

**THE OXFORDSHIRE COUNTY COUNCIL (DIDCOT GARDEN TOWN HIGHWAYS  
INFRASTRUCTURE – A4130 IMPROVEMENT (MILTON GATE TO COLLETT  
ROUNDAABOUT), A4197 DIDCOT TO CULHAM LINK ROAD, AND A415 CLIFTON  
HAMPDEN BYPASS) COMPULSORY PURCHASE ORDER 2022**

**THE OXFORDSHIRE COUNTY COUNCIL (DIDCOT TO CULHAM THAMES BRIDGE)  
SCHEME 2022**

**THE OXFORDSHIRE COUNTY COUNCIL (DIDCOT GARDEN TOWN HIGHWAYS  
INFRASTRUCTURE – A4130 IMPROVEMENT (MILTON GATE TO COLLETT  
ROUNDAABOUT), A4197 DIDCOT TO CULHAM LINK ROAD, AND A415 CLIFTON  
HAMPDEN BYPASS) (SIDE ROADS) ORDER 2022**

**THE CALLED-IN PLANNING APPLICATION BY OXFORDSHIRE COUNTY COUNCIL FOR  
THE DUALLING OF THE A4130 CARRIAGEWAY, CONSTRUCTION OF THE DIDCOT  
SCIENCE BRIDGE, ROAD BRIDGE OVER THE APPLEFORD RAILWAY SIDINGS AND  
ROAD BRIDGE OVER THE RIVER THAMES, AND ASSOCIATED WORKS BETWEEN THE  
A34 MILTON INTERCHANGE AND THE B4015 NORTH OF CLIFTON HAMPDEN,  
OXFORDSHIRE (APPLICATION NO: R3.0138/21)**

**PLANNING INSPECTORATE REFERENCE:**

**APP/U3100/V/23/3326625 and NATTRAN/SE/HAO/286 (DPI/U3100/23/12)**

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**Proof of evidence of**  
**ALEX JAMES MADDOX**  
**(Environmental Impact Assessment)**

**Note: This proof of evidence is of primary relevance to the Inquiry into the called-in Planning Application, but addresses objections raised by remaining Objectors to the Statutory Orders in paragraphs 3.4-3.7 of this proof of evidence.**

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### APPENDICES:

- Appendix AM2.1: POETS letter of the 4 November 2023
- Appendix AM2.2: TAG: An Overview of Transport Appraisal 2014
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- Appendix AM2.6: Rapid Health Impact Assessment Review Checklist signpost document
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- Appendix AM2.8: Extract from the HUDU Planning for Health Rapid Health Impact Assessment Tool (2019)
- Appendix AM2.9: Appendix 3 of the Oxfordshire Health Impact Assessment Toolkit

## 1 INTRODUCTION AND QUALIFICATIONS

- 1.1 I am Alex James Maddox and I am a Principal Environmental Consultant at AECOM and have been with AECOM for over five years. I hold a BSc (with honours) in Geography from the University of Liverpool and a MSc in Environmental Impact Assessment and Management from the University of Manchester. I am also a Practitioner level member of the Institute of Environmental Assessment and Management.
- 1.2 I have nine years' experience in environmental consultancy, my current role is primarily the delivery of environmental assessments for highways projects across a wide range of design stages, from initial conception to the Planning Application stage, to the pre-construction stage. I have worked on highways schemes being consented under the Town and Country Planning Act 1990 and under the Planning Act 2008. I work within a large Impact Assessment Practice area within AECOM, and I am responsible for junior consultants in our central region.

### Scope of Evidence

- 1.3 This proof of evidence has been prepared regarding environmental matters relating to:
- 1.3.1 The called-in Planning Application by Oxfordshire County Council for the dualling of the A4130 carriageway, construction of the Didcot Science Bridge, road bridge over the Appleford Railway Sidings and road bridge over the River Thames, and associated works between the A34 Milton Interchange and the B4015 north of Clifton Hampden, Oxfordshire (Application No: R3.0138/21) (the **Planning Application**);
  - 1.3.2 The Oxfordshire County Council (Didcot Garden Town Highways Infrastructure – A4130 Improvement (Milton to Collett Roundabout), A4197 Didcot to Culham Link Road, and A415 Clifton Hampden Bypass) Compulsory Purchase Order 2022 (the **CPO**);
  - 1.3.3 The Oxfordshire County Council (Didcot to Culham Thames Bridge) Scheme 2022 (the **Bridge Scheme**); and
  - 1.3.4 The Oxfordshire County Council (Didcot Garden Town Highways Infrastructure– A4130 Improvement (Milton to Collett Roundabout), A4197 Didcot to Culham Link Road, and A415 Clifton Hampden Bypass) (Side Roads) Order 2022 (the **SRO**) (the CPO, Bridge Scheme and SRO taken together as referred to as the Orders).
- 1.4 The Planning Application was submitted, and the Orders were made, to facilitate the delivery of the Access to Didcot Garden Town Highway Improvements (“the Scheme”) which consists of a highway scheme approximately 11km in length, including converting 1.8km of single carriageway to dual carriageway, 6.8km of new single carriageway and approximately 20km of new and/or improved off-carriageway cycling and pedestrian infrastructure. Connections into the existing public rights of way network will also be provided. The Scheme also includes three over bridges.
- 1.5 The Orders were made by Oxfordshire County Council (the Council) in its capacity as acquiring authority (the Acquiring Authority) on 21 December 2022 and submitted to the Secretary of State for Transport on 26 January 2023.
- 1.6 The Planning Application was submitted to Oxfordshire County Council in its capacity as Local Planning Authority (LPA) by Oxfordshire County Council in its capacity as applicant (the Applicant) on the 4 October 2021 and called-in by the Secretary of State for Levelling Up, Housing and Communities for his determination on the 25 July 2023.
- 1.7 The Planning Application and the Orders are now due to be considered by an Inspector, Lesley Coffey, at conjoined public inquiries scheduled to open on 20 February 2024. This Proof of Evidence has been prepared in connection with those Inquiries.

- 1.8 The purpose of my evidence is to explain the environmental assessments of the Scheme that have been undertaken, in particular to explain the Environmental Impact Assessment process and respond to allegations of deficiencies in the Environmental Statement (ES). I will also explain how Human Health has been accounted for.
- 1.9 This proof of evidence should be read in conjunction with other separate but interrelated Proofs of Evidence submitted on behalf of the Council, including:
  - 1.9.1 Strategic Need and Benefits, Highway Issues, Scheme Selection and Alternatives, prepared by Aron Wisdom of Oxfordshire County Council;
  - 1.9.2 Local Transport and Connectivity Plan, prepared by John Disley of Oxfordshire County Council;
  - 1.9.3 Technical Traffic and Highways Engineering – A4130 Widening and Didcot Science Bridge, prepared by Andrew Blanchard of AECOM;
  - 1.9.4 Technical Traffic and Highways Engineering - Culham River Crossing and Clifton Hampden Bypass, prepared by Karl Chan of AECOM;
  - 1.9.5 Traffic Modelling, prepared by Claudia Currie of AtkinsRéalis;
  - 1.9.6 Noise and Vibration, prepared by Andrew Pagett of AECOM;
  - 1.9.7 Air Quality, prepared by Anna Savage of AECOM;
  - 1.9.8 Climate Change, prepared by Chris Landsburgh of AECOM;
  - 1.9.9 Landscape and Visual Impact, prepared by Jane Ash of AECOM;
  - 1.9.10 Planning, prepared by Bernard Greep of Stantec;
  - 1.9.11 Negotiations and Acquisition prepared by Steven Moon of Gateley Hamer; and
  - 1.9.12 Compulsory Purchase Justification prepared by Timothy Mann of Oxfordshire County Council.
- 1.10 In addition, the Proof of Evidence for Planning, prepared by Bernard Greep of Stantec, is supported by a Cultural Heritage Technical Note prepared by Dr Gillian Scott of AECOM. This Proof of Evidence is also supported by a Technical Note on Ecology, prepared by Max Wade of AECOM, see Appendix AM2.4.

## 2 ENVIRONMENTAL ASSESSMENT OVERVIEW

- 2.1 The Environmental Impact Assessment (EIA) has been undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (hereafter referred to as the 'EIA Regulations') and in accordance with the requirements and advice set out in the Design Manual for Road and Bridges (DMRB).
- 2.2 The EIA undertaken for the Scheme has followed the over-arching EIA process of screening, scoping and iterative design and assessment. These steps are discussed below:
- 2.2.1 In September 2019, an EIA screening exercise was undertaken by the Applicant for each element of the Scheme. It was determined that an EIA would be required as the Scheme, when considered as one, would fall within Schedule 2, Part 10(f) (Construction of roads) of the EIA Regulations. As the Scheme would exceed the threshold of 1 hectare and was considered likely to have significant environmental effects when considered against Schedule 3, an EIA was deemed to be required.
- 2.2.2 An EIA Scoping Report (i.e. the Scoping Opinion Request) was submitted to the Local Planning Authority (LPA) in April 2020, under Part 4, Regulation 15 of the EIA Regulations. A Scoping Opinion was received from the LPA in July 2020. The Scoping Opinion outlined the LPA's opinion on how the EIA should be undertaken, and subsequently what should be included within the Environmental Statement (ES) to be submitted with the Planning Application. In addition to LPA's Scoping Opinion, responses were provided by several statutory and non-statutory consultees. These responses, the Scoping Report and the Scoping Opinion form the foundation on which the ES is based, in accordance with Part 5, Regulation 18, Paragraph 4(a) of the EIA Regulations. These documents are available at Appendix 4.1 of the ES [CD A.17].
- 2.2.3 Subsequently to the screening and scoping, an ES was produced that assessed the likely significant effects of the Scheme on the following environmental factors:
- Air Quality;
  - Cultural Heritage;
  - Landscape and Visual amenity;
  - Biodiversity;
  - Noise and Vibration;
  - Geology and Soils;
  - Material Assets and Waste;
  - Population and Human Health;
  - Road Drainage and the Water Environment; and
  - Climate.
- 2.2.4 In addition to the above environmental factors, the LPA stated in its Scoping Opinion that a Transport chapter should be included within the ES. This was produced and included as Chapter 16 of the ES.
- 2.2.5 The following topics were scoped out of the ES in agreement with the LPA:
- Heat and radiation – these were deemed to be irrelevant to the Scheme given its end use as a highway.
  - Demolition (decommissioning) – as it is highly unlikely that the Scheme will be demolished after its design life as it is likely to become an integral part of the infrastructure in the area. In the unlikely event that the Scheme is demolished, this would be assessed under the relevant

statutory process, including the requirements of the EIA Regulations as appropriate. Demolition of existing small structures such as culverts or existing road surfaces at tie-ins are considered within the construction assessments presented in the ES.

- Major accidents and disasters – due to the nature and scale of the Scheme, it is anticipated that accidents and disasters such as flooding, risk of pollution spills; the impact of climate change; air quality pollution events; and road traffic accidents are satisfactorily assessed in other technical chapters and reports within the ES.

**2.2.6** Aspects of technical chapters scoped out include:

- An assessment of groundwater dependent terrestrial ecosystems (GWDTEs) was not undertaken as there are no such sites in the applicable study area (including statutory sites, non-statutory priority habitats or local nature reserves that might be GWDTE).
- A review of the likely maintenance activities (not including de-icing in adverse weather conditions) concluded that there would be limited potential of such effects to occur, and that these activities are comparable with standard maintenance operations already being undertaken elsewhere on the strategic and local road networks. The LPA would undertake maintenance tasks in accordance with best practice guidelines. Accordingly, the effects associated with this phase of the Scheme were scoped out of the EIA.
- A review of the need to undertake an in-combination climate change impact (ICCI) assessment was undertaken, as set out in the Scoping Report, and it was concluded that all climatic variables relevant to the Scheme (temperature change, sea level rise, precipitation change, wind) would either not have significant effects on receptors in the surrounding environment or would be covered elsewhere in the ES. Therefore, this element of the climate assessment was scoped out.
- Given the end use of the Scheme, no significant effects were considered likely as a result of waste management and material use during the operational phase of the Scheme and therefore, no assessment of the operational phase was undertaken.

**2.2.7** The ES included a full assessment of all environmental factors listed in the DMRB as well as a Transport chapter, notwithstanding those aspects listed above that were scoped out as agreed through the scoping process.

**2.2.8** Following submission of the Planning Application in November 2021, which included the ES and other environmental reports, the LPA made two requests for further information under Part 5, Regulation 25 of the EIA Regulations, firstly on 26 April 2022 and secondly on 31 March 2023. Responses to these (known as EIA Regulation 25 Response documents) were submitted in November 2022 [CD B.2] and April 2023 [CD C.2]. Alongside these response documents, two ES Addendums [CD B.1 and C.1] were submitted where the response to requests for further information necessitated changes to the ES. The chapters, figures and appendices in the ES Addendums directly replace those submitted as part of the original Planning Application submission in November 2021. Revised and additional text was highlighted in yellow in most cases where changes were minor, to allow the reader to clearly identify amendments. In some cases, where wider changes were made, no highlights were provided and the document directly replaced the previously submitted version of the document. For clarity, reference to the ES hereafter, includes any amendments made to the original ES, submitted with the Planning Application, through the submission of the two ES Addendums as described above.

- 2.2.9 At a high level, further information was requested on the following topics as part of the Regulation 25 Request provided on 26 April 2022:
- General information about the development;
  - Design;
  - Highways and travel;
  - Climate and sustainability;
  - Flooding and drainage;
  - Heritage;
  - Landscape and visual impacts;
  - Arboriculture;
  - Biodiversity;
  - Air quality;
  - Noise;
  - Agriculture/ soils;
  - Minerals and waste;
  - Recreation;
  - Utilities; and
  - Cumulative impacts.
- 2.2.10 Further information was requested on the following topics as part of the Regulation 25 Request provided on 31 March 2023:
- Noise;
  - Cultural heritage;
  - Geology and soils;
  - Construction timetable;
  - Mitigation;
  - Landscaping;
  - Arboriculture;
  - Biodiversity net gain;
  - Lighting;
  - Minerals and waste;
  - Appleford Sidings bridge; and
  - Construction programme.
- 2.2.11 In response to requests for further information and consultation responses on the Planning Application and EIA Regulation 25 Response documents, substantial efforts were made to further green the Scheme through changes to landscape mitigation across every part of the Scheme. These changes saw Biodiversity Net Gain figures rise from 11.11% of habitat units, 13.37% of hedgerow habitats and 1.26% linear (river) habitat units in November 2021 (see Biodiversity Net Gain (BNG) Report September 2021, Section 4, paragraph 4.1.1 [CD A.13]; BNG Report October 2022 [CD B.2], Section 4; and BNG Report April 2023 [CD C.2], Section 4) to 23.13% of habitat units, 40.90% hedgerow units and 10% (or above) in linear (river) habitat units (partly secured through offsetting) in April 2023. In addition, it was proposed to install noise barriers with climbing vegetation (see Regulation 25 Response (November 2022), paragraph 8.11 and Appendix Q [CD B.2]), to

agree the colour of the bridge parapet (which also acts as a noise barrier) on the eastern side of the River Thames crossing with the LPA prior to construction (see Regulation 25 Response (April 2023), paragraph 7.2, bullet point five [CD C.2]), to provide a 3D Cellular Confinement System in an area subject to a Tree Preservation Order (TPO) located south-west of the Culham Science Centre (see Regulation 25 Response (April 2023), paragraph 8.1, bullet point three) thereby avoiding impacts on the TPO trees, and providing sedum blankets on the Appleford Sidings Bridge and on the River Thames Crossing (see Regulation 25 Response (April 2023), paragraph 8.8, bullet point 5 and 6). All other proposed environmental design and mitigation measures remain as stated in the November 2021 Planning Application submission.

- 2.2.12 None of the additional information provided in response to both Regulation 25 Requests resulted in a change to predicted significant environmental effects as reported in the ES submitted with the Planning Application.



### 3 ADEQUACY OF THE ENVIRONMENTAL STATEMENT

- 3.1 The following provides a response to the concerns raised by a number of parties in which they reference alleged deficiencies in the ES as submitted with the Planning Application – these parties include:

#### Rule 6 Parties

- Planning Oxfordshire's Environment and Transport Sustainably (POETS);
- East Hendred Parish Council; and
- Neighbouring Parish Council Joint Committee (NPC-JC).

#### Interested Parties

- Councillor Sarah James;
- Oxfordshire Roads Action Alliance;
- Adrian Wear;
- Appleford Parish Council;
- Frances Reid;
- Ian Palmer;
- Jacqueline Mason;
- Vicky Johnson;
- Oxford Friends of the Earth; and
- Victoria Shepard.

#### Compulsory Purchase Order (CPO) Objections

- Appleford Parish Council;
- John Peters; and
- Neighbouring Parish Council Joint Committee.

#### **Response to Rule 6 Parties**

- 3.2 Responses to Rule 6 parties are outlined in turn below:

#### **Planning Oxfordshire's Environment and Transport Sustainably**

- 3.2.1 POETS raise two matters relevant to the ES in its Statement of Case [CD L.7] - these include:

*"i) There is no assessment of the significant effects of the proposed HIF1 road on the town of Abingdon to the west of the application site, and on the A4074 Oxford Reading Road, particularly the settlements of Nuneham Courtenay and those along the B4015 and the A329 to the east, all of which inevitably will be significantly affected by this road proposal, both in terms of its construction and use; and*

*ii) There is no satisfactory consideration of reasonable alternatives to this or a very similar road scheme, as required by the Regulations."*

- 3.2.2 POETS submitted a letter to the Planning Inspectorate on the 4 November 2023 (see Appendix AM2.1) and provided additional detail to the matters

raised in POETS' Statement of Case. A Technical Note [CD O.1] on behalf of the Applicant was produced and provides substantial detail in relation to the scope of the transport modelling study area, which influences some of the environmental assessments set out within the ES. Information on the study area of the transport model is not repeated in this Proof of Evidence. The Technical Note also provides additional detail on how the ES has considered settlements beyond the defined environmental study areas and how the assessment of alternatives is in accordance with the requirements of the EIA Regulations 2017. This Technical Note [CD O.1] should be reviewed in conjunction with the following section of this Proof of Evidence.

***i) There is no assessment of the significant effects of the proposed HIF 1 scheme on receptors in Abingdon, Nuneham Courtenay or those located east of the A4704***

- 3.2.3 The scope of the EIA, as reported in the ES, was established through the process of scoping in accordance with the EIA Regulations. The scope of the transport appraisals undertaken for the Scheme, which inform parts of the EIA, were scoped in consultation with Oxfordshire County Council's Transport Development Control (TDC) department. The ES was based on the scope as set out in the Scoping Report, the LPA's Scoping Opinion, as required by the EIA Regulations, and the agreed scope of the Scheme's transport appraisals.
- 3.2.4 In considering the study area for the individual technical assessments that use generated traffic data (including Chapter 6: Air Quality; Chapter 10: Noise and Vibration; Chapter 14: Road Drainage and the Water Environment; Chapter 15: Climate and Chapter 16: Transport) settlements other than those assessed within the ES have been considered in the establishment of the study areas. For example:
- 3.2.5 **Air Quality:** in accordance with DMRB LA 105: Air Quality, the study areas for both the operational and construction traffic local air quality assessments focus on an area 200 metres either side of road carriageway centrelines of the local air quality Affected Road Network (refer to Figure 6.2 of the ES [CD A.16] and Section 6.6 of the ES [CD A.15]). This is because the effect of pollutants from road traffic reduces with distance from the point of release, and beyond 200 metres these pollutants are likely to have reduced to a concentration equivalent to background concentrations. This defined study area does not include settlements such as Abingdon, Nuneham Courtenay or settlements east of the Golden Balls junction and therefore they have not been assessed. However, modelled changes in air quality pollutants (nitrogen dioxide (NO<sub>2</sub>) concentrations) between the do-minimum and do-something scenarios (see Table 2, Appendix 6.2 and Figure 6.4 of the ES), in the first year of operation, at receptors located on approaches to Abingdon, Nuneham Courtenay or settlements east of the Golden Balls junction, are not significant as levels of NO<sub>2</sub> are below the annual mean objective of 40 µg/m<sup>3</sup>. A wider package of transport interventions, including works at A34 Lodge Hill junction (which received planning permission in September 2023, ref: R3.0148/22) and a study at the Golden Balls junction, are being brought forward by Oxfordshire County Council to address transport issues across the Science Vale area, which will also improve air quality and address other related environmental issues. Additional detail on the air quality study area is provided in the Technical Note responding to POETS letter dated 4 of November 2023.
- 3.2.6 **Noise and Vibration:** the initial study area for the detailed operational noise assessment comprised the area within 600 metres of the Scheme and routes bypassed by the Scheme, as required by DMRB LA 111: Noise and Vibration (see ES Addendum April 2023, ES Chapter 10, paragraphs 10.6.4 to 10.6.11 [CD C.1]). However, all links in the traffic model were considered as part of

the assessment, initially using a spreadsheet calculation looking at the 'basic noise level' (BNL) to identify 'affected routes' (with at least a minor change in BNL). Two 'affected routes' were identified which extend outside of the initial 600 metres area, namely the A415 and B4015 to Golden Balls (A4074) east of the Scheme. The detailed assessment study area was therefore extended to include these locations (see ES Figure 10.1: Noise Location Plan [CD A.16]). When considering all links in the traffic model, no other 'affected routes' were identified. The BNL change on the A4074 south of Nuneham Courtenay and the A415 east of Abingdon (west of Culham) was negligible, and therefore these links were not identified as 'affected routes' and were unlikely to experience significant noise effects. These links were therefore not assessed further. Additional detail on the air quality study area is provided in the Technical Note responding to POETS letter dated 4 of November 2023.

3.2.7 **Road Drainage and the Water Environment:** the study area for road drainage and the water environment is 1 kilometre from the boundary of the Scheme, given that all water receptors ultimately drain to the River Thames, which has a large dilution and dispersal potential for pollutants. Water environmental effects associated with the Scheme are not considered to extend beyond this defined study area (see Section 14.6 of ES Chapter 14 [CD A.15]). Given that Abingdon, Nuneham Courtenay or settlements east of the Golden Balls junction are excluded from the study area, this indicates that significant water environment effects would be avoided in these locations.

3.2.8 **Transport:** traffic data is used to assess effects on driver delay, accidents and safety, and public transport users on links within the modelled area in ES Chapter 16: Transport [CD A.15]. This study area does not cover Abingdon, Nuneham Courtenay or settlements east of the Golden Balls junction. The ES reports that the overall effect of the Scheme on driver delay is majorly beneficial; the overall effect of the Scheme on safety and accidents on the local road network is assessed to be moderately beneficial; and the overall effect during operation of the Scheme on public transport users is moderately beneficial. These benefits are likely to diminish as distance from the Scheme increases, as the influence of the Scheme becomes increasingly diluted by the existing road network.

3.2.9 Given the above, whilst the ES does not specifically present detailed assessments of the Scheme's effects upon Abingdon, Nuneham Courtenay or settlements east of the Golden Balls junction, these areas have been considered as part of the EIA process, and it is considered likely that significant environmental effects would be avoided in these locations.

**ii) *There is no satisfactory consideration of reasonable alternatives***

3.2.10 By way of summary, the Technical Note [CD O.1] explains that the ES includes a description of the reasonable alternatives studied by the Applicant. A wide range of alternatives have been considered to address the forecast economic and housing growth in the Science Vale area, across various assessments spanning a decade, including different transport modes, public transport, active travel and different highways schemes. The ES provides a summary of these and the main reasons for the selection of the preferred route, with a comparison of environmental effects as is required by the EIA Regulations. The description of reasonable alternatives has a focus on alternatives to the Scheme, including but not limited to, size and scale, location, design and delivery alternatives. The alternatives described in the ES also focus on the Scheme and its specific characteristics as a highways, active travel and travel by bus scheme, with a comparison of how

changes in design have been influenced by environmental considerations, and how they have in turn affected the level of environmental harm.

**East Hendred Parish Council**

- 3.2.11 East Hendred Parish Council contend in its Statement of Case [CD L.9], that *“No reasonable options have been assessed to the four road proposals”* (6.2) and reference a recent High Court ruling *Save Stonehenge World Heritage Site Limited vs Secretary of State for Transport* [2021] EWHC 2161, in which the High Court ruled that the Secretary of State for Transport had not given adequate consideration to alternative tunnel options compared to a western cutting and portals. However, there are a number of reasons why that ruling does not directly apply in this case, including:
- 3.2.12 Firstly, the circumstances of the Stonehenge case were narrow and case specific as observed by The Hon. Mr Justice Holgate in paragraphs 276 and 277 of his judgement *“...As I have said, the issue here is narrower and case-specific... The relevant circumstances of the present case are wholly exceptional”*. Due to the presence of the Stonehenge World Heritage Site (WHS) which placed greater emphasis on the need to avoid harm and as the assessment of alternatives was found to have been insufficient in light of the specific decisions, including the lack of full consideration given to alternative tunnel options.
- 3.2.13 Secondly, this ruling relates to a Nationally Significant Infrastructure Project (NSIP) that was being consented through the Planning Act 2008. Therefore, the policies set out in the National Policy Statement for National Networks (NPS) applied, and the High Court assess the decision of Secretary of State in relation to these policies, specifically 4.26 and 4.27. These policies, and other policies set out within the NPS, are not applicable in this case, given the Planning Application would be consented through the Town and Country Planning Act 1990.
- 3.2.14 Thirdly, the ES in the present case provides an assessment of the reasonable alternatives considered by the Applicant. Thirteen different reports, spanning almost a decade, have informed ES Chapter 3: Assessment of Alternatives [CD A.15], including optioneering appraisals, feasibility reports and environmental assessment and appraisal reports. A wide range of alternatives have been considered to address the forecast economic and housing growth in the Science Vale area, including those raised by stakeholders such as Appleford Parish Council. ES Chapter 3: Assessment of Alternatives provides a summary of these and the main reasons for the selection of the preferred route, with a comparison of environmental effects, as is required by the EIA Regulations.
- 3.2.15 East Hendred Parish Council refer to the ‘AECOM Options Report’ at paragraph 6.1 of its Statement of Case, which is believed to be the Options Assessment Report (November 2021) (“OAR”) that was submitted in Appendix A of the Design and Access Statement (November 2021) [CD A.19]. East Hendred Parish Council stated that the OAR *“identifies alternative options for promoting public transport but rejects all these options without pursuing them to any level of detail”* (paragraph 6.1). This is incorrect because the OAR considers public transport related options, but they were deemed unsuitable to solve the transport issues in the Science Vale area.
- 3.2.16 The purpose of the OAR (2021) is stated as follows:
- “The ‘Access to Science Vale’ Option Assessment Report (OAR) Part 1 was completed by Oxfordshire County Council (OCC) in March 2018 and documented Steps 1 to 6 of the Department for Transport’s (DfT) Transport Appraisal Process (TAP 2018 Figure 1-2). Subsequently, ‘Access to Science Vale’ OAR Part 2 was produced by OCC in August 2019, to document the remaining steps (Steps 7 to 9) of the Transport Appraisal Process, address the remaining requirements for the OAR not*

*covered in Part 1, summarise the development and assessment of the potential options suggested in Part 1, and provide a clarification of the methodology and scope for further appraisal for the scheme to be taken forward.”*

(Paragraph 1.1.1)

*“OCC has continued to refine the transport elements within Science Vale and Didcot Garden Town. Given OCC’s objective to set out a robust and evidence-based audit trail for the preferred options and scheme designs, OCC has commissioned AECOM to produce a new OAR, reflecting the updated evidence base and options developed more recently, including consideration of multi-modal transport options which have not been considered previously, which will replace the existing Part 1 and Part 2 OARs. The previous OARs nevertheless contain a wealth of information which will be referenced throughout this OAR; therefore this document does not fully replicate all content from the previous OARs but should be read as a standalone document.”* [emphasis added]

(Paragraph 1.1.3)

- 3.2.17 The OAR submitted with the Planning Application is a synthesis of previously completed options assessments. Table 5.2 Options assessed as part of this OAR sets out which options were assessed within the previous options assessment reports. Options 12 to 15 are considered to be new options assessed by the 2021 OAR only. These options were subject to Phase 1 of a four phase sifting process, which assessed the options against the Scheme objectives. Environmental considerations were included under Objective 8 (see Table 4.6 ‘Define Objectives’) which looked to minimise carbon emissions and other pollution such as water, air, noise and light, and increase resilience to the likely impact of climate change, especially flooding. A score from 2 to -3 (including 0) was given depending on whether the option was a ‘very good fit’ (2) to a poor fit (-2), or a showstopper, which would make the scheme untenable. Appendix C: Phase 1 Sift Results of the OAR provides more detail on the scores given, which are:
- Options 12 to 15 achieved scores of 1 (good fit), 1, 0 (neutral) and 0, respectively.
  - Overall, Options 12 to 15 achieved scores of -3, -7, -4 and -9, respectively.
- 3.2.18 Whilst Options 12 to 15 obtained better scores than most against Objective 8, they achieved much lower scores against objectives related to supporting housing developments and economic growth, and other considerations such as deliverability and feasibility. These options were therefore discounted and not considered further.
- 3.2.19 The OAR then assessed a number of highways related options, but also non-highways related options including: a park and ride in the vicinity of the A34; improved rail services from Didcot to Oxford and Reading; improved stations at Didcot and Culham, plus a new station at Grove; comprehensive cycle and walking networks within Didcot; Science Vale Bus Rapid Transit; Science Vale Light Rail Link; Demand Responsive Transport (for example demand responsive taxi-buses); and small scale bus improvements across the Science Vale. After Phase 1 of the sifting process, a number of options were sifted out. The options remaining were:
- Option 1: A4130 Widening;
  - Option 2: Didcot Science Bridge;

- Option 3: Didcot to Culham River Crossing;
- Option 4: Clifton Hampden Bypass; and
- Option 8: Improved stations at Didcot and Culham, plus a new station at Grove.

3.2.20 Phase 2 of sifting utilised a framework based on the Department for Transport's Early Assessment and Sifting Tool (EAST) sifting. Option 8 performed the worst, the OAR states at paragraph 7.7.2:

*"There are some key concerns for this option including the significant cost of the scheme, deliverability, and potential to support planned development across Didcot and Science Vale. There are also concerns surrounding the programme of delivery of this option and how this would align with planned development. Overall, it has been demonstrated that this scheme [Option 8] would not be a suitable fit to support development across Didcot and Science Vale, and therefore this scheme has been discounted and not taken forward to the next stage of assessment. It should be noted that whilst Option 8 does not fit strategically with the aims of this project, the scheme may still have merit as part of a separate study, such as one focussed on improvements to Grove".*

3.2.21 The environment is classified under 'economic case' within EAST, specifically impacts on air quality, noise, natural environment, heritage and landscape, carbon emissions are assessed and scored. Additionally, impact on well-being is also considered. The ES summarises the above in paragraphs 3.3.20 to 3.3.25.

3.2.22 Moreover, as explained in paragraphs 3.3.1 to 3.3.4 of ES Chapter 3: Assessment of Alternatives, public transport related options have been considered in previous OARs including the Access to Science Vale: Options Assessment Report (Part 1, March 2018). This options assessment considered bus and rail improvements, autonomous vehicles and cycle and pedestrian facilities.

#### **Neighbouring Parish Councils – Joint Committee**

3.2.23 The Neighbouring Parish Councils – Joint Committee (NPC-JC) refer to the original eight proposed reasons for refusal set out by the Planning and Regulatory Committee in the minutes of its meeting taken 18 July 2023. Proposed reasons for refusal relating to climate change, green belt, impact of traffic on Abingdon and Didcot, noise impacts, the design of Didcot Science Bridge, and conflict with local transport planning policy, landscape and visual impacts are dealt with in the respective Proofs of Evidence. Issues raised in relation to the Health Impact Assessment are dealt with generally in Section 4 of this Proof, but the specific points raised by NPC-JC are dealt with below in this section.

3.2.24 On page 21 and 26 of its Statement of Case [CD L.6], the NPC-JC refer to previous WebTAG appraisals undertaken in 2014 and 2018. The Department for Transport's Transport Analysis Guidance (TAG) is clear that WebTAG appraisal should be undertaken in support of business cases for transport interventions. TAG: An Overview of Transport Appraisal (Appendix AM2.2) states at paragraph 1.2.1 *"These [WebTAG appraisal] facilitate the appraisal and development of transport interventions, enabling analysts to build evidence to support business case development, to inform investment funding decisions"*. The 2018 WebTAG appraisal supported the business case for the Scheme, as is required by TAG guidance. A WebTAG appraisal was not undertaken for the Planning Application, in accordance with TAG guidance, therefore any WebTAG appraisal is not relevant to the Inquiry.

3.2.25 The NPC-JC state on page 10 that the EIA Scoping process, including the Scoping Report and the Scoping Opinion provided by the LPA, is out of date given it was undertaken in advance of the Planning Application being prepared. Whilst it is correct that the Scoping process was undertaken in advance of the Planning Application being produced, the Scoping Report and Scoping Opinion were published in April 2020 and June 2020, respectively, and provide the basis on which the ES should be produced, in accordance with Part 5, Regulation 18, 4(a) of the EIA Regulations 2017, which states *“An environmental statement must — (a) where a scoping opinion or direction has been issued in accordance with regulation 15 or 16, be based on the most recent scoping opinion or direction issued”*. The Scoping Opinion and Scoping Report remain relevant to the scope of the ES despite the time that has elapsed since their publication.

3.2.26 The NPC-JC state that no Health Impact Assessment has been undertaken in accordance with Policy 9 of the Local Transport and Connectivity Plan (July 2022) [CD G.4]. For clarity, no standalone Health Impact Assessment has been undertaken for the Scheme. However, the impact of the Scheme on public health has been assessed as part of other assessments presented in the ES, most notably as part of Chapter 5: Air Quality, Chapter 8: Landscape and Visual Impact, Chapter 10: Noise and Vibration and Chapter 13: Population and Human Health. The NPC-JC state on page 10 of its Statement of Case, that *“there is no good reason why an HIA could not have been undertaken and submitted under the Regulation 25 response”*. A standalone Health Impact Assessment was not requested by officers at the LPA as part of their Regulation 25 Request provided in March 2023. The Regulation 25 Request provided by officers at the LPA in April 2022 preceded the publication of the Local Transport and Connectivity Plan (July 2022). Officers at the LPA were content that Human Health had been covered adequately in the ES as part of the chapters listed above, this is reflected in paragraph 324 of their report [CD F.1] to the July 2023 Planning and Regulation Committee meeting, which stated:

*“The application was submitted in November 2021, in advance of the adoption of the LTCP in July 2022 and did not include a stand-alone Health Impact Assessment. However, the ES submitted with the planning application does include an assessment of the impact of the development on population and health, which draws together conclusions made throughout in the ES in relation to air quality, noise and vibration, access to open space and active travel routes, community land and assets, and community and recreational facilities. The County Council’s Public Health Officer was consulted on the application and noted that the relevant chapters in the ES provide sufficient information for an assessment of the impacts of the scheme, positive, negative and neutral, on health and wellbeing to be made. Detailed comments were made by the Public Health Officer in respect of air quality, noise and vibration, physical activity, access to green and public spaces, and connectivity and climate change mitigation and, subject to conditions, the Officer has no objections to the development. Accordingly, members are advised that full and robust information has been included within the application to enable an assessment of the impacts on human health albeit that a stand-alone HIA was not included.”*

3.2.27 It is clear, therefore, that officers at the LPA considered that sufficient information had been provided to make an assessment of the impact of the Scheme on human health. As such, no standalone Health Impact Assessment was requested by LPA officers and subsequently was not provided by the Applicant.

## Response to Interested Parties

- 3.3 Responses to matters raised by interested parties, as listed in paragraph 3.1, are outlined below:

### **Councillor Sarah James (representation dated 1 October 2023)**

- 3.3.1 Councillor James states in her letter of representation [CD N.15] that the ES *“does not consider at all that the new road might lead to an increase in traffic levels due to induced demand, despite this being a widely recognised effect of building new road capacity”*. The ES has utilised traffic data in modelling air quality and noise and vibration effects, and in the calculation of the greenhouse gas emissions of road users. This data factors in economic growth and associated changes in traffic patterns.
- 3.3.2 It is not the purpose of the ES to report on the effect of the Scheme on changes in traffic patterns. ES Chapter 16: Transport is very specific in that it considers driver delay, accidents and safety and public transport use. The Transport Assessment (September 2021) [CD A.7] presents a wider assessment of the Scheme's impact on traffic distribution. The topic of induced demand is dealt with in Claudia Currie's Proof of Evidence and is not discussed further in this Proof.
- 3.3.3 Councillor James also states *“options apart from new roads, or the “do nothing” scenario were discarded early on in a “first sift” that is not actually detailed in the ES. Statements in the ES show that years before the plans were drawn up, road-building was the assumed outcome”*. This is incorrect. A wide range of alternatives have been considered to address the forecast economic and housing growth in the Science Vale area, across various assessments spanning a decade, including different transport modes, public transport, active travel and different highways schemes. ES Chapter 3: Assessment of Alternatives provides a summary of these and the main reasons for the selection of the preferred route, with a comparison of environmental effects as is required by the EIA Regulations 2017 [CD A.15]. The description of reasonable alternatives also provides a focus on alternatives to the Scheme, including but not limited to, size and scale, location, design and delivery alternatives. The alternatives described in the ES also focus on the Scheme and its specific characteristics as a highway, active travel and travel by bus scheme, with a comparison of how changes in design have been influenced by environmental considerations, and how they have in turn affected the level of potential environmental harm. Further detail on the assessment of alternatives is provided in the Applicant's Technical Note [CD O.1].
- 3.3.4 Councillor James references the use of the term 'embedded' as downplaying the effect of emissions released during the production of construction materials; *“the bulk of construction emissions are blithely noted as “embedded”*". The term 'embedded', which is also known as 'embodied', is an industry term that refers to the greenhouse gas (GHG) emissions associated with energy consumption and chemical processes released during the extraction, transport and/or manufacture of construction materials or products. Operational GHG emissions are estimated to reduce by approximately 1,074 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) in the first year of operation and by approximately 1,226 tCO<sub>2</sub>e lower than without the Scheme in the year 2034. The calculated reduction in GHG emissions with the Scheme in operation is due to a reduction in congestion and journey times resulting from the improvements to the road network (see ES Chapter 15: Climate, paragraphs 15.10.9 to 15.10.15 [CD A.15]).
- 3.3.5 Councillor James references the Climate Change Committee (CCC) 2023 Progress Report to Parliament and recommendation R2023-148 which recommends that the Government conduct a systematic review of current and future road-building projects to assess their consistency with the



Government's environmental goals. This report was published on 28 June 2023, a little over two weeks prior to the July committee meeting. As the Planning Application documents were submitted in November 2021 and the second Regulation 25 Response and ES Addendum were submitted in April 2023, this report was not considered in the application prior to the July 2023 Planning and Regulation Committee meeting. The report sets out a number of recommendations for surface transport policy in the UK. The Government responded to this report on the 26 of October 2023<sup>1</sup>, and did not commit to a Welsh style review of all road building in England. A number of project level measures will be implemented, via a Carbon Management Plan and Construction Environmental Management Plan, to ensure that the principal contractor for the Scheme uses low-emissions technologies during construction (see Chris Landsburgh's Proof of Evidence for further information). The Scheme encourages modal shift through the creation of dedicated off-line cycleways and footways, and will enable greater uptake in bus services through creation of 18 bus stops and will allow for more reliable services; Luke Marion of Oxford Bus Company in his letter of 26 September 2023 [CD N.7]) of support for the Scheme stated that:

*"For the large majority of journeys to from and between the key destinations in Science Vale UK, only high quality, fast, frequent and reliable bus services can provide a credible alternative for car journeys... Failure to deliver HIF1 directly threatens the long-term sustainability of the current bus service offer... Refusal of the HIF1 scheme demonstrably entirely prevents the achievement of important new bus services to the north of Didcot in the medium to long term, that are essential to supporting mode shift away from car use between the eastern end of Science Vale UK and the rapidly developing technology and knowledge cluster sites south and east of Cowley, in the City of Oxford"*

**Oxfordshire Roads Action Alliance (representation dated 4 October 2023)**

- 3.3.6 The Oxfordshire Roads Action Alliance (ORAA) stated at paragraph 8 of its representation dated 4 October 2023 [CD N.26] that no Health Impact Assessment has been provided. Section 4 of this Proof of Evidence deals with Health Impact Assessment.
- 3.3.7 Paragraph 9 of the ORAA representation stated that there will be a negative impact on the landscape, significant tree canopy loss and referred to the Appleford Sidings Bridge. It is acknowledged in ES Chapter 8: Landscape and Visual Impacts [CD A.15] (see the summary in Table 8.13) that there will be remaining significant effects on the landscape and visual amenity. Landscape planting has been increased substantially since the original submission to address concerns of relevant stakeholders. Accordingly, the Scheme is estimated to achieve 23.13% of habitat units, 40.90% hedgerow units and 10% (or above) in linear (river) habitat units (partly secured through offsetting) (see Biodiversity Net Gain Report April 2023 [CD C.2]. Furthermore, the Scheme complies with the trading rules for area and hedgerow habitats, meaning that these habitats will be replaced with habitats that are the like-for-like or better.
- 3.3.8 The construction of the Appleford Sidings bridge will require the loss of trees in this area, see Tree Protection Plan Sheets 22 and 25 in the Appendix W: Revised Arboricultural Impact Assessment of Regulation 25 Response (November 2022) [CD B.2], which shows trees to retained and removed at the location of the Appleford Sidings<sup>2</sup>. It is acknowledged that there will be

<sup>1</sup> <https://www.gov.uk/government/publications/committee-on-climate-change-2023-progress-report-government-response#:~:text=In%20June%202023%2C%20the%20Climate,progress%20continuing%20to%20be%20made.>

<sup>2</sup> It should be noted that the Tree Protection Plans include a symbol for ancient woodland on the key, however, the report confirms at paragraph 3.4.5 that the Scheme will not directly affect any designated ancient woodland.

tree losses across the site, however, compensatory planting has been included to reduce the overall loss. An Arboricultural Impact Assessment Addendum (April 2023) was submitted in Appendix H of Regulation 25 Response (April 2023) following updates to the landscape planting proposals [CD C.2]. This sets out in Table 2: Summary of Canopy Cover Impacts that the amount of tree canopy lost will be 121,336m<sup>2</sup>. Replacement tree planting, with 10 years of canopy growth at 500 millimetres annual growth, will result in a canopy of 169,749 m<sup>2</sup>, as a percentage of the land within the Scheme boundary - this is 16.74%. At a lower growth factor of 250 mm annual growth over 10 years, canopy cover would be 96,751m<sup>2</sup> which is 12.05% of the land within the scheme boundary. Therefore, tree canopy cover across the Scheme, after 10 years, will be between 12.05% and 16.74% of the land within the Scheme boundary. For context, the current baseline tree canopy cover within the scheme boundary is approximately 14% (see paragraph 4.1.7 of the Arboricultural Impact Assessment Addendum (April 2023)). It should be noted that the Oxfordshire County Council has a set of Tree Policies<sup>3</sup>, Policy 22 states that *“On strategic developments, the County Council will seek to ensure that the landscaping plan will specify and demonstrate widely distributed tree cover (or equivalent green infrastructure) in the public domain to achieve at least 30% canopy cover within 10 years”*. In their report to the 17 and 18 July 2023 Planning and Regulation Committee, officers at the LPA confirmed that these policies are not a statutory document but are a material consideration in the determination of the Planning Application (see paragraph 190)[CD F.1]. Officers also state in paragraph 198 that whilst the Scheme does not achieve 30% canopy cover after 10 years, as required by the policy, compensatory planting could be undertaken off-site on land under the control of the Acquiring Authority.

- 3.3.9 At paragraph 10 ORAA state that no Habitat Regulations Assessment (HRA) has been produced. The impact of the Scheme on designated sites was assessed in ES Chapter 9: Biodiversity. No impact pathways, terrestrial or hydrological, were identified from the Scheme to the nearest European designated site (see Table 9.6 in ES Chapter 9: Biodiversity) therefore no HRA was undertaken. In addition, a Habitat Regulations Assessment: No Likely Significant Effects Report was produced and included as Appendix X to the Regulation 25 Response (November 2022) [CD B.2]. At paragraph 5.1.1 of this report [CD B.2], it is concluded that *“there are no source-receptor pathways by which the Scheme could impact a European Site during the construction and operation of the Scheme. Consequently, this report has concluded that as there are no Likely Significant Effects the Scheme will not result in adverse effects on the integrity of European Sites either alone or in combination with other plans or projects”*. Therefore, no further assessment was undertaken in this regard.

**Adrian Wear (representation dated 3 October 2023)**

- 3.3.10 This representation raises concern that no Health Impact Assessment has been produced. Please see Section 4 of this Proof of Evidence.
- 3.3.11 It is also stated that *‘no alternatives have been considered’* - see paragraphs 3.2.10 and the Applicant’s Technical Note [CD O.1].
- 3.3.12 Other concerns including those related to Air Quality, Noise, Climate Change and Greenbelt are dealt with in the respective Proofs of Evidence on these matters.

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<sup>3</sup> <https://www.oxfordshire.gov.uk/residents/environment-and-planning/energy-and-climate-change/tree-policy-oxfordshire>

**Appleford Parish Council (representation from Gregory O'Broin dated 3 October 2023)**

- 3.3.13 Appleford Parish Council [CD N.21] refers to the eight reasons for refusal outlined at the Planning and Regulation Committee meeting of July 2023. Responses in relation to climate change, noise, harm to greenbelt, landscape and visual impact and design are covered by the relevant Proofs of Evidence.. Furthermore, Health Impact Assessment is dealt with in Section 4 of this Proof of Evidence.
- 3.3.14 Paragraph 2.6 of this representation states that *“harm to Landscape at Appleford, Clifton Hampden where the landscape outlook will be changed with the loss of 283 tree features (incl. 169 mature trees, 98 tree groups, a third (35%) of hedgerows and two woodlands). In addition over 300 acres will be lost to the natural environment. Visual impact and harm to the wetlands and riparian environment with potential flood impact at the Thames crossing or up stream”*. As outlined in paragraph 3.3.8 of this Proof of Evidence, there will be tree losses across the site, however, due to replacement tree planting, within 10 years, trees canopy cover will extend across 12.05% to 16.74% of the land within the scheme boundary; the current baseline tree canopy cover within the scheme boundary is approximately 14%.
- 3.3.15 In relation to the statement made in paragraph 2.6 about *“potential flood impacts at the Thames crossing or up stream”*, substantial engagement and technical work was undertaken in consultation with the Environment Agency (EA) throughout 2019, 2020, 2021, 2022 and 2023. The EA was consulted on the proposed approach to flood risk modelling; it reviewed the flood risk models and it reviewed the outputs of these models. During the determination phase of the Application, further consultation and technical work was undertaken to satisfy the remaining concerns of the EA. This culminated in two flood risk technical notes being submitted to the EA to further explain modelling approach and results, the first was submitted as Appendix M to Regulation 25 Response (November 2022) [CD B.2] and an additional technical note was provided in December 2022 (which is available in Appendix AM2.3 to this Proof of Evidence). Subsequently, in comments dated 13 March 2023 [CD E.63] the EA state that:
- “On 14 April 2022, we objected to the proposal as the applicant has not demonstrated to our satisfaction that fluvial flood risk had been sufficiently assessed and proposals made to manage identified risk to ensure the development was safe, without increasing flood risk elsewhere...*
- Based on this additional information, in combination with the flood compensation and mitigation measures previously identified, **we withdraw our flood risk objection to this proposal.**”* [Emphasis added]
- 3.3.16 The Environment Agency also suggested five conditions, two of which related to flood risk.
- Frances Reid (representation dated 3 October 2023)**
- 3.3.17 Frances Reid's representation [CD N.20] raises concerns related to air and noise pollution and its effect on residents living in Appleford. Matters relating to air quality, noise and landscape and visual impact are dealt with in the respective Proofs of Evidence on these matters.
- 3.3.18 This representation states that *“Our village of Appleford stands out as being one of the worst hit by the building of this road. It will be a permanent blight overlooking the village, creating noise, light and air pollution which is unhealthy and unacceptable”*. No road lighting is proposed along the Didcot to Culham River Crossing element of the Scheme, only cycle path lighting

would be provided on the approaches to the Appleford Sidings Bridge and at pedestrian crossing points. This lighting would be mounted on 5 metre high columns and would have a localised impact on the local area and its dark skies. Consideration had been given to reducing lighting levels in this part of the Scheme, but the cycle path lighting has been retained to encourage active travel during darker hours. Lighting across the Scheme would be dimmed to 75% between the hours of midnight and 6am to reduce impacts further.

- 3.3.19 Francis Reid's representation also states "*This road scheme has many flaws, which were pointed out to OCC on numerous occasions. Instead of looking at ways to update and improve the scheme, our comments were ignored*". During public consultation in November 2018, the Applicant received comments from Appleford Parish Council and Appleford residents that the alignment was too close to the village and should be moved westwards. As a result of these comments, and the results of additional traffic modelling and early environmental assessment, the alignment was moved further to the west of the village (see paragraphs 3.6.16 to 3.6.18 of ES Chapter 3: Assessment of Alternatives [CD A.15]). In addition, several alignments were suggested by Appleford Parish Council during the production of the ES (see paragraphs 3.6.24 to 3.6.36 of ES Chapter 3: Assessment of Alternatives). However, these alignments were deemed unsuitable due to the presence of, amongst other things, active landfills, minerals operations, the presence of critical power infrastructure and a large waterbody operated by FCC Environment.

**Ian Palmer**

- 3.3.20 This representation [CD N.14] raises concerns that no Health Impact Assessment has been produced. Please see Section 4 of this Proof of Evidence.
- 3.3.21 It is also stated that '*alternatives have not been considered*', see paragraphs 3.2.10 and the Applicant's Technical Note [CD O.1].
- 3.3.22 Other concerns relating to air quality, noise, climate change and damage to greenbelt are dealt with in the respective Proofs of Evidence.

**Jacqueline Mason (letter from Thrings LLP dated 20 September 2023)**

- 3.3.23 Jacqueline Mason's representation [CD N.3] discusses impacts of the Scheme on the Grade II Listed Fullamoor Farmhouse. This representation is dealt with by the Heritage Technical Note appended to Bernard Greep's Proof Of Evidence. This representation also discusses the impact of noise on the amenity of the property and the landscape planting proposals in proximity to the property. These matters are dealt with in the noise and vibration and landscape and visual impact Proofs of Evidence.

**Vicky Johnson (email representation dated 28 September 2023)**

- 3.3.24 This representation [CD N.8] makes reference to noise and air quality impacts on residents in Appleford and climate change - these matters are dealt with in the Proofs of Evidence for Noise and Vibration, Air Quality and Climate.
- 3.3.25 Matters relating to a Health Impact Assessment are dealt with in Section 4 of this Proof of Evidence.
- 3.3.26 At the beginning of page 3, this representation states that "... *Alternatives have not been explored. This application fails to provide reasonable alternatives as they have not been considered. Roads are not the only form of transport; light rail busses and active travel are all potential alternatives*

*which have been rejected without consideration*". ES Chapter 3 [CD A.15] has considered a wide range of alternatives, including light rail and active transport, see paragraphs 3.2.15 to 3.2.22 and the Applicant's Technical Note [CD O.1].

3.3.27 On page 1 of this representation, Vicky Johnson states "*the proposed flyover associated with this planned road at Appleford will cause irreparable damage in the form of not only a negative visual impact...*". Matters relating to landscape and visual impacts are dealt with by the Landscape and Visual Impact Proof of Evidence.

3.3.28 On page 3 of this representation, Vicky Johnson states that there will be "*loss of habitat for badgers, bats etc*". As detailed below in paragraph 3.4.2 of this Proof of Evidence, whilst there will be adverse effects on habitats and species, such as hedgerows and bats, as a result of the Scheme, these effects, with mitigation in place, will not be significant. See Table 9.14: Summary of Magnitude of Impact and Significance of Effects, ES Chapter 9, ES Addendum (November 2022) [CD B.1] for further detail. More information is provided in the Ecology Technical Note appended to this Proof Of Evidence (see Appendix AM2.4).

#### **Oxford Friends of the Earth (representation of 3 October 2023)**

3.3.29 Oxford Friends of the Earth [CD N.24] refer to the eight proposed reasons in the refusal outlined at the Planning and Regulation Committee meeting of July 2023. Responses in relation to climate change, landscape and visual impacts, noise, harm to greenbelt and design are covered by the relevant Proofs of Evidence.

3.3.30 Matters relating to Health Impact Assessment are discussed in paragraph 2.5 of this representation and are dealt with in Section 4 of this Proof of Evidence.

3.3.31 Matters relating to loss of trees, as referred to in paragraph 2.6 of this representation, are covered in paragraphs 3.3.7 to 3.3.8 of this Proof of Evidence.

3.3.32 Matters relating to flooding implications, as referred to in paragraph 2.6 of this representation, is covered in paragraph 3.3.15 and 3.3.16 of this Proof of Evidence.

#### **Victoria Shepard**

3.3.33 This representation [CD N.23] refers to the eight reasons for refusal outlined at the Planning and Regulation Committee meeting of July 2023. Responses in relation to climate change, noise, landscape and visual impacts, harm to greenbelt and design are covered by the relevant Proofs of Evidence.

3.3.34 Matters relating to health impact assessment, as discussed in paragraph 2.5 of this representation, are dealt with in Section 4 of this Proof of Evidence.

3.3.35 Matters relating to loss of trees, as referred to in paragraph 6 of this representation, are covered in paragraphs 3.3.7 to 3.3.8 of this Proof of Evidence.

3.3.36 Matters relating to alternative options, as referred to in paragraph 6 of this representation, are covered in paragraphs 3.2.10, 3.2.15 to 3.2.22 and the Applicant's Technical Note [CD O.1].

3.3.37 Matters relating to flooding implications, as referred to in paragraph 6 of this representation, is covered in paragraph 3.3.15 and 3.3.16 of this Proof of Evidence.

## Response to CPO Objections

- 3.4 Response to matters raised in CPO objections, as listed in paragraph 3.1, are outlined below:

### ***Appleford Parish Council (objection letter dated 20 March 2023)***

- 3.4.1 In its objection to the CPO [CD J.11], Appleford Parish Council raise matters relating to the air quality, noise and vibration and climate change assessments. Responses to these matters are provided on the respective Proofs of Evidence for these topics.
- 3.4.2 Appleford Parish Council in its objection state on page three that *“the scheme also has a negative impact on biodiversity”* and include a footnote which references an EA objection to the Planning Application dated 23 March 2023. As discussed in paragraph 3.3.7 of this Proof of Evidence, the Scheme is estimated to achieve 23.13% of habitat units, 40.90% hedgerow units and 10% (or above) in linear (river) habitat units (partly secured through offsetting) (see Biodiversity Net Gain Report April 2023 [CD C.2]), and will satisfy trading rules for area and hedgerow habitats. In addition, whilst there will be some adverse effects on species and habitats, with mitigation, none of these effects will be significant (see Table 9.14: Summary of Magnitude of Impact and Significance of Effects, ES Chapter 9, ES Addendum (November 2022)) [CD B.1, Annex 5]. Furthermore, in a letter dated 2 June 2023, the Environment Agency removed this objection and stated in relation to biodiversity enhancements and landscape proposals, that *“the proposed development will be acceptable if the following conditions are included on the planning permission’s decision notice”*. See conditions 5 and 6 Appendix AM2.5, which require a Construction Environmental Management Plan (CEMP) and a Landscape and Ecological Management Plan to be produced prior to construction of the Scheme. The Applicant produced an Outline Environmental Management Plan (OEMP) [CD C.1 Annex 1, Appendix 4.2 OEMP], which will form the basis of a CEMP, and produced an Outline Landscape and Biodiversity Management Plan (LBMP), [CD B.3] which will be expanded into a full LBMP prior to construction.

### **John Peters (email of objection dated 26 February 2023)**

- 3.4.3 John Peters [CD J.17] has raised concerns about the health and well-being of people in Nuneham Courtenay. Matters relating to Health Impact Assessment are discussed below in Section 4. Matters relating to air quality and noise are dealt with in the respective Proofs of Evidence on these matters.

### **Neighbouring Parish Council Joint Committee (objection letter dated 21 March 2023)**

- 3.4.4 In its objection to the CPO, the NPC-JC [C J.25] raise matters relating to climate change. Responses to climate change matters are provided in the Climate Change Proof of Evidence.
- 3.4.5 Part 5 of the objection states the development *“will remove 114 hectares from private landowners. This is the equivalent of 180 football pitches being removed from the natural environment to give it over to road space and cars over its nine-mile length.”* This is very similar to an objection raised by Appleford Parish Council, in response to which see above in paragraph 3.4.2.
- 3.4.6 The NPC-JC also state that *“We note the Environment Agency has a similar objection [in relation to biodiversity impacts] (ref. letter 13 March 2023)”*, however, in a letter dated 2 June 2023, the EA removed this objection and stated, *“the proposed development will be acceptable if the following*

*conditions are included on the planning permission's decision notice". See further detail in response to this in paragraph 3.4.2 above.*

## **Conclusion**

- 3.5 It is considered that the ES, including both ES Addendums, provides appropriate and sufficient levels of information on the likely significant effects of the Scheme thereby allowing adverse and beneficial environmental effects to be weighed against the economic and social benefits of the Scheme. The ES is one tool to assist in the weighing of benefits against adverse effects - this planning judgement was for the LPA to make, in consideration of all the evidence laid before officers. This judgement must now be made by the Secretary of State for Levelling Up, Housing and Communities.
- 3.6 Officers at the LPA have throughout the determination phase of the Planning Application probed the information provided, and have diligently asked for further information to be provided through use of Regulation 25 of the EIA Regulations 2017. Information was provided to satisfy officers' questions.
- 3.7 It is my professional opinion, therefore, that the ES is an adequate prediction of likely significant environmental effects of the HIF1 Scheme, and I consider that it complies with the requirements of the EIA Regulations 2017, in all respects, including providing a description of reasonable alternatives.

## **4 HEALTH IMPACT ASSESSMENT**

4.1 The following parties have raised concern that no Health Impact Assessment for the Scheme has been undertaken:

- Oxfordshire Roads Action Alliance;
- Adrian Wear;
- Appleford Parish Council;
- Ian Palmer;
- Vicky Johnson;
- Oxford Friends of the Earth; and
- Victoria Shepard.

4.2 The LPA's Local Transport and Connectivity Plan (2022 to 2050) [CD G.4], published in July 2022, introduced the requirement to undertake a standalone Health Impact Assessment, eight months after the Planning Application for the Scheme was submitted for consideration by the LPA. The now superseded Local Transport and Connectivity Plan 4 (2015) [CD G.5] was the relevant transport plan when the Planning Application for the Scheme was submitted. This does not set out a requirement to produce a standalone Health Impact Assessment.

4.3 The ES included a Population and Human Health chapter (13), which considered the impact of the Scheme on access to private property and housing; access to community services such as pharmacies and doctors' surgeries; development land; business; agricultural holdings; and walking cycling and horse riding routes, including access to such facilities and any diversions and the impact of those diversion on the time taken to complete a journey. This chapter also considers impacts on the health of the local population by summarising conclusions drawn in ES Chapter 6: Air Quality, ES Chapter 8: Landscape and Visual Impacts; and ES Chapter 10: Noise and Vibration, and whether there would likely be a negative, neutral or positive human health outcomes due to changes in air pollutants, changes in noise levels, changes to the landscape and changes in visual amenity. This assessment outlined that there would be a positive health outcome in relation to:

- Improving access to healthcare and social infrastructure.
- Providing opportunities for active travel, such as walking and cycling.
- Operational improvements in noise pollution at the following properties:
  - 57 properties along the A4130 east of the Didcot Science Bridge;
  - 79 properties in Appleford close to the B4016;
  - 228 properties and one educational building in Sutton Courtenay and Culham;
  - Nine properties along the A415 east of Culham Station; and
  - 91 properties, three community facilities, one medical building and one school in Clifton Hampden.
- Road safety.

4.4 The assessment also outlined that there would negative health outcomes in relation to noise impacts at 37 residential properties and two non-residential receptors. A neutral health outcome was recorded in relation to air quality.



- 4.5 Officers at the LPA acknowledged in paragraph 324 of their report [CD F.1] to the July 2023 Planning and Regulation Committee that no standalone Health Impact Assessment had been submitted, but stated that the *“Public Health Officer [at Oxfordshire County Council] was consulted on the application and noted that the relevant chapters in the ES provide sufficient information for an assessment of the impacts of the scheme, positive, negative and neutral, on health and wellbeing to be made... the Officer has no objections to the development”*.
- 4.6 Following an invitation by Rachel Wileman, Director of Planning, Environment and Climate Change at the LPA, to Owen Jenkins, Director for Transport and Infrastructure for Oxfordshire County Council, for the Applicant to respond to the eight matters for refusal established in the minutes of the Planning and Regulation Committee meeting in July 2023, the Applicant wrote a letter in response on 19 September 2023. Appended to this letter was a Rapid Health Impact Assessment Review Checklist document which ‘signposts’ the locations within the Planning Application documents that have taken health into account. This signpost document is available at Appendix AM2.6 to this Proof of Evidence.
- 4.7 This signposting document sets out a list of elements that are required in a Health Impact Assessment, applies a grade of ‘adequate’, ‘further information needed’ or ‘inadequate’ against the listed elements, and provides commentary where appropriate. In all cases the information provided in the Planning Application documents was deemed adequate. In addition, a review of key mitigation measures is provided, and a rating and commentary provided where appropriate.
- 4.8 In response to the original Planning Application, the Healthy Place Shaping team for SODC and VoWHDC reviewed ES Chapter 13: Population and Human Health; ES Chapter 6 Air Quality and ES Chapter 10: Noise and Vibration and provided a response to the Planning Application in an email dated 20 January 2023 (see Appendix AM2.7). They stated that for air quality, proposed mitigation measures should be implemented in full. They requested further information on the impact of noise during construction and operation on Culham Science Centre Nursery and Preschool. Subsequently, as part of ES Addendum (April 2023), ES Chapter 10: Noise and Vibration was updated to provide more information on this receptor (see Table 10.14). In summary, the owners of the nursery, the UK Atomic Energy Authority, received full planning permission from SODC in November 2022 to demolish the nursery and create a replacement main gate facility under planning application P22/S0211/FUL (outline planning permission was granted in September 2022 to replace the nursery). The receptor as assessed is not likely to exist in the same location when the Scheme is operational, however, a conservative approach has been utilised and the effect is still classed as significant adverse. Lastly, it was recommended that the level of planting across the Scheme be enhanced in order to *“minimise adverse impacts on biodiversity, improve air quality and encourage use of new active travel infrastructure”*. As part of the Regulation 25 Response (April 2023), planting across the Scheme area was increased as much as possible.

#### **South Oxfordshire and Vale of White Horse District Council’s Joint Local Plan: Preferred Options Consultation (Regulation 18 Part 2)**

- 4.9 The Vale of the White Horse District Council and South Oxfordshire District Council have recently published the Preferred Options Consultation (Regulation 18, Part 2) version of their Joint Local Plan. This outlines the proposed structure and contents of their future Local Plan. This proposed Joint Local Plan proposes Policy HP1 – Healthy place shaping which states:

*“1) Major development proposals will be required to submit a rapid health impact assessment (HIA) demonstrating how the health and wellbeing impacts (benefits and harm) of new major development will be assessed and mitigated, and how the conclusions of the HIA have been taken into account in the design of the scheme. Development proposals should explicitly address the existing and projected local health and wellbeing needs identified by the HIA, including the needs of an aging population. The rapid health impact assessment must follow the methodology set*

*out in the Oxfordshire Health Impact Assessment Toolkit\* or equivalent future document) and should be undertaken at a scale that is proportionate to a proposed development.*

*\*futureoxfordshirepartnership.org/wp-content/uploads/2021/01/210126-Oxon-HIA-Toolkit-FINAL.pdf*

4.10 This policy would require all major developments, such as the Scheme, to undertake a Rapid Health Impact Assessment, using the methodology set out in the HUDU Planning for Health Rapid Health Impact Assessment Tool (2019) (see extract at Appendix AM2.8 of this Proof of Evidence). This Rapid Health Impact Assessment reviews the following themes:

- Housing design and affordability – this is not directly relevant to the Scheme as no housing is proposed as part of the Planning Application. Future developers of housing would have to assess their proposals against these criteria.
- Access to health and social care services and other social infrastructure – access to community land and assets is assessed on paragraphs 13.10.4 to 13.10.8 and 13.10.65 and 13.10.66 of ES Chapter 13: Population and Human Health. This assesses the impact of the Scheme on community assets such as places of worship and doctors' surgeries.
- Access to open space and nature – access to open spaces is assessed as part of community land and assets, see above, as part of the assessment of Human Health in Chapter 13: Population and Human Health [CD A.15] (see paragraphs 13.10.52 to 13.10.56 and 13.10.74 to 13.10.76) and as part of the assessment of impacts on walking cycling and horse-riding facilities (see paragraphs 13.10.32 to 13.10.50 to 13.10.68 to 13.10.73).
- Air quality, noise and neighbourhood amenity – assessed in Chapter 6: Air Quality [CD A.15]; Chapter 10: Noise and Vibration [CD C.1] and Chapter 8: Landscape and Visual Impact [CD A.15]. Also, see paragraphs 13.10.57 to 13.10.61 and 13.10.77 and 13.10.83 of Chapter 13: Population and Human Health.
- Accessibility and active travel – assessed in Chapter 13: Population and Human Health [CD A.15], see paragraphs 13.10.52 and 13.10.53 and 13.10.74 to 13.10.76. Walking, cycling and horse-riding is covered separately, see paragraphs 13.10.32 to 13.10.50 to 13.10.68 to 13.10.73.
- Crime reduction and community safety – not specifically covered by the ES, however, the Crime Prevention Design team within the Thames Valley Police were consulted on the Planning Application [CD E.19] and their comments related driver adherence with speed limits along the Scheme.
- Access to healthy food – not specifically covered by the ES given the Scheme's use as a highway Scheme with active travel infrastructure.
- Access to work and training – not directly covered by the ES, but access to existing business is assessed in paragraphs 13.10.9 to 13.10.17 and 13.10.65 and 13.10.66 of Chapter 13: Population and Human Health [CD A.15]. Impact on development land for employment purposes is also assessed, see paragraphs 13.10.18 to 13.10.20 and 13.10.67.
- Social cohesion and inclusive design – not specifically covered by the ES, but the design of the Scheme will create greater access between Didcot and Culham, including footways and cycleways separated from the highway.
- Minimising the use of resources – not specifically covered by the ES, but considered in the Scheme design as it creates multiple benefits such as reduced land take,

reduced cost and reduced release of embodied greenhouse gas emissions for example.

- Climate change – considered in Chapter 15: Climate [CD A.15] and within the design of the Scheme, such as drainage systems and flood storage areas, which include for climate change allowances. See the Flood Risk Assessment [CD A.17] and subsequent Flood Risk Technical Notes, Appendix M to Regulation 25 Response (November 2022) [CD B.2] and Appendix AM2.3 of this Proof of Evidence.

- 4.11 According to the Oxfordshire Health Impact Assessment Toolkit, Appendix 3 (see Appendix AM2.9 of this Proof of Evidence) should be used by local authorities to assess submitted Health Impact Assessments for completeness and quality. The Rapid Health Impact Assessment Review Checklist document (see Appendix AM2.6), produced by the Applicant, uses the same structure as Appendix 3 of the Oxfordshire Health Impact Assessment Toolkit and signposts where the requirements of Health Impact Assessment have been met within the ES.
- 4.12 Given the above, whilst a standalone Rapid Health Impact Assessment has not been undertaken as part of the Planning Application, the ES assesses the majority of the themes, where they are relevant to the Scheme, set out by the HUDU Planning for Health Rapid Health Impact Assessment Tool (2019). The requirements of the proposed Policy HP 1 would not require further assessment, given the assessment already undertaken within the ES and the considerations taken into account in the Scheme's design.

## **Conclusion**

- 4.13 Whilst a standalone Health Impact Assessment has not been undertaken, it is considered that human health has been assessed within the Planning Application documents, principally in ES Chapters:
- Chapter 13: Population and Human Health;
  - Chapter 6 Air Quality;
  - Chapter 8: Landscape and Visual Impacts; and
  - Chapter 10: Noise and Vibration.
- 4.14 The assessment within the ES would satisfy the requirements of proposed Policy HP 1 of the South Oxfordshire and Vale of White Horse District Council's Joint Local Plan: Preferred Options Consultation (Regulation 18 Part 2), if applied to the Scheme.
- 4.15 Furthermore, it is considered by officers at the LPA that the above assessments provides sufficient information for a judgement on the impacts of the HIF1 Scheme on human health to be made.

## **5 CONCLUSION AND SUMMARY PROOF OF EVIDENCE**

- 5.1 The EIA, as reported in the ES, is based on the scope of the assessment as outlined in the EIA Scoping Report, the EIA Scoping Opinion and the agreed scope of the transport modelling. The EIA has primarily been undertaken in accordance with the requirements and advice contained within the DMRB, and other guidance documents have been used to supplement DMRB guidance where appropriate. Statutory consultees were consulted throughout the production of the EIA and all consultees, such as the EA, are overall content with the EIA. The LPA requested further information be provided twice during the determination phase of the Planning Application; this was provided in two Regulation 25 response documents and two associated ES Addendums. The ES is in accordance with the EIA Regulations 2017.
- 5.2 The EIA has considered areas located beyond the scheme boundary in the development of the study areas for each assessment. The EIA has not directly assessed the likely significant effects on settlements including Abingdon and Nuneham Courtenay as these settlements were considered in the establishment of the study area for the Scheme, and it was considered that they do not need to be included as significant environmental effects, as a result of the Scheme, are unlikely to occur in these locations.
- 5.3 ES Chapter 3: Assessment of Alternatives includes a description of the reasonable alternatives studied by the Applicant. A wide range of alternatives have been considered to address the forecast economic and housing growth in the Science Vale area, across various assessments spanning a decade, including different transport modes, public transport, active travel and different highways schemes. The ES provides a summary of these and the main reasons for the selection of the preferred route, with a comparison of environmental effects as is required by the EIA Regulations. The description of alternatives as set out in the ES is in accordance with the requirements of the EIA Regulations 2017.
- 5.4 Whilst no standalone Health Impact Assessment has been undertaken, as per the requirement introduced during the determination phase of the Planning Application by the Local Transport and Connectivity Plan (July 2022), the impact assessments contained within the ES, including Chapter 13: Population and Human Health, Chapter 6: Air Quality, Chapter 8: Landscape and Visual Impacts, and Chapter 10: Noise and Vibration contain the information that would be included in a standalone Health Impact Assessment. The signposting document produced by the Applicant and appended to their letter to the LPA (dated 19 September 2023), provides an overview of how health has been assessed and in which parts of the ES these assessments can be found.
- 5.5 Other specific matters have been raised about the assessment of air quality, noise and vibration, landscape and visual impacts, cultural heritage and climate change effects. These matters are dealt with in the respective Proofs of Evidence and Technical Notes.

## **6 STATEMENT OF TRUTH AND DECLARATION**

- 6.1 I confirm that, insofar, as the facts stated in my Proof Evidence are within my own knowledge, I have made clear what they are and I believe them to be true and that the opinion I have expressed represent my true and complete professional opinion.
- 6.2 I confirm that my Proof of Evidence includes all facts that I regard as being relevant to the opinions that I have expressed and that attention is drawn to any matter which would affect the validity of those opinions
- 6.3 I confirm that my duty to the Inquiry as an expert witness overrides any duty to those instructing or paying me, and I have understood this duty and complied with it in giving my evidence impartially and objectively, and I will continue to comply with that duty as required.
- 6.4 I confirm that, in preparing this Proof of Evidence, I have assumed that same duty that would apply to me when giving my expert opinion in a court of law under oath or affirmation. I confirm that this duty overrides any duty to those instructing or pay me, and I have understood this duty and complied with it in giving my evidence impartially and objectively, and I will continue to comply with that duty as required.
- 6.5 I confirm that I have no conflicts of interest of any kind other than those already disclosed in this Proof of Evidence.

**ALEX JAMES MADDOX, BSc (Hons), MSc, PIEMA**

**30 January 2024**