

HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement and Additional Provision 2 Environmental Statement

Volume 2 | Community forum area report

CFA24 | Birmingham Interchange and Chelmsley Wood

July 2015

SES and AP2 ES 3.2.1.24



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Department for Transport

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Structure of the HS2 Supplementary Environmental Statement and Additional Provision 2 Environmental Statement

The Supplementary Environmental Statement (SES) and Additional Provision 2 Environmental Statement (AP2 ES) comprises:

- non-technical summary (NTS). This provides a summary in non-technical language of the SES (Part 1) and AP2 ES (Part 2) and of any likely significant environmental effects, both beneficial and adverse, which are new or different to those reported in the High Speed 2 (HS2) Phase One Environmental Statement (ES) submitted to Parliament in November 2013 in support of the hybrid Bill ('the Bill') for Phase One of HS2 (hereafter referred to as 'the main ES') and, where relevant, the AP ES submitted in September 2014 (hereafter referred to as 'the AP1 ES');
- Volume 1: introduction to the SES and the AP2 ES. This introduces the supplementary environmental information and design changes included within the SES and amendments which have resulted in the need to amend the Bill within the AP2 ES. It also explains any changes to the scope, methodology, assumptions and limitations required for the environmental impact assessment;
- Volume 2: community forum area (CFA) reports and map books. These describe the supplementary environmental information and design changes included within the SES (Part 1), amendments within the AP2 ES (Part 2) and report any new or different likely significant environmental effects arising from these changes in each CFA compared to those reported in the main ES and, where relevant, the AP1 ES. The main local alternatives that have been considered are described, where relevant;
- Volume 3: route-wide effects. This reports new or different likely significant route-wide effects arising from the supplementary environmental information and design changes included within the SES (Part 1) and amendments within the AP2 ES (Part 2) compared to those reported in the main ES and, where relevant, the AP1 ES;
- Volume 4: off-route effects. This reports new or different likely significant off-route effects arising from the amendments within the AP2 ES compared to those reported in the main ES and, where relevant,

the AP1 ES;

- Volume 5: appendices and map books. This contains supporting environmental information and associated maps; and
- glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used throughout the SES and AP2 ES compared to those included in the main ES and AP1 ES.

Structure of this report

This volume of the SES and AP2 ES is divided into CFA reports, which are in turn divided into two parts.

Part 1 provides supplementary environmental information relating to:

- new baseline information with respect to European Protected Species surveys undertaken since the main ES;
- changes to the design or construction assumptions which do not require changes to the Bill; and
- corrections to the main ES.

Part 1 of each CFA report includes, where relevant:

- a description of the changes or updates within the CFA that have triggered the need for reassessment;
- an assessment of the environmental effects of the changes for relevant environmental topics considering the:
 - scope, assumptions and limitations of the SES assessment;
 - changes of relevance to the assessment;
 - environmental baseline;
 - effects arising during construction;
 - effects arising from operation; and
 - mitigation and residual effects; and
- a summary of any new or different likely residual significant effects as a result of the changes.

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

The following is included where relevant:

- a summary of the proposed amendments within each CFA that have triggered the need for reassessment;
- a description of each amendment;
- an assessment of the environmental effects of each amendment for relevant environmental topics considering the:
 - scope, assumptions and limitations of the AP2 ES assessment;
 - environmental baseline;

- effects arising during construction;
- effects arising from operation; and
- mitigation and residual effects; and
- a summary of any new or different likely residual significant effects as a result of each proposed amendment.

1 Introduction

- 1.1.1 The Bill for High Speed Rail between London and the West Midlands was submitted to Parliament together with the main ES in November 2013. The AP1 ES, which was submitted in September 2014, contained generally minor amendments to the design of the original scheme (i.e. the scheme submitted in November 2013). The Bill and associated Additional Provisions to the Bill, if enacted by Parliament, will provide the powers to construct, operate and maintain Phase One of HS2.
- 1.1.2 Since the submission of the main ES and AP1 ES, a number of changes or updates to environmental information and scheme design or assumptions have occurred, which may lead to new or different significant effects. These effects, depending on the type of change, are reported in the SES (Part 1) or AP2 ES (Part 2) of this document.
- 1.1.3 The SES contains updated environmental baseline information and scheme information relating to changes that have occurred within the current limits and powers of the Bill, and therefore do not require an Additional Provision to the Bill. This includes:
- additional environmental baseline information;
 - changes to the design or construction assumptions which do not require changes to the Bill; and
 - corrections to the main ES.
- 1.1.4 Design changes assessed within the SES include:
- provision of new open space; and
 - changes to the road network.
- 1.1.5 The changes are described in Part 1 under a series of sub-headings and assessed on a topic by topic basis using the same approach adopted in the main ES.
- 1.1.6 The purpose of the SES is to provide an assessment of any new or different likely significant environmental effects arising from the changes described.
- 1.1.7 The AP2 ES reports the likely significant effects of amendments to the design of the route, which require the use of land outside the original limits of the Bill, additional access rights, or other extensions to the powers conferred by the Bill, making it necessary to submit an Additional Provision to the Bill.
- 1.1.8 The amendments assessed within AP2 ES include:
- additional access rights; and
 - additional land for a pedestrian crossing.

- 1.1.9 The AP2 ES assesses each amendment separately for all relevant topics. The purpose of the AP2 ES is to provide an assessment of any new or different likely significant environmental effects arising from the amendments.
- 1.1.10 The standard measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of the scheme are described in the main ES, Volume 1, Section 9 and the draft Code of Construction Practice (CoCP) submitted in support of the Bill. Implementation of these measures has been assumed in this SES and AP2 ES.
- 1.1.11 It should be noted that, since submission of the Bill, the scheme design has been revised by SES design changes, amendments described in the AP1 ES (AP1 amendments) and amendments described in the AP2 ES (AP2 amendments).
- 1.1.12 In order to differentiate between the original proposals and subsequent changes, the following terms are used:
- 'the original scheme' - the Bill scheme submitted to Parliament in November 2013, which was assessed in the main ES;
 - 'the AP1 revised scheme' – the original scheme as amended by the AP submitted in September 2014;
 - 'the SES scheme' – the original scheme with the design changes described in the SES; and
 - 'the AP2 revised scheme' – the original scheme as amended by the SES scheme and AP2.

Part 1: Supplementary Environmental Statement

2 Summary of changes

2.1 New environmental baseline information

Ecology

- 2.1.1 Extended Phase 1 habitat and otter surveys have been undertaken in the Birmingham Interchange and Chelmsley Wood area (CFA24) since production of the main ES (September 2013). In addition, an updated review of Water Framework Directive (WFD) surface water assessments with regard to the cumulative impact on fish in the River Blythe has been undertaken within the area since submission of the main ES.
- 2.1.2 Details of all survey work undertaken in this area since September 2013 are provided in Volume 5: Appendix EC-002-004 (Baseline data appendix) and Volume 5 map series EC-02 and EC-03.
- 2.1.3 The additional baseline data does not generate any new or different significant effects, and therefore is not reported in Section 3 below.

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

- 2.2.1 Table 1 provides a summary of the changes to the design or construction assumptions not requiring a change to the Bill which result in new or different significant effects in the Birmingham Interchange and Chelmsley Wood CFA (CFA24). Figure 1 shows the locations.

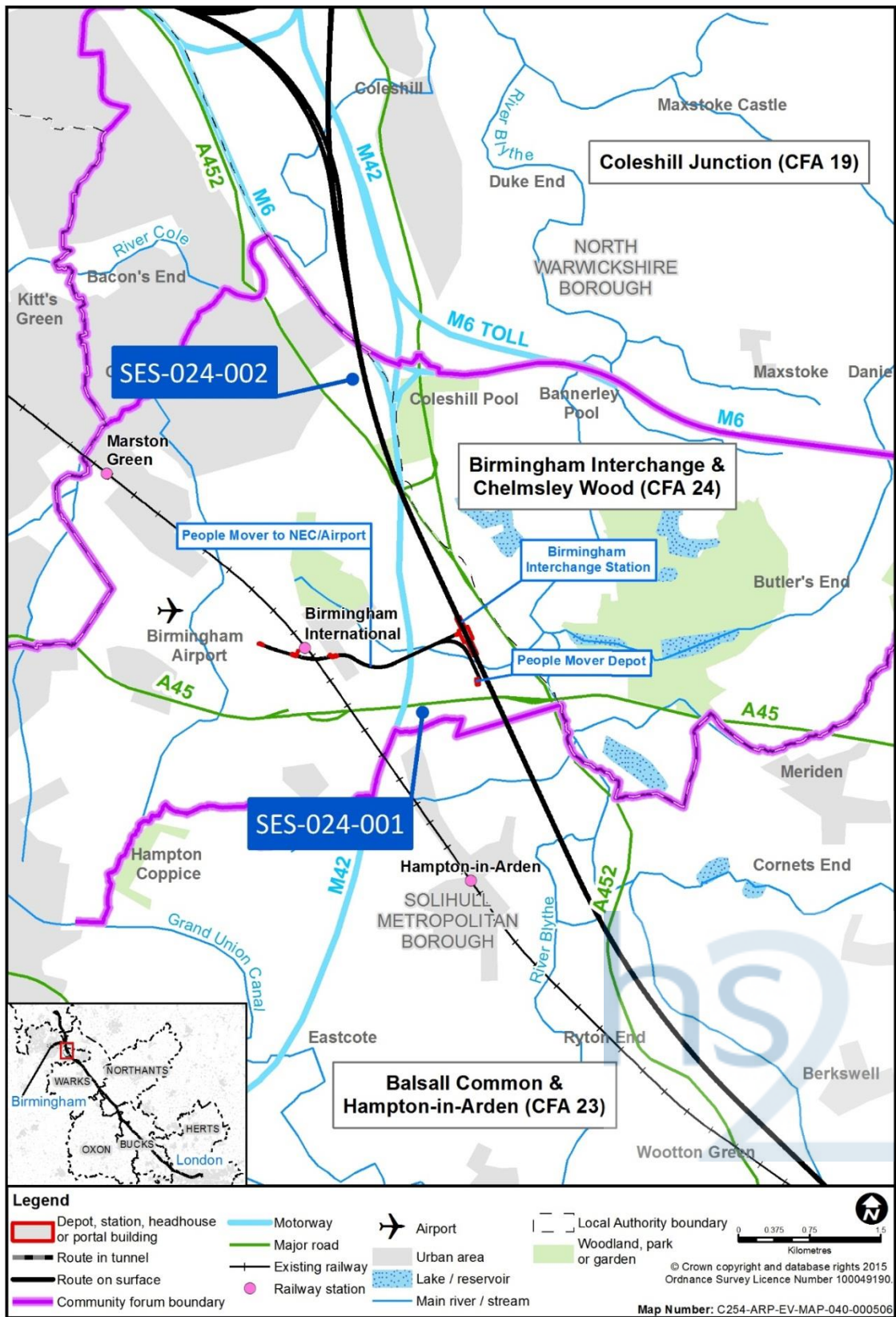
Table 1: Summary of changes to the design or construction assumptions not requiring a change to the Bill in CFA24

Name of design change or construction assumption	Description of the original scheme	Description of the SES scheme
Revision to road network at the National Motorcycle Museum. (SES-024-001)	Land required permanently for widening of the A45 Coventry Road westbound roundabout entry to provide a segregated left turn lane to the M42 southbound roundabout exit, resulting in the temporary and permanent loss of car parking spaces. Other road improvements include: widening of the M42 and A45 Coventry Road slip roads; and widening of the roundabout circulatory carriageway. Permanent closure of the existing access road to the National Motorcycle Museum and provision of a replacement access off	Some of the improvements to the road network in the vicinity of the National Motorcycle Museum to mitigate the impact of the scheme will no longer be required including: the segregated left turn lane to the M42 southbound roundabout exit, which is now replaced by widening of the existing A45 Coventry Road westbound slip to M42 Junction 6 from three lanes to four; widening of the off slip roundabout entry; and part of the widening of the roundabout circulatory carriageway. The removal of the segregated left turn lane to the M42 southbound roundabout

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Name of design change or construction assumption	Description of the original scheme	Description of the SES scheme
	<p>the A45 westbound Service Road.</p> <p>Permanent realignment of Footpath M107 parallel to the replacement access.</p>	<p>exit removes the permanent loss of car parking spaces reported in the main ES. The loss of temporary parking remains.</p> <p>The existing access to the National Motorcycle Museum will remain, albeit with minor modifications.</p> <p>Footpath M107 will no longer be permanently realigned.</p>
<p>Provision of replacement public open space, adjacent to Coleshill Heath Road. (SES-024-002)</p>	<p>The temporary loss of approximately 3.9ha of Heath Park and the permanent loss of approximately 0.9ha. Provision of an area identified for replacement open space adjacent to Coleshill Heath Road. The provision of open space was not assessed in the main ES.</p>	<p>The area of replacement open space, approximately 3.3ha in size, adjacent to Coleshill Heath Road has been confirmed since submission of the main ES and an assessment of the provision of the replacement open space has been undertaken.</p>

Figure 1: Locations of design changes not requiring a change to the hybrid Bill in CFA24



Description of changes to the design or construction assumptions

Revision to road network at the National Motorcycle Museum (SES-024-001)

- 2.2.2 The Bill provides for land to be acquired permanently at the National Motorcycle Museum for the widening of the A45 Coventry Road westbound roundabout entry to provide a segregated left turn lane to the M42 southbound roundabout exit (see map CT-05-106-L1 in the main ES Volume 2, CFA24 Map Book). These works would result in the loss of a grass verge covering an area of approximately 0.1ha, and part of the existing museum car park which would result in the temporary loss of 55 car parking spaces (out of 274 spaces) and the permanent loss of 45 car parking spaces. The proposed works would result in the permanent closure of the existing access road to the National Motorcycle Museum. A replacement access road to the east of the museum from the A45 westbound Service Road would be provided. Footpath M107 would be permanently realigned parallel to the replacement access. Other improvements to the road network in this area relate to the widening of some of the M42 and A45 Coventry Road on and off roundabout slip roads and the roundabout circulatory carriageway.
- 2.2.3 Since submission of the Bill, further design work has been undertaken which has taken into consideration the current Highways England (formerly the Highways Agency) improvements to the M42 Junction 6 roundabout. As a result of these improvements, which are due to be completed in advance of 2016, widening of the A45 Coventry Road eastbound off-slip roundabout entry and widening of part of the roundabout circulatory carriage way, as defined in the Bill, are no longer required.
- 2.2.4 To maintain the required vehicle capacity at the M42 Junction 6 roundabout, the widening of the A45 Coventry Road westbound roundabout entry to provide a segregated left turn lane to the M42 southbound roundabout will now be replaced by widening of the A45 Coventry Road westbound off slip roundabout entry from three lanes to four (see map CT-05-106-L1 in SES and AP2 ES Volume 2, CFA24 Map Book). The land required for the widening will be within the existing highway boundary and the land already identified in the Bill. The removal of these works will remove the permanent loss of 45 car parking spaces, reported in the main ES. The temporary loss of 55 car parking spaces will remain. The removal of these works will additionally enable the existing access road to the museum to remain, albeit with minor modifications, and there will no longer be a need to realign Footpath M107. The grass verge, removed in the original scheme, will remain. Approximately 1.69ha of land to be acquired under the original scheme for the replacement access road and realignment of Footpath M107 will no longer be required.
- 2.2.5 The programme for the road improvements will be as reported in the main ES.
- 2.2.6 The SES change will result in new or different significant effects for community; sound, noise and vibration; and traffic and transport and these are reported in Section 3.

Provision of replacement public open space, adjacent to Coleshill Heath Road (SES-024-002)

- 2.2.7 As reported in the main ES, approximately 3.9ha of parkland within Heath Park (49% of the area of the park) would be required during the construction period for the location of the Coleshill Heath Road underbridge satellite construction compound and utility works. In addition, the HS2 route would pass through the south-east corner of Heath Park on Pool Wood embankment, which would result in the permanent loss of approximately 0.9ha of parkland (11% of the area of the park) comprising amenity grassland, poor semi-improved grassland, introduced shrub and tall ruderal habitats. An area of approximately 500m² of parkland would be created through the removal of an existing electricity pylon. The Bill provides for approximately 3.3ha of replacement public open space, adjacent to Coleshill Heath Road, in the parish of Bickenhill (see grid reference E8 on map CT-06-107-R1 in the main ES, Volume 2, CFA24 Map Book).
- 2.2.8 At the time of the Bill submission, the location of a replacement public open space to mitigate the permanent loss of land at Heath Park, had not been agreed with Solihull Metropolitan Borough Council (SMBC) and therefore the provision of a replacement space had not been taken into account in the assessment of community impacts and effects. The effect on Brickfield Farm and the permanent loss of agricultural land was considered in the main ES. Since submission of the Bill, a commitment has been made to SMBC that agreement will be reached for the permanent provision of and access to replacement open space. An area of land of 3.3ha adjacent to Coleshill Heath Road is proposed as appropriate replacement open space (see map CT-05-107-R1 in SES and AP2 ES Volume 2, CFA24 Map Book). The provision of play equipment or the marking of football pitches is not included in the SES change. This land was already within the limits of the Bill. Access to this replacement space is provided through AP-024-003.
- 2.2.9 The SES change will result in new or different significant effects for community and these are reported in Section 3.

Changes to the design or construction assumptions in other CFAs affecting this CFA

- 2.2.10 As a result of design changes in other CFAs, in particular in Stoneleigh, Kenilworth and Burton Green (CFA 18), AP2-018-004 (Burton Green area amendments) and Balsall Common and Hampton-in-Arden (CFA 23), AP2-023-005 (Realignment of Diddington Lane), including changes to the routing of construction vehicles and a change to the movement of excavated material from the M6 Motorway main compound, located in Coleshill Junction (CFA19), there is a change in traffic flows within CFA24. The assessment in relation to this and the amendments in this CFA are presented in Section 6: 'Combined effects of amendments in this CFA due to changes in traffic flows'.

2.3 Corrections to the main ES

2.3.1 Since submission of the Bill, the need for a number of corrections in the contents of the main ES has been identified. Table 2 provides a list of those instances where there has been a need to correct the Volume 2 CFA report for Birmingham Interchange and Chelmsley Wood because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy relating to significant effects has been identified. The table gives the location of the correction in the main ES, the reason for correction, replicates the text from the main ES, where applicable provides revised text, and identifies whether the correction changes a significant effect reported in the main ES. Where relevant, these corrections have been taken into account in the technical assessments contained within Section 3 of this SES.

Table 2: Summary of corrections to the main ES in CFA 24

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Sound, noise and vibration Volume 2, CFA Report 24, Section 11, after paragraph 11.5.15	Operational airborne noise assessment location 181323, Middle Bickenhill Lane, Bickenhill, (see grid reference G8 on map SV-04-053 in the main ES, Volume 5, CFA24, Sound, Noise and Vibration Map Book) was omitted from the list of properties identified as qualifying for noise insulation.	Text omitted from main ES.	In this area the assessment has identified two residential buildings; Elm Gables and Myrtle Cottage Farm, Middle Bickenhill Lane, represented by receptor 181323 close to the Proposed Scheme (this is the original scheme), where noise would exceed the daytime trigger threshold set in the Environmental Noise Regulations 2006. As the overall sound levels at these receptors are not forecast to change by 1dB or more, these buildings would be unlikely to qualify for noise insulation as a result of the Noise Insulation Regulations for road traffic. However, as the forecast night-time noise level would exceed the World Health Organisation (WHO) Interim Target of 55dB, it is estimated that these buildings will also be offered noise insulation. These buildings are	Yes. Two additional dwellings are identified as being subject to a significant adverse effect, and are consequently estimated to be likely to qualify for noise insulation. The mitigation measures, including noise insulation will reduce noise inside all dwellings such that it will not reach a level where it would significantly affect residents.

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
			shown on SES and AP2 ES Map series SV-04 (Volume 5, Sound, Noise and Vibration Map Book).	

2.4 Topics included in the SES assessment

- 2.4.1 The changes described above in Sections 2.1 to 2.3 result in new or different significant effects in respect of community; sound, noise and vibration; and traffic and transport.

3 Assessment of changes

3.1 Community

Introduction

3.1.1 This section of the report describes the environmental baseline in relation to community that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes introduced in Section 2, compared to the original scheme. There are no AP1 amendments relevant to this section.

Scope, assumptions and limitations

3.1.2 The assessment scope, key assumptions and limitations for community are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Changes of relevance to this assessment

3.1.3 The following changes are relevant to this assessment:

- the amendments to the road network at the National Motorcycle Museum (SES-024-001), in particular implications for car parking; and
- the provision of open space, adjacent to Coleshill Heath Road (SES-024-002).

Environmental baseline

Existing baseline

3.1.4 The baseline community information for the National Motorcycle Museum is as described in the main ES (Volume 2, CFA Report 24, Section 5).

3.1.5 The National Motorcycle Museum is located at the M42 Junction 6 and is accessed directly off the A45 Coventry Road/M42 Junction 6 roundabout (see grid reference G9 on map CT-05-106-L1, in the main ES, Volume 2, CFA24 Map Book). The museum provides a range of facilities including training and seminar rooms and hosts major events on a regular basis.

3.1.6 The baseline community information for the area of proposed open space, adjacent to Coleshill Heath Road is as described in the main ES (Volume 2, CFA Report 24, Section 5).

3.1.7 Two areas of public open space, Heath Park and Bluebell Recreation Ground, are partially within an area of land required to construct the scheme. An area of Heath Park is also required permanently for the operation of the original scheme.

3.1.8 Heath Park is a triangular area of grassland situated between the M6, Yorkminster Drive and Coleshill Heath Road (see grid reference D7 on map CT-

05-107-R1, in the main ES, Volume 2, CFA24 Map Book). The park covers approximately 8ha; approximately 3.8ha of which is accessible public open space, the remainder containing areas of dense vegetation, electricity pylons and a landscape bund. Heath Park provides two seasonal senior football pitches, and an area of parkland.

- 3.1.9 Bluebell Recreation Ground covers approximately 7.1ha and provides a range of open space and play space, including football pitches (see grid reference D8-E10 on map CT-05-107-R1, in the main ES, Volume 2, CFA24 Map Book). The changes described in Section 2 will not change the assessment of Bluebell Recreation Ground as it is reported in the main ES.

Future baseline

Construction (2017)

- 3.1.10 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES, Section 5.
- 3.1.11 None of the identified developments affect the assessment of the SES scheme's likely construction impacts on community.

Operation (2026)

- 3.1.12 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES, Section 5.
- 3.1.13 None of the identified developments affect the assessment of the SES scheme's likely operation impacts on community.

Effects arising during construction

Avoidance and mitigation measures

- 3.1.14 The following measures have been incorporated into the scheme design as part of the design development process to avoid or minimise the environmental impacts arising during construction:
- replacement of the existing uncontrolled pedestrian crossing with a pelican pedestrian crossing on Coleshill Heath Road, linking the area of replacement open space with Bluebell Recreation Ground (AP2-024-003); and
 - replacement playing pitches for those lost during construction at Heath Park and Bluebell Recreation Ground will be provided through reconfiguration of pitches during the football season at both open spaces. The replacement playing pitches will be provided prior to the loss of those at Heath Park and Bluebell Recreation Ground.
- 3.1.15 No further measures are applicable to this assessment, above those stated above and in the draft CoCP (see main ES, Volume 5: Appendix CT-003-000).

Assessment of impacts and effects

Temporary effects

- 3.1.16 The main ES reported that the National Motorcycle Museum car park is located partially within an area of land primarily required for the widening of the A45 Coventry Road westbound roundabout entry to provide a segregated left turn lane to the M42 southbound roundabout exit roundabout (see grid reference I4 on map CT-05-106-L1 in the main ES Volume 5, CFA24 Map Book). The main ES reported that this would result in the temporary loss of approximately 55 car parking spaces, for approximately one year and six months during construction. As the museum car park operates at full capacity and no convenient alternative parking is available, the temporary loss of approximately 55 car parking spaces (16% of the total car parking spaces) for approximately one year and six months, was reported as a moderate adverse significant effect in the main ES.
- 3.1.17 The proposed changes to the road network at the National Motorcycle Museum (SES-024-001), will remove the need for the highway improvement works in the vicinity of the National Motorcycle Museum, as they are reported in the main ES. However, the temporary loss of 55 spaces, for approximately one year and six months, will remain.
- 3.1.18 Therefore, the proposed change to the road network at the National Motorcycle Museum will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.
- 3.1.19 The main ES reported that, within Heath Park, an area of land approximately 3.9ha (49% of the total park) would be required during the construction period for the location of the Coleshill Heath Road underbridge satellite compound, at the southern extent of the park, and utility works, including removal of an existing electricity pylon and tensioning of an existing overhead power line (see map CT-05-108 in the main ES Volume 2, CFA19 Map Book and CM-01-155a in the main ES Volume 5, CFA24 Map Book). Despite the reconfiguration of land within Heath Park and Bluebell Recreation Ground to provide replacement football pitches, this loss of park land would result in a major adverse effect for approximately three years and six months.
- 3.1.20 The main ES further reported that the presence of construction works at Heath Park to construct the original scheme would result in significant visual and transport effects on users of the park. This would result in a temporary moderate adverse effect on the amenity of users of Heath Park for approximately two years and six months in total.
- 3.1.21 The proposed provision of a new area of replacement public open space adjacent to Coleshill Heath Road (SES-024-002) will provide an area of approximately 3.3ha. This open space will be located less than 50m south of Heath Park and Bluebell Recreation Ground and will be provided in advance of the construction phase.
- 3.1.22 The proposed provision of replacement open space will give rise to a different significant effect in relation to loss of land. The new open space will partly

mitigate the loss of open space at Heath Park, however there will still be a net loss of approximately 0.6ha of open space. This will reduce the magnitude of effect to medium as the net area to be lost will be smaller, however this loss will still be long-term (approximately three years and six months). This is a different effect to that reported in the main ES and will change the level of significance of the temporary land loss effects from major adverse to moderate adverse which is significant.

3.1.23 The proposed provision of replacement open space will not change the level of significance of the temporary amenity effect on users of Heath Park reported in the main ES as there will be no changes to the significant transport and visual effects reported in the main ES.

3.1.24 The SES and AP2 ES Volume 5: Appendix CM-001-024, details the relevant changes to the results reported in the main ES (Volume 5, Appendix, CM-001-024).

Permanent effects

3.1.25 The main ES reported several permanent works adjacent to the National Motorcycle Museum, including the widening of the A45 Coventry Road westbound roundabout entry to provide a segregated left turn lane to the M42 southbound roundabout exit (see grid reference G9 on map CM-01-154 in the main ES Volume 5, CFA24 Map Book). The works would result in the permanent removal of the existing access road to the museum, part of the car park and a grass verge bordering the northern boundary of the museum. A replacement access road would be provided to the east of the National Motorcycle Museum from the A45 westbound Service Road.

3.1.26 The main ES reported that the loss of part of the museum car park would result in the permanent removal of approximately 45 car parking spaces (16% of the total car parking spaces). The loss of car parking spaces would compromise the ability of the resource to accommodate major events and was reported in the main ES as a moderate adverse, significant effect.

3.1.27 The proposed change to the road network at the National Motorcycle Museum (SES-024-001) will remove the need for a segregated left turn lane for A45 westbound to M42 southbound, thereby removing the permanent loss of car parking spaces (see SES and AP2 map CM-01-154, Volume 5 Map Book).

3.1.28 The main ES reported the permanent loss of approximately 0.9ha of parkland (11% of the total park) from Heath Park as a result of the construction of Pool Wood embankment through the southernmost portion of the park (see grid reference E7 on map CT-06-107-R1 in the main ES Volume 2, CFA24 Map Book). An area of approximately 450m² (0.045ha) additional accessible parkland would be created through the removal of an existing electricity pylon. The remaining area of parkland would be reconfigured to provide two playing pitches during the football season. Overall, the permanent loss of open space would result in a moderate adverse effect, which is considered significant.

3.1.29 The proposed provision of a new area of replacement public open space adjacent to Coleshill Heath Road (SES-024-002) (see SES and AP2 ES map CT-06-107-R1 and CM-01-154) will result in a permanent net increase in open space which will be a benefit to Chelmsley Wood and surrounding communities. The SES change will remove the moderate adverse effect reported in the main ES (see SES and AP2 map CM-01-155a, Volume 5 Map Book).

3.1.30 SES and AP2 ES Volume 5: Appendix CM-001-024 details the relevant changes to the results reported in the main ES, Volume 5, Appendix, CM-001-024, Community data.

Other mitigation measures

3.1.31 There are no other mitigation measures required, above those proposed in the main ES.

Cumulative effects

3.1.32 There are no new or different likely significant cumulative effects for community as a result of the SES changes acting in combination with the SES, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Summary of likely residual significant effects

3.1.33 The proposed SES change to the road network at the National Motorcycle Museum will remove the moderate adverse significant effect reported in the main ES from the permanent loss of car parking at the National Motorcycle Museum.

3.1.34 The temporary loss of 55 car parking spaces as reported in the main ES, will remain, therefore the proposed change will not change the level of significance of the effect reported in the main ES.

3.1.35 The proposed provision of replacement open space will give rise to a different significant effect due to loss of open space at Heath Park. This will change the level of significance of the temporary land loss effects reported in the main ES from major to moderate adverse.

3.1.36 The proposed provision of replacement public open space will remove a significant permanent effect due to loss of open space at Heath Park.

3.1.37 The proposed provision of replacement open space will not change the level of significance of the temporary amenity effect on users of Heath Park reported in the main ES.

3.1.38 The removed residual significant effects are shown on SES and AP2 maps CM-01-154 and CM-01-155.

Effects arising from operation

- 3.1.39 The proposed changes will not give rise to a new or different significant operational effect and will not change the level of significance of the effects reported in the main ES.

3.2 Sound, noise and vibration

Introduction

- 3.2.1 This section of the report describes the environmental baseline in relation to sound, noise and vibration that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes introduced in Section 2, compared to the original scheme. There are no AP1 amendments relevant in this area.
- 3.2.2 Consideration is given to the proposed changes to the road network at the National Motorcycle Museum.

Scope, assumptions and limitations

- 3.2.3 The assessment scope, key assumptions and limitations for sound, noise and vibration, including local assumptions and limitations, are as set out in the main ES in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1), the SMR Addendum (Volume 5: Appendix CT-001-000/2), Volume 2, CFA Report 24, Section 11, and Volume 5: Appendix SV-002-024.

Changes of relevance to this assessment

- 3.2.4 Changes arising from the amendments to the road network at the National Motorcycle Museum (SES-024-001) are considered in this assessment.

Environmental baseline

Existing baseline

- 3.2.5 The baseline sound, noise and vibration information for the area is as described in the main ES (Volume 2, CFA Report 24, Section 11 and Volume 5: Appendix SV-002-024).

Future baseline

Construction (2017)

- 3.2.6 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES, Section 11.
- 3.2.7 None of the identified developments affect the assessment of the SES scheme's likely construction impacts on sound, noise and vibration.

Operation (2026)

- 3.2.8 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES, Section 11.
- 3.2.9 None of the identified developments affect the assessment of the SES scheme's likely operation impacts on sound, noise and vibration.

Effects arising during construction

Assessment of impacts and effects

- 3.2.10 The proposed changes to the road network at the National Motorcycle Museum, notably a reduction in construction works, will alter the construction sound, noise and vibration assessment as it is reported in the main ES (Volume 2, CFA24, Section 11).
- 3.2.11 The closest receptors include the National Motorcycle Museum, which contains a caretakers flat, and an individual residential property at the northern end of Old Station Road, Hampton-In-Arden, immediately adjacent to the M42 Junction 6 roundabout.
- 3.2.12 The main ES reported that the individual dwelling at the northern end of Old Station Road, Hampton-in-Arden would experience noise levels higher than the noise insulation trigger levels as defined in the draft CoCP, and this dwelling was consequently estimated as likely to qualify for noise insulation. An exceedance of the daytime vibration screening criterion was also predicted at the property. Due to the incorporation of mitigation measures, including noise insulation, the main ES concluded no residual significant noise and vibration effect on this individual dwelling.
- 3.2.13 At the National Motorcycle Museum, the main ES reported that daytime vibro-compaction of the earthworks associated with the adjacent road works to the A45 Coventry Road would exceed the vibration screening criterion at the closest edge of the museum building. However, taking into account the nature of the earthworks at this location, which are limited to a thin strip along the edge of the A45 Coventry Road, and the low sensitivity of the National Motorcycle Museum to vibration, a significant effect was not considered likely.
- 3.2.14 An assessment has been undertaken to determine whether these construction works would result in any new or different likely significant effects, using the significance criteria detailed in the main ES (Volume 5: Appendix SV-001-000).
- 3.2.15 SES and AP2 Volume 5 Appendix: SV-003-024 details the relevant changes to the results reported in the main ES (Volume 5: Appendix: SV-003-024).
- 3.2.16 At the individual property at the northern end of Old Station Road the proposed changes to the road network at the National Motorcycle Museum will result in a reduction in the typical daytime monthly construction noise levels by 6dB (from 61dB to 55dB), and highest daytime monthly construction noise levels by 10 dB (from 77dB to 67dB) (see SES and AP2 map SNV-03-053, Volume 5 Map Book).

This is due to the removal of the works in close proximity to the property. As a result of these reductions in predicted construction noise levels, the daytime noise insulation trigger level for residential properties is no longer exceeded, meaning that the dwelling is no longer estimated as likely to qualify for noise insulation. The conclusion of the main ES that no residual significant effect will occur remains unchanged.

- 3.2.17 At the National Motorcycle Museum slight changes in the construction noise levels are predicted (maximum change 1 dB) due to the proposed changes. The works to the A45 Coventry Road are largely unchanged past the museum. No change to the predicted construction vibration impact at the museum is anticipated. Therefore, there is no change to the assessment reported in the main ES, which did not identify a significant effect at this receptor.

Other mitigation measures

- 3.2.18 No other mitigation measures are proposed, above those reported in the main ES.

Cumulative effects

- 3.2.19 There are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the SES changes acting in combination with the SES, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Summary of likely residual significant effects

- 3.2.20 The proposed change will result in one dwelling on Old Station Road no longer being estimated as likely to qualify for noise insulation but will not give rise to new or different residual significant construction noise and vibration effects compared to the main ES.

Effects arising from operation

- 3.2.21 The proposed changes to the road network at the National Motorcycle Museum will not give rise to new or different residual significant operation noise effects compared to those reported in the main ES.

3.3 Traffic and transport

Introduction

- 3.3.1 This section of the report describes the environmental baseline in relation to traffic and transport that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes introduced in Section 2, compared to the original scheme.
- 3.3.2 This section considers the impacts of the changes in parking at the National Motorcycle Museum and changes to Footpath M107. The impacts of highway changes are considered in Section 6, 'Combined effects of amendments in this CFA due to changes in traffic flows'.

Scope, assumptions and limitations

- 3.3.3 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Changes of relevance to this assessment

- 3.3.4 The changes arising from the amendments to the road network at the National Motorcycle Museum (SES-024-001) are of relevance to traffic and transport in this assessment.

Environmental baseline

Existing baseline

- 3.3.5 The existing baseline for traffic and transport is set out in Volume 2, CFA24, Section 12 of the main ES. There is no change to the existing baseline as reported in the main ES.
- 3.3.6 Footpath M107 runs to the east and south of the National Motorcycle Museum, connecting with the A45 westbound Service Road and Old Station Road.
- 3.3.7 There are approximately 274 car parking spaces at the National Motorcycle Museum used by visitors.

Future baseline

Construction

- 3.3.8 The future baseline for construction remains unchanged from that reported in Volume 2, CFA24, Section 12 of the main ES.

Operation (2026 and 2041)

- 3.3.9 The future baselines for operation in 2026 and 2041 remain unchanged from those reported in Volume 2, CFA24, Section 12 of the main ES.

Effects arising during construction

Avoidance and mitigation measures

- 3.3.10 Avoidance and mitigation measures are as set out in Volume 2, CFA24, Section 12 of the main ES.

Assessment of impacts and effects

Temporary effects

- 3.3.11 The main ES identified that the alterations to the road network at the M42 Junction 6 would result in the temporary loss of approximately 55 car parking spaces at the National Motorcycle Museum. The effect of the temporary parking loss was assessed as moderate adverse significant effect in the main ES. This is unchanged with the SES scheme.

3.3.12 The main ES reported that the realignment of Footpath M107 would be likely to increase the travel distance by less than 50m and would not have a significant effect. The effect on Footpath M107 as a result of the SES would be unchanged.

3.3.13 The impacts on parking and Footpath M107 of the proposed change to the road network at the National Motorcycle Museum will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Permanent effects

3.3.14 Permanent effects of construction on traffic and transport are reported under 'Effects arising from operation'.

Other mitigation measures

3.3.15 No other mitigation measures are proposed, above those reported in the main ES.

Cumulative effects

3.3.16 Cumulative effects are reported in Section 12, Volume 2, CFA24 of the main ES. The assessment includes the cumulative effects of planned development by taking this into account within the background traffic growth. The assessment also considers in combination effects by taking into account traffic and transport movements from nearby areas. However, in this regard there are no impacts from other areas.

Summary of likely residual significant effects

3.3.17 The impacts on parking and Footpath M107 in construction from the proposed SES changes to the road network at the National Motorcycle Museum will not give rise to a new or different residual significant effect and will not change the level of significance of the effects reported in the main ES.

Effects arising from operation

Avoidance and mitigation measures

3.3.18 Avoidance and mitigation measures are as set out in Volume 2, CFA24, Section 12 of the main ES.

Assessment of impacts and effects

3.3.19 The main ES reported a moderate adverse significant effect due to the permanent loss of car parking at the National Motorcycle Museum primarily due to the widening of the A45 Coventry Road westbound roundabout entry to provide a segregated left-turn lane to the southbound M42.

3.3.20 The change to the road network removes the permanent loss of car parking at the National Motorcycle Museum (see SES and AP2 ES map TR-04-154) and will remove the significant effect reported in the main ES.

Other mitigation measures

- 3.3.21 No other mitigation measures are proposed, above those reported in the main ES.

Cumulative effects

- 3.3.22 Cumulative effects are reported in Section 12, Volume 2, CFA24 of the main ES. The assessment includes the cumulative effects of planned development by taking this into account within the background traffic growth. The assessment also considers in combination effects by taking into account traffic and transport movements from nearby areas. However, in this regard there are no impacts from other areas.

Summary of likely residual significant effects

- 3.3.23 The proposed SES change to the road network at the National Motorcycle Museum will remove the moderate adverse significant effect due to the permanent loss of parking as reported in the main ES.

Part 2: Additional Provision 2 Environmental Statement

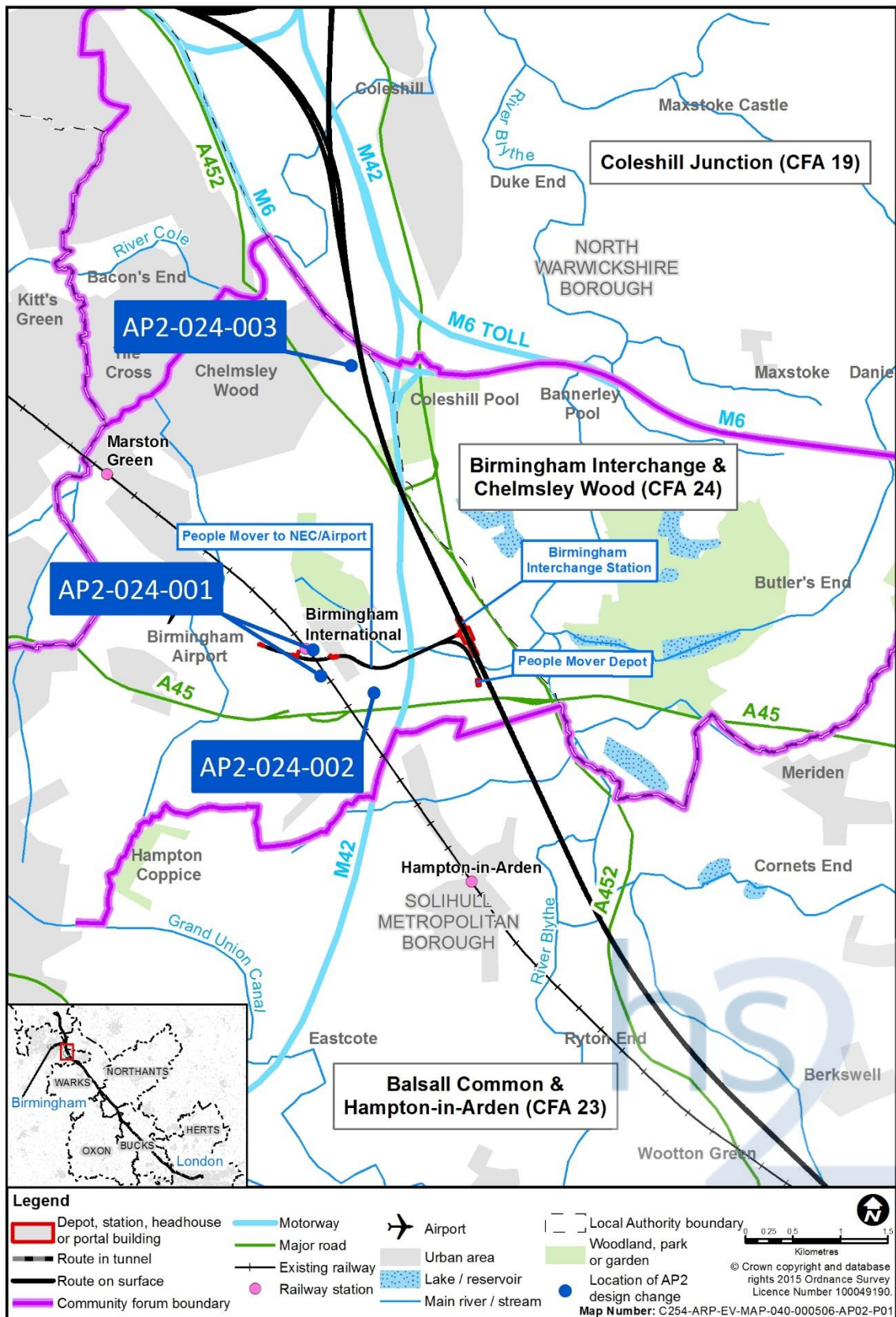
4 Summary of amendments

4.1.1 Table 3 provides a summary of the amendments in the Birmingham Interchange and Chelmsley Wood community forum area (CFA 24) and Figure 2 shows the locations.

Table 3: Summary of amendments in CFA 24

Name of amendment	Description of the original scheme or AP1 revised scheme	Description of the AP2 revised scheme
Additional access rights for construction traffic routes on Perimeter Road and Station Link Road. (AP2-024-001)	Temporary use of a section of Perimeter Road and a section of Station Link Road as construction traffic routes to undertake utility diversions and construction of the A45 Coventry Road embankment.	The scheme has not changed, however Perimeter Road and Station Link Road are privately owned and have now been added to the Bill plans to provide rights of access.
Additional access rights for construction traffic route on an unnamed road off South Way/Pendigo Way and South Car Park Road. (AP2-024-002)	Temporary use of an unnamed road off South Way/Pendigo Way as a construction traffic route to undertake utility diversions and construction of the A45 Coventry Road embankment.	The scheme has not changed for the use of an unnamed road off South Way/Pendigo Way, however this access road is privately owned and has now been added to the Bill plans to provide rights of access. A section of South Car Park Road is required for rights of access to be used as a construction traffic route to undertake construction of the M42 Junction 6 embankment.
Provision of a pedestrian crossing on Coleshill Heath Road. (AP2-024-003)	The temporary loss of approximately 3.9ha of Heath Park and the permanent loss of approximately 0.8ha. Provision of an area identified for replacement open space adjacent to Coleshill Heath Road.	Replacement of the existing uncontrolled pedestrian crossing with a pelican pedestrian crossing on Coleshill Heath Road, linking an area of replacement open space with Bluebell Recreation Ground. To facilitate the new pedestrian crossing, a bus stop will be relocated and existing footpaths will be extended.

Figure 2: Locations of amendments in CFA 24



5 Assessment of amendments

5.1 Additional access rights for construction traffic routes on Perimeter Road and Station Link Road (AP2-024-001)

- 5.1.1 The Bill provides for construction traffic routes along a section of Perimeter Road and a section of Station Link Road, both of which are within the National Exhibition Centre (NEC) complex. The inclusion of the traffic routes in the Bill is required to undertake utility diversions and construct the A45 Coventry Road embankment. The original scheme assumed that both Perimeter Road and Station Link Road were public highways and therefore access rights were not included in the Bill.
- 5.1.2 Since submission of the Bill it has been identified that these routes are privately owned and therefore rights of access are needed, hence the need for this amendment (see map CT-05-106-L2 in SES and AP2 ES, Volume 2, CFA24 Map Book). These routes will be used for the period of the utility diversions and construction of the A45 Coventry Road embankment, as stated in the main ES. The use of these routes has been assessed within the main ES and there will be no increase in construction traffic using these routes from that which was assessed in the main ES.
- 5.1.3 The access rights required for the construction traffic routes is not considered to make changes that require a reassessment of the effects or proposed mitigation as set out in the main ES with respect to any environmental topics.

5.2 Additional access rights for construction traffic routes on an unnamed road off South Way/Pendigo Way and South Car Park Road (AP2-024-002)

- 5.2.1 The Bill provides for construction traffic routes along an unnamed road off South Way/Pendigo Way, within the NEC complex, to undertake utility diversions and construct the A45 Coventry Road embankment. The original scheme assumed that the unnamed road was a public highway and therefore access rights were not included in the Bill.
- 5.2.2 Since submission of the Bill it has been identified that the unnamed road is privately owned and therefore rights of access are needed. Also, a section of South Car Park Road has been identified as an additional construction route required to construct the M42 Junction 6 embankment. These routes relate to access rights outside the original limits of the Bill, hence the need for this amendment (see SES and AP2 ES map CT-05-106-L1 in). These routes will be used for the period of the utility diversions and embankment construction as stated in the main ES. The use of the unnamed road off South Way/Pendigo Way has been assessed within the main ES and there will be no increase in construction traffic using this route from that assessed in the main ES. The use of a section of South Car Park Road was not considered in the main ES. The

volume of construction traffic using the route will be similar to that using the unnamed road off South Way/Pendigo Way.

- 5.2.3 The access rights required for construction traffic routes are not considered to make changes that require a reassessment of the effects or proposed mitigation as set out in the main ES with respect to any environmental topics.

5.3 Provision of a pedestrian crossing on Coleshill Heath Road (AP2-024-003)

- 5.3.1 The Bill provides for provision of approximately 3.3ha of mitigation open space, adjacent to Coleshill Heath Road, in the parish of Bickenhill (see grid reference G6, G7, G8, H6 and H7 on map CT-06-108 in the main ES, Volume 2, CFA24 Map Book).
- 5.3.2 Since submission of the Bill, a commitment has been made to SMBC that agreement will be reached for the permanent provision of and access to replacement open space. The proposed location for the replacement open space and an assessment of the likely significant environmental effects arising from the replacement open space (SES-024-002) is detailed in the SES, Part 1, Section 2. To provide connectivity between the replacement open space and Bluebell Recreation Ground, an existing uncontrolled pedestrian crossing on Coleshill Heath Road will be removed and a new pelican pedestrian crossing with a central refuge provided. An existing bus stop will be required to be relocated south-west along Coleshill Heath Road, approximately 30m from its current location, and the existing footpath extended approximately 35-40m to access the bus stop. A minor extension of approximately 35m to the existing footpath within the Bluebell Recreation Ground will be required to link it with the new pelican pedestrian crossing. Traffic management will be required to facilitate the improvements. Approximately 75m² of additional land is required permanently for the minor extension of the existing footpath within Bluebell Recreation Ground, hence the need for this amendment (see map CT-05-107-R1, in SES and AP2 ES, Volume 2 CFA24 Map Book).
- 5.3.3 The additional land required for the minor extension of the existing footpath within Bluebell Recreation Ground will result in the permanent loss of 75m² of a total 7.1ha. The land to be lost, which is existing footpath rather than open space, represents less than 1% of the total area of the park and, as such is not considered to be significant. The permanent use of this additional land is not considered to make changes that require a reassessment of the effects or proposed mitigation as set out in the main ES with respect to any environmental topics.

6 Combined effects of amendments in this CFA due to changes in traffic flows

6.1 Introduction

6.1.1 Where transport effects can be directly attributed to an amendment, the effects related to such changes are reported within the traffic and transport section under each of the relevant amendments. There are however, amendments in this CFA which in combination result in changed traffic flows that cannot be directly attributed to one specific amendment. This section of the AP2 ES reports any new or different significant effects as a result of this combined assessment.

6.1.2 Traffic and transport effects are reported first, since the effects arise from changes in traffic flows. Other topics which are affected by traffic and transport changes are then reported as necessary in the following sequence:

- air quality;
- ecology; and
- sound, noise and vibration.

6.2 Changes of relevance to this assessment

6.2.1 The following changes are relevant to this assessment as they have the potential to change the flow and/or composition of traffic flow and associated emissions on the road network within this area:

- SES-024-001 (amendments to the road network at the National Motorcycle Museum) – in relation to potential changes to traffic flows (changes in relation to parking and Footpath M107 are considered in Section 3);
- AP2-018-004 (Burton Green area amendments) – the amendment is described in detail in the SES and AP2 ES for Stoneleigh, Kenilworth and Burton Green area (CFA18) and Balsall Common and Hampton-in-Arden (CFA23). The alignment of the original scheme is lowered. The amendment results in additional excavated material and changes in the HGV traffic movements associated with the AP2 revised scheme. The AP2 revised scheme also removes the Cromwell Lane compound with a new roadhead provided off B4101 Waste Lane. The changes to the vertical alignment in CFA18 also impact on the alignment in CFA23 and the traffic movements associated with the Beechwood Farm accommodation underpass satellite compound, which is also relocated;

- AP2-023-005 (Realignment of Diddington Lane) - Diddington Lane will be realigned to the north-west of its existing route and will cross over the HS2 route via a new bridge at Diddington cutting. The amendment is described in detail in the SES and AP2 ES for Balsall Common and Hampton-in-Arden (CFA23); and
- changes to the routing of construction vehicles and a change to the assessment of construction traffic flows arising from the movement of excavated materials from the M6 Motorway main compound, located on Coleshill Heath Road in the Coleshill Junction CFA (CFA19). In the original scheme, vehicles were routed via the M42 motorway, and this has now been changed so that some of the construction vehicles are routed along the M6 motorway.

6.3 Traffic and transport

Scope, assumptions and limitations

- 6.3.1 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Environmental baseline

Existing baseline

- 6.3.2 The existing baseline for traffic and transport is set out in Volume 2, CFA24, Section 12 of the main ES. There is no change to the existing baseline as reported in the main ES.
- 6.3.3 There are several strategic routes that pass through the Birmingham Interchange and Chelmsley Wood area. The M42 motorway is aligned in a north to south direction and is accessed in the area from Junction 6. The M6 motorway runs from the north-west to south-east, intersecting with the M42 at Junction 7, and is accessible from Junction 4 in this area. The A45 Coventry Road passes through the southern area in an east to west direction connecting with the M42 Junction 6 and A452 Chester Road at Stonebridge Island. The A45 Coventry Road provides access to the NEC, Birmingham Airport and Birmingham International Station. The A452 Chester Road runs in a north-west to south-east orientation providing access to Chelmsley Wood, the NEC and Birmingham Business Park. The A446 Stonebridge Road has a north to south orientation linking the M6 Junction 4 and A452 Chester Road, at the A452 Chester Road/A446 Stonebridge Road/Solihull Parkway roundabout.

Future baseline

Construction

- 6.3.4 The future baseline for construction remains unchanged from that reported in Volume 2, CFA24, Section 12 of the main ES.

Operation (2026 and 2041)

- 6.3.5 The future baselines for operation in 2026 and 2041 remain unchanged from those reported in Volume 2, CFA24, Section 12 of the main ES.

Effects arising during construction

Avoidance and mitigation measures

- 6.3.6 Avoidance and mitigation measures are as set out in Volume 2, CFA24, Section 12 of the main ES.

Assessment of impacts and effects

Temporary effects

- 6.3.7 The main ES considered the traffic and transport effects in the area during construction. In particular, the effects associated with the combined construction traffic flows into and through the area were identified. The main effects related to increases in congestion and delay at the following locations:

- M42 motorway (minor adverse);
- M42 Junction 6 (minor adverse);
- A45 Coventry Road (minor adverse);
- A45 Coventry Road westbound off-slip at M42 junction 6 (major adverse);
- A446 Stonebridge Road (minor adverse); and
- A452 Chester Road (minor adverse).

- 6.3.8 Additionally, the main ES reported traffic severance¹ effects on non-motorised users at the following locations:

- M42 Junction 6 southbound on-slip (minor adverse);
- A45 Coventry Road eastbound on-slip at M42 Junction 6 (moderate adverse);
- A45 Coventry Road westbound on-slip at Stonebridge Island (moderate adverse);
- A45 Coventry Road eastbound off-slip at Stonebridge Island (moderate adverse); and
- A45 Coventry Road westbound off-slip at Stonebridge Island (moderate adverse).

¹ In the context of traffic and transport, severance is used to relate to a change in ease of non-motorised users due to, for example, a change in travel distance or travel time or a change in traffic levels on a route that makes it harder for non-motorised users to cross. A reference to severance does not imply a route is closed to access.

- 6.3.9 Although there are changes to traffic flows arising from the combined design changes, these are minor and there are no changes to the traffic and transport effects, or the levels of significance, during construction as reported in the main ES as a result of the assessment of the combined SES scheme and AP2 revised scheme amendments.

Permanent effects

- 6.3.10 Permanent effects of construction on traffic and transport are reported under 'Effects arising from operation'.

Other mitigation measures

- 6.3.11 No changes to the mitigation measures reported in Volume 2, CFA24 of the main ES are required

Cumulative effects

- 6.3.12 Cumulative effects are reported in Volume 2, CFA24, Section 12 of the main ES. The above assessment has taken into account these cumulative effects, including planned development by taking account of background traffic growth, as well as traffic and transport impacts of works being undertaken in other areas.

Summary of likely residual effects

- 6.3.13 The combined SES scheme and AP2 revised scheme amendments will not give rise to any new or different significant effects and will not change the significance of the effects reported in the main ES.

Effects arising from operation

- 6.3.14 The combined SES and AP2 revised scheme amendments will not give rise to any new or different significant operational effects and will not change the level of significance of the effects reported in the main ES.

6.4 Air quality

Scope, assumptions and limitations

- 6.4.1 The assessment scope, key assumptions and limitations for air quality, including local assumptions and limitations, are as set out in the main ES in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1), the SMR Addendum (Volume 5: Appendix CT-001-000/2).

Environmental baseline

Existing baseline

- 6.4.2 The existing baseline for air quality is set out in the main ES (Volume 2, CFA24, Section 4). There is no change to the existing baseline as reported in the main ES.

- 6.4.3 North Warwickshire Borough Council has declared an Air Quality Management Area (AQMA) in recognition of NO₂ concentrations in excess of that defined by the air quality standard for the annual average (40µg/m³), at a location adjacent to the M6 and M42 motorway. Solihull Metropolitan Borough Council has not declared an AQMA within their area, but have acknowledged elevated concentrations at locations near busy roads. Away from busy roads, pollutant concentrations are nearer to background levels.
- 6.4.4 The SES scheme and AP2 revised scheme have increased construction vehicle flow on some roads within the area to the extent that it now triggers the screening criteria for air quality assessment, where previously it did not. Five additional receptors have been identified as being representative of sensitive exposure at locations adjacent to these additional roads. These receptors are:
- Common Farm;
 - Park Farm;
 - Cottage (Kennels);
 - Myrtle Cottage; and
 - 217 Old Station Road.
- 6.4.5 The additional receptors are not located within an AQMA and are considered to experience a good standard of baseline air quality.
- 6.4.6 Baseline air quality conditions at the Coleshill and Bannerly Pools Site of Special Scientific Interest (SSSI), located within this area, at a location adjacent to the M6, M42 and A446 Stonebridge Road, are already in excess of the relevant air quality standards for annual mean NO_x, nutrient nitrogen deposition and nitrogen acid deposition.

Future baseline

Construction (2017)

- 6.4.7 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES, Section 4.
- 6.4.8 None of the identified developments affect the assessment of the amendment's likely construction impacts on air quality.

Operation (2026)

- 6.4.9 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES, Section 4.
- 6.4.10 None of the identified developments affect the assessment of the amendment's likely operation impacts on air quality.

Effects arising during construction

Avoidance and mitigation

- 6.4.11 The assessment assumes implementation of the measures set out within the draft CoCP, which includes, amongst other measures, a requirement for contractors to manage dust, air pollution, odour and exhaust emissions during construction.

Assessment of impacts and effects

Temporary effects

- 6.4.12 The impact of emissions associated with the original scheme, SES scheme and AP2 scheme has been assessed following the methodology as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 6.4.13 Whilst the assessment has identified that there are five additional human health sensitive receptors within this area that could potentially be affected by construction vehicle movement emissions, the impacts quantified at those locations do not constitute a significant effect. The main ES also did not identify any significant effects.
- 6.4.14 The assessment has also identified that the Coleshill and Bannerly Pools SSSI could also potentially be affected by construction vehicle movement emissions. The modelling of emissions has identified that there would be an increase in annual mean concentrations of NO_x at locations where the air quality standard for this pollutant is already being exceeded. The additional contribution to this pollutant as a result of the SES and AP2 revised scheme is small when compared to the contribution from the nearby motorways and other background sources. Therefore, it is concluded that the impacts quantified at this location do not constitute a significant effect.

Permanent effects

- 6.4.15 There are no permanent effects relating to air quality due to the changes in construction traffic.

Other mitigation measures

- 6.4.16 No other mitigation measures are required above the measures reported in the main ES.

Cumulative effects

- 6.4.17 There are no new or different likely significant cumulative effects for air quality during operation as a result of the SES and AP2 scheme amendments acting in combination, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Summary of likely residual significant effects

- 6.4.18 The changes in traffic will result in no new or different likely residual significant air quality effects reported in the main ES.

Effects arising from operation

Avoidance and mitigation

- 6.4.19 Avoidance and mitigation measures are set out in the main ES (Volume 2, CFA Report 24, Section 4). No further avoidance or mitigation measures are proposed.

Assessment of impacts and effects

There are no new or different significant operational effects for air quality as a result of the SES and AP2 revised scheme amendments acting in combination.

Other mitigation

- 6.4.20 No other mitigation measures are required above the measures reported in the main ES.

Cumulative effects

- 6.4.21 There are no new or different likely significant cumulative effects for air quality as a result of the SES and AP2 revised scheme amendments acting in combination or as a result of any committed development interacting with the AP2 revised scheme.

Summary of likely residual significant effects

- 6.4.22 The changes in traffic will result in no new or different likely residual significant air quality effects to those reported in the main ES.

6.5 Ecology

Scope, assumptions and limitations

- 6.5.1 The assessment scope, key assumptions and limitations for ecology are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Environmental baseline

Existing baseline

- 6.5.2 A summary of the baseline information relevant to the assessment is provided below.
- 6.5.3 Coleshill and Bannerly Pools SSSI is located south of the M6 Junction 4 and east of the M42 motorway. The site is of national value and is designated for the habitats, including wet woodland and valley mire, as well as the scarce plant species it supports. Further baseline ecology information for the Birmingham

Interchange and Chelmsley Wood area is as described in the main ES (Volume 2 CFA Report 24, Section 7 and Volume 5, including Maps EC-01 to EC-12).

Future baseline

Construction (2017)

- 6.5.4 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed will have been implemented by 2017, additional to those identified in the main ES, Section 7.
- 6.5.5 None of the identified developments affect the assessment of the amendment's likely construction impacts on ecology.

Operation (2026)

- 6.5.6 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES, Section 7.
- 6.5.7 None of the identified developments affect the assessment of the amendment's likely operation impacts on ecology.

Effects arising during construction

Avoidance and mitigation

- 6.5.8 The assessment assumes implementation of the measures set out within the draft CoCP, which includes, amongst other measures, translocation of protected species, where appropriate.

Assessment of impacts and effects

- 6.5.9 Whilst the air quality assessment has identified that there would be an increase in annual mean concentrations of NO_x, nutrient nitrogen deposition and nitrogen acid deposition as a result of the SES and AP2 revised scheme, the increase in each pollutant is less than 5% of the air quality standard at the worst impacted location of Coleshill and Bannerly Pools SSSI. The additional contribution to these pollutants as a result of the SES and AP2 revised scheme is small when compared to the contribution from the nearby motorways and other background sources. Consequently, it is considered that the SES and AP2 revised scheme will not significantly impact upon the habitats within the SSSI and that there will be no significant effect on the functional integrity of the site.

Other mitigation measures

- 6.5.10 No other mitigation measures are required, above those reported in the main ES.

Cumulative effects

- 6.5.11 There are no new or different likely significant cumulative effects for ecology as a result of the SES and AP2 revised scheme amendments acting in combination

or as a result of any committed development interacting with the AP2 revised scheme.

Summary of likely residual significant effects

- 6.5.12 The changes in traffic will result in no new or different likely residual significant ecology effects reported in the main ES.

Effects arising from operation

Avoidance and mitigation

- 6.5.13 Avoidance and mitigation measures are set out in Volume 2, CFA Report 24, Section 7 of the main ES. No further ecology avoidance or mitigation measures during operation are proposed.

Assessment of impacts and effects

- 6.5.14 The SES and AP2 scheme amendments would result in annual mean concentrations on NO_x emissions rising by less than 5% in the vicinity of Coleshill and Bannerly Pools SSSI, which would not give rise to a new or different significant effect.

Other mitigation measures

- 6.5.15 No other mitigation measures are proposed above those reported in the main ES (Volume 2, CFA Report 24, Section 7).

Cumulative effects

- 6.5.16 There are no new or different likely significant cumulative effects for ecology as a result of the AP2 revised scheme amendments acting in combination or as a result of any committed development interacting with the AP2 revised scheme.

Summary of likely residual significant effects

- 6.5.17 The changes in traffic will result in no new or different likely residual significant ecology effects compared to those reported in the main ES.

6.6 Sound, noise and vibration

Scope, assumptions and limitations

- 6.6.1 The assessment scope, key assumptions and limitations for sound, noise and vibration, including local assumptions and limitations, are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1), the SMR Addendum (Volume 5: Appendix CT-001-000/2) and Volume 2, CFA Report 24, Section 11, of the main ES.

Environmental baseline

Existing baseline

- 6.6.2 The baseline sound, noise and vibration information for the area is as described in the main ES (Volume 2, CFA Report 24, Section 11 and Volume 5: Appendix SV-002-024).

Future baseline

Construction (2017)

- 6.6.3 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES, Section 11.
- 6.6.4 None of the identified developments affect the assessment of the amendment's likely construction impacts on sound, noise and vibration.

Operation (2026)

- 6.6.5 Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES, Section 11.
- 6.6.6 None of the identified developments affect the assessment of the amendment's likely operation impacts on sound, noise and vibration.

Effects arising during construction

Avoidance and mitigation

- 6.6.7 The assessment assumes implementation of the measures set out within the draft CoCP, which includes, amongst other measures, the application of best practicable means to construction activities to minimise noise at neighbouring residential properties.

Assessment of impacts and effects

- 6.6.8 No new or different residual construction traffic noise significant effects have been identified at residential or non-residential receptors, in comparison with the original scheme.
- 6.6.9 Due to an increase in the movement of concrete from the batching plant at Birmingham Interchange to the River Blythe viaduct, a minor increase in traffic noise levels is predicted on two road links as part of the AP2 revised scheme, namely:
- a section of the eastbound off-slip from the M42 Junction 6 to East Way, adjacent to the A45 Coventry Road; and
 - a short section of East Way to the east of Middle Bickenhill Lane, adjacent to the A45 Coventry Road.

6.6.10 Appendix SV-003-024 in the SES and AP2 ES details the relevant changes to the results reported in the main ES (Volume 5: Appendix SV-003-024).

6.6.11 No noise-sensitive receptors are located on the affected section of East Way. A single residential building at the southern end of Middle Bickenhill Lane is located approximately 35m from to the affected section of the eastbound off-slip road from the M6 Junction 6 to East Way. Traffic flows, and hence traffic noise levels along these links, in the future baseline scenario and the three construction traffic scenarios, are all low. Overall noise levels in the vicinity of both links are dominated by traffic on the adjacent A45 Coventry Road dual carriageway, which has much higher traffic flows. This is demonstrated by the baseline sound monitoring in this area. Therefore, the change in traffic flows on these two minor roads will not significantly affect overall traffic noise levels in the area. On this basis no significant effect due to construction traffic noise has been identified on these two links.

Other mitigation measures

6.6.12 No other mitigation measures are proposed above those reported in the main ES (Volume 2, CFA Report 24, Section 11).

Cumulative effects

6.6.13 There are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the SES and AP2 revised scheme amendments acting in combination or as a result of any committed development interacting with the AP2 revised scheme.

Summary of likely residual significant effects

6.6.14 The changes in traffic will result in no new or different likely residual significant sound, noise and vibration effects compared to those reported in the main ES.

Effects arising from operation.

Avoidance and mitigation

6.6.15 Avoidance and mitigation measures are set out in Volume 2, CFA Report 24, Section 11 of the main ES. No further sound, noise and vibration avoidance or mitigation measures during operation are proposed.

Assessment of impacts and effects

6.6.16 There are no changes to the operational sound, noise and vibration significant effects reported separately in the ES, AP1 ES and AP2 ES as a result of combined effects of amendments in this area.

Mitigation and residual effects

6.6.17 No other mitigation measures are proposed above those reported in the main ES (Volume 2, CFA Report 24, Section 11).

Cumulative effects

- 6.6.18 There are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the SES and AP2 revised scheme amendments acting in combination or as a result of any committed development interacting with the AP2 revised scheme.

Summary of likely residual significant effects

- 6.6.19 The changes in traffic will result in no new or different likely residual significant sound, noise and vibration effects compared to those reported in the main ES.

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