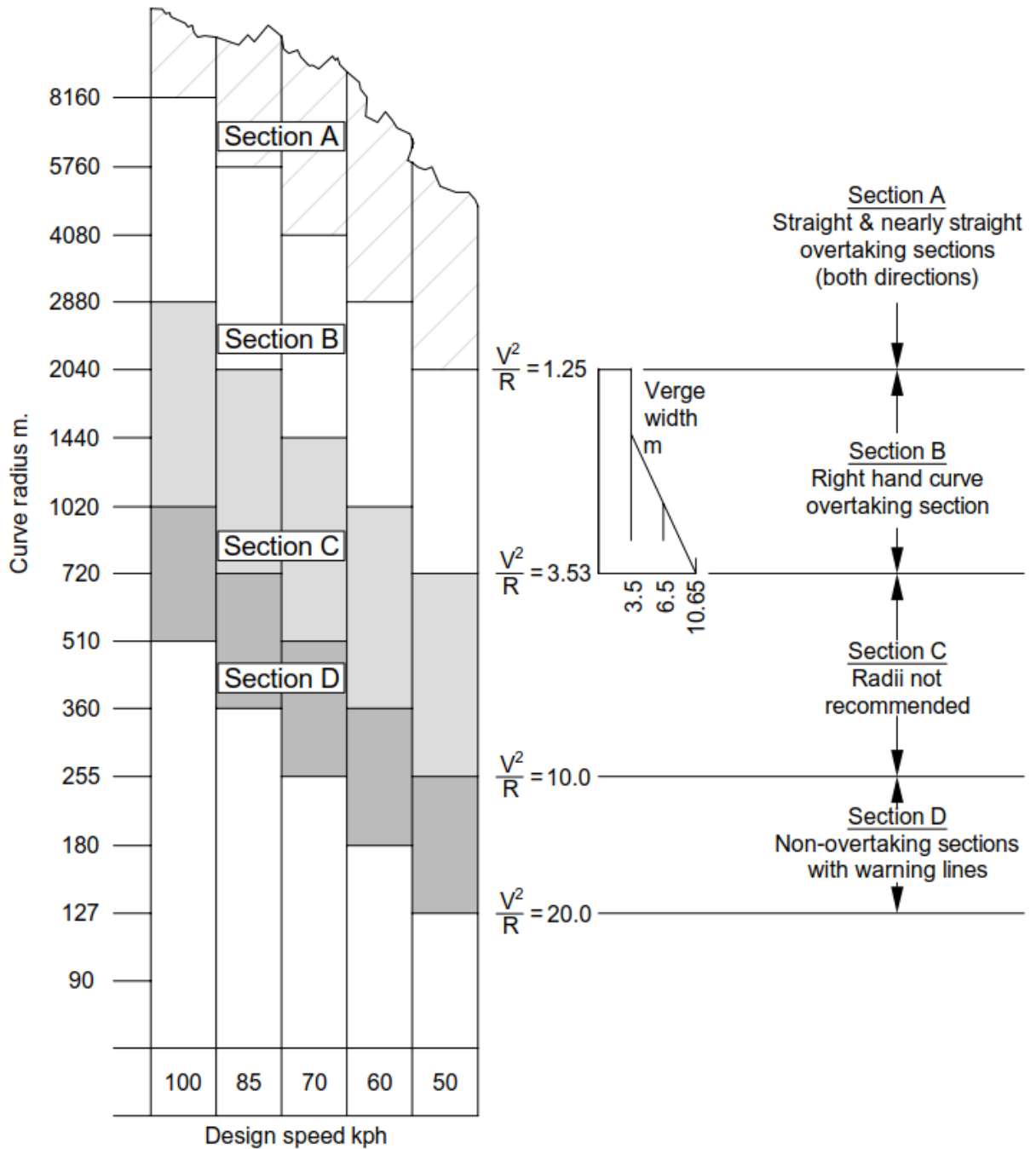


- NOTE 1** Priority junctions incorporating ghost islands or single lane dualling and roundabouts are defined as obstructions to overtaking when they are located within an, otherwise, overtaking section.
- NOTE 2** Simple priority junctions (with no central mainline treatment) are not considered obstructions to overtaking. Direct accesses are not permitted in overtaking sections (refer to CD 123 [Ref 2.N] for details).
- 9.22 Following an obstruction to overtaking, an overtaking section shall commence on a straight or nearly straight horizontal alignment with radius of curvature greater than shown in Table 9.7 (also see Figure 9.23N2) providing at least FOSS, or right hand curves which provide at least FOSS at their commencement (see Figure 9.23N2).
- 9.22.1 When an overtaking section follows a priority junction, the measurement of the overtaking section should commence from the end of the ghost island nose shown in Figure 9.21.

Horizontal curve design

- 9.23 Level overtaking sections on single carriageway 2 lane roads shall be provided as straight or nearly straight sections (see section A in Figure 9.23N2 and Table 9.7), thus providing an overtaking section for both directions of travel ($V^2/R < 1.25$).
- NOTE 1** Where straight sections or nearly straight sections are not possible, lower radii results in right hand curve overtaking sections:
- 1) on level sections following the achievement of FOSS; and
 - 2) on existing climbing lane single lane downhill sections.
- NOTE 2** Figure 9.23N2 shows a curve selection chart for horizontal curves, which illustrates the bands of radii (relative to design speed) and their applicability in the design of 2 lane single carriageway roads.

Figure 9.23N2 Horizontal curve design



9.24 The minimum radii for overtaking sections on single carriageway 2 lane roads shall be the lower limit of section B in Figure 9.24N2 ($V^2/R = 3.53$) and values shown in Table 9.13 for right hand curves.

NOTE At the lower limit of section B, visibility for left hand curve traffic deteriorates significantly, and a verge width of 10.65 metres is needed to maintain FOSD within the highway / road for right hand curve traffic.

9.24.1 The radii in section C, shown in Figure 9.23N2 ($V^2/R = 3.53$ to $V^2/R = 10$), should not be used in single carriageway design.

NOTE The use of mid to large radius curves inhibits the design of clear overtaking sections for vehicles travelling in the left hand curve direction, and reduces the length of overtaking straight that could otherwise be achieved.

9.24.2 Non-overtaking sections should be designed using the radii shown in section D ($V^2/R = 10$ to $V^2/R = 20$) in Figure 9.23N2.

9.24.3 Radii of non-overtaking sections should be chosen around the middle of section D ($V^2/R = 14$) in Figure 9.23N2.

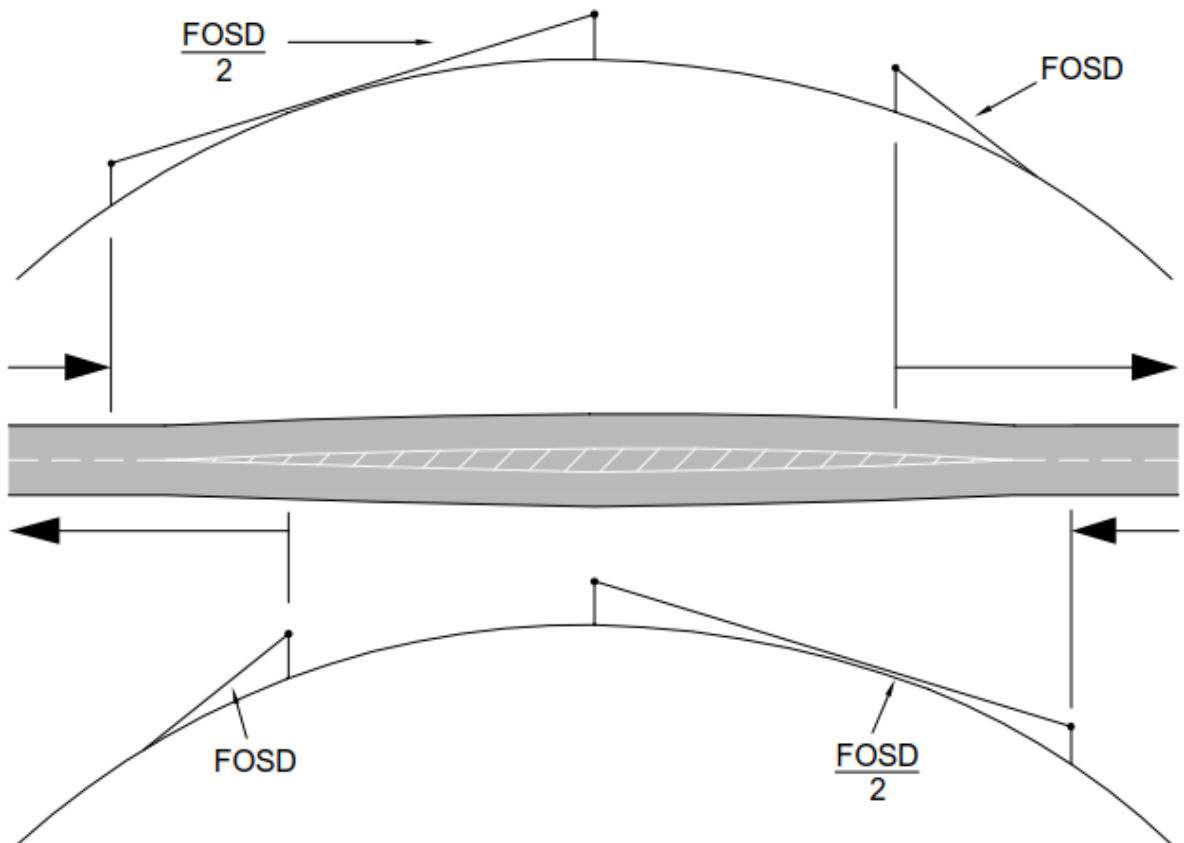
NOTE Radii around the middle of section D as shown in Figure 9.23N2 strikes a balance between providing clear non-overtaking sections and avoiding steep superelevation.

Vertical curve design

9.25 For measurement of overtaking sections, a single carriageway 2 lane road with a crest curve with less than FOSD shown in Table 2.10 shall be a non-overtaking section.

9.25.1 The overtaking section approaching the non-overtaking crest should terminate at the point at which sight distance has reduced to FOSD/2, as shown in Figure 9.25.1.

Figure 9.25.1 Non-overtaking crest



9.25.2 The use of desirable minimum crest K values should be avoided for 2 lane single carriageway road design.

NOTE 1 The use of desirable minimum crest K values results in a continuous sight distance only slightly above FOSD/2, and therefore theoretically, the overtaking section is continuous over the crest (and warning markings are not strictly justified).

NOTE 2 Unless a vertical curve can have a large enough K value to provide FOSD (therefore forming an overtaking section) the resulting alignment will provide inadequate visibility for safe overtaking. A K value of one design speed step below desirable minimum results in a clear non-overtaking section and further improvement to K value is counter productive as it increases the length of uncertain crest visibility while not achieving a safe overtaking visibility.

Changes in carriageway type

- 9.26 If lengths of dual carriageway within a generally single carriageway road or vice-versa are provided they shall be at least 2km in length.

10. 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 127, 'Cross-sections and headrooms'
Ref 2.N	Highways England. CD 123, 'Geometric design of at-grade priority and signal-controlled junctions'
Ref 3.N	Highways England. CD 122, 'Geometric design of grade separated junctions'
Ref 4.N	Highways England. CD 116, 'Geometric design of roundabouts'
Ref 5.N	Highways England. GG 101, 'Introduction to the Design Manual for Roads and Bridges'
Ref 6.N	The Stationery Office. TSRGD 2016, 'The Traffic Signs Regulations and General Directions 2016'
Ref 7.N	The Stationery Office. TSM Chapter 3, 'Traffic Signs Manual Chapter 3 - Regulatory Signs'
Ref 8.N	The Stationery Office. TSM Chapter 4, 'Traffic Signs Manual Chapter 4 - Warning Signs'
Ref 9.N	The Stationery Office. TSM Chapter 5, 'Traffic Signs Manual Chapter 5 - Road Markings'

11. Informative references

The following documents are informative references for this document and provide supporting information.

Ref 1.1	Highways England. CG 501, 'Design of highway drainage systems'
---------	--

Appendix A. Coordinated link design

The tables below give guidance on layout features for the various rural road types that can help to provide coordinated link design. The contents of the tables are not exhaustive and not intended to supersede requirements and advice included in the wider Design Manual for Roads and Bridges requirements and advice documents, and the requirements and advice in the appropriate highway design requirements and advice documents take precedence.

Table A.1 Single carriageway roads

Type of road (see CD 127 [Ref 1.N])	Sub-category	Edge treatment	Direct access treatment (see CD 123 [Ref 2.N] for a definition of direct access)	Junction treatment at minor road intersection (see CD 123 [Ref 2.N] and CD 116 [Ref 4.N])	Junction treatment at major road intersection (see CD 123 [Ref 2.N], CD 122 [Ref 3.N] and CD 116 [Ref 4.N])	Previous category reference used in TD 9 Table 4 (see note 1)
2 lane single carriageway (S2) - 7.3 metre carriageway	a	Kerbs and raised verges. Pedestrian footways and cycle tracks. Nearside - hard strip. Offside - hard strip.	Minimise number of direct accesses to avoid standing vehicles and concentrate turning movements.	Simple priority junctions. Ghost island junctions.	Ghost island junctions.	1
	b	No pedestrian footways or cycle tracks. Nearside - hard strip. Offside - hard strip.	Minimise number of direct accesses to avoid standing vehicles and concentrate turning movements.	Simple priority junctions. Ghost island junctions.	Ghost island junctions. Single lane dualling. Roundabouts. Traffic signals.	2
	c	No pedestrian footways or cycle tracks. Nearside - hard strip. Offside - hard strip.	Minimise number of direct accesses to avoid standing vehicles and concentrate turning movements. Clearway (see TSM Chapter 3 [Ref 7.N])	Left-in / left-out priority junctions. Ghost island junctions.	Single lane dualling. Roundabouts. Traffic signals.	3A

Table A.1 Single carriageway roads (continued)

Type of road (see CD 127 [Ref 1.N])	Sub-category	Edge treatment	Direct access treatment (see CD 123 [Ref 2.N] for a definition of direct access)	Junction treatment at minor road intersection (see CD 123 [Ref 2.N] and CD 116 [Ref 4.N])	Junction treatment at major road intersection (see CD 123 [Ref 2.N], CD 122 [Ref 3.N] and CD 116 [Ref 4.N])	Previous category reference used in TD 9 Table 4 (see note 1)
Wide single 2 lane carriageway (WS2) - 10 metre carriageway	a	Pedestrian footways and cycle tracks. Nearside - hard strip. Offside - hard strip.	Minimise number of direct accesses to avoid standing vehicles and concentrate turning movements. Clearway (see TSM Chapter 3 [Ref 7.N])	Left-in / left-out priority junctions. Ghost island junctions. Single lane dualling.	Single lane dualling. Roundabouts.	3B
	b	No pedestrian footways or cycle tracks. Nearside - hard strip. Offside - hard strip.	Minimise number of direct accesses to avoid standing vehicles and concentrate turning movements. Clearway (see TSM Chapter 3 [Ref 7.N])	Left-in / left-out priority junctions. Single lane dualling. Roundabouts. Some side roads stopped up.	Roundabouts.	4
Wide single 2+1 roads (WS2+1) - 11.5 metre carriageway	a	Nearside - hard strip. Offside - hard strip.	Not permitted.	Ghost island junctions.	Left-in / left-out compact grade separated junctions. Ghost island junctions. Roundabouts.	Not previously used

Table A.2 Dual carriageway roads

Type of road (see CD 127 [Ref 1.N])	Sub-category	Edge treatment	Direct access treatment (see CD 123 [Ref 2.N] for a definition of direct access)	Junction treatment at minor road intersection (see CD 123 [Ref 2.N] and CD 116 [Ref 4.N])	Junction treatment at major road intersection (see CD 123 [Ref 2.N], CD 122 [Ref 3.N] and CD 116 [Ref 4.N])	Previous category reference used in TD 9 Table 4 (see note 1)
Dual 2 lane All-purpose roads (D 2AP) - 7.3 metre carriageway	a	Kerbs and raised verges. Pedestrian footways and cycle tracks. Nearside - hard strip. Offside - hard strip.	Minimise number of direct accesses to avoid standing vehicles and concentrate turning movements. Clearway (see TSM Chapter 3 [Ref 7.N])	Left-in / left-out priority junctions. Priority junctions. No other gaps in the central reserve.	Traffic signals. At-grade roundabouts. Compact grade separation. Grade separation if economically justified.	5
	b	No pedestrian footways or cycle tracks. Nearside - hard strip. Offside - hard strip.	Minimise number of direct accesses to avoid standing vehicles and concentrate turning movements. Clearway (see TSM Chapter 3 [Ref 7.N])	No minor junctions at-grade. No gaps in the central reserve.	At-grade roundabouts. Full grade separation.	6
	c	No pedestrian footways or cycle tracks. Nearside - hard strip. Offside - hard strip.	No access except isolated existing access with left turns only. Clearway (see TSM Chapter 3 [Ref 7.N])	No minor junctions at-grade. No gaps in the central reserve.	Full grade separation.	7A
Dual 3 lane All-purpose roads (D 3AP) - 11 metre carriageway	a	Nearside - hard strip. Offside - hard strip.	Not permitted. Clearway (see TSM Chapter 3 [Ref 7.N])	No minor junctions at-grade. No gaps in the central reserve.	Full grade separation.	7C / 8B (See note 2)

Table A.2 Dual carriageway roads (continued)

Type of road (see CD 127 [Ref 1.N])	Sub-category	Edge treatment	Direct access treatment (see CD 123 [Ref 2.N] for a definition of direct access)	Junction treatment at minor road intersection (see CD 123 [Ref 2.N] and CD 116 [Ref 4.N])	Junction treatment at major road intersection (see CD 123 [Ref 2.N], CD 122 [Ref 3.N] and CD 116 [Ref 4.N])	Previous category reference used in TD 9 Table 4 (see note 1)
Dual 2 lane motorway (D2M) - 7.3 metre carriageway	a	Nearside - hard shoulder. Offside - hard strip.	Not permitted - Motorway Regulations.	Not permitted - Motorway Regulations.	Full grade separation - motorway standard.	7B / 8A (See note 3)
Dual 3 lane motorway (D3M) - 11 metre carriageway	a	Nearside - hard shoulder. Offside - hard strip.	Not permitted - Motorway Regulations.	Not permitted - Motorway Regulations.	Full grade separation - motorway standard.	9
Dual 4 lane motorway (D4M) - 14.7 metre carriageway	a	Nearside - hard shoulder. Offside - hard strip.	Not permitted - Motorway Regulations.	Not permitted - Motorway Regulations.	Full grade separation - motorway standard.	10

Note 1: Reference is made to the categorisation system used in TD 9 to allow comparison with schemes that are being progressed to the previous standard or have been completed to the previous standard. It is suggested that for developing schemes the categorisation system introduced in the figures above, based on road type and sub-category, is referenced (for example D2APb).

Note 2: The previous categories 7C and 8B in TD 9 essentially duplicated each other and these have been rationalised in this document.

Note 3: The previous categories 7B and 8A in TD essentially duplicated each other and these have been rationalised in this document.

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Road Layout
Design

CD 109

England National Application Annex to CD 109 Highway link design

(formerly IAN 149/17, IAN 161/15 and IAN 198/17)

Revision 1

Summary

This National Application Annex sets out the Highways England specific requirements for highway link design on existing 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

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Contents

Release notes	2
Foreword	3
Publishing information	3
Contractual and legal considerations	3
Introduction	4
Background	4
Assumptions made in the preparation of this document	4
Abbreviations	5
Terms and definitions	6
E/1. Modifying existing motorways	7
Scope	7
Geometric parameters	7
Design speed (CD 109 clauses 2.1 and 2.4)	7
Combinations (CD 109 clause 2.12)	7
Immediate approaches to junctions (CD 109 clause 2.14)	7
Stopping sight distance (CD 109 clause 3.7)	7
Road camber and drainage (CD 109 clauses 4.1 to 4.4)	7
Transitions (CD 109 clause 4.14)	8
E/2. Modifying existing all-purpose dual carriageways	9
Scope	9
Geometric parameters	9
Combinations (CD 109 clause 2.12)	9
E/3. Smart motorways	10
Scope	10
Geometric parameters	10
Design speed (CD 109 clauses 2.1 and 2.4)	10
Combinations (CD 109 clauses 2.12 and 2.13)	10
Immediate approaches to junctions (CD 109 clause 2.14)	10
Stopping sight distance (CD 109 clauses 3.7)	10
Road camber and drainage (CD 109 clauses 4.1 to 4.4)	10
E/4. Normative references	12

Release notes

Version	Date	Details of amendments
1	Mar 2020	Revision 1 (March 2020) Update to references only. Revision 0 (November 2019) Highways England National Application Annex to CD 109.

Foreword

Publishing information

This document is published by Highways England.

This document supersedes those parts of IAN 149/17, IAN 161/15 and IAN 198/17 relating to the highway link design 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 National Application Annex (NAA) gives Highways England specific requirements and additional relaxations relating to highway link design for:

- 1) modifying existing motorways where motorway regulations apply (herein referred to as 'existing motorways');
- 2) modifying existing all-purpose dual carriageways; and
- 3) smart motorways.

The additional relaxations included in this NAA allow greater flexibility when dealing with the constraints associated with enhancing elements of existing motorways and all-purpose dual carriageways.

This NAA is to be used in conjunction with CD 109 [Ref 1.N], GD 300 [Ref 3.N] and IAN 161 [Ref 4.N] where appropriate.

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
IAN	Interim Advice Note

Terms and definitions

Terms

Term	Definition
Expressway	A high speed dual carriageway that has at least two lanes in each direction, grade separated junctions and uses technology to support operational regimes (see GD 300 [Ref 3.N]).

E/1. Modifying existing motorways

Scope

- E/1.1 The requirements and advice in Section E/1 shall only be used when modifying existing motorways, with the exception of smart motorway and expressway schemes.
- E/1.1.1 The parameters in Section E/1 should only be used where it is not practicable to comply with the requirements of CD 109 [Ref 1.N].
- NOTE 1 IAN 161 [Ref 4.N] provides requirements and advice for the design of smart motorways.*
- NOTE 2 Document GD 300 [Ref 3.N] provides requirements and advice for the design of expressways.*
- E/1.2 The parameters in Section E/1 shall not be used for new motorway elements e.g. the construction of a new slip road.

Geometric parameters

Design speed (CD 109 clauses 2.1 and 2.4)

- E/1.3 Design speed shall be derived in accordance with CD 109 [Ref 1.N] however all design speeds can be classified as band B.

Combinations (CD 109 clause 2.12)

- E/1.4 The relaxations below desirable minimum identified in CD 109 [Ref 1.N] for the following parameters shall be permitted in combination:
- 1) stopping sight distance;
 - 2) horizontal curvature;
 - 3) vertical crest curves;
 - 4) absolute minimum for sag curves;
 - 5) superelevation.

Immediate approaches to junctions (CD 109 clause 2.14)

- E/1.5 The relaxations below desirable minimum identified in CD 109 [Ref 1.N] for the following parameters shall be permitted on the immediate approaches to junctions:
- 1) stopping sight distance;
 - 2) vertical crest curves;
 - 3) absolute minimum for sag curves.

Stopping sight distance (CD 109 clause 3.7)

- E/1.6 The relaxations of one design speed step described in CD 109 [Ref 1.N] Section 3 for band A roads shall be permitted for band B roads.

Road camber and drainage (CD 109 clauses 4.1 to 4.4)

- E/1.7 Crossfall shall be measured across the paved surface of a road's cross-section.
- NOTE The paved surface of the cross-section comprises the carriageway, hard shoulder and hard strips.*
- E/1.8 Where the total width of the running lanes is to be increased, the existing drainage flow paths shall be assessed to determine their suitability.
- E/1.8.1 Where the assessment of suitability identifies a benefit of doing so, crossfall may be increased by 0.5% above the requirements of CD 109 [Ref 1.N] Table 2.9 to mitigate excessive depths of water.

- E/1.9 Retention of the existing crossfall (running lanes, hard shoulder, and hard strip) shall be permitted unless:
- 1) the assessment of drainage flow paths indicates the existing crossfall is not suitable (if an assessment is required);
 - 2) the variation in crossfall for any given cross-section does not meet the criteria given in the following clauses in this sub-section of this document;
 - 3) the review of the existing operational performance as described in this document highlights a collision problem relating to the existing crossfall, e.g. standing water.
- E/1.10 The change in gradient of crossfall shall not exceed 5%.
- NOTE For example, a hard shoulder with a 2.5% fall towards the verge adjacent to lane one with a 2.5% fall towards the central reserve, is acceptable as the overall change is 5%.*
- E/1.11 Changes in crossfall that create a sag shall only occur within hatched road markings with solid edge lines.
- E/1.12 Where a sag creates a low point the associated surface water flow width shall not enter a traffic lane.
- E/1.13 Crossfall shall not change within a lane.
- E/1.14 Adverse camber shall not be provided on horizontal radii less than 2000 metres.
- Transitions (CD 109 clause 4.14)**
- E/1.15 The basic transition length shall be no shorter than the existing transition.

E/2. Modifying existing all-purpose dual carriageways

Scope

- E/2.1 The requirements and advice in Section E/2 shall only be used when modifying existing all-purpose dual carriageways, with the exception of expressways.
- E/2.1.1 The parameters in Section E/2 should only be used where it is not practicable to comply with the requirements of CD 109 [Ref 1.N].
- NOTE* Document GD 300 [Ref 3.N] provides requirements and advice for the design of expressways.
- E/2.2 The parameters in Section E/2 shall not be used for new all-purpose dual carriageway elements e.g. the construction of a new slip road.

Geometric parameters

Combinations (CD 109 clause 2.12)

- E/2.3 The relaxations below desirable minimum identified in CD 109 [Ref 1.N] for the following parameters shall be permitted in combination:
- 1) stopping sight distance;
 - 2) horizontal curvature;
 - 3) vertical crest curves;
 - 4) absolute minimum for sag curves.

E/3. Smart motorways

Scope

- E/3.1 The requirements and advice contained in Section E/3 shall only be used to upgrade an existing motorway to a smart motorway.
- E/3.2 Where a new junction is proposed as part of a smart motorway, the parameters given in Section E/3 shall not be used to design the new elements of that junction e.g. the slip roads.

Geometric parameters

Design speed (CD 109 clauses 2.1 and 2.4)

- E/3.3 Design speed shall be derived in accordance with CD 109 [Ref 1.N], however all design speeds can be classified as band B.

Combinations (CD 109 clauses 2.12 and 2.13)

- E/3.4 The relaxations below desirable minimum for the following parameters shall be permitted in combination:
- 1) stopping sight distance;
 - 2) horizontal curvature;
 - 3) vertical crest curves;
 - 4) absolute minimum for sag curves;
 - 5) superelevation.

Immediate approaches to junctions (CD 109 clause 2.14)

- E/3.5 The relaxations below desirable minimum identified in CD 109 [Ref 1.N] for the following parameters shall be permitted on the immediate approaches to junctions:
- 1) stopping sight distance;
 - 2) vertical crest curves;
 - 3) absolute minimum for sag curves.

Stopping sight distance (CD 109 clauses 3.7)

- E/3.6 The relaxations of one design speed step described in CD 109 [Ref 1.N] Section 3 for band A roads shall be permitted for band B roads.

Road camber and drainage (CD 109 clauses 4.1 to 4.4)

- E/3.7 Crossfall shall be measured across the paved surface of a road's cross-section.

NOTE The paved surface of the cross-section comprises the carriageway, hard shoulder and hard strips.

- E/3.8 Where the total width of the running lanes is to be increased, the existing drainage flow paths shall be assessed to determine their suitability.

NOTE Where the assessment of suitability identifies a benefit of doing so, crossfall can be increased by 0.5% above the requirements of CD 109 [Ref 1.N] to mitigate excessive depths of water.

- E/3.9 Retention of the existing crossfall (running lanes, hard shoulder, and hard strip) shall be permitted unless:
- 1) the assessment of drainage flow paths indicates the existing crossfall is not suitable (if an assessment is required);

- 2) the variation in crossfall for any given cross-section does not meet the criteria given in the following clauses in this sub-section of this document;
- 3) the review of the existing operational performance as described in this document highlights a collision problem relating to the existing crossfall, e.g. standing water.

E/3.10 The change in gradient of crossfall shall not exceed 5%.

NOTE For example, a hard shoulder with a 2.5% fall towards the verge adjacent to lane one with a 2.5% fall towards the central reserve, is acceptable as the overall change is 5%.

E/3.11 Changes in crossfall that create a sag shall only occur within hatched road markings with solid edge lines.

E/3.12 Where a sag creates a low point the associated surface water flow width shall not enter a traffic lane.

E/3.13 Crossfall shall not change within a lane.

E/3.14 Adverse camber shall not be provided on horizontal radii less than 2000 metres.

E/3.15 A minimum distance of 3 metres in cross-section shall be provided between changes in crossfall or superelevation within any given cross-section, except for connector road nosings where two changes in crossfall or superelevation are located on either side of the nose.

E/3.15.1 Where pavement works are being carried out (such as resurfacing or strengthening) then the crown line should be relocated to co-locate it with the road marking position, or adverse camber removed.

NOTE Where an adverse camber is to be retained between the new lane 1 and 2, there is no requirement to move the crown line from its existing position to co-locate it with the road marking position.

E/4. 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 109, 'Highway link design'
Ref 2.N	Highways England. GG 101, 'Introduction to the Design Manual for Roads and Bridges'
Ref 3.N	Highways England. GD 300, 'Requirements for new and upgraded all-purpose trunk roads (expressways)'
Ref 4.N	IAN 161, 'Smart Motorways'

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Design Manual for Roads and Bridges



Road Layout
Design

CD 109

Northern Ireland National Application Annex to CD 109 Highway link design

(formerly TD 9/93)

Revision 0

Summary

This National Application Annex sets out the Department for Infrastructure, Northern Ireland specific requirements for highway link design.

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	2
Foreword	3
Publishing information	3
Contractual and legal considerations	3
Introduction	4
Background	4
Assumptions made in the preparation of this document	4
NI/1. Traffic signs and road markings (additional to CD 109)	5
NI/2. Normative references	6

Release notes

Version	Date	Details of amendments
0	Nov 2019	Department for Infrastructure, Northern Ireland National Application Annex to CD 109.

Foreword

Publishing information

This document is published by Highways England on behalf of Department for Infrastructure, Northern Ireland.

This document supersedes those parts of TD 9/93 'Highway link design' which solely relate to roads in Northern Ireland 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 National Application Annex gives the Department for Infrastructure, Northern Ireland-specific requirements for the design of highway links to CD 109 on the Northern Ireland road network.

This National Application Annex is to be used in conjunction with CD 109.

Assumptions made in the preparation of this document

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

NI/1. Traffic signs and road markings (additional to CD 109)

NI/1.1 All traffic signs and road markings on highway links shall conform to the TSR(NI) 1997 1997 [Ref 2.N].

NOTE *Traffic sign and road marking diagram numbers in TSR(NI) 1997 1997 [Ref 2.N] are generally consistent with TSRGD 2016 2016 [Ref 3.N] but the two sets of regulations can occasionally differ.*

NI/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'
Ref 2.N	The Stationery Office (TSO). Department for Infrastructure (DfI). TSR(NI) 1997, 'The Traffic Signs Regulations (Northern Ireland) 1997' , 1997
Ref 3.N	The Stationery Office. TSRGD 2016, 'The Traffic Signs Regulations and General Directions 2016' , 2016

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Road Layout
Design

CD 109

Scotland National Application Annex to CD 109 Highway link design

(formerly TD 9/93)

Revision 0

Summary

There are no specific requirements for Transport Scotland supplementary or alternative to those given in CD 109.

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: TSSstandardsBranch@transport.gov.scot

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Contents

Release notes

2

Release notes

Version	Date	Details of amendments
0	Nov 2019	Transport Scotland National Application Annex to CD 109.

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Road Layout
Design

CD 109

Wales National Application Annex to CD 109 Highway link design

(formerly TD 9/93)

Revision 0

Summary

There are no specific requirements for Welsh Government supplementary or alternative to those given in CD 109.

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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Contents

Release notes

2

Release notes

Version	Date	Details of amendments
0	Nov 2019	Welsh Government National Application Annex to CD 109.

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Appendix 8.

The JSJV Advice Note.

Advice Note 01



Spatial Planning Framework Commission

Job number:	TBC	
Job title:	Review against Standards- Access to Land East of Dan Tree Farm, London Road, Bolney	
To:	Marius Pieters	cc: N/A
Topic:	Review against standards	
	Prepared:	Checked/Approved
Name:	Terry Dale	Terry Dale
Date:	22/08/2024	22/08/2024

Throughout this response any **ACTION POINTS** for the applicant are shown as **bold underlined**.

Introduction

1. National Highways has requested that the JSJV conduct a review of the access to land east of Dan Tree Farm, ensuring compliance with current design standards as outlined in the Design Manual for Roads and Bridges (DMRB).
2. Additionally, a review of personal injury collisions (PIC) has been conducted to assess the safety of the access.

The A23 and Access Infrastructure

A23 Main Carriageway

3. The A23 at the location of the access to lane east of Dan Tree Farm, is classified as a Dual 3 All Purpose (D3AP) road. A D3AP road is designed to accommodate high traffic volumes while providing access to both local and longer-distance destinations.
4. The "Dual 3" designation refers to a dual carriageway with three lanes in each direction, allowing for greater traffic capacity, smoother flow, and reduced congestion. The 'All Purpose' designation indicates that the road is intended for general use by all vehicle types, including cars, trucks, and buses, unlike motorways, which have specific restrictions.
5. Adjacent to the appeal site, the A23 main carriageway is street-lit and operates under the national speed limit for dual carriageways (70 mph, i.e., greater than 85kph). A layby is situated to the north of the access, with the end of its merge taper located approximately 100m to the north of the access centreline.
6. We note that there is a Department for Transport (DfT) manual count point situated on the A23, located 400m to the north of the access (site reference number 28865). According to data derived from this data point, the A23 at Bolney recorded an Annual Average Daily Traffic (AADT) flow of 63,829 motor vehicles in 2022, including 4,068 heavy goods vehicles (HGVs) and 12,157 light goods vehicles (LGVs).

7. This data is based on manual classified traffic counts. The 2023 data, estimated by DfT based on previous years' data, indicates an AADT flow of 64,878, with 4,019 HGVs and 12,562 LGVs.

Junction Categorisation

8. In the first instance, we shall consider how the access should be categorised, i.e., either a Direct Access, a 'Simple' priority junction, or within the 'Any Other Junction' category. This designation will define some of the standards relevant to its layout.
9. According to paragraph 4.1 of CD 123 Geometric design of at-grade priority and signal-controlled junctions (part of the Design Manual for Roads and Bridges, or DMRB), the implementation of a 'Direct Access' is strictly limited and may only be utilised in specific cases, such as:
 - A single dwelling.
 - A single field.
 - A single-use public utilities site where access is required solely for the maintenance of that specific site; or
 - A single-use highway maintenance site where access is required solely for the maintenance of that specific site.
10. In addition, these accesses must generate fewer than 50 vehicle movements per week.
11. CD 123 further stipulates that:
 - Direct Accesses shall not be used on motorways, all-purpose dual three-lane carriageways, or WS2+1 roads (Paragraph 2.28).
 - Direct Accesses shall not be provided on overtaking sections (Paragraph 2.29); and
 - Direct Accesses should be avoided where possible (Paragraph 2.29.1).
12. As the access does not serve any uses identified in paragraph 8 and is located on a DAP3, it cannot be regarded as a 'Direct Access'; hence, design standards for priority junction would apply.
13. In addition, as a Dual All Purpose 3 lane carriageway, the A23 has a central road treatment in the form of a central reserve. CD 123, paragraph 2.3, states that

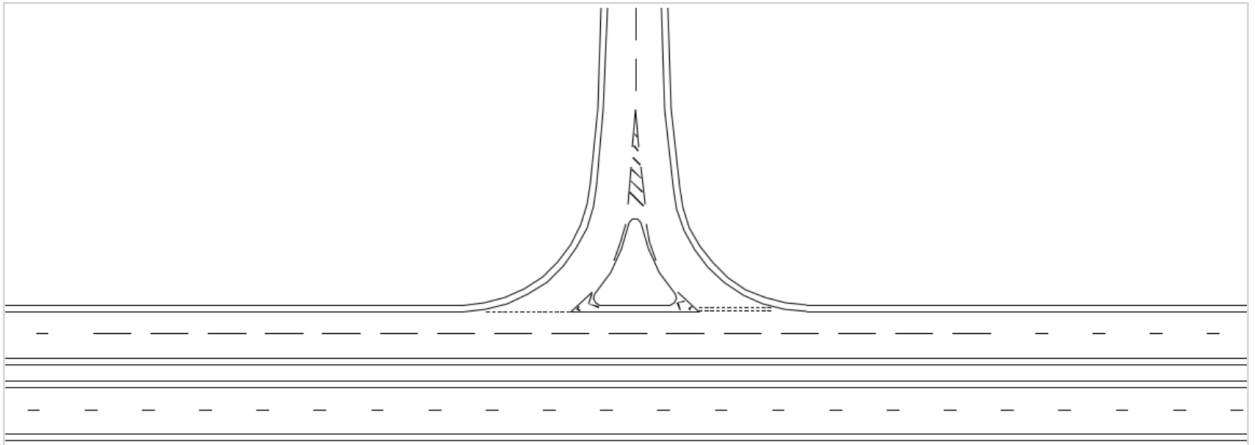
“Simple priority junctions shall only be used on single-carriageway roads without a climbing lane.”
14. The design elements present on the A23, at the location of the access, indicate that the junction does not meet the criteria for a simple priority junction as defined by CD 123.
15. The junction must therefore be categorised as a junction under the 'All Other Priority Junctions' category when considering, for example, visibility splays.

Access Layout and Operation

16. The access operates with restricted movements, i.e., its arrangement precludes right turns due to it forming a junction with a dual carriageway. While the principle of a junction with restricted movements is not unusual, in this case, its layout varies from the standard arrangement set out in DMRB CD 123, Figure 2.19.1N3b on page 15 **Figure 1**. For example, the current arrangement does not incorporate a traffic splitter or guide island, nor the associated hatched road markings.
17. CD 123, paragraph 5.25.1, states that:

“A traffic island should be provided to segregate the turning traffic from the major road prior to the commencement of the merging taper.”

Figure 1 – Extract of DMRB Figure 2.19.1N3b ‘Example of a dual carriageway priority junction with right turns into and out of the minor road prevented



18. The above notwithstanding, CD 123, paragraph 2.1, explicitly states that:

"priority junctions shall not be used on motorways or all-purpose dual three-lane carriageways."

19. The access already exists, however, the provision of a priority junction at this location today would not be permitted under current standards.

Radii

20. The above notwithstanding, the existing inbound corner radius is approximately 10m; at this location, a minimum 40m radius would comply with current design standards (CD 123 paragraph 5.6.5 (3)) .

Visibility

21. CD 123 sets out that, on a 1-way major road, visibility splays may be provided in both directions for vehicles turning out of the minor road. In addition, the minimum distance used to locate point X shall satisfy one of the following:

- 1) for direct access:
 - a) 4.5 metres; or
 - b) 2.0 metres.
- 2) for simple priority junctions:
 - a) 9.0 metres; or,
 - b) 2.4 metres.
- 3) for all other priority junctions:
 - a) 9.0 metres; or,
 - b) 4.5 metres.

22. The A23 benefits from street lighting at this location, and is subject to the National Speed Limit (70mph). Consequently, the visibility splay to the south of the access (left) should be 4.5m [minimum X] x 295m [Y].

23. Similarly, the visibility to the right of the access should achieve 295m from a minimum 4.5m setback.

24. It is unclear however that these requirements can be achieved. An aerial view of the access suggests that overgrowth of vegetation may preclude full visibility standards be met.

Minor Road Width

25. The access road itself is insufficiently wide enough to accommodate two-way movements; hence, a vehicle exiting the appeal site may obstruct access and may cause an incoming vehicle to overhang into the main carriageway if it is of a length greater than 10m, see Drawings 001-004 (**Appendix 1**).

Merge Taper

26. Referencing CD 123, paragraph 5.23, with regard to merge taper, the following standards shall apply:
- Merging tapers shall only be used where the major road is a dual carriageway.
 - Where the major road is a dual carriageway with a design speed of 85 kph or above, merging tapers shall be provided where:
 - the volume of left turning traffic in the design year exceeds 600 vehicles AADT
 - the volume of left turning traffic in the design year exceeds 450 vehicles AADT and the percentage of HGVs exceeds 20%; or
 - the volume of left turning traffic in the design year exceeds 450 vehicles AADT and the merging taper is for an up-gradient of greater than 4%.
27. In the absence of any corroborative data, the JSJV cannot confirm if the AADT flow requirements are met. Nonetheless, merge taper are otherwise appropriate for dual carriageway use.
28. At a maximum width of 3m, however, the existing merge does not meet the standards set out in CD 123 paragraph 5.25, i.e., that:
- "Merging tapers shall be formed by a decrease in width from 3.5 metres at the end of the corner radii out of the minor road."*
29. Further, with a major road design speed of 120kph, the merge taper should have a minimum length of 110m where no through route is achievable; the existing merge length is measured at approximately 36m.
30. Also, on dual carriageways with a design speed of 120 kph, the merging taper should be preceded by a 40-metres nose, which has a minimum back of nose width of 2 metres as set out in CD 123, paragraph 5.26.1. The existing merge omits a nose.

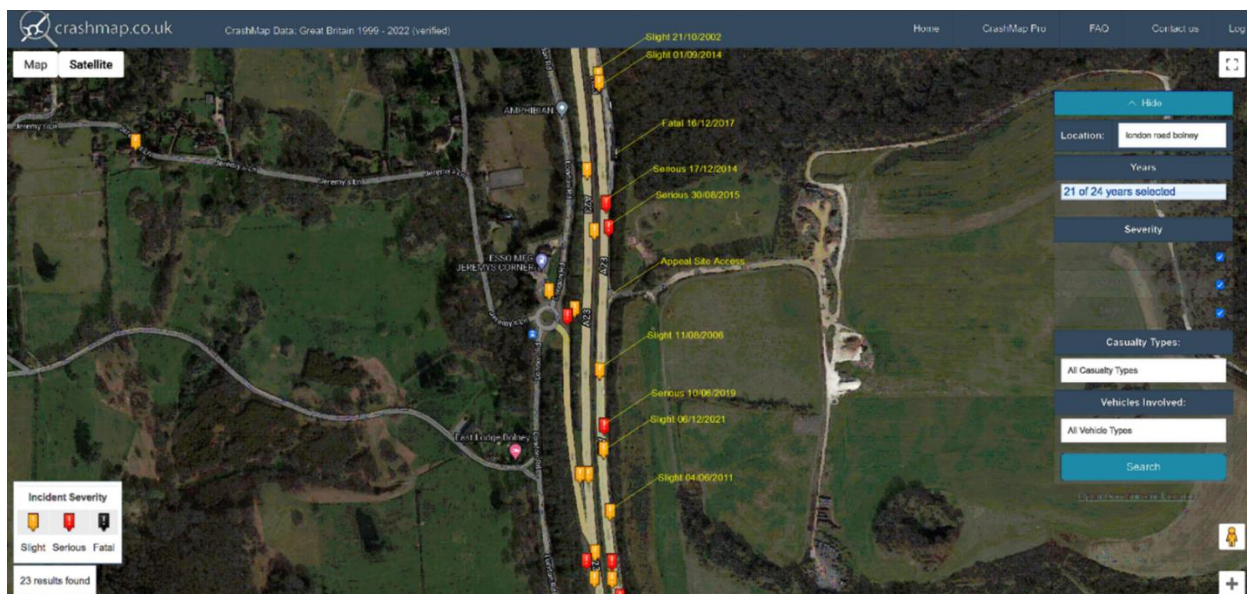
Diverge Tapers

31. CD 123, paragraph 5.19, requires that nearside diverging tapers shall be formed by an increase in width to 3.5 metres at the start of the corner radii into the minor road. The current layout has a maximum width of 3m.
32. With regard to length, paragraph 5.22 requires that the minimum length of a nearside diverging taper or auxiliary lane shall be in accordance with Table 5.22, i.e., 110m. The existing diverge length is measured at approximately 37m.

Review of Personal Injury Collisions

33. The JSJV has reviewed Personal Injury Collision (PIC) data provided by West Sussex County Council (WSCC) to National Highways, covering the period from 1 July 2017 to 30 June 2022.
34. This period coincided with the COVID-19 pandemic; hence, it requires cautious interpretation due to potentially reduced traffic volumes during national lockdowns. Nonetheless, only three PICs were recorded, none of which involved a vehicle entering or leaving the southbound carriageway at the site access. Additionally, none of the incidents were identified as having a contributory factor related to the access. Of the three, two were associated with standing water on the carriageway, and one, a fatality within the layby, has alcohol cited as a contributory factor.
35. Given that the study period also spanned national lockdowns, and notwithstanding Government guidance on the preparation of Transport Assessments—which recommend an analysis of injury accident records for the most recent three-year period, or five-year period if the proposed site has been identified as being within a high-accident area—the JSJV has reviewed Personal Injury Collision (PIC) data hosted by Crashmap.co.uk, covering a 21-year period (2002–2022 inclusive) (**Figure 2**).
36. As discussed, the A23 is subject to a 70-mph speed limit; hence, the stopping sight distance (SSD) requirement is 295m (ref: DMRB CD109). Within 295m of the site access, therefore, we noted nine PIC on the southbound carriageway of the A23.
37. Four of the PIC are located to the south of the access, one of which was categorised as serious; two are located to the north of the layby and one, a fatality, is located within the layby. The remaining two are located between the layby exit and the appeal site access; these are categorised as serious and occurred in 2014 and 2015.

Figure 2 PIC Data 2002 – 2022 Inclusive (Source: Crashmap.co.uk)



38. The spread of PIC on this section of road suggests that there is no specific trends or clusters, albeit JSJV noted that standing water was cited as a contributory factor in two of the nine collisions. Equally, that none of the PIC recorded over an extended period are directly adjacent to or associated with the access suggests that presence of the access in itself does not generate a road safety issues.

Summary and Conclusion

Summary

39. Given this review, the JSJV can conclude that the access to the lane east of Dan Tree Farm on the A23 does not meet current design standards, particularly the Design Manual for Roads and Bridges (DMRB) standards that apply to priority junctions and Dual 3 All Purpose (DAP3) roads. Specifically:

i. Inappropriate for a DAP3 Road:

- **Direct Access:** The access cannot be classified as a "Direct Access" under DMRB CD 123 standards because such accesses are not permitted on DAP3 roads. These roads are designed for high-speed, high-volume traffic, and direct accesses are typically only allowed in limited, low-impact scenarios (e.g., single dwellings or small utility sites with minimal traffic).
- **Simple Priority Junction:** The access also does not meet the criteria for a simple priority junction, which is not permitted on DAP3 roads. Simple priority junctions are generally limited to single-carriageway roads without climbing lanes.

ii. Design Deficiencies:

- The current layout of the access does not include essential safety features typically required such as appropriately designed merge and diverge tapers, traffic islands, and potentially visibility splays.
- Specifically, the access lacks a merging taper of sufficient length (110 meters required) and does not meet the 40-meter nose requirement for dual carriageways with a design speed of 120 km/h (75 mph). The inbound corner radius is also below the standard 40 meters needed for compliance with DMRB CD 123.

iii. Road Safety Implications:

- Although historical Personal Injury Collision (PIC) data does not indicate a significant safety issue at this access, this could be due to the current level of use. The provision of this access relative to DAP3 standards suggests that it was not designed with the required safety margins that apply to roads of this nature.
- The lack of compliance with DAP3 standards presents a potential risk, especially if traffic levels increase or road conditions change. The design elements are substandard for a road of this type, which typically demands stricter controls to ensure safety due to the high speeds and volumes of traffic.

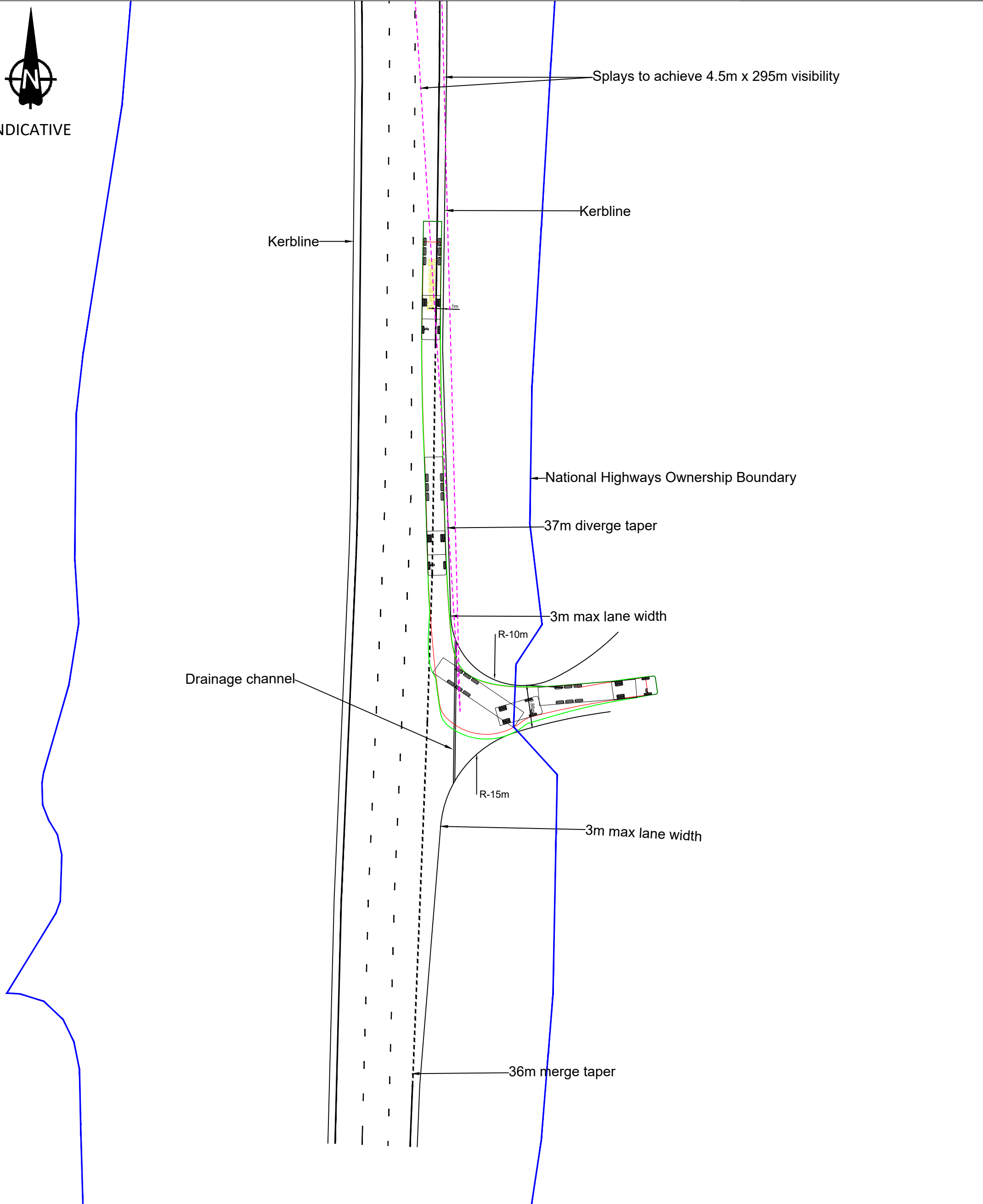
Conclusion

40. The access does not comply with the stringent design standards set out in CD 123. However, while historical data suggests that the access has not yet caused safety issues, its non-compliance with standards may pose a latent risk, particularly if the use of the access is to intensify.

Appendix 1- Drawings



INDICATIVE



Notes

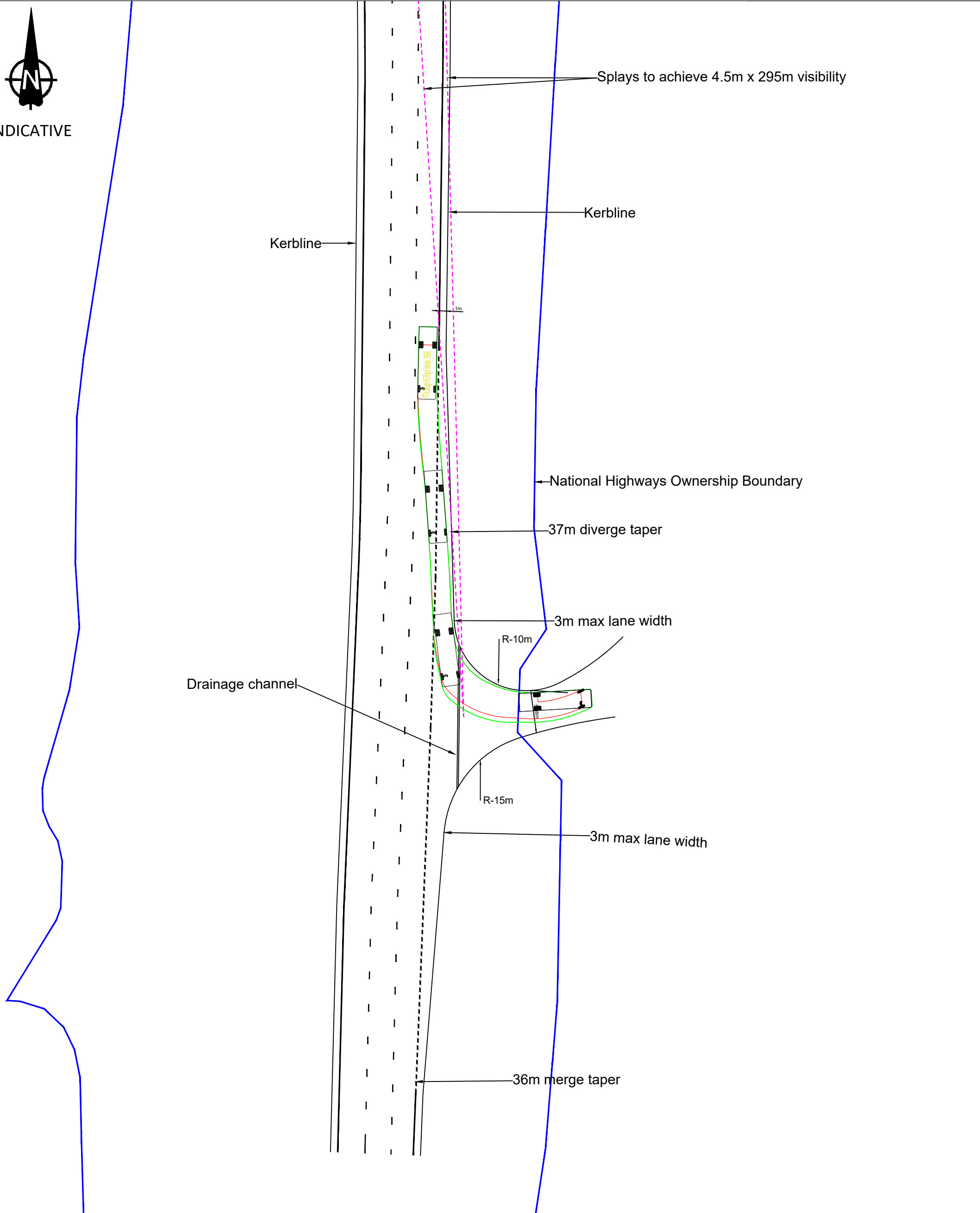
FTA Design Articulated Vehicle (1998)	16.480m
Overall Length	2.550m
Overall Width	3.870m
Overall Body Height	0.515m
Min Body Ground Clearance	2.470m
Max Track Width	3.00s
Lock to lock time	6.550m
Kerb to Kerb Turning Radius	

— National Highways indicative ownership boundary

Drawing Revisions				Title	
Rev:	Drn:	Date:	Details	Chk:	16.6m Large Articulated Vehicle Swept Path- Access onto A23
-	HM	22/08/2023	DRAFT ISSUE	TD	
Client				National Highways	
Project				National Highways A23 Access	
Drawing Number:				001	
Scale:				1:500 @ A3	
Revision:				-	



INDICATIVE



Notes

FTA Design HG Rigid Vehicle (1998)
 Overall Length 10.000m
 Overall Width 2.500m
 Overall Body Height 3.645m
 Min Body Ground Clearance 0.440m
 Track Width 2.470m
 Lock to lock time 3.00s
 Kerb to Kerb Turning Radius 11.000m

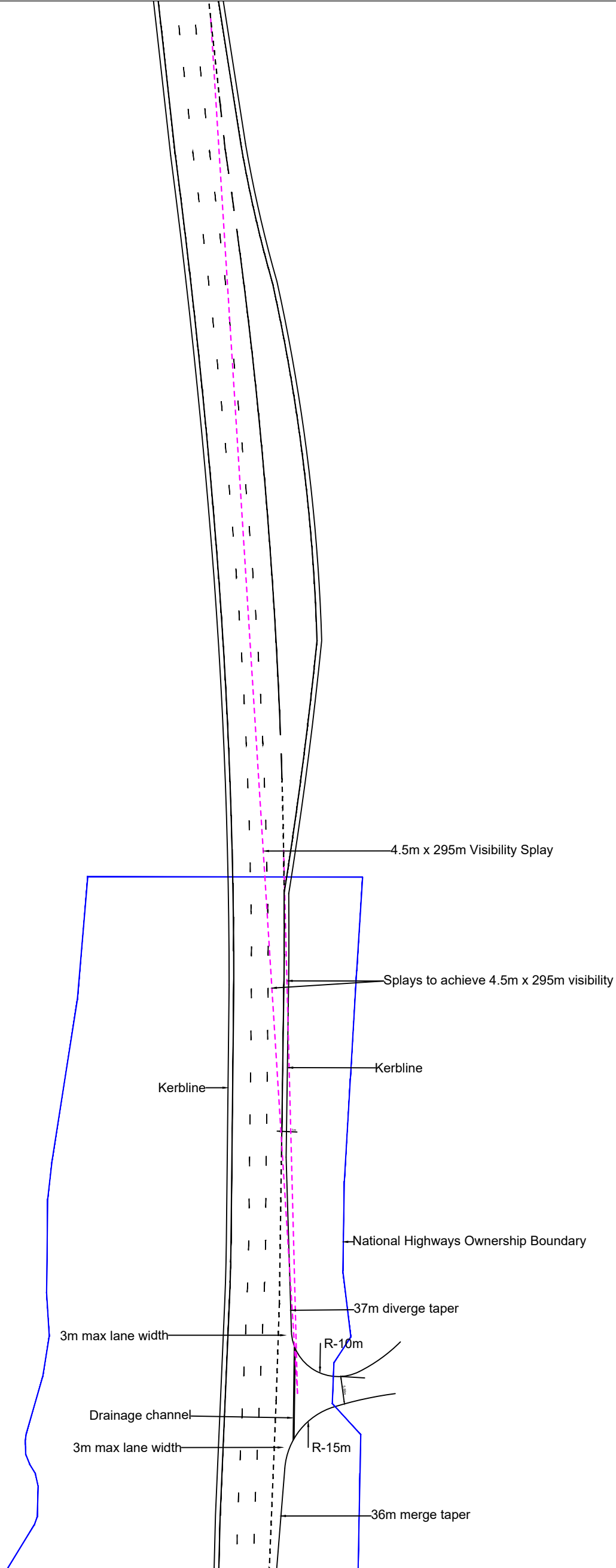
— National Highways indicative ownership boundary

Drawing Revisions				Chk:
Rev:	Drn:	Date:	Details	TD
-	HM	22/08/2023	DRAFT ISSUE	
Client				
National Highways				
Project				
National Highways A23 Access				

Title	
Swept Path 10m Rigid Vehicle- Access onto A23	
Drawing Number:	Scale:
002	1:500 @ A3
	Revision:
	-



INDICATIVE



Notes

— National Highways indicative ownership boundary

Drawing Revisions

Rev.	Drn:	Date:	Details	Chk:
-	HM	21/08/2024	ISSUE	TD

Title

Visibility Splay- Access onto A23

Client

National Highways

Project

National Highways A23 Access

Drawing Number:

003

Scale:

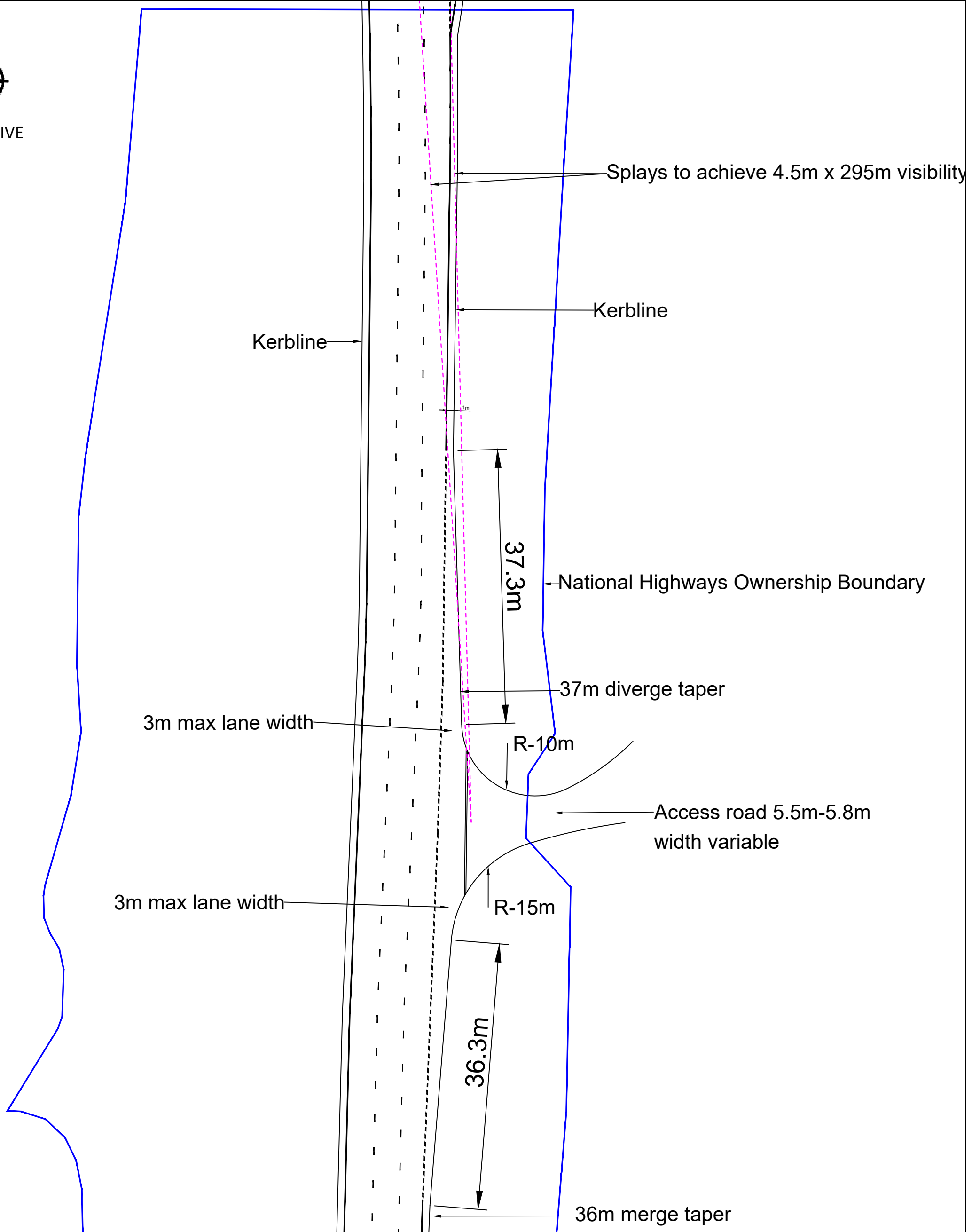
1:1000 @ A3

Revision:

-



INDICATIVE



Notes

— National Highways indicative ownership boundary

Drawing Revisions				Chk:
Rev.	Drn:	Date:	Details	TD
-	HM	21/08/2024	ISSUE	

Title

Access onto A23

Client

National Highways

Project

National Highways A23 Access

Drawing Number:

004

Scale:

1:500 @ A3

Revision:

-