

High Speed Rail (Crewe – Manchester)

Supplementary Environmental Statement 1 and Additional Provision 1 Environmental Statement

Volume 2: Community Area reports

MA04: Broomedge to Glazebrook

MA05: Risley to Bamfurlong

High Speed Rail (Crewe – Manchester)

Supplementary Environmental Statement 1 and Additional Provision 1 Environmental Statement

Volume 2: Community Area reports

MA04: Pickmere to Agden and Hulseheath

MA05: Risley to Bamfurlong



Department
for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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Structure of the HS2 Supplementary Environmental Statement 1 and Additional Provision 1 Environmental Statement

This report is part of the suite of documents that make up the SES1 and AP1 ES for High Speed Rail (Crewe – Manchester). The SES1 and the AP1 ES are separate documents, however, they are bound together and presented in a number of volumes shown in Figure 1 and described below:

- Non-technical summary (NTS). This provides a summary in non-technical language of the SES1 (Part 1) and the AP1 ES (Part 2). It presents a summary of any likely residual significant environmental effects (i.e. effects which are likely to remain after mitigation measures are put in place), both beneficial and adverse, which are new, different or have been removed compared to those reported in the ES submitted to Parliament in January 2022 in support of the hybrid Bill for the HS2 Phase 2b Western Leg ('the main ES');
- Glossary of terms, list of abbreviations and references. This contains any new or different terms and abbreviations used throughout the SES1 and the AP1 ES which are not already explained in the main ES and provides the references cited in each of the volumes listed below;
- Volume 1: Introduction to the SES1 and the AP1 ES. This introduces the supplementary environmental information and changes to the design and construction assumptions included within the SES1 and amendments within the AP1 ES. The report explains the environmental impact assessment (EIA) process which has been applied;
- Volume 2: Community Area reports and map books. These report the supplementary environmental information and changes to the design and construction assumptions included within the SES1 (Part 1), amendments within the AP1 ES (Part 2) and any new, different or removed likely significant environmental effects arising from these changes and amendments in the following community areas:
 - MA01: Hough to Walley's Green;
 - MA02: Wimboldsley to Lostock Gralam;
 - MA03: Pickmere to Agden and Hulseheath;
 - MA04: Broomedge to Glazebrook; and
 - MA05: Risley to Bamfurlong.
- These effects are compared to those reported in the main ES (as amended by the SES1 for the AP1 amendments). The maps relevant to each community area are provided in separate Volume 2 map books and should be read in conjunction with the relevant Community Area report;
- The Community Area reports for MA04: Broomedge to Glazebrook and MA05 Risley to Bamfurlong are combined into one report for Volume 2 of the SES1 and AP1 ES;

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Note that changes to the design and the construction assumptions and environmental baseline information for the remaining community areas (MA06: Hulseheath to Manchester Airport, MA07: Davenport Green to Ardwick, MA08: Manchester Piccadilly Station) will be reported in a separate, future SES2 and AP2 ES;

- Volume 3: Route-wide effects. This describes any new or different likely significant environmental effects arising at a route-wide level from the supplementary environmental information and changes to the design and construction assumptions included within the SES1 (Part 1) and the amendments within the AP1 ES (Part 2) compared to those reported in the main ES (as amended by the SES1 for the AP1 amendments); and
- Volume 5: Appendices and map books. These contain supporting environmental information and associated maps.

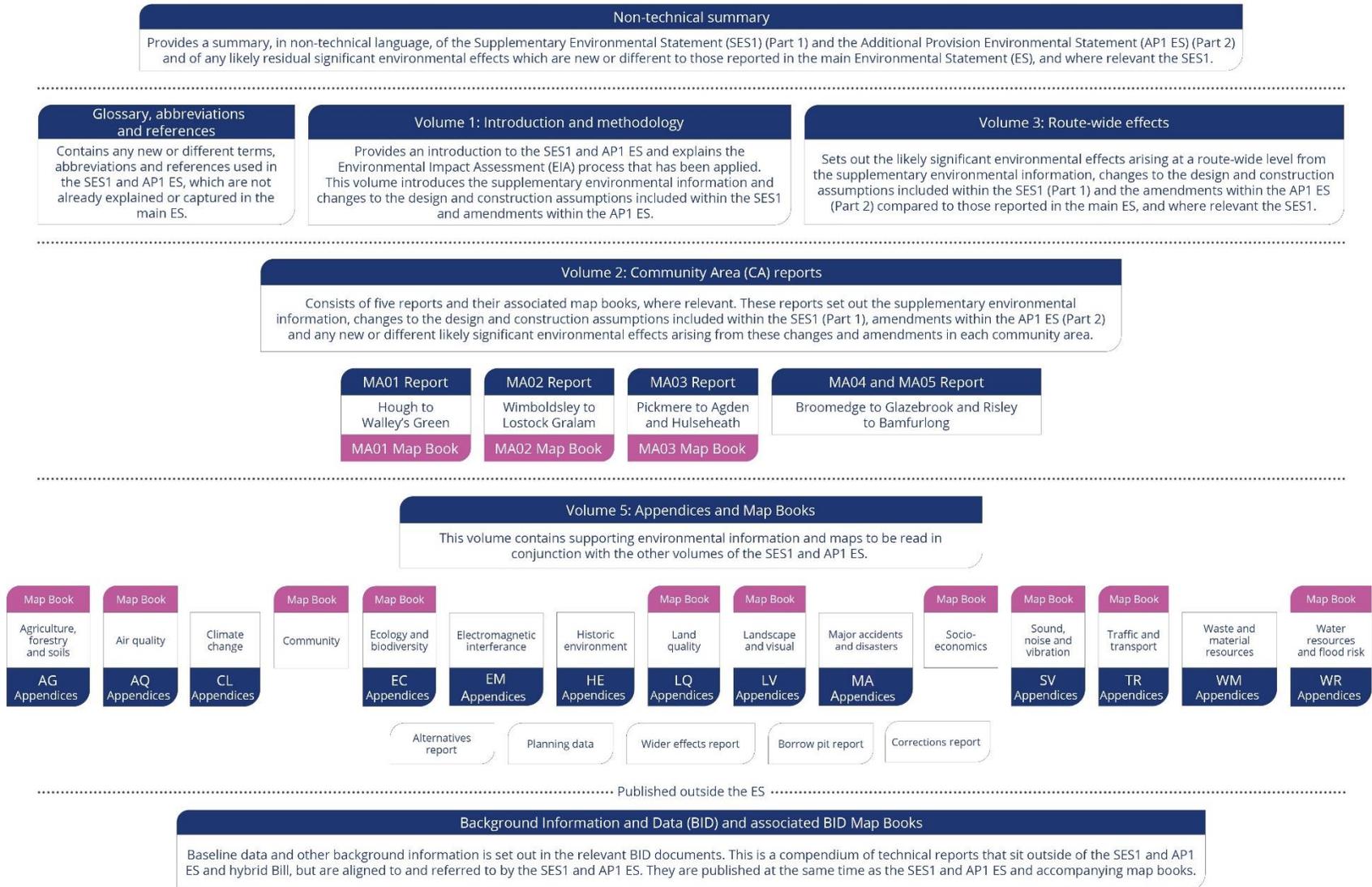
A Volume 4: Off-route effects report was produced as part of the main ES. An Off-route effects report has not been produced as part of this SES1 and AP1 ES. Any new or different off-route effects will be reported as part of SES2 and AP2 ES.

Certain reports and maps containing background information and data (BID) have been produced, which do not form part of the SES1 and AP1 ES. These documents are available online at <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-1-and-additional-provision-1-environmental-statement>. The BID documents and maps present background survey information and other relevant background material.

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Figure 1: Structure of the SES1 and AP1 ES



Structure of this report

This volume of the SES1 is divided into Community Area (CA) reports. Each of these reports is in turn divided into two parts.

Part 1 provides supplementary environmental information, where relevant, relating to:

- new baseline information with respect to environmental surveys completed and additional information received since the production of the main ES;
- changes to the design and construction assumptions that do not require changes to the Bill; and
- corrections to the main ES.

Part 2 provides environmental assessment information relating to proposed amendments to the design that have resulted in the need to alter the powers conferred by the Bill.

Parts 1 and 2 also include the following, where relevant:

- a description of the SES1 changes (Part 1) or the proposed AP1 amendments (Part 2) within the community area that have triggered the need for reassessment;
- an assessment of the environmental effects of the SES1 changes (Part 1) or the proposed AP1 amendments (Part 2) for relevant environmental topics, considering the:
 - scope, assumptions and limitations of the assessment;
 - environmental baseline;
 - effects arising during construction;
 - effects arising from operation; and
 - mitigation and residual effects.
- a summary of any new, different or remaining likely residual significant effects as a result of the SES1 changes (Part 1) and the proposed AP1 amendments (Part 2).

1 Introduction

- 1.1.1 The High Speed Rail (Crewe – Manchester) Bill was submitted to Parliament together with an Environmental Statement ('the main ES') in January 2022. Since submission of the Bill, a number of updates or changes to environmental baseline information, the design, and construction assumptions have occurred, which may lead to new or different significant effects. These effects, depending on the type of change, are reported in the SES1 or the AP1 ES, which form Part 1 and Part 2 of this document respectively.
- 1.1.2 The Bill and the Additional Provisions to the Bill described above, if enacted by Parliament, will provide the powers to construct, operate and maintain the HS2 Phase 2b Western Leg. Changes made through the SES1 and AP1 ES do not change the principle of the 'original scheme' (i.e. the Bill scheme which was assessed in the main ES) in terms of provision of a route between Crewe and Manchester and the essential components of the construction and operation of that scheme.
- 1.1.3 The SES1 (Part 1 of this report) contains updated scheme information relating to changes within the current limits and powers of the Bill, and therefore, which do not require an Additional Provision to the Bill. The SES1 changes within the Broomedge to Glazebrook area and Risley to Bamfurlong area include changes to the design and construction assumptions which do not require changes to the Bill.
- 1.1.4 The purpose of the SES1 is to describe the assessment and identify any new, different or remaining likely significant environmental effects arising from the changes.
- 1.1.5 There are no amendments to the design of the scheme in this area that require land outside of the original limits of the Bill, additional access rights, or changes to the powers conferred by the Bill. However, a combined assessment of new, different or remaining significant construction traffic effects in the Broomedge to Glazebrook area and Risley to Bamfurlong area as a result of changes in construction traffic flows in other community areas, is reported in the AP1 ES (Part 2 of this report). This is because alterations in construction traffic flows cannot generally be directly attributed to particular SES1 changes or AP1 amendments.
- 1.1.6 The standard measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of the scheme are described in Section 9 of Volume 1 of the main ES and in the draft Code of Construction Practice (CoCP)¹ submitted in support of the Bill. Implementation of these measures has been assumed in this SES1 and AP1 ES.

¹ High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, draft Code of Construction Practice*, Volume 5, Appendix: CT-002-00000. Available online at: <https://www.gov.uk/government/publications/hs2-phase-2b-crewe-manchester-environmental-impact>.

1.1.7 The following terms are used to differentiate between changes included in the SES and those included in the AP1 ES:

- ‘SES1 design changes’ – changes to the scheme design reported in the SES that do not require additional powers;
- ‘SES1 changes’ – all changes reported in the SES that do not require additional powers. This may include new baseline information, changes to the design and construction assumptions, and corrections; and
- ‘AP1 amendments’ – changes to the scheme reported in the AP1 ES that include requirements for additional powers in the Bill.

1.1.8 In addition, the following terms are used to differentiate between the original scheme described in the main ES and subsequent changes and amendments:

- ‘the SES1 scheme’ – the original scheme with any changes described in the SES that are within the existing powers of the Bill; and
- ‘the AP1 revised scheme’ – the original scheme as amended by the SES1 changes and AP1 amendments.

MA04: Broomedge to Glazebrook

Part 1: Supplementary Environmental Statement 1 for the Broomedge to Glazebrook area

2 Summary of changes in the Broomedge to Glazebrook area

2.1 Changes to the design or to construction assumptions not requiring a change to the Bill

Introduction

- 2.1.1 This section sets out the changes to the design and construction assumptions in the Broomedge to Glazebrook area, which will not require a change to the Bill.

Removal of the HS2 West Coast Main Line (WCML) connection (SES1-004-001)

- 2.1.2 The Bill provides for the HS2 WCML connection between the Hoo Green junction (south of Peacock Lane overbridge) in the Pickmere to Agden and Hulseheath area (MA03) and the A58 Lily Lane (near Bamfurlong) in the Risley to Bamfurlong area (MA05).
- 2.1.3 The section of the HS2 WCML connection in the original scheme would be 7.3 km in the Broomedge to Glazebrook area (MA04). The section of the HS2 WCML connection in the Broomedge to Glazebrook area would have included 2.6km of viaducts, 3.6km of embankments and 1.1km of cuttings, associated infrastructure and utility works including the Manchester Ship Canal viaduct at the northern extent of the area.
- 2.1.4 The route of the HS2 WCML connection would have extended from the parish boundary of Lymm which forms the southern extent of the Broomedge to Glazebrook area and the boundary with the Pickmere to Agden and Hulseheath area (MA03). The route of the HS2 WCML connection would have passed through the parishes of Lymm, Warburton, Partington and Rixton-with-Glazebrook.
- 2.1.5 The boundary between the Rixton-with-Glazebrook parish and Birchwood parish would have formed the northern boundary of this section and the southern boundary of the Risley to Bamfurlong area (MA05) (see Volume 2, MA04 Map Book, maps CT-05-322b to CT-05-327 R3, and maps CT-06-322b to CT-06-327 R3, in the main ES).

- 2.1.6 Since the deposit of the Bill, the Secretary of State has decided to remove the HS2 WCML connection, included in the original scheme, from the High Speed Rail (Crewe – Manchester) Bill and has given this commitment to Parliament. As a result, the WCML connection from near Hoo Green junction on the HS2 network to the Lily Lane junction, near Golborne, on the WCML will be removed. Modifications to the existing WCML for the HS2 WCML connection, as reported in the main ES, will no longer be required. The removal of the HS2 WCML connection will be a SES1 design change (SES1-004-001).
- 2.1.7 As a result, the 7.3km section of the HS2 WCML connection in the Broomedge to Glazebrook area as set out in the original scheme, with the exception of the wetland habitat creation (restoration) at Little Woolden Moss, will be removed (see Volume 2, Community Area report: Broomedge to Glazebrook (MA04), Section 2.2 of the main ES, and Volume 2, MA04 Map Book, maps CT-05-327, R1, R2 and R3, and CT-06-327, R1, R2 and R3 in the main ES).
- 2.1.8 As a consequence of the SES1 design change, all civil engineering and railway systems compounds and associated construction activities, with the exception of some construction traffic routes, in the Broomedge to Glazebrook area, will not be required.

2.2 Changes to the effects reported in the main ES in the Broomedge to Glazebrook area

- 2.2.1 Except for the remaining, new or different effects set out below and in Section 3.2, as a result of this SES1 design change, the significant effects reported in the main ES from construction and operation activities in the Broomedge to Glazebrook area will be removed.

Part 2: Additional Provision 1 Environmental Statement for the Broomedge to Glazebrook area

3 Summary of amendments in the Broomedge to Glazebrook area

3.1 Introduction

- 3.1.1 As a result of the Removal of the HS2 West Coast Main Line (WCML) connection (SES1-004-001) the majority of the original scheme has been removed from this area. However, it is anticipated that there will be effects in the Broomedge to Glazebrook area as a result of changes in construction traffic flows arising from works in other community areas. These changes in traffic flows cannot be directly attributed to a specific SES1 change or an AP1 amendment and are therefore considered in a combined assessment. The likely significant effects in the Broomedge to Glazebrook area are reported in this section.
- 3.1.2 Please note that all dimensions in the following sections are approximate.

3.2 Combined effects of changes and amendments in the Broomedge to Glazebrook area due to changes in construction traffic flows

- 3.2.1 This section reports the combined assessment of new, remaining or different significant construction traffic and traffic related effects, as a result of changes in construction traffic flows.
- 3.2.2 Traffic and transport effects are reported first, since the effects arise from changes in construction traffic flows. Other topics where potential for a significant effect has been identified are then reported in the following sequence:
- air quality;
 - ecology and biodiversity; and
 - socio-economics.

SES1 changes and AP1 amendments of relevance to this assessment

- 3.2.3 The assessment includes all changes to construction traffic. The primary contributors to the changes in construction traffic are the changes to the movement of excavated material, construction programme and construction assumptions. The main reason for this is the removal of the HS2 WCML connection (SES1-004-001). The assessment takes into account measures to reduce the need to move material by the road network and use of site haul routes to limit construction traffic on the road network.

Traffic and transport

Scope, assumptions and limitations

- 3.2.4 The assessment scope, key assumptions and limitations for the traffic and transport assessment are as set out in Volume 1 (Section 8) and the Environmental Impact Assessment (EIA) Scope and Methodology Report (SMR) of the main ES.
- 3.2.5 The peak level of construction traffic activity is expected to be 2030 and the opening year to be 2038. The forecasts used in the assessment have been produced prior to the development of a full understanding of the likely impact of COVID-19 on economic growth and travel behaviour. The full impact of COVID-19 is not yet known but is considered likely to result in lower travel demand than the forecasts used in the assessment for background traffic and rail, including HS2.
- 3.2.6 Consequently, the assessment is considered to overstate travel demand for the construction scenarios and therefore to present a robust case for traffic and transport.
- 3.2.7 Information on traffic and transport impacts within the Broomedge to Glazebrook area is contained in Volume 5, Appendix: TR-003-00004 Transport Assessment of the main ES. Changes to traffic and transport impacts within the Broomedge to Glazebrook area (MA04) as a result of the AP1 revised scheme are contained in SES1 and AP1 ES Volume 5, Appendix: TR-003-00004 Transport Assessment.

Assessment of impacts and effects

Key construction transport issues

- 3.2.8 The SES1 design change to remove the HS2 WCML connection (SES1-004-001) will remove the requirement for all civil engineering and railway system compounds reported in the main ES associated with construction activities in the Broomedge to Glazebrook area.
- 3.2.9 The remaining temporary traffic and transport impacts in this area will be caused by construction and workforce vehicle movements associated with the wetland habitat creation

at Little Woolden Moss and construction traffic movements to and from other community areas.

Highway network

- 3.2.10 As a result of the SES1 design change to remove the WCML connection (SES1-004-001) between the Pickmere to Agden and Hulseheath area (MA03) and the Risley to Bamfurlong area (MA05), changes to the highway network reported in the main ES, including road closures, diversions and realignments, are no longer required in the Broomedge to Glazebrook area.
- 3.2.11 The removal of the HS2 WCML connection (SES1-004-001) and associated construction activities will also generally result in reduced construction traffic on the local road network in the Broomedge to Glazebrook area compared to the main ES. Changes to patterns of construction workforce trips will however result in increases in traffic at some locations.
- 3.2.12 The remaining construction traffic within the Broomedge to Glazebrook area will comprise the construction and workforce vehicle movements associated with the wetland habitat creation at Little Woolden Moss and construction traffic to and from other community areas.
- 3.2.13 The combined impact of the AP1 revised scheme will lead to flow changes on the highway network during construction. This will result in changes to the traffic congestion and delay effects for vehicle occupants, as reported in the main ES. The significant effects with the highest magnitude at each junction are set out in Table 1. The significance of the effect reported in the main ES is indicated in brackets.

Table 1: Junctions resulting in significant effects on delays to vehicle occupants and congestion in the Broomedge to Glazebrook area, 2030

Junction name	Significant effect
A56 Higher Lane/B5159 Burford Lane/B5159 High Legh Road	Major adverse (increased) (Previously major adverse)
M6 junction 21/A57 Manchester Road/B5210 Woolston Grange Avenue	No change from main ES (Previously major adverse)
A6144 Warburton Lane/A6144 Paddock Lane/B5160 Dunham Road	No effect (Previously major adverse)
A6144 Bent Lane/A6144 Paddock Lane/Paddock Lane	Moderate adverse (Previously major adverse)
A57 Manchester Road/Manchester Road	No effect (Previously major adverse)
A57 Manchester Road/B5212 Glazebrook Lane/Manchester Road	No effect (Previously major adverse)
A6144 Manchester New Road/A6144 Manchester Road/Manchester Road/Moss Lane	No effect (Previously major adverse)
A6144 Carrington Lane/A6144 Carrington Spur/Banky Lane	No effect (Previously moderate adverse)
A6144 Carrington Road/B5158 Flixton Road	Moderate adverse (Previously major adverse)

Junction name	Significant effect
M60 junction 10/B5214 Trafford Boulevard/B5214 Barton Road	Minor adverse (Previously major adverse)
A57 Liverpool Road/Salford Western Gateway	No change from main ES (Previously major adverse)
B5230 Barton Lane/B5211 Barton Road/B5211 Redclyffe Road/Peel Green Road	No effect (Previously major adverse)
A57 Liverpool Road/Hardy Street/Peel Green Road	No change from main ES (Previously minor adverse)

3.2.14 It should be noted that in most cases there is a reduction in the level of significance of the traffic congestion and delay effects for vehicle occupants in the Broomedge to Glazebrook area compared to the main ES. However, in one location there is an increase in the level of significance of the effect, which is due to changes to patterns of construction workforce trips.

3.2.15 Construction of the AP1 revised scheme will result in substantial changes in traffic flows (i.e. more than 30% for heavy goods vehicles (HGV) or for all vehicles) in some locations, which can lead to changes in traffic-related severance for non-motorised users, which are significant. The significant effects with the highest magnitude in each location are set out in Table 2 for all-traffic effects and Table 3 for HGV traffic effects. The significance of the effect reported in the main ES is indicated in brackets.

Table 2: Roads with changes in daily all vehicle movements (more than 30%) resulting in significant effects on traffic-related severance for non-motorised users in the Broomedge to Glazebrook area, 2030

Road name	Significant effect
Crouchley Lane (between Mag Lane and A56 Higher Lane)	Moderate adverse (Previously minor adverse)
B5159 Burford Lane (between A56 Higher Lane and Stage Lane)	Major adverse (Previously minor beneficial)
Stage Lane (between B5159 Burford Lane and Sandy Lane)	No effect (Previously minor adverse)

Table 3: Roads with changes in daily HGV movements (more than 30%) resulting in significant effects on traffic-related severance for non-motorised users in the Broomedge to Glazebrook area, 2030

Road name	Significant effect
Bradshaw Lane (between B5159 Burford Lane and Wet Gate Lane)	No effect (Previously major adverse)
B5159 Mill Lane (between Bradshaw Lane and Wet Gate Lane)	No effect (Previously major adverse)
Wet Gate Lane (between B5159 Mill Lane and Bradshaw Lane)	No effect (Previously major adverse)
B5160 Station Road (between Barns Lane and B5160 Paddock Lane)	No change from main ES (Previously major adverse)
B5159 Mill Lane (between Wet Gate Lane and A6144 Birch Brook Road)	No effect

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Road name	Significant effect
	(Previously major adverse)
B5160 Paddock Lane (between Barns Lane and B5160 Station Road)	No change from main ES (Previously major adverse)
B5160 Dunham Road (between Barns Lane and B5160 Paddock Lane)	No change from main ES (Previously major adverse)
A6144 Mill Lane (between B5159 Mill Lane and B5159 Townfield Lane)	No effect (Previously major adverse)
B5160 Dunham Road (between Gorsey Lane and Carrgreen Lane)	No change from main ES (Previously major adverse)
A6144 Bent Lane (between A6144 Paddock Lane and B5159 Townfield Lane)	No effect (Previously moderate adverse)
B5160 Dunham Road (between A6144 Warburton Lane and Gorsey Lane)	No change from main ES (Previously major adverse)
A6144 Paddock Lane (between A6144 Bent Lane and B5160 Dunham Road)	No effect (Previously major adverse)
A6144 Warburton Lane (between B5160 Dunham Road and Paddock Lane realignment)	No effect (Previously major adverse)
A6144 Warburton Lane (between Paddock Lane realignment and Moss Lane)	No effect (Previously major adverse)
A6144 Warburton Lane (between Moss Lane and Chapel Lane)	No effect (Previously major adverse)
Dam Lane (between School Lane and Manchester Road)	No effect (Previously major adverse)
Manchester Road (between Dam Lane and B5212 Glazebrook Lane)	No effect (Previously major adverse)
B5212 Glazebrook Lane (between Manchester Road and A57 Manchester Road)	No effect (Previously moderate adverse)
A6144 Warburton Lane (between Chapel Lane and Moss Lane)	No effect (Previously major adverse)
Dam Lane (between School Lane and Dam Head Lane)	No effect (Previously moderate adverse)
A6144 Manchester Road (between B5158 Flixton Road and Moss Lane)	No effect (Previously major adverse)
Dam Head Lane (between B5212 Glazebrook Lane and Bank Street)	No effect (Previously moderate adverse)
Salford Western Gateway (between B5214 Trafford Boulevard and Trafford Way)	No change from main ES (Previously moderate adverse)
Trafford Way (between Old Park Lane and B5214 Trafford Boulevard)	No change from main ES (Previously moderate adverse)
Salford Western Gateway (between M60 junction 11 southbound link and Trafford Way)	Moderate adverse (Previously no effect)
Salford Western Gateway (between M60 junction 11 northbound link and M60 junction 11 southbound link)	No change from main ES (Previously major adverse)

3.2.16 It should be noted that in most cases there is a reduction in the level of significance of the traffic-related severance effects for non-motorised users in the Broomedge to Glazebrook

area compared to the main ES. However, in a number of locations there is an increase in the level of significance of the effect, which is due to changes to patterns of construction workforce trips.

Other mitigation measures

- 3.2.17 No further appropriate traffic and transport mitigation measures have been identified. HS2 Ltd will, however, continue to work with the relevant highway authorities to consider whether any further mitigation measures would be required.

Summary of likely residual significant effects

- 3.2.18 The AP1 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants, as reported in the main ES:
- different (increased) major adverse significant effects on one junction;
 - change (decrease) from major adverse effect to minor adverse effect on one junction; and
 - change (decrease) from major adverse effect to moderate adverse effect on two junctions.
- 3.2.19 The AP1 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users, as reported in the main ES:
- new moderate adverse effect on one road;
 - change (increase) from minor adverse effect to moderate adverse effect on one road; and
 - change (increase) from minor beneficial effect to major adverse effect on one road.

Cumulative effects

- 3.2.20 The combined assessment has taken into account cumulative effects from background traffic growth, committed developments and traffic and transport impacts of the construction works arising from the SES1 changes and AP1 amendments in this area and other community areas.

Air quality

Scope, assumptions and limitations

- 3.2.21 The assessment scope, key assumptions and limitations for air quality are as set out in Volume 1 and the EIA SMR of the main ES.
- 3.2.22 There has been no change to existing and future environmental baseline information for air quality since the main ES.

- 3.2.23 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are required.

Assessment of impacts and effects

- 3.2.24 Construction activity could affect local air quality through the additional traffic generated on the highway network as a result of the AP1 revised scheme in other community areas during construction.
- 3.2.25 The assessment of construction traffic emissions has been undertaken for a 'without the AP1 revised scheme' scenario and a 'with the AP1 revised scheme' scenario. The traffic data for each scenario includes the additional traffic from future committed developments.
- 3.2.26 Construction traffic data has been screened to identify roads that required further assessment and to confirm the likely effect of the change in emissions from vehicles using those roads during construction of the AP1 revised scheme.
- 3.2.27 There are no new or different significant effects from the main ES, with the exception of one receptor (Nicol Avenue, Woolston (04-C-H009)), which has been removed as this building has been demolished. The demolition of this building has been undertaken since the publication of the main ES and is not associated with the original scheme or the AP1 revised scheme.
- 3.2.28 No significant effects are predicted for human health in relation to NO₂, PM₁₀ or PM_{2.5} concentrations. Significant effects may occur at the Woolston Eyes SSSI ecological receptor due to nitrogen deposition. The potential for significant ecological effects is addressed further in the ecology and biodiversity section of this report.
- 3.2.29 The significant adverse effect on annual mean NO₂ concentrations at one modelled receptor (Nicol Avenue, Woolston (04-C-H009)) has been removed, as a result of the receptor having been demolished, compared to the main ES.

Other mitigation measures

- 3.2.30 No mitigation measures additional to those reported in the main ES and draft CoCP are required.

Summary of likely residual significant effects

- 3.2.31 The methods outlined within the draft CoCP are considered effective at reducing traffic emissions, and therefore, no significant residual effects are anticipated.

Cumulative effects

- 3.2.32 This combined assessment has taken into account cumulative effects from background traffic growth, committed developments and impacts related to traffic emissions arising from the SES1 changes and AP1 amendments in this area and other community areas.

Ecology and biodiversity

Scope, assumptions and limitations

- 3.2.33 The assessment scope, key assumptions and limitations for ecology and biodiversity are as set out in Volume 1 and the EIA SMR of the main ES.
- 3.2.34 There has been no change to existing and future environmental baseline information for ecology and biodiversity since the main ES.
- 3.2.35 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are required.

Assessment of impacts and effects

- 3.2.36 Woolston Eyes SSSI, covering an area of 261ha, supports a range of terrestrial and aquatic habitats. It is notified for its breeding and wintering bird assemblage. These include nationally important numbers of breeding black-necked grebe, gadwall and pochard and wintering teal and shoveler, all of which are reliant on the mosaic of wetland habitats and their margins. The SSSI is crossed by the M6, which remains an identified construction traffic route for the AP1 revised scheme. The use of the M6 as a construction traffic route will result in increased emissions of airborne pollution within the SSSI compared to the without AP1 revised scheme scenario (as described in the air quality section). As a conservative approach, the critical load for poor fen was used to inform the air quality assessment. This showed that nitrogen deposition (and the concentration of oxides of nitrogen) marginally exceeded the 1% threshold, though only within 10m of the existing M6 Thelwell Viaduct that crosses the site, and only affected terrestrial habitats. Consequently, it is unlikely that harm could arise to the wetland habitats or the associated breeding and non-breeding bird populations due to increases in nitrogen deposition associated with changes in traffic emissions. Therefore, there will be no significant adverse effect on the structure and function of Woolston Eyes SSSI from the construction of the AP1 revised scheme.

Other mitigation measures

- 3.2.37 No mitigation measures additional to those reported in the main ES and draft CoCP are required.

Summary of likely residual significant effects

- 3.2.38 No new, removed or different significant cumulative effects have been identified compared to the main ES.

Cumulative effects

- 3.2.39 No cumulative effects on ecological receptors have been identified in the Broomedge to Glazebrook area.

Socio-economics

Scope, assumptions and limitations

- 3.2.40 The assessment scope, key assumptions and limitations for socio-economics are as set out in Volume 1 and the EIA SMR of the main ES.
- 3.2.41 There has been no change to existing and future environmental baseline information for socio-economics since the main ES.
- 3.2.42 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are required.

Assessment of impacts and effects

- 3.2.43 The SES1 design change to remove the HS2 WCML connection (SES1-004-001) will result in the removal of all socio-economic significant effects reported in the main ES in the Broomedge to Glazebrook area, apart from the temporary moderate adverse significant isolation effect on the Saracens Head public house. The isolation effect reported in the main ES remains a significant temporary adverse effect due to traffic congestion at the junction of A6144 Bent Lane/A6144 Paddock Lane/Paddock Lane, caused by a significant traffic and transport effect.

Other mitigation measures

- 3.2.44 No mitigation measures additional to those reported in the main ES are required.

Summary of likely residual significant effects

- 3.2.45 The temporary significant isolation socio-economic effect on the Saracens Head public house will remain as a result of the presence of traffic congestion during construction.

Cumulative effects

- 3.2.46 There are no cumulative effects additional to those reported in the main ES.

Summary of new or different likely residual significant effects as a result of combined effects due to changes in traffic flows

Traffic and transport

- 3.2.47 The AP1 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants, as reported in the main ES:

- different (increased) major adverse significant effects on one junction;
- change (decrease) from major adverse effect to minor adverse effect on one junction; and
- change (decrease) from major adverse effect to moderate adverse effect on two junctions.

3.2.48 The AP1 revised scheme will result in the following changes to the traffic-related severance effects for non-motorised users, as reported in the main ES:

- new moderate adverse effect on one road;
- change (increase) from minor adverse effect to moderate adverse effect on one road; and
- change (increase) from minor beneficial effect to major adverse effect on one road.

Socio-economics

3.2.49 The temporary significant isolation socio-economic effect on the Saracens Head public house will also remain as a result of traffic flows during construction still being significant.

MA05: Risley to Bamfurlong

Part 1: Supplementary Environmental Statement 1 in the Risley to Bamfurlong area

4 Summary of changes for the Risley to Bamfurlong area

4.1 Changes to the design or to construction assumptions not requiring a change to the Bill

Introduction

- 4.1.1 This section sets out the changes to the design and construction assumptions in the Risley to Bamfurlong area, which will not require a change to the Bill.

Removal of the HS2 West Coast Main Line (WCML) connection (SES1-004-001)

- 4.1.2 The Bill provides for the HS2 WCML connection between the Hoo Green junction (south of Peacock Lane overbridge) in the Pickmere to Agden and Hulseheath area (MA03) and the WCML at the A58 Lily Lane (near Bamfurlong) in the Risley to Bamfurlong area (MA05).
- 4.1.3 The section of the HS2 WCML connection in the original scheme would be 12.7 km in the Risley to Bamfurlong area (MA05). The section of the HS2 WCML connection in the Risley to Bamfurlong area would have included 1.1km of viaducts, 7.6km of embankments and 4km of cuttings, associated infrastructure, and utility works.
- 4.1.4 The route of the HS2 WCML connection would have extended from the boundary between the parishes of Rixton-with-Glazebrook and Birchwood which forms the southern extent of the Risley to Bamfurlong area and the boundary with the Broomedge to Glazebrook area (MA04). The route of the HS2 WCML connection would have passed through the parishes of Birchwood, Croft, Culcheth and Glazebury (see Volume 2, MA05 Map Book, maps CT-05-326b to CT-05-334 and maps CT-06-326b to CT-06-334, in the main ES). There also would have been associated works to facilitate the connection of the HS2 route to the WCML.
- 4.1.5 Since the deposit of the Bill, the Secretary of State has decided to remove the HS2 WCML connection, included in the original scheme, from the High Speed Rail (Crewe – Manchester) Bill and has given this commitment to Parliament. As a result, the WCML connection from near Hoo Green junction on the HS2 network to the Lily Lane junction, near Golborne, on the WCML will be removed. Modifications to the existing WCML for the HS2 WCML connection, as reported in the main ES, will no longer be required. The removal of the HS2 WCML connection will be a SES1 design change (SES1-004-001).

- 4.1.6 As a result, the 12.7km section of the HS2 WCML connection in the Risley to Bamfurlong area, as set out in the original scheme, will be removed.
- 4.1.7 As a consequence of the SES1 design change, all civil engineering and railway systems compounds and associated construction activities, with the exception of construction traffic routes, in the Risley to Bamfurlong area will also not be required.

4.2 Changes to the effects reported in the main ES in the Risley to Bamfurlong area

- 4.2.1 Except for the remaining effects set out in Section 5.2, as a result of this SES1 design change, the significant effects reported in the main ES from construction and operation activities in the Risley to Bamfurlong area will be removed.

Part 2: Additional Provision 1 Environmental Statement in the Risley to Bamfurlong area

5 Summary of amendments in the Risley to Bamfurlong area

5.1 Introduction

- 5.1.1 As a result of the Removal of the HS2 West Coast Main Line (WCML) connection (SES1-004-001) the majority of the original scheme has been removed from this area. However, it is anticipated that there will be effects in the Risley to Bamfurlong area as a result of changes in construction traffic flows arising from works in other community areas. These changes in traffic flows cannot be directly attributed to a specific SES1 change or an AP1 amendment and are therefore considered in a combined assessment. The likely significant effects in the Broomedge to Glazebrook area are reported in this section.
- 5.1.2 Please note that all dimensions in the following sections are approximate.

5.2 Combined effects of changes and amendments in the Risley to Bamfurlong area due to changes in construction traffic flows

- 5.2.1 This section reports the combined assessment of new, remaining or different significant construction traffic and traffic related effects, as a result of changes in construction traffic flows.
- 5.2.2 Traffic and transport effects are reported first, since the effects arise from changes in construction traffic flows. Air quality is the only other topic reported in the Risley to Bamfurlong area.

SES1 changes and AP1 amendments of relevance to this assessment

- 5.2.3 The assessment includes all changes to construction traffic. The primary contributors to the changes in construction traffic are the changes to the movement of excavated material, construction programme and construction assumptions. The main reason for this is the removal of the HS2 WCML connection (SES1-004-001). The assessment takes into account measures to reduce the need to move material by the road network and use of site haul routes to limit construction traffic on the road network.

Traffic and transport

Scope, assumptions and limitations

- 5.2.4 The assessment scope, key assumptions and limitations for the traffic and transport assessment are as set out in Volume 1 (Section 8) and the Environmental Impact Assessment (EIA) Scope and Methodology Report (SMR) of the main ES.
- 5.2.5 The peak level of construction traffic activity is expected to be 2030 and the opening year to be 2038. The forecasts used in the assessment have been produced prior to the development of a full understanding of the likely impact of COVID-19 on economic growth and travel behaviour. The full impact of COVID-19 is not yet known but is considered likely to result in lower travel demand than the forecasts used in the assessment for background traffic and rail, including HS2.
- 5.2.6 Consequently, the assessment is considered to overstate travel demand for the construction scenarios and therefore to present a robust case for traffic and transport.
- 5.2.7 Information on traffic and transport impacts within the Risley to Bamfurlong area is contained in Volume 5, Appendix: TR-003-00005 Transport Assessment of the main ES. Changes to traffic and transport impacts within the Risley to Bamfurlong area (MA05) as a result of the AP1 revised scheme are contained in SES1 and AP1 ES Volume 5, Appendix: TR-003-00005 Transport Assessment.

Assessment of impacts and effects

Key construction transport issues

- 5.2.8 The SES1 design change to remove the HS2 WCML connection (SES1-004-001) will remove the requirement for all civil engineering and railway system compounds reported in the main ES associated with construction activities in the Risley to Bamfurlong area.
- 5.2.9 The remaining temporary traffic and transport impacts in this area will be caused by construction and workforce vehicle movements to and from other community areas.

Highway network

- 5.2.10 As a result of the SES1 design change to remove the WCML connection (SES1-004-001) between the Pickmere to Agden and Hulseheath area (MA03) and the Risley to Bamfurlong area (MA05), changes to the highway network reported in the main ES, including road closures, diversions and realignments, are no longer required in the Risley to Bamfurlong area.
- 5.2.11 The removal of the HS2 WCML connection (SES1-004-001) and associated construction activities will also generally result in reduced construction traffic on the local road network in the Risley to Bamfurlong area compared to the main ES. Changes to patterns of construction workforce trips will however result in increases in traffic at some locations.

Supplementary Environmental Statement 1 and Additional Provision 1 Environmental Statement

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MA04 Broomedge to Glazebrook and MA05 Risley to Bamfurlong

5.2.12 The combined impact of the AP1 revised scheme will lead to flow changes on the highway network during construction. This will result in changes to the traffic congestion and delay effects for vehicle occupants, as reported in the main ES. The significant effects with the highest magnitude at each junction are set out in Table 4. The significance of the effect reported in the main ES is indicated in brackets.

Table 4: Junctions resulting in significant effects on delays to vehicle occupants and congestion in the Risley to Bamfurlong area, 2030

Junction name	Significant effect
A574 Birchwood Way/A574 Birchwood Park Avenue/Oakwood Gate (George Duckworth Roundabout)	Moderate adverse (Previously major adverse)
A574 Birchwood Way/Moss Gate/Daten Avenue	No effect (Previously minor adverse)
A574 Warrington Road/A574 Birchwood Park Avenue/Daten Avenue/Warrington Road	No change from the main ES (Previously minor adverse)
A574 Warrington Road/Cross Lane/Silver Lane	No change from the main ES (Previously major adverse)
A574 Warrington Road/Glaziers Lane	No change from the main ES (Previously major adverse)
A574 Warrington Road/B5207 Common Lane	Moderate adverse (Previously major adverse)
A572 Newton Road/B5207 Church Lane/B5207 Kenyon Lane	No change from the main ES (Previously major adverse)
A580 East Lancashire Road/Stone Cross Lane South/Stone Cross Lane North	No change from the main ES (Previously major adverse)
A580 East Lancashire Road/B5207 Church Lane	No change from the main ES (Previously major adverse)
A580 East Lancashire Road/A572 Newton Road	No change from the main ES (Previously major adverse)
A580 East Lancashire Road/A573 Warrington Road	No change from the main ES (Previously major adverse)
A580 East Lancashire Road/Sandy Lane	No effect (Previously minor adverse)
M6 junction 23/A580 East Lancashire Road (Haydock Island)	No change from the main ES (Previously major adverse)
A580 East Lancashire Road/A579 Atherleigh Way	No change from the main ES (Previously major adverse)
B5207 Church Lane/B5207 Golborne Road/Stone Cross Lane/Slag Lane	No change from the main ES (Previously major adverse)
A573 High Street/Heath Street	Minor adverse (Previously major adverse)
A580 East Lancashire Road/A574 Warrington Road	Major adverse (decreased) (Previously major adverse)
A573 Ashton Road/A573 Church Street/B5207 Lowton Road	Moderate adverse (Previously major adverse)
A573 Wigan Road/A573 Ashton Road/B5207 Ashton Road	Moderate adverse (Previously major adverse)

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Junction name	Significant effect
A58 Liverpool Road/A58 Gerard Street/A49 Warrington Road/A49 Bryn Street	No effect (Previously major adverse)
A58 Gerard Street/A58 Bolton Road/A5062 Wigan Road/Princess Road	No effect (Previously major adverse)
A58 Bolton Road/B5207 Golborne Road	No effect (Previously major adverse)
A580 East Lancashire Road/Higher Green Lane	No change from the main ES (Previously major adverse)
A580 East Lancashire Road/A572 Chaddock Lane	Moderate adverse (Previously major adverse)
A580 East Lancashire Road/A577 Mosley Common Road	No change from the main ES (Previously major adverse)
A580 East Lancashire Road/B5232 Newearth Road/Ellenbrook Road	Moderate adverse (Previously major adverse)
A580 East Lancashire Road/A575 Walkden Road	Minor adverse (Previously major adverse)
A58 Warrington Road/A573 Warrington Road/A58 Lily Lane/B5237 Bickershaw Lane/Powell Street	No change from the main ES (Previously major adverse)

5.2.13 Construction of the AP1 revised scheme will result in substantial changes in traffic flows (i.e. more than 30% for HGVs or for all vehicles) in some locations, which can lead to changes in traffic-related severance for non-motorised users, which are significant. The significant effects with the highest magnitude in each location are set out in Table 5 for all-traffic effects and Table 6 for HGV traffic effects. The significance of the effect reported in the main ES is indicated in brackets.

Table 5: Roads with changes in daily all vehicle movements (more than 30%) resulting in significant effects on traffic-related severance for non-motorised users in the Risley to Bamfurlong area, 2030

Road name	Significant effect
A574 Warrington Road (between A574 Warrington Road realignment and Glaziers Lane)	No effect (Previously moderate beneficial)

Table 6: Roads with changes in daily HGV movements (more than 30%) resulting in significant effects on traffic-related severance for non-motorised users in the Risley to Bamfurlong area, 2030

Road name	Significant effect
Daten Avenue (between A574 Warrington Road and Faraday Street)	No effect (Previously moderate adverse)
A574 Warrington Road (between A574 Birchwood Park Avenue and Cross Lane)	No effect (Previously moderate adverse)
A574 Warrington Road (between Cross Lane and A574 Warrington Road realignment)	No effect (Previously moderate adverse)
B5207 Kenyon Lane (between A572 Newton Road and B5207 Wilton Lane)	No effect (Previously major adverse)
B5207 Church Lane (between A572 Newton Road and A580 East Lancashire Road)	No effect (Previously moderate adverse)
A573 Warrington Road (between A580 East Lancashire Road and Park	No effect

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Road name	Significant effect
Road)	(Previously major adverse)
A573 Bridge Street/High Street (between Park Road and Heath Street)	No effect (Previously major adverse)
A573 High Street/Church Street (between Heath Street and B5207 Lowton Road)	No effect (Previously major adverse)
Slag Lane (between B5207 Church Lane and Byrom Lane)	No effect (Previously major adverse)
A573 Ashton Road (between B5207 Ashton Road and B5207 Lowton Road)	No effect (Previously moderate adverse)
A573 Wigan Road realignment (between B5207 Ashton Road and A573 Aye Bridge Road)	No effect (Previously major adverse)
B5232 Newearth Road (between Guided Busway and Hilton Lane)	No change from the main ES (Previously moderate adverse)
B5232 Bridgewater Road (between B5232 Westminster Road and A6 High Street)	No change from the main ES (Previously moderate adverse)

Other mitigation measures

5.2.14 No further appropriate traffic and transport mitigation measures have been identified. HS2 Ltd will, however, continue to work with the relevant highway authorities to consider whether any further mitigation measures would be required.

Summary of likely residual significant effects

5.2.15 The AP1 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants, as reported in the main ES:

- change (decrease) from major adverse effect to minor adverse effect on two junctions;
- change (decrease) from major adverse effect to moderate adverse effect on six junctions; and
- different (decreased) major adverse significant effects on one junction.

Cumulative effects

5.2.16 This combined assessment has taken into account cumulative effects from background traffic growth, committed developments and traffic and transport impacts of the construction works arising from the SES1 changes and AP1 amendments in this area and other community areas.

Air quality

Scope, assumptions and limitations

5.2.17 The assessment scope, key assumptions and limitations for air quality are as set out in Volume 1 and the EIA SMR of the main ES.

- 5.2.18 There has been no change to existing and future environmental baseline information for air quality since the main ES.
- 5.2.19 No avoidance or mitigation measures additional to those reported in the main ES and draft CoCP are required.

Assessment of impacts and effects

- 5.2.20 Construction activity could affect local air quality through the additional traffic generated on the highway network as a result of the AP1 revised scheme in other community areas during construction.
- 5.2.21 The assessment of construction traffic emissions has been undertaken for a 'without the AP1 revised scheme' scenario and a 'with the AP1 revised scheme' scenario. The traffic data for each scenario includes the additional traffic from future committed developments.
- 5.2.22 Construction traffic data has been screened to identify roads that required further assessment and to confirm the likely effect of the change in emissions from vehicles using those roads during construction of the AP1 revised scheme.
- 5.2.23 Only receptors which were reported in the main ES as having significant adverse effects have been considered.
- 5.2.24 There are some changes in predicted concentrations as a result of the AP1 revised scheme, however, these do not change the significant adverse effects reported in the main ES.
- 5.2.25 Effects at ecological receptors are likely to be no worse than in the main ES because traffic volumes in the vicinity of ecological receptors are lower.

Other mitigation measures

- 5.2.26 No mitigation measures additional to those reported in the main ES and draft CoCP are required.

Summary of likely residual significant effects

- 5.2.27 The methods outlined within the draft CoCP are considered effective at reducing traffic emissions, and therefore, no significant residual effects are anticipated.

Cumulative effects

- 5.2.28 This combined assessment has taken into account cumulative effects from background traffic growth, committed developments and impacts related to traffic emissions arising from the SES1 changes and AP1 amendments in this area and other community areas.

Summary of new or different likely residual significant effects as a result of combined effects due to changes in traffic flows

Traffic and transport

- 5.2.29 The temporary residual significant effects during construction remain as described above. These effects will be temporary and reversible in nature lasting only for the duration of the construction works.
- 5.2.30 The AP1 revised scheme will result in the following changes to the congestion and delay effects for vehicle occupants, as reported in the main ES:
- change (decrease) from major adverse effect to minor adverse effect on two junctions;
 - change (decrease) from major adverse effect to moderate adverse effect on six junctions; and
 - different (decreased) major adverse significant effects on one junction.

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