



South East Strategic Reservoir Option
Preliminary Environmental Information Report

Chapter 12 - Traffic and transport

Date: October 2025

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12 Traffic and transport

12.1 Introduction

- 12.1.1 This chapter of the Preliminary Environmental Information (PEI) Report provides the preliminary assessment of likely significant effects on Traffic and transport from the construction and operation of the proposed **SESRO Project** (the Project, as detailed in Chapter 2: Project description).
- 12.1.2 Within this chapter, aspect-specific sections are included on:
- Legislation, policy and guidance (Section 12.2)
 - Consultation, engagement and scoping (Section 12.3)
 - Assessment methodology (Section 12.4)
 - Study area (Section 12.5)
 - Baseline conditions (Section 12.6)
 - Project parameters, assumptions and limitations (Section 12.7)
 - Embedded design mitigation and standard good practice (12.8)
 - Preliminary assessment of likely significant effects (Section 12.9)
 - Next steps (Section 12.10)
- 12.1.3 Within this chapter of the PEI Report, potential likely significant effects are considered on receptors including non-motorised users (NMU), Public Rights of Way (PRoW) users, vehicle drivers, public transport users (specifically bus users), emergency services and vessel users on the River Thames. Assessments are undertaken for the construction and operational phases of the Project, covering severance on communities, road vehicle driver and passenger delay, bus user delay, NMU delay and amenity, fear and intimidation on and by road users, road user and pedestrian safety, effects on river vessel users and the effects of hazardous and/or large loads.
- 12.1.4 This chapter should be read in conjunction with Chapter 2: Project description and other chapters of key relevance, namely:
- Chapter 9: Landscape and visual which identifies the likely significant effects on landscape character as a result of the Project.
 - Chapter 11: Materials and waste which assesses the availability of key materials required to construct the Project and the landfill void capacity required to accommodate waste from the Project generated during construction.
 - Chapter 13: Air quality which identifies the potential emission sources of air pollutants, mainly nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}), as well as dust and odour associated with the Project.
 - Chapter 14: Noise and vibration which identifies the likely significant noise and vibration effects of construction activities within the work area (including construction traffic), as well as the potential effects of operational traffic on the proposed diverted road, access road, and public highway.
 - Chapter 15: Socio-economics and communities which identifies the relevant residential, community, commercial, walking/cycling/horse-riding (WCH) provisions, and economic receptors that could potentially be affected by the construction and operation of the Project.

- Chapter 16: Human health which identifies the likely significant population health effects arising during the construction and operation of the Project.
- Chapter 17: Greenhouse gases which identifies the likely significant effects arising from changes in greenhouse gas emissions during the construction and operation of the Project.
- Chapter 20: Cumulative effects which identifies the likely significant intra-development and inter-development effects associated with the Project.

12.1.5 This chapter is supported by the following figures and appendices:

- Figure 12.1: Traffic and transport study areas
- Figure 12.2: Traffic survey locations
- Figure 12.3: Existing PRow and cycling routes
- Figure 12.4: Accident data
- Figure 12.5: Traffic and transport receptors – PRow and cycling routes
- Figure 12.6: Traffic and transport receptors – Bus routes
- Figure 12.7: Traffic and transport receptors – Junctions, links and rivers
- Appendix 12.1: Traffic flow diagrams
- Appendix 12.2: Potential for fog and frost technical note
- Appendix 12.3: Preliminary assessment of effects for Traffic and transport

12.1.6 Details of the construction routes and operational traffic routes are provided in the Preliminary Transport Assessment Report (PTAR).

12.1.7 This PEI Report does not constitute a draft Environmental Statement (ES). Preliminary assessments reported within this PEI Report chapter are considered a reasonable 'worst case' as a precautionary approach has been taken where design, construction or baseline information is being developed. Nevertheless, the preliminary assessment is considered sufficiently robust to enable consultees to understand the likely significant environmental effects of the Project, based on current design information and understanding of the baseline environment. Gaps in information identified within the PEI Report will be considered and addressed as part of the assessment during the production of the ES, as noted in Section 12.10: Next steps.

12.1.8 Where initial likely significant effects are identified at this stage, these may ultimately be determined as not significant in the ES once data gaps are addressed, and the design and mitigation are further developed. The ES will be submitted with the Development Consent Order (DCO) application and will provide the final assessment of likely significant effects; this will be informed by the ongoing Environmental Impact Assessment (EIA) process and ongoing consultation and engagement.

12.2 Legislation, policy and guidance

12.2.1 Table 12.1 lists the legislation, policy and guidance relevant to Traffic and transport for the Project and specifies where in the PEI Report information is provided in relation to these. A full policy compliance assessment will be presented within the Planning Statement as part of the DCO application.

12.2.2 National Policy Statements (NPS) form the principal policy for developments progressing through the Planning Act 2008. The NPS for Water Resource Infrastructure (NPSWRI) is

the primary NPS for the Project. In addition, the Secretary of State must also have regard to any other matters which they think are both important and relevant to the decision and this could include regional and local planning policies.

- 12.2.3 The Project is located mainly within the Vale of White Horse District Council area, with the exception of the far eastern extent on the eastern bank of the River Thames, which falls within the South Oxfordshire District Council area. The Project is wholly within the county of Oxfordshire. The regional and local planning policies most relevant to the assessment within this chapter are included in Table 12.1.

Table 12.1 Relevant legislation, policy and guidance for Traffic and transport

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
Legislation		
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 Ensures that the environmental impacts of certain development projects are thoroughly assessed and considered before development consent is granted.	The PEI Report has been produced to support the statutory consultation process under Planning Act 2008 to comply with Regulation 12 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.	Section 12.3: Consultation, engagement and scoping, Section 12.4: Assessment methodology, Section 12.9: Preliminary assessment of likely significant effects
The Highways Act 1980 Covers the management and operation of the road network in England and Wales. Section 38 allows highway authorities to enter into agreements with landowners for the adoption of new roads	The assessment has considered the impact of highway works and the potential for those to be adopted by the relevant highway authority.	Section 12.8: Embedded design mitigation and standard good practice
The Highways Act 1980 Section 119 deals with the diversion of PRoW and ensures the diversion is not substantially less convenient for the public.	The assessment has considered the impact of diverting and creating new PRoW to enhance public access and connectivity to and across the site.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
The Countryside and Rights of Way Act 2000 Countryside and Rights of Way Act 2000 Makes provision for public access to the countryside.	The assessment has considered existing and proposed PRoW during construction and operation.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
Section 85 (as amended by Section 245 of the Levelling-up and Regeneration Act 2023) Requires public authorities to seek to further the purpose of conserving and enhancing the natural beauty of National Landscapes (formerly AONBs).		
Traffic Management Act 2004 Sets out how road networks should be managed by local authorities. Part 2 Set out the duties of local traffic authorities in managing road networks efficiently.	The assessment has taken into account road closures and diversions during construction and operation.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
National Policy Statement for Water Resources Infrastructure (NPSWRI)		
Paragraph 4.14.5 states that, <i>'If a project is likely to have significant transport implications, the applicant's Environmental Statement should include a transport appraisal...'</i> and <i>'Appraisals should adopt a vision led approach that seeks to prioritise modal shift to sustainable transport modes and supports transport as a principal mechanism by which to mitigate the impact of the scheme.'</i>	Traffic and transport assessments have been undertaken in line with Department for Transport (DfT) and Oxfordshire County Council guidance to understand the effects of the Project. The assessment details a range of measures the Project aims to provide to encourage the use of sustainable transport.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
Paragraph 4.14.6 requires applicants to <i>'consult National Highways, Network Rail and Highway Authorities as appropriate on the assessment and mitigation.'</i>	Engagement has taken place and is continuing with National Highways and Oxfordshire County Council in relation to the assessment of transport effects. Network Rail have been engaged in discussions and engagement is	Section 12.3: Consultation, engagement and scoping

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
	continuing relating to the design and use of the Rail Sidings and Materials Handling Facility.	
Paragraph 4.14.7 requires applicants to, <i>'...prepare a construction management plan for construction stages and a travel plan for the operational stage of the infrastructure. Both should include demand management and monitoring measures to mitigate transport impacts'</i>	A Construction Traffic Management Strategy and a Construction Workforce Travel Strategy will be contained within the Code of Construction Practice (CoCP). An Operational Travel Strategy will be developed to address worker and visitor travel behaviour in the operational phase. These strategies will be in line with national policies and good practice and their principles have been considered in undertaking the assessment.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
Paragraph 4.14.8 suggests that, <i>'The assessment should also consider any possible disruption to services and infrastructure (such as road, rail, and airports)'</i>	Potential disruption to the road network is considered as part of the Traffic and transport assessment. Potential disruption to the rail network has not yet been assessed within the PEI Report but will be incorporated into the assessment once the design of the Rail Sidings and Materials Handling Facility is further advanced and agreed in principle with Network Rail. The Project is not expected to cause disruption to aviation.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
Paragraph 4.14.9 outlines that, <i>'If additional transport infrastructure is needed or proposed, it should always include good quality walking, wheeling and cycle routes, and associated facilities (changing/storage etc.) needed to enhance active transport provision'</i>	An impact assessment on sensitive receptors has been undertaken and active travel provision has been included as part of mitigation measures, in line with national and local policies and good practice.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects Chapter 2: Project description, Section 2.4: the Project
Paragraph 4.14.13 notes that, <i>'All stages of the project should support</i>	The Project proposes to transport certain construction materials by rail, through the provision of the	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9:

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
<i>and encourage a model shift of freight to more environmentally sustainable alternatives... as well as making appropriate provision for and infrastructure needed to support the use of alternative fuels including charging for electric vehicles.'</i>	Rail Sidings and Materials Handling Facility. This has been accounted for in the forecast of the number of Heavy Goods Vehicles (HGV) expected during the construction phase. The Project will provide charging facilities for electric vehicles in permanent car parks.	Preliminary assessment of likely significant effects
Paragraph 4.14.14 highlights that, ' <i>Regard should be given to the needs of freight at all stages in the construction and operation of the development including the need to provide appropriate facilities for Heavy Goods Vehicle (HGV) drivers as appropriate</i> '	Freight transport by both rail and road has been considered, including the requirement to provide welfare facilities for HGV drivers and rail staff.	Chapter 2: Project description Section 2.5: Construction
Paragraph 4.14.15 states that, ' <i>Where considerations are between rail, water-borne or road transport, rail and water-borne options are to be preferred over road transport options, where that option is safe and cost effective</i> '	The Project proposes to use rail transport during the construction phase. Water transport is not proposed because of navigational limitations on the River Thames and consequent impacts on other river users if materials were to be brought on the river in barges. Additionally, there would be a need to transport materials by road between the river and the reservoir site, resulting in double-handling and requiring improved road access to the river and additional loading and unloading space adjacent to the river.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
Paragraph 4.14.16 highlights that, where HGV traffic is substantial, applicants should consider a series of mitigation measures such as, ' <i>control numbers of Heavy Goods Vehicle</i>	Mitigation measures to manage HGV traffic during construction and to mitigate the effects of HGV movements have been considered in line with national and local policies and good practice and will be set out in the CoCP.	Section 12.8: Embedded design mitigation and standard good practice, Appendix 2.2: Draft commitments register

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
<i>movements to and from the site in a specified period during construction and operation where possible, and consider the impacts of alternative transport routes' and 'provide appropriate infrastructure needed to support vehicles that use alternative fuels (including electric vehicles)'.</i>		
Other national policy		
National Planning Policy Framework (NPPF) - Sets out government's planning policies for England and how these are expected to be applied. Paragraph 109 states that transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places.	Transport impacts have been considered in the PEI Report and Preliminary Transport Assessment Report (PTAR).	Section 12.9: Preliminary assessment of likely significant effects
NPPF - Paragraph 115 states that in assessing sites that may be allocated for development in plans, sustainable transport modes should be prioritised taking account of the vision for the site, the type of development and its location.	The assessment outlines how the Project will provide, and where feasible, enhance access by sustainable travel modes.	Section 12.8: Embedded design mitigation and standard good practice
NPPF - Paragraph 116 states that development 'should only be prevented or refused on highways grounds if they would	Transport impacts have been considered in the PEI Report and the PTAR, and preliminary mitigation measures identified.	Section 12.8: Embedded design mitigation and standard good practice

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
cause an unacceptable impact on highway safety or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.'		
NPPF - Paragraph 117 states that developments should give priority first to pedestrian and cycle movements, address the needs of people with disabilities and reduced mobility in relation to all modes of transport, create places that are safe, secure and attractive.	The assessment outlines how the Project will provide, and where feasible, enhance access by sustainable travel modes. The design of the Project takes account of the need to accommodate those with disabilities and reduced mobility.	Section 12.8: Embedded design mitigation and standard good practice Chapter 2: Project description Section 2.4: the Project
NPPF - Paragraph 118 states that all development that generates significant amounts of movement should be required to provide a travel plan, and the application should be supported by a vision-led transport statement or transport assessment so that the likely impacts of the proposal can be assessed and monitored.	A Construction Traffic Management Strategy and a Construction Workforce Travel Strategy will be contained within the CoCP (see Appendix 2.1). An Operational Travel Strategy will be developed to address worker and visitor travel behaviour in the operational phase. These strategies will be in line with national policies and good practice and their principles have been considered in undertaking the assessment.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
Decarbonising Transport A Better, Greener Britain Sets out the government's commitments and the actions needed to decarbonise the entire transport system in the UK. Commitment 2a: Decarbonising all forms of transport aims to increase active travel and deliver zero emission public	The assessment outlines that, where feasible, the Project will provide, and enhance access by sustainable travel modes.	Section 12.8: Embedded design mitigation and standard good practice

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
transport, cars, van, motorcycles and scooters while accelerating decarbonisation for maritime and aviation.		
Net Zero Strategy: Build Back Greener Sets out policies and proposals for decarbonising all sectors of the UK economy by 2050. Commitment 3v Transport: One of the commitments in this section relates to ensuring that the UK's electric vehicle charging infrastructure network is reliable and accessible. Additionally, it describes the roles of public and private sectors in contributing to the rollout of the infrastructure.	The Project will provide charging infrastructure for electric vehicles.	Section 12.8: Embedded design mitigation and standard good practice
Regional and local policy		
Vale of White Horse District Council Local Plan 2031 Part 1 - Sets out the spatial strategy and strategic policies for the district to deliver sustainable development. Core Policy 35 states that the council will work with Oxfordshire County Council and others to encourage sustainable modes of travel, ensure developments are located close to the existing strategic public transport network, ensure that new developments encourage walking and cycling and	The assessment outlines how the Project will enhance site accessibility by sustainable modes. A PTAR has been prepared, and a full Transport Assessment along with an outline Travel Strategy will accompany the DCO application.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects Chapter 2: Project description Section 2.4: the Project

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
ensure that adequate parking is provided. It also requires major development proposals to be supported by a Transport Assessment and Travel Plan.		
Vale of White Horse District Council Local Plan 2031 Part 2 Outlines policies and additional site allocations to complement Part 1 of the Local Plan. Policy 17 states that Proposals for a major development will need to be supported by a Transport Assessment or Statement and Travel Plan in accordance with Oxfordshire County Council guidance, including their Walking and Cycling Design Standards, and the latest National Planning Practice Guidance.	The assessment outlines how the Project will enhance site accessibility by sustainable modes. A PTAR has been prepared, and a full Transport Assessment along with an Outline Travel Strategy will accompany the DCO application.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
Vale of White Horse District Council / South Oxfordshire District Council Draft Joint Local Plan 2041 Contains developing planning policies that help address the climate emergency, restore nature, and meet the needs of residents. Policy IN3 Transport Infrastructure and Safeguarding states that developers should contribute to schemes such as maintaining, improving and adding to	The assessment outlines how the Project will enhance access to the site by sustainable travel modes.	Section 12.8: Embedded design mitigation and standard good practice Chapter 2: Project description, Section 2.4: the Project

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
walking and cycling infrastructure, protect PRow and railway lines, deliver transport hubs, maintain rail services and provide infrastructure to facilitate public and shared transport.		
South Oxfordshire District Council Local Plan (2035) Sets out planning policies for South Oxfordshire District Council up to 2035. TRANS4 states that consideration should be given to cumulative impact of relevant development both in South Oxfordshire District Council and adjacent authorities, and how this links to planned infrastructure improvements.	The assessment considers the cumulative impact of the Project on sensitive receptors.	Section 12.9: Preliminary assessment of likely significant effects, Chapter 20: Cumulative effects
The East Hanney Neighbourhood Plan Sets out the planning policies for East Hanney. Policy EHNP1 Sustainable Development states that new developments should be designed to a high standard, in keeping with the character of the local area. Development proposals which include innovative solutions and sustainability measures will be supported where their design approach is sympathetic to the character of the surrounding area. Of relevance to transport, policy EHNP1 indicates that '<i>development</i>	The Project will enhance access to the site by sustainable travel modes and has considered the needs of active travel and public transport users.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects Chapter 2: Project description, Section 2.4: the Project

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
<i>proposals should demonstrate how they ensure development is easily accessible by sustainable modes of transport to local facilities...'</i>		
Culham Neighbourhood Plan 2020-2041 Sets out the planning policies for Culham. Policy CUL8 references the Sustainable Travel Network for the purpose of supporting active travel in the Parish. Development proposals on land that lies within or adjacent to the network should sustain, and where practicable, enhance the functionality of the network. Proposals that will harm the functioning or connectivity of the network will not be supported.	The Culham Sustainable Travel Network is to the east of the River Thames. The Project will provide diversion routes for PRoW where required during construction and a new active travel route network around the site, including connections with surrounding settlements, will be provided during operation.	Table 12.27: Project parameters and assumptions forming the basis of assessment, and Section 12.8: Embedded design mitigation and standard good practice.
Steventon Parish Neighbourhood Development Plan 2022-2031 Sets out the planning policies for Steventon Parish. Policy 3 states that ' <i>Development proposals should ensure that any unacceptable impacts from the development on the transport network or on highway safety can be effectively mitigated</i> ' and that 'new development should maximise opportunities to walk and cycle...' 'maximise opportunities to walk and cycle...'	The effects of the Project on Traffic and transport have been assessed and where necessary, mitigation proposals have been or will be developed to address significant effects as far as possible. The Project will provide a new active travel route network around the site, including connections with surrounding settlements.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
Drayton Neighbourhood Development Plan Sets out the planning policies for Drayton. Policy P-T1 requires development proposals to put in place detailed Travel Plans	A Construction Traffic Management Strategy and a Construction Workforce Travel Strategy will be contained within the CoCP. An Operational Travel Strategy will be developed to address worker and visitor travel behaviour in the operational phase. These strategies will be in line with national policies and good practice and their principles have been considered in undertaking the assessment.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects
Guidance		
Design Manual for Roads and Bridges (DMRB) A collection of UK standards, advice notes, and other documents for the design, assessment, and operation of motorways and all-purpose trunk roads.	Highway proposals forming part of the Project will be designed in line with DMRB design standards.	Section 12.8: Embedded design mitigation and standard good practice Chapter 2: Project description Section 2.4: the Project
Design Manual for Roads and Bridges (DMRB) – LA 101 Introduction to environmental assessment (Highways England, 2019a). Sets out the over-arching requirements and principles that form an introduction to the environmental assessment of motorway and all-purpose trunk roads.	The assessment in this chapter reports on the likely significant environmental effects of the Project in line with the requirements of the EIA Directive as set out in LA 101.	Section 12.4: Assessment methodology, Section 12.9: Preliminary assessment of likely significant effects
Design Manual for Roads and Bridges (DMRB) – LA 102 Screening projects for Environmental Impact Assessment (Highways England, 2019b). Sets out the requirements on screening projects for Environmental Impact	The assessment in this chapter has taken into account feedback received following the screening process.	Section 12.3: Consultation, engagement and scoping, Section 12.4: Assessment methodology

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
Assessment in line with Directive 2011/92/EU as amended by 2014/52/EU.		
Design Manual for Roads and Bridges (DMRB) – LA 103 Scoping projects for environmental assessment (Highways England, 2020d). Sets out the requirements for scoping motorway and all-purpose trunk road projects for environmental assessment.	The assessment in this chapter has identified those environmental factors which are likely to result in significant environmental effects.	Section 12.4: Assessment methodology
Design Manual for Roads and Bridges (DMRB) – LA 104 Environmental assessment and monitoring (Highways England, 2020). Sets out the requirements for environmental assessment of projects, including reporting and monitoring of significant adverse environmental effects.	The assessment in this chapter has been undertaken using the impact assessment methodology set out in LA 104 as a basis.	Section 12.4: Assessment methodology
Design Manual for Roads and Bridges (DMRB) – LA 112 Population and Human Health (Highways England, 2020). Provides a framework for assessing, mitigating and reporting the effects of motorway and all-purpose trunk road projects on population and health.	The assessment in this chapter has considered the sensitivity of receptors in accordance with LA 112.	Section 12.4: Assessment methodology
Institute of Environmental Management and Assessment (IEMA) Environmental Assessment of Traffic and Movement 2023	The assessment in this chapter has been undertaken in line with the IEMA guidelines.	Section 12.4: Assessment methodology, Section 12.9: Preliminary assessment of likely significant effects

Legislation, policy or guidance description	Relevance to assessment	Where in the PEI Report is information provided to address this
Key guidance document for assessing traffic and movement impacts from development projects under the EIA process.		
Transport Analysis Guidance (TAG) Unit M4 - Forecasting and Uncertainty (DfT, 2023). Provides guidance on the analysis of forecasting and uncertainty in transport appraisals.	The assessment considers the level of certainty of future developments and any associated travel growth in the context of the TAG guidance.	Section 12.4: Assessment methodology
Local Transport Note (LTN) 01/20 Cycle Infrastructure Design (Department for Transport (DfT), 2020a). Provides guidance to local authorities on delivering high quality, cycle infrastructure.	Facilities for cycling and walking forming part of the Project will be designed in line with LTN1/20 guidance. The assessment in this chapter has considered accessibility by active travel modes and provision for cyclists.	Section 12.8: Embedded design mitigation and standard good practice, Section 12.9: Preliminary assessment of likely significant effects Chapter 2: Project description Section 2.4: the Project
Oxfordshire Cycling Design Standards: A guide for Developers, Planners and Engineers (2017) Provides standards to support cycle users when planning for new development.	The Project has considered accessibility for cyclists.	Section 12.8: Embedded design mitigation and standard good practice Chapter 2: Project description Section 2.4: the Project

12.3 Consultation, engagement and scoping

- 12.3.1 Feedback from consultation and engagement is used to define the assessment approach and to ensure that appropriate baseline information is used. Feedback is also used to drive the design of the Project to avoid, prevent and reduce any likely significant environmental effects. In particular, feedback from key stakeholders has informed the Project's proposed embedded design (Primary) mitigation and standard good practice (Tertiary) mitigation measures. Specific mitigation measures relevant to the Traffic and transport assessment are summarised in Section 12.8: Embedded design mitigation and standard good practice of this chapter. Engagement is ongoing and will continue to inform the EIA and design process.

Scoping Opinion

- 12.3.2 The EIA Scoping Report (Thames Water, 2024) was issued to the Planning Inspectorate (PINS) on 28 August 2024. PINS provided its EIA Scoping Opinion (The Planning Inspectorate, 2024) on 8 October 2024, which included feedback from consultation bodies that it formally consulted.
- 12.3.3 Table 12.2 captures the key Scoping Opinion comments received from PINS and other key comments received from consultation bodies relevant to the Traffic and transport assessment, along with the Applicant's response to these at this stage of the assessment. Key activities to inform the final assessment that will be undertaken between the PEI Report and ES are covered in Section 12.10: Next steps. The full consultee comments on the EIA Scoping Report and responses to these will be provided in the ES.

Table 12.2 Key Scoping feedback for Traffic and transport

Stakeholder	Scoping comment	Applicant response
PINS	3.6.2 - Paragraph 11.4.2 of the Scoping Report states that the study area shown in Figure 11.1 has been defined based on professional judgement and would develop as the design evolves. The ES should confirm the final study area and key roads included in the assessment and justify how this has been selected, with reference to relevant industry guidance, the extent of the likely impacts and locations of sensitive receptors and agreement with relevant consultees. A plan illustrating the extent of the study area, and the expected route(s) of construction and operation traffic, should be included in the ES.	Section 12.4: Assessment methodology explains how the study area for Traffic and transport has been defined. Section 12.5: Study area describes the study area and this is illustrated in Figure 12.1: Traffic and transport study areas.
PINS	3.6.3 - Paragraph 11.5.32 of the Scoping Report states that the River Thames is a nationally significant waterway which is navigable in the vicinity of the proposed intake/outfall infrastructure. There is potential for navigational, and disruption impacts to users of the waterways from the construction of intake/outfall infrastructure. The receptors listed in paragraphs 11.6.2 and 11.6.4 do not include consideration of users of waterways or impacts on navigation infrastructure such as weirs.	Section 12.9: Preliminary assessment of likely significant effects includes consideration of the potential effects of the Project on river users from the construction of the intake/outfall. It is not expected that the River Thames will be used to transport construction material.
PINS	3.6.4 - The Scoping Report states that further traffic surveys may be required at key junctions to be used for construction and operational routes. The ES should identify the location, timing and duration of all traffic surveys and the extent to which the	Section 12.4: Assessment methodology explains the data collection that has been undertaken, including locations, duration and timing, and the position regarding

Stakeholder	Scoping comment	Applicant response
	methodology has been agreed with relevant consultees.	agreement with relevant consultees.
PINS	3.6.5 - The Scoping Report states that the Proposed Development requires construction activity on an operational rail line and the introduction of temporary sidings on the Great Western Rail line which would result in an increase in train movements. It is unclear from the wording of the Scoping Report whether impacts to railways are proposed to be assessed. For clarity, the ES should assess significant effects on railway infrastructure and safety during construction and operation where they are likely to occur; this should include consideration of impacts from vehicles that may utilise railway assets, such as bridges and level crossings.	The PEI Report considers the potential environmental effects of the Project on public transport users but at this stage, the detail of the proposed construction of the Rail Sidings and Materials Handling Facility is not sufficient to provide certainty on the number or nature of railway possessions that may be required to deliver that facility. Once there is greater certainty, effects on rail users resulting from any disruption to the rail service can be assessed and this will be reported in the ES. Matters relating to railway infrastructure and safety are covered at a high level in Chapter 19: Major accidents and disasters. These issues will be discussed with Network Rail as part of ongoing technical engagement and will be covered in the ES or other relevant documents in the DCO application.
PINS	3.6.6 -The ES should explain how consultation has informed an appropriate methodology for assessing likely significant effects from traffic and transport.	Section 12.3: Consultation, engagement and scoping summarises the consultation and engagement undertaken, including engagement which has informed the methodology. The methodology used for the assessment is presented in Section 12.4: Assessment methodology.
PINS	3.6.7 - The Scoping Report assumes that railway sidings would be used for material transportation, however the construction details have not been finalised at this stage. The traffic and transport assessment should include a 'worst case scenario' option based on no railway siding option being available	Although the Project intends to use both rail and road to transport construction materials, the PEI Report provides a commentary on the potential implications of an 'all

Stakeholder	Scoping comment	Applicant response
	unless the proportion of the construction material arriving by rail could be confirmed.	by road' scenario occurring for a limited period in paragraphs 12.9.10 to 12.9.28. The Environmental Statement will provide a more detailed analysis of that scenario.
Oxfordshire County Council	The study area for transport effects will need to be addressed through further work.	The Traffic and transport study area comprises a 2 kilometre (km) radius around the site for the highway network. The study area for public transport and active travel extends to a 5km radius around the site. These are shown on Figure 12.1: Traffic and transport study areas.
Oxfordshire County Council	Paragraph 11.7.6 states that, ' <i>A spreadsheet-based traffic model will be developed for the purpose of assessing both construction and operational traffic.</i> ' However, this is considered an insufficient means of adequately assessing the interrelationship of impacts on the network and thus a bespoke traffic model will need to be built.	The Project is engaging with Oxfordshire County Council highway officers on the nature and scope of the assessment. The approach to the Transport Assessment presented with the DCO application may differ from, and complement, the PEI Report, so that the PTAR deals sufficiently with the performance of the network with and without the Project. The approach for the statutory consultation phase and the PTAR is to use local junction models and the spreadsheet-based approach, supported by recent survey data obtained in 2024. A Model Specification Report for a strategic highway model has been issued to Oxfordshire County Council and the intention is to use such a model for the assessment for the DCO application. Model outputs will be shared with Oxfordshire County Council and National Highways once available.
Oxfordshire County Council	Paragraph 11.7.2 states that: The following key guidance relevant to traffic and movement will be considered within the	The Applicant will continue to engage with Oxfordshire County Council highway

Stakeholder	Scoping comment	Applicant response
	assessment process: Environmental Assessment of Traffic and Movement (IEMA, 2023) ...it then states in paragraph 11.7.4 that: Based on the IEMA guidance (IEMA, 2023), the following two criteria will be used to assist in identifying the extent of the assessment: • Highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%). • Highway links of high sensitivity where traffic flows increase by 10% or more. This is not agreed with Oxfordshire County Council and will need to be reviewed and agreed for the purposes of the Transport Assessment. The status of the IEMA guidance is not clear but it does not appear to be endorsed by any applicable central government department and thus should be considered as guidance only and thus not prescriptive of the acceptable thresholds for the Transport Assessment.	officers on the nature and scope of the assessments in the PTAR and the PEI Report with the intention of reaching agreement with Oxfordshire County Council and other relevant stakeholders. While the PEI Report deals with environmental effects related to traffic and transport, and the IEMA guidance is relevant to that assessment, the methodology for the PTAR may use different thresholds from those in the PEI Report, so that the PTAR deals sufficiently with the performance of the transport networks with and without the Project. Those thresholds will be agreed with the highway authorities.
Oxfordshire County Council	The identified areas for a potential Wantage and Grove Station for passenger rail travel, proposed by Vale of White Horse District Council, South Oxfordshire District Council and Oxfordshire County Council.	A station at Wantage and Grove is not part of the Project and does not form part of the assessment but the Project will continue to engage with Oxfordshire County Council and Vale of White Horse District Council on opportunities for a future station.
Oxfordshire County Council	Oxfordshire County Council has not seen the latest estimations for visitor numbers to the site and remain concerned over the significant increase in traffic movements the reservoir could bring to the surrounding network. The A415 through Marcham contains a pinch point, which constrains traffic flow through the village and is not suitable for a substantial increase in trips. Thames Water must investigate the option of fully constructing a Marcham Bypass, as part of the mitigation package to address the impacts of the reservoir.	A southern Marcham Bypass does not form part of the Project. The assessment of the changes in traffic associated with the Project indicates where traffic is expected to increase and, where necessary, mitigation measures will be identified to address adverse effects arising from such increases.

Stakeholder	Scoping comment	Applicant response
National Highways	We have been engaged with the applicant to scope out what needs to be considered as proposals for SESRO are developed. Due to the size, scale and proximity of proposals to the A34, early engagement with National Highways is essential to understand assessments required to demonstrate that proposals are deliverable. Of particular importance are the following (but not limited to): • Geotechnical risks assessments in accordance with CD622 to understand geotechnical risks to the SRN and its assets. • Designs in accordance with Design Manual for Roads and Bridges (DMRB) for potential realignment of the A34. • Designs and assessments to understand and demonstrate deliverability of any crossings (over and under) any part of the SRN. We would strongly advise that geotechnical risk assessments in accordance with CD622 are carried out to inform options/locations for routing of the pipeline/tunnelling where it could pass under any part of the SRN. Further it is likely that geotechnical certification from National Highways will be required to facilitate this therefore we recommend early engagement with our geotechnical specialists. • Designs and assessments of any SRN related drainage proposals. • Risk assessments in accordance with CD622 to demonstrate how risks to the SRN can be managed from any proposed environmental bunds facing the SRN. • Agree preliminary design of access into the site. It is anticipated construction vehicles would enter and exit the SESRO site via the proposed main site entrance situated on the A415 (Marcham Road). Construction traffic would be routed from the A34 Marcham Interchange.	Information related to the increased potential for fog and ice to form, and the potential implications for road safety, are not covered in detail in the PEI Report. The Project will engage with National Highways on this matter with a view to providing an assessment as part of the Environmental Statement with the DCO Application. Other matters raised in this comment will be addressed through the normal detailed design and technical approvals processes applied by National Highways for works affecting the Strategic Road Network.

Stakeholder	Scoping comment	Applicant response
	Potential micro-climate assessments be undertaken to provide sufficient evidence of whether fog or ice may represent a material risk to safety on the A34.	
National Highways	The majority of construction traffic movements will impact the SRN at some point; therefore, it is essential that a cumulative assessment of the impacts from construction traffic is undertaken by the applicant at junctions along the A34 as well as junctions on the M40 and M4. We look forward to working with the applicant and Oxfordshire County Council to develop and consider option of managing construction traffic to minimise impacts during peak periods on both the local and strategic road networks.	The PEI Report and PTAR provide construction traffic information and assess the potential effects of construction traffic impact at junctions along the A34 in the vicinity of the site. At DCO application stage and for the ES, it is anticipated that this assessment will be extended to other locations on the A34, M40 and M4.
National Highways	We welcome the development of a Construction Environmental Management Plan (CEMP) to support the proposals. We would expect the following to be considered/included in the development of the CEMP in particular in relation to the SESRO site: - The proposed construction traffic routes to the site, to be identified on a plan. - Construction Traffic Management (to include the co-ordination of deliveries and plant and materials and the disposing of waste resulting from demolition and/or construction so as to avoid undue interference with the operation of the public highway, particularly during the Monday-Friday AM Peak (07.30- 09.00) and PM Peak (16.30-18.00) periods). - An estimate of the daily movement of the construction traffic, profiled for each construction phase, identifying the peak level of vehicle movements for each day. - Details of, and agreement to, any traffic management proposals on the SRN. - The hours of construction work and deliveries. - Area(s) for the parking of vehicles of site operatives and visitors.	The assessment presents forecast construction vehicle movement estimates for materials and workers as part of assessing the environmental effects of construction on the surrounding area. A comprehensive CoCP will be prepared, containing an outline Construction Traffic Management Strategy and an outline Construction Workforce Travel Strategy. These documents will address the matters raised in this response from National Highways.

Stakeholder	Scoping comment	Applicant response
	• Area(s) for the loading and unloading of plant and materials. • Area(s) for the storage of plant and materials used in constructing the development. • Details of wheel washing facilities. • The mitigation measures in respect of noise and disturbance during the construction phase including vibration and noise limits, monitoring methodology, screening, a detailed specification of plant and equipment to be used and construction traffic routes. • A scheme to minimise dust emissions arising from construction activities on the site. The scheme shall include details of all dust suppression measures and the methods to monitor emissions of dust arising from the development. • Details of waste management arrangements. • The storage of materials and construction waste, including waste recycling where possible. • The storage and dispensing of fuels, chemicals, oils and any hazardous materials (including hazardous soils).	

Non-statutory public consultation

- 12.3.4 Non-statutory public consultation on the emerging proposals for the Project was undertaken with stakeholders and local communities in Summer 2024. Formal responses to this non-statutory consultation feedback have been provided within the 'Statement of Response' (Thames Water, 2025). Any feedback relevant to the Traffic and transport assessment has been taken into account where appropriate.

Ongoing engagement

- 12.3.5 This section summarises the ongoing technical engagement for Traffic and transport with key stakeholders since EIA scoping. This includes meetings and written correspondence attended by:
- Oxfordshire County Council
 - National Highways
 - Vale of White Horse District Council
- 12.3.6 Table 12.3 provides a summary of the ongoing technical engagement for Traffic and transport, including the issues raised and outcomes for the assessment.

Table 12.3 Key ongoing engagement for Traffic and transport

Stakeholder	Topics	Outcome
Oxfordshire County Council	The Project must investigate the option of fully constructing the Marcham bypass as part of the mitigation package to address the impacts of the reservoir.	The assessment indicates that changes to traffic flow in Marcham would be relatively small and there would be no likely significant effects related to Traffic and transport in the village. The Marcham bypass is therefore not considered to be required as mitigation for the Project, but the design of the Project at this stage does not preclude delivery of the Marcham bypass.
Oxfordshire County Council	To discourage journeys by private car, Oxfordshire County Council will expect excellent connections to the reservoir by public transport with proposals considering future bus stops and services.	Proposals for serving the Project by bus are being developed and the Project will engage with Oxfordshire County Council on these in due course. The outcome of ongoing engagement will be presented in the ES.
Oxfordshire County Council	The current proposals will disrupt the national cycle route (NCR5) during construction. This is an important route between Abingdon and Didcot via Sutton Courtenay. If provision for cyclists is made at all times during construction, this need not impact the choice of options.	The proposals would affect NCN Route 5 as a consequence of construction of the intake / outfall. Temporary diversions would be provided to ensure route continuity. The outcome of ongoing engagement will be presented in the ES.
Oxfordshire County Council	Sufficient operational car parking should be provided, including electric vehicle charging infrastructure.	Car parking and EV charging will be provided.
Oxfordshire County Council	The impact of the Dalton Barracks development should be included in the core traffic modelling scenario rather than just a sensitivity test.	The way in which trip demand associated with Dalton Barracks and other potential development is reflected in the modelling will be dependent on the planning status of each development, and how certain it is the development may come forward in the timescale, in line with Department for Transport modelling guidance on incorporating future development in traffic models. This will be discussed with Oxfordshire County Council and National Highways and the outcome of ongoing engagement will be presented in the ES.
Oxfordshire County Council	Oxfordshire County Council should be made party to the	Material relating to the analysis will continue to be shared with Oxfordshire County

Stakeholder	Topics	Outcome
	analysis undertaken to understand the changes in traffic flows as the result of the Project.	Council. The outcome of ongoing engagement will be presented in the ES.
Oxfordshire County Council	The proposed modelling study area, the zoning system and for the modelling and the local highway assignment should be shared with and agreed on with Oxfordshire County Council.	Material relating to the modelling will continue to be shared with Oxfordshire County Council. The outcome of ongoing engagement will be presented in the ES.
Oxfordshire County Council	The scope of the model will be required to consider the trip generation of both construction and operational phases, including consideration of the timing of the delivery of the rail sidings. Until this information is shared it is not possible to agree on the model extent. The model should also consider demand from proposed allocations in the emerging South Oxfordshire District Council and Vale of White Horse District Council Joint Local Plan 2041.	Material relating to the modelling will continue to be shared with Oxfordshire County Council and information on construction sequencing will be shared as it is refined in more detail. Demand related to other developments will be addressed in the modelling in accordance with industry guidance. The outcome of ongoing engagement will be presented in the ES.
Oxfordshire County Council	Background demand growth for the forecasting and the database of schemes and development relevant to the transport model should be agreed on with Oxfordshire County Council.	Material relating to the modelling will continue to be shared with Oxfordshire County Council. The outcome of ongoing engagement will be presented in the ES.
Oxfordshire County Council	The modelling assessment scenarios will be required to demonstrate alignment with Oxfordshire County Council's Implementing Decide & Provide document.	Material relating to the modelling will continue to be shared with Oxfordshire County Council. The outcome of ongoing engagement will be presented in the ES.
National Highways	Details of any proposal to seek temporary construction access directly off the A34 need to be provided to National Highways for consideration.	In order to assess a reasonable worst case for traffic and transport effects, the Traffic and transport assessment for the PEI Report assumes that there is no direct connection for construction traffic between the site and the A34,

Stakeholder	Topics	Outcome
National Highways	The process for the traffic model development, the scope of the Transport Assessment, and the list of future developments and transport schemes to be included in the assessment to be agreed on with National Highways.	Material relating to the modelling will continue to be shared with National Highways. The outcome of ongoing engagement will be presented in the ES.

12.4 Assessment methodology

- 12.4.1 This section outlines the methodology followed to assess the likely significant effects of the Project in relation to Traffic and transport for this preliminary assessment, including:
- Effects scoped in to the assessment
 - Study area
 - Criteria for determining likely significant effects
 - Assessment of cumulative effects
- 12.4.2 Any further data collection or site surveys, studies, modelling, or additional assessments that are still to be undertaken to inform the ES are set out in Section 12.10: Next steps.
- 12.4.3 The project-wide approach to the assessment methodology is set out in Chapter 4: Approach to environmental assessment. Any adjustments to that project-wide approach are noted in this section.
- 12.4.4 The assessment methodology followed for Traffic and transport applies to both the construction and operational phases of the Project.
- 12.4.5 The following key guidance and standards relevant to Traffic and transport have been considered within the assessment process:
- Environmental Assessment of Traffic and Movement (EATM) (Institute of Environmental Management and Assessment (IEMA), 2023)
 - Design Manual for Roads and Bridges (DMRB) LA 101 to 104 and LA 112 (Highways England, 2019 and 2020)
 - Transport Analysis Guidance (TAG) Unit M4 – Forecasting and Uncertainty (Department for Transport, 2023)
- 12.4.6 Assessments have been undertaken for the peak year of construction (2036) and the peak year of operation (2043). The peak year of operation is expected to be the first year at which the full forecast annual visitor numbers will be achieved. Assessments have been undertaken for a typical weekday and weekend day (Saturday or Sunday) to account for both regular and peak usage, given the recreational facilities planned at the site.

Scope of the assessment

- 12.4.7 The scope of the assessment has been informed by the EIA Scoping process, including the EIA Scoping Report (Thames Water, 2024) and Scoping Opinion (The Planning

Inspectorate, 2024), combined with subsequent changes to the current Project design and an enhanced understanding of the baseline environment.

- 12.4.8 Matters that have been scoped out of the Traffic and transport assessment are documented within Appendix 4.1: Effects scoped out of the EIA, along with justification for this scoping approach. No matters have been scoped out for the construction phase assessment. In the operational phase assessment, the effects of hazardous/large loads have been scoped out.
- 12.4.9 Effects that are scoped in for the Traffic and transport assessment relevant to the construction and operation phases are:
- Severance of communities
 - Road vehicle driver and passenger delay
 - Public transport (bus) user delay
 - NMU delay (which includes delay to pedestrians, cyclists, other wheelers and horse-riders)
 - Fear and intimidation on and by road users
 - NMU amenity
 - Road user and pedestrian safety
 - Effects on navigation for river vessel users on the River Thames
- 12.4.10 Effects related to the movement of hazardous or abnormal indivisible loads (for instance, vehicles carrying tunnel boring machine parts) have only been scoped in to the assessment for the construction phase, as it is unlikely that such loads would be required during the operation phase. There may be very infrequent occasions during operation when large loads are required if larger pieces of equipment need to be renewed, but these movements are not expected to result in any significant effects and therefore effects associated with them have been scoped out of the assessment.
- 12.4.11 The assessment of road safety effects for the operational phase will also include consideration of the potential for changes in the incidence of fog or ice as a result of the large area of water contained by the reservoir and the potential for this to lead to additional road accidents.

Study area

- 12.4.12 The effect of the Project on Traffic and transport would be associated with the anticipated rise in travel activity resulting from construction and operation across the transport network. This assessment covers all users affected by changes on the road and public transport networks including bus and rail, as well changes associated with PRoW and works affecting the River Thames.
- 12.4.13 In general, the Traffic and transport study area covers an area extending some 5km from the draft Order limits.
- 12.4.14 The extent of the study area has been informed by consideration of:
- The likely routes used by vehicles carrying construction materials, which are expected to be focused on the strategic road corridors as far as reasonably practicable.
 - The likely use of the rail network to transport construction materials.

- The Project works located by the River Thames and the potential for those to affect users of the river and PRow in its vicinity.
- The potential for existing PRow users to be affected by closures or diverted routes during the construction and operational phases of the Project.
- The potential locations from which construction workers may be travelling.
- The potential catchment area for visitors to the Project during the operational phase, to assist in defining likely travel choices and approach and departure routes.
- The potential locations from which workers may be travelling during the operational phase.

12.4.15 In addition to the considerations above, and using the guidance in EATM (IEMA, 2023), the following two rules have also been used to assist in refining the extent of the study area for the assessment:

- 'Rule 1' – include highway links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%) as a result of the Project.
- 'Rule 2' – include highway links of high sensitivity (as defined in paragraphs 12.4.30 to 12.4.34 and Table 12.4) where traffic flows would increase by 10% or more as a result of the Project.

Methodology

12.4.16 This section sets out the methodology for defining the baseline and future baseline for the preliminary assessment of Traffic and transport effects and the methodology for the assessment of significance. Any further data collection or site surveys, studies, modelling or additional assessments that are still to be undertaken to inform the ES are set out in Section 12.10: Next steps.

Baseline

Data collection

12.4.17 Baseline data collection has been undertaken to obtain information within the study area. This section provides the approach to collecting baseline data.

12.4.18 The following data sources have been accessed to inform the baseline with respect to Traffic and transport:

- WebTris – A database owned by National Highways containing monitored vehicle flows and speeds of traffic on the Strategic Road Network (SRN) (data obtained February 2025)
- DfT road traffic statistics which provide an estimate of the vehicle flows on a limited selection of 'A' roads and motorways (data obtained February 2025)
- STATS19 collision data was obtained from the latest available completed five-year period (excluding COVID years) to inform collision analysis. This is used to identify potential collision clusters within the study area (data obtained February 2025)
- Public transport timetables from rail and bus operators (data obtained February 2025)
- PRow and public highway network information from the Oxfordshire County Council website (data obtained February 2025)

- CyclOSM OpenStreet Map data on the existing cycle network (data obtained February 2025)

Site surveys

- 12.4.19 The study area baseline surveys undertaken for Traffic and transport were:
- Classified Junction Count surveys, including NMU counts, conducted in November/December 2024
 - Automatic Traffic Count (ATC) surveys conducted in November/December 2024
 - PRoW surveys undertaken in April 2025
 - Survey of river vessel activity undertaken in April 2025
- 12.4.20 Baseline survey results are provided in the Preliminary Transport Assessment Report (PTAR).
- 12.4.21 Further ATC and classified junction count surveys were conducted in July 2025, which will be used to inform the transport modelling for the DCO application.

Future baseline

- 12.4.22 The assessment has considered the likely evolution of the baseline without the implementation of the Project. The future baseline for the Traffic and transport assessment includes the following:
- Key developments which have a planning application submitted or approved and are expected to be under construction, and those expected to be operational prior to or during the construction and operation of the Project.
 - Allowance for background traffic growth that will occur as a result of changes in population and employment over time, adjusted to exclude the contribution of the key developments referenced in the point above.
 - Committed transport infrastructure expected to be in operation prior to or during the construction and operation of the Project.
- 12.4.23 The following data sources have been accessed to inform the future baseline with respect to transport:
- Planning documents and Council planning portals (Local Plan Development, Strategic Housing Land Availability Assessment, Annual Monitoring Report, and Housing/Employment Land Trajectory). Refer to Chapter 20: Cumulative effects for the methodology used to prepare the list of other developments relevant to the future baseline.
 - The DfT's Trip End Presentation Program (TEMPro) (V8.0) was used to source the National Trip End Model (NTEM) assumptions. These set out national travel demand growth for each local authority area based on a set of planning assumptions covering employment and housing projections.
- 12.4.24 In line with the Planning Inspectorate guidance in its Advice Note Seventeen (Planning Inspectorate, 2019), cumulative traffic and transport effects are inherently included in the future baseline scenarios.

- 12.4.25 TEMPro provides forecasts of future travel demand growth at a district level based on Local Plan allocations across the country and factors derived from TEMPro have been applied to observed traffic flows to generate estimated traffic flows for the future baseline scenarios.
- 12.4.26 For the ES, future developments will be classified into levels of certainty using the guidance provided in the DfT's Transport Appraisal Guidance Unit M4 (Department for Transport, 2023). Developments which are considered 'near certain' or 'more than likely' will be included in the future baseline scenarios for the ES. Typically these are developments which are under construction, which have planning consent (or are expected to receive it imminently), or where a planning application has been submitted.
- 12.4.27 Developments which are considered 'reasonably foreseeable' (typically those identified in Local Plans, or consequent on a transport infrastructure scheme being implemented) and those considered as 'hypothetical' (where there is no current Local Plan allocation) are not generally included in the future baseline scenarios. However, sensitivity tests may be undertaken to include developments which are considered no more than 'reasonably foreseeable' if they might affect conditions on parts of the transport networks where the Project may also have material effects. Adjustments will be made to the TEMPro factors to allow for the specific developments identified from the short-list, to avoid double counting.

Criteria for the assessment of significance

- 12.4.28 The methodology to assess effects of the Project on a receptor, first identifies the receptor's sensitivity, then assesses the magnitude of impact the Project would have on the receptor before using professional judgement in combining these two elements to identify the significance of effect.

Assessment of sensitivity

- 12.4.29 The following user groups have been considered as receptors:
- NMU, including pedestrians, cyclists, other wheelers and horse-riders using the public highway
 - PRow users, including walkers, cyclists, other wheelers and horse-riders.
 - Motorists and freight vehicle operators
 - Public transport (bus) users
 - Emergency services
 - Vessel users on the River Thames.
- 12.4.30 In addition, the assessment considers the Traffic and transport effects of the Project on people at home or at work, or at other sensitive locations including:
- Locations with concentrations of sensitive and/ or vulnerable users (e.g. hospitals, places of worship, schools)
 - Collision clusters and routes with road safety concerns
 - Junctions and highway links already at (or over) capacity
- 12.4.31 Within this scope, people who may be particularly sensitive and/or vulnerable to change could include those who:
- Are of a young age (for example school age or younger)

- Are of an older age (for example those aged 65 and over)
- Have poor mobility
- Have poor health or health vulnerabilities

12.4.32 The Project is near a number of locations which are likely to have a higher concentration of sensitive receptors. Key community receptors located within 10km of the draft Order limits (for the PEI Report) include, but are not limited to:

- Abingdon Community Hospital
- Abingdon Preparatory School
- Bright Horizons Nursery
- Carswell Community School
- Charlton Primary School
- Drayton Primary School
- Fitzwaryn School, Wantage
- Our Lady's Abingdon School
- South Oxfordshire Crematorium
- St Lawrence Church
- The Unicorn School, Abingdon
- Wantage Community Hospital
- Wantage Town Football Club

12.4.33 The sensitive receptors identified within the study area have been assigned to the nearest highway link, or to the River Thames as appropriate, and the relationship with the surrounding environment examined to understand the sensitivity of those receptors to change. Each highway link within the study area has then been assigned a sensitivity level, as shown in Table 12.26.

12.4.34 Table 12.4 provides detail on the criteria for establishing the sensitivity of receptors based on DMRB LA 112. These are relatively general classifications and form a basis for further consideration in assigning degrees of sensitivity for the Traffic and transport aspect.

Table 12.4 Criteria for establishing the sensitivity of receptors

Sensitivity of receptor	Typical description (DMRB LA 112)
Negligible	N/A
Low	PRoW which are scarcely used or fallen into disuse. Walking, cycling or horse-riding routes that join or are alongside roads with less than 4,000 vehicles per day
Moderate	PRoW mainly for recreational use with potential for alternative routes to be taken. Walking, cycling or horse-riding routes that join or are alongside roads with 4,000 to 8,000 vehicles per day
High	National or regional routes with frequent daily commuter or recreational use and with limited potential for diversion. Walking, cycling or horse-riding routes that join or are alongside roads with more than 8,000 vehicles per day

- 12.4.35 Building on the generalised classification in Table 12.4, sensitivity criteria have been developed for each class of receptor.
- 12.4.36 Table 12.5 shows the sensitivity classifications for NMUs (pedestrians, cyclists, other wheelers and horse-riders). On highway links, sensitivity is determined by the nature of footway or cycling provision, traffic flow on the link and/or whether a link passes a sensitive location. On PRow, the sensitivity of NMUs is determined by the frequency of use, reflecting the principle that on busier routes, more users would be affected by changes to those routes.

Table 12.5 Sensitivity of non-motorised users on highway links and on PRow

Sensitivity of receptor	Description – users on highway links	Description – users on PRow
Negligible	Highway links within the study area which are not on desire lines (direct routes which pedestrians and cyclists prefer to take to reach their destination) and have no footway or dedicated cycle provision	N/A
Low	Highway links with footways and/or cycle provision and traffic flows less than 4,000 vehicles per day	PRow with low daily use (less than 20 users per day)
Moderate	Highway links with footways and/or cycle provision and traffic flows between 4,000 and 8,000 vehicles per day	PRow with moderate daily use (between 20-100 users per day)
High	Highway links with footways and/or cycle provision and traffic flows over 8,000 vehicles per day Highway links which pass a particularly sensitive location (as listed in paragraph 12.4.30) (regardless of the categorisation above)	PRow with frequent daily use (more than 100 users per day)

- 12.4.37 Table 12.6 shows the sensitivity classification for car drivers and passengers.

Table 12.6 Sensitivity of car drivers and passengers

Sensitivity of receptor	Description
Low	Highway locations which generally experience little or no congestion and are therefore not particularly sensitive to changes in traffic flow
Moderate	Highway locations which sometimes experience congestion (for instance in peak periods), or are of strategic importance
High	Highway locations which experience sustained congestion (for instance for most of the day including off-peak periods)

- 12.4.38 Table 12.7 shows the sensitivity classification for bus users. There is no specific guidance provided in EATM (IEMA, 2023) or DMRB on the basis for identifying sensitivity for these users, and therefore the criteria are based on professional judgement and linked to the number of services available on different sections of the bus network.

Table 12.7 Sensitivity of bus users

Sensitivity of receptor	Description
No change / negligible	Where bus routes are not present on a particular road link, there will be no bus users and therefore the sensitivity of receptors on such links will be negligible.
Low	Users on bus routes with more than 4 services an hour on average during the day (07:00-19:00)
Moderate	Users on bus routes with 1-4 services an hour on average during the day (07:00-19:00)
High	Users on infrequent bus routes with 0-1 service per hour on average during the day (07:00-19:00)

- 12.4.39 For the assessment of effects related to road safety in general, a sensitivity category has been assigned to locations based on the most recent recorded accident data available for the last five years, as shown in Table 12.8. This reflects the current level of risk and means that where existing accident clusters occur, the assessment considers the location to be of higher sensitivity to changes arising from the Project.

Table 12.8 Sensitivity of locations for assessing road safety effects

Sensitivity of receptor	Description
Low	Locations with less than 3 personal injury accidents in the 5-year period
Moderate	Locations with between 3 and 9 personal injury accidents in the 5-year period
High	Locations with more than 9 personal injury accidents in the 5-year period

- 12.4.40 For the assessment of effects on river users navigating the River Thames, sensitivity has been based on the level of usage of the affected stretch of the river, as shown in Table 12.9. This reflects the fact that where river activity is greater, any change affecting navigation would affect a greater number of users. Consideration has been given to usage at busier times (for instance in warmer weather and holiday periods) and on the busiest days of the week.

Table 12.9 Sensitivity of locations for assessing effects on river users

Sensitivity of receptor	Description
Low	Locations with a peak of ten or less vessel transits an hour during the day
Moderate	Locations with a peak of between 11 and 30 vessel transits an hour during the day
High	Locations with a peak of more than 30 vessel transits an hour during the day

Magnitude of impact

- 12.4.41 The approach used to assess magnitude of impact for Traffic and transport effects considers the nature and extent of impact upon receptors. The approach used is based on professional judgment and experience with reference to defined criteria from guidance.
- 12.4.42 The criteria for determining the magnitude of impact can vary depending on the particular effect being considered. Guidance is provided in EATM (IEMA, 2023) and the following paragraphs describe these criteria for each of the effects that have been assessed.

Severance of communities

- 12.4.43 EATM (IEMA, 2023) defines severance as the perceived division that can occur within a community when it becomes separated by major traffic infrastructure. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by infrastructure.
- 12.4.44 EATM (IEMA, 2023) provides thresholds as a starting point for the severance assessment, which are based on changes in traffic flows as set out in Table 12.10. Peak hour two-way traffic flows have been used to assess severance. The guidance notes that caution needs to be observed when applying these thresholds as very low baseline flows may lead to high percentage changes in traffic but this may not lead to severance effects.
- 12.4.45 The assessment of severance has also considered specific local conditions, for example adjacent land uses, the potential for vulnerable people to be present and whether or not pedestrian crossing facilities are provided.

Table 12.10 Magnitude of impact for severance

Magnitude of impact – severance	Description and nature of change
No change	No change in traffic flows
Negligible	Change in peak hour traffic flow between 0% and 30%
Small	Change in peak hour traffic flow between 30% and 60%
Medium	Change in peak hour traffic flow between 60% and 90%
Large	Change in peak hour traffic flow of more than 90%

Road vehicle driver and passenger delay

- 12.4.46 EATM (IEMA, 2023) indicates that assessing driver delay requires the use of modelling packages, and that delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system. Driver delay can occur where the Project results in additional vehicular movements at junctions and along highway links, or introduces additional junctions or substantial changes in highway alignment. In some cases, increases in pedestrian movements as a result of the Project could also have an effect on driver delay.
- 12.4.47 EATM (IEMA, 2023) does not define the magnitude of impact for driver delay. It suggests that the assessment of driver delay should be based on the technical work to model the performance of the highway network with and without the Project, which is typically reported within an accompanying Transport Assessment. That network performance assessment generally focuses on conditions in the network peak periods and is used to

identify whether highway mitigation is needed to ensure that the highway network continues to function appropriately with the Project.

- 12.4.48 For the purposes of this assessment, ratios expressing the total traffic volume with respect to the total available capacity on a link or at a junction (the V/C ratio, or 'Ratio of Flow to Capacity' (RFC)) have been taken from the traffic modelling and have been used to assess the level of congestion.
- 12.4.49 The approach to the magnitude of impact for driver delay is set out in Table 12.11. Typically, a junction or link operating with a V/C ratio of less than 80% does not experience regular congestion or delay, and this value therefore provides a threshold for identifying locations which require further consideration.
- 12.4.50 For this assessment, locations with a V/C ratio of over 80% in network peak periods with the Project scenarios have been considered in further detail. The use of V/C ratios with the Project as the screening threshold ensures that a location which might operate below 80% V/C without the Project, but would operate above that with the Project, is not excluded from the assessment.

Table 12.11 Magnitude of impact for driver delay

Magnitude of impact – driver delay	Description and nature of change			
	Volume to Capacity (V/C) ratio (with Project)			
Change in V/C ratio resulting from Project	<85%	85-90%	90-95%	>95%
<2 percentage point change in V/C ratio	Negligible	Negligible	Negligible	Negligible
2-5 percentage point change in V/C ratio	Small	Small	Small	Medium
5-10 percentage point change in V/C ratio	Small	Small	Medium	Large
>10 percentage point change in V/C ratio	Small	Medium	Large	Large

Public transport - bus user delay

- 12.4.51 Delays on the road network may also result in delays to existing local bus services and their passengers. EATM (IEMA, 2023) does not define the magnitude of impact for delays to public transport users. The assessment of the magnitude of impact in this case is to estimate bus delays from driver delay information, together with an estimate of additional journey time due to any route diversions.
- 12.4.52 All existing bus routes in the vicinity of the site have a frequency of fewer than six buses per hour (i.e. with a service interval greater than ten minutes) and are therefore categorised as 'non-frequent bus services' by the Department for Transport (DfT, 2014). DfT's definition of 'on time' arrivals is between 60 seconds early and 5 minutes, 59 seconds late. Based on this, the magnitude of impact criteria for bus user delay are set out in Table 12.12.
- 12.4.53 A level of professional judgement has been applied when considering the overall effect on public transport as a whole, for instance to take account of any proposals as part of the Project to increase the frequency of or extend existing bus routes or to introduce new or

amended bus routes to cover more destinations, all of which may improve overall public transport connectivity in the wider area.

Table 12.12 Magnitude of impact for bus user delay

Magnitude of impact – bus user delay	Description and nature of change
No change	No change in delay
Negligible	Change in delay of 0-3 minutes
Small	Change in delay of 3 -6 minutes
Medium	Change in delay of 6-12 minutes
Large	Change in delay of more than 12 minutes

NMU delay

- 12.4.54 EATM (IEMA, 2023) states that changes in the volume, composition or speed of traffic may affect the ability of pedestrians and NMUs to cross roads, but does not prescribe any quantitative criteria for the assessment of pedestrian delay. Instead, it recommends that professional judgement is used to determine the significance of changes in NMU delay, taking account of the locational context.
- 12.4.55 EATM (IEMA, 2023) also refers to DMRB LA112 (2020) as a source to assist the assessment. DMRB LA112 (2020) includes criteria which consider the change in journey distance experienced by walkers, cyclists and horse-riders (all of whom are NMU) in order to determine the magnitude of impact of a scheme. Table 3.12 of DMRB LA112 (2020) provides magnitude of impact criteria for changes in journey length which are summarised in Table 12.13.

Table 12.13 Magnitude of impact for NMU delay

Magnitude of impact – NMU delay	Description and nature of change (metres)
No change	No change in journey distance
Negligible	Change in journey length of less than 50m
Small	Change in journey length of between 50-250m
Medium	Change in journey length of between 250-500m
Large	Change in journey length of more than 500m

Fear and intimidation on and by road users

- 12.4.56 EATM (IEMA, 2023) explains that the extent of fear and intimidation caused by road users to pedestrians and cyclists is dependent on the total volume of traffic, heavy vehicle composition, the speeds of these vehicles and the proximity of traffic to people.
- 12.4.57 EATM (IEMA, 2023) provides a weighting system to support the assessment of fear and intimidation which considers the 'degree of hazard' based on:

- Average hourly traffic flow over an 18-hour day (here taken as being between 06:00 and 00:00 hours) (a)
- Total 18-hour heavy vehicle flow (b)
- Average vehicle speed (c).

12.4.58 Each of these criteria is scored separately. The three criteria and thresholds for scoring each of them are set out in Table 12.14.

12.4.59 The aggregate score for the three criteria is then used to determine the level of fear and intimidation at a particular location, for a particular scenario, based on the thresholds shown in Table 12.15.

Table 12.14 Fear and intimidation degree of hazard criteria

Average two-way hourly traffic flow over 18-hour day (a)	Total 18-hour heavy vehicle flow (b)	Average vehicle speed (mph) (c)	Degree of hazard score
>1,800	>3,000	>40	30
1,200-1,800	2,000-3,000	30-40	20
600-1,200	1,000-2,000	20-30	10
<600	<1,000	<20	0

Table 12.15 Levels of fear and intimidation

Level of fear and intimidation	Total hazard score (a)+(b)+(c)
Extreme	71+
Great	41-70
Moderate	21-40
Small	0-20

12.4.60 The magnitude of impact for this aspect is determined from the number of step changes in the level of fear and intimidation created by the Project, compared to the situation without it, from the outcomes of Table 12.15. Table 12.16 shows how this is applied for this assessment.

Table 12.16 Fear and intimidation magnitude of impact

Magnitude of impact – fear and intimidation	Description and nature of change
No change / negligible	No change in level of fear and intimidation
Small	One step change in level of fear and intimidation, with: <400 vehicle change in average hourly two-way all vehicle flow over an 18-hour day; and / or <500 vehicle change in 18-hour two-way heavy vehicle flow

Magnitude of impact – fear and intimidation	Description and nature of change
Medium	One step change in level of fear and intimidation, with: >400 vehicle change in average hourly two-way all vehicle flow over an 18-hour day; and / or >500 vehicle change in 18-hour two-way heavy vehicle flow
Large	Two or more step changes in level of fear and intimidation

NMU amenity

- 12.4.61 EATM (IEMA, 2023) broadly defines NMU amenity as the relative pleasantness of a journey. It is affected by traffic flow, traffic composition, and footway width/separation from traffic.
- 12.4.62 EATM (IEMA, 2023) notes that the previous version of the IEMA guidelines (dating from 1993) suggested a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow is halved or doubled. EATM (IEMA, 2023) also points to the need to consider the locational context when assessing changes in NMU amenity.
- 12.4.63 Aspects related to traffic flow, composition and speed are also considered as part of assessing effects related to fear and intimidation. The outcomes of the fear and intimidation assessment presented above are therefore also relevant to assessing NMU amenity.
- 12.4.64 In addition, the assessment of NMU amenity considers changes to the available footway width. The proposed magnitude of impact for changes in footway width is set out in Table 12.17.

Table 12.17 Magnitude of impact for NMU amenity – footway / cycleway width

Magnitude of impact – NMU Amenity (footway / cycleway width)	Description and nature of change
	Change in footway / cycleway width
No change / negligible	No change
Small	Footway / cycle route width changed by up to 1m and remains at least 2m
Medium	Footway / cycle route width changed by 1m to 2m and remains at least 2m
Large	Footway / cycle route width changed by more than 2m and remains at least 2m; or New footway / cycleway provided (positive); or Footway / cycle route reduced below 2m (negative)

- 12.4.65 The magnitude of impact in footway / cycleway width (from Table 12.17) is combined with that for fear and intimidation (from Table 12.16) to produce an overall magnitude of impact for NMU amenity. The basis for this is shown in Table 12.18.

Table 12.18 Combined magnitude of impact for NMU amenity

	Change in footway / cycleway width						
Change in fear and intimidation	Large –	Medium –	Small –	No change / negligible	Small +	Medium +	Large +
Large –	Large –	Large –	Large –	Large –	Medium –	Medium –	Small –
Medium –	Large –	Medium –	Medium –	Medium –	Medium –	Small –	Small –
Small –	Large –	Medium –	Small –	Small –	Negligible	Negligible	Small +
No change / negligible	Large –	Medium –	Small –	No change	Small +	Medium +	Large +
Small +	Medium –	Medium –	Negligible	Small +	Small +	Medium +	Large +
Medium +	Medium –	Small –	Negligible	Medium +	Medium +	Medium +	Large +
Large +	Small –	Small –	Small +	Large +	Large +	Large +	Large +

– indicates negative change; + indicates positive change

Road user and pedestrian safety

- 12.4.66 Changes in traffic flows and changes to the highway layout arising from the Project could influence the risk of accidents. Previous IEMA guidelines from 1993 reference the use of professional judgement to assess the accident and safety effects arising from a scheme. Typically this would include consideration of collision data and any clusters of collisions identified in the study area, other relevant local circumstances, and factors which may elevate or lessen risks of accidents, such as junction form and movement conflicts.
- 12.4.67 EATM (IEMA, 2023) also makes reference to the use of identified collision clusters as a basis for considering effects on road safety, together with guidance that can be found in the International Road Assessment Programme (iRAP) Star Ratings (iRAP, 2023) approach. The latter uses a number of risk factors related to the physical characteristics of a road including its alignment, street furniture and other roadside features. EATM (IEMA, 2023) does not, however, set out a detailed methodology or specific guidance on determining different magnitudes of change.
- 12.4.68 Professional judgement has therefore been used to consider the magnitude of impact related to road safety, taking into account changes in traffic flows, existing accident clusters and causation, and the design of any highway improvements proposed as part of the Project. To guide that judgement, the broad criteria in Table 12.19 have been used.

Table 12.19 Magnitude of impact for effects on road safety

Magnitude of impact – Road Safety	Description and nature of change
No change	Locations with no change in traffic flows
Negligible	Locations experiencing nine or fewer personal injury accidents in the last five years for which data is available and which would be subject to change in traffic flow between 0% and 60%

Magnitude of impact – Road Safety	Description and nature of change
	Locations experiencing more than nine personal injury accidents in the last five years for which data is available which would be subject to change in traffic flow between 0% and 30%
Small	Locations experiencing nine or fewer personal injury accidents in the last five years for which data is available and which would be subject to change in traffic flow between 60% and 90% Locations experiencing more than nine personal injury accidents in the last five years for which data is available which would be subject to change in traffic flow between 30% and 60%
Medium	Locations experiencing nine or fewer personal injury accidents in the last five years for which data is available which would be subject to change in traffic flow of more than 90% Locations experiencing more than nine personal injury accidents in the last five years for which data is available and which would be subject to change in traffic flow between 60% and 90%
Large	Locations experiencing more than nine personal injury accidents in the last five years for which data is available and which would be subject to change in traffic flow of more than 90%

- 12.4.69 During the operation of the Project, there is potential for changes to micro-climate which might affect road safety, specifically through the generation of fog and ice generated by the large area of water during specific weather conditions.
- 12.4.70 For the PEI Report, a commentary on the increased potential for fog and ice to form is provided in Appendix 12.2: Potential for fog and frost technical note. The technical note references earlier studies into this issue and concludes that the outcomes of those studies remain appropriate and that any potential is likely to be minor and highly localised.
- 12.4.71 Based on the change in potential for fog and ice to occur, and changes in traffic flows, a judgement has been made on the change in the number of accidents that might occur because of those weather conditions. That change has then been expressed in the context of the total number of road accidents that have occurred in the affected corridors. The magnitude of impact for this aspect has been derived on the basis of the criteria in Table 12.20.

Table 12.20 Magnitude of impact for effects on road safety (micro-climate)

Magnitude of impact – Road safety (micro-climate)	Description and nature of change
No change	No change expected to the incidence of fog or ice
Negligible	Change in incidence of fog or ice and changes in traffic flow could change the percentage of all accidents due to these weather conditions by less than one percentage point
Small	Change in incidence of fog or ice and changes in traffic flow could change the percentage of all accidents due to these weather conditions by one to two percentage points

Magnitude of impact – Road safety (micro-climate)	Description and nature of change
Medium	Change in incidence of fog or ice and changes in traffic flow could change the percentage of all accidents due to these weather conditions by two to three percentage points
Large	Change in incidence of fog or ice and changes in traffic flow could increase the percentage of all accidents due to these weather conditions by more than three percentage points

River vessel users on the River Thames

- 12.4.72 EATM (IEMA, 2023) gives no guidance on assessing the impacts of a project on waterborne users. Criteria for the magnitude of impact have therefore been developed on the basis of professional judgement, considering changes that may affect the ability of vessels to travel or moor along the river, and these are shown in Table 12.21.

Table 12.21 Magnitude of impact for effects on river vessel users

Magnitude of impact – river vessel users	Description and nature of change
Negligible	No material change to navigable width of the river or to access to moorings / marinas
Small	Change in navigable width of the river of less than 25% Moorings / marinas removed and re-provided less than 200m from original location (adverse) Moorings / marinas improved in original location (beneficial)
Medium	Change in navigable width of the river of between 25% and 50% Moorings / marinas removed and re-provided more than 200m from original location (adverse) Moorings/ marinas improved and capacity expanded in original location (beneficial)
Large	Change in navigable width of the river of more than 50%, or complete closure Moorings / marinas removed and not re-provided (adverse) New moorings / marinas created (in addition to any re-provision) (beneficial)

Hazardous or large loads

- 12.4.73 Some developments may involve the transportation by road of dangerous or hazardous loads (such as gases, inflammable liquids, toxic substances, or radioactive material) or of abnormal indivisible loads (AILs) such as large items of plant or equipment.
- 12.4.74 There is potential for the construction phase of the Project to require some hazardous or AIL movements during the construction phase. Changes to the highway layout, and/or temporary diversion routes during the construction phase, could affect the transportation of such loads on the public highway and their potential effects on nearby receptors.

- 12.4.75 As a general principle, the movement of such loads is governed by safety legislation and guidance, together with engagement with the relevant highway authorities and police as necessary and these processes already embed measures to ensure the safety of the general public as the load is transported.
- 12.4.76 Although the movement of hazardous loads has the potential to affect all road users, the assessment uses the sensitivity of NMU on the relevant highway links to establish the significance of effect. This is because NMU are typically more sensitive than vehicle users, and the NMU sensitivity also includes recognition of particularly sensitive receptors (see paragraphs 12.4.15 and 12.4.16).
- 12.4.77 The potential magnitude of impact arising specifically from hazardous loads or AILs has therefore been determined based on professional judgement, guided by the criteria shown in Table 12.22 and considering the degree of management or physical change to the highway network that might be required in each case.

Table 12.22 Magnitude of impact for effects caused by hazardous or large loads

Magnitude of impact – hazardous and large loads	Description and nature of change
No change	No such loads expected
Negligible	Less than one such load per month on average
Small	Between one load per month and one load per week on average
Medium	Between one load per week and one load per day on average
Large	More than one load per day on average

- 12.4.78 Effects related to hazardous and large loads during the operational phase have been scoped out of the assessment.

Significance of effect

- 12.4.79 For the preliminary assessment of likely significant effects on Traffic and transport, significance of effect is determined by combining the sensitivity of each receptor and the magnitude of impact. The resultant effects may be either adverse or beneficial, depending on the nature of the change. Table 12.23 shows how the sensitivity of receptor and the magnitude of impact are combined to deduce the significance of effect. Effects that are *Moderate* or *Major* are deemed to be significant.

Table 12.23 Significance matrix for the preliminary assessment of likely significant effects on Traffic and transport

Receptor sensitivity	Magnitude of impact				
	No change	Negligible	Small	Medium	Large
Negligible	None	Neutral	Neutral	Minor	Minor
Low	None	Neutral	Minor	Minor	Moderate (significant)
Moderate	None	Minor	Minor	Moderate (significant)	Moderate (significant)

Receptor sensitivity	Magnitude of impact				
	No change	Negligible	Small	Medium	Large
High	None	Minor	Moderate (significant)	Moderate (significant)	Major (significant)

- 12.4.80 For this preliminary assessment, the assessment of effects has assumed that ‘embedded design mitigation’ and ‘standard good practice mitigation’ relevant to the Traffic and transport assessment are in place (these measures are presented in Section 12.8: Embedded design mitigation and standard good practice). Nevertheless, as noted in Section 12.9: Preliminary assessment of likely significant effects, the preliminary assessment assumes that additional mitigation that may reduce any identified likely significant adverse effects is not applied, as the viability, nature, and extent of these are not confirmed at this stage in the EIA process. As a result, consideration of residual effects (those that remain after the implementation of all mitigation, including additional mitigation) has not been completed for this preliminary assessment; this will be undertaken in the ES. Additional mitigation that is being explored is presented in Section 12.10: Next steps.

Assessment of cumulative effects

- 12.4.81 The cumulative effects assessment approach for both inter- and intra-project cumulative effects is broadly set out in Chapter 20: Cumulative effects. However, for this aspect further detail on the assessment process for inter-project cumulative effects is set out below.
- 12.4.82 In line with the Planning Inspectorate guidance in its Advice Note Seventeen (Planning Inspectorate, 2019), cumulative traffic and transport effects are inherently included in the future baseline scenarios (and therefore also in the future scenarios with the Project) as explained in paragraphs 12.4.24 to 12.4.27.
- 12.4.83 Although the assessment is inherently cumulative, a qualitative review has been undertaken of the shortlisted developments set out in Chapter 20: Cumulative effects, to consider whether they create any specific potential for significant inter-project cumulative effects to arise during either construction or operation. In cases where a ‘reasonably foreseeable’ scheme (which was not included in the future baseline) may have a material effect on the operation of the transport networks in the vicinity of the Project (such as Dalton Barracks), subject to scoping discussions with highway authorities, separate scenarios with and without these development/s will be undertaken for the DCO application to identify the cumulative effects.
- 12.4.84 The outcomes of the inter-project cumulative effects assessment are reported in Chapter 20: Cumulative effects. The intra-project cumulative effects assessment is summarised within Chapter 20: Cumulative effects, and within Chapter 20 signposts are provided to the location of the intra-project cumulative effects assessment (where it has been possible to provide at this stage).

12.5 Study area

- 12.5.1 The study areas are defined according to the sensitivity of the receiving environment and the potential effects of the Project. The methodology used to define the study areas is

outlined in Section 12.4: Assessment methodology above. The study areas for Traffic and transport are shown in PEI Report Figure 12.1: Traffic and transport study areas.

- 12.5.2 The study areas have changed since the EIA scoping stage as a result of changes to the design and the associated draft Order limits. See Chapter 2: Project description for details of the Project parameters and assumptions for the PEI Report.
- 12.5.3 The original study area for the highway network, as outlined in the EIA Scoping Report, focused on five main arterial routes around Oxfordshire and their associated junctions. This area has since been expanded to include key roads within a 5km radius of the site, as outlined in paragraph 12.4.13 of Section 12.4: Assessment methodology. For sustainable transport modes, the original study area was limited to the Great Western Main Line (GWML), which runs east–west to the south of the site. This has been expanded to include all public transport and active travel modes within a 5km radius of the site.

12.6 Baseline conditions

- 12.6.1 To assess the significance of effects arising from the Project in relation to Traffic and transport, it is necessary to identify and understand the baseline environment within the study areas. This provides a reference against which any potential effects on Traffic and transport can be assessed.
- 12.6.2 This section outlines the existing and expected future baseline conditions of Traffic and transport in the study areas. The findings are based on a desk-based study undertaken in the early part of 2025 and the data collected as described in Section 12.4: Assessment methodology.

Existing baseline

- 12.6.3 This assessment has considered the known receptors within the study areas. Key existing baseline features for traffic and transport are shown in PEI Report Figure 12.1: Traffic and transport study areas.

Walking

- 12.6.4 In residential and commercial areas there are footways and pedestrian crossings present throughout the study area to support journeys by walking. Footways are available on one or both sides of the road network along with zebra crossings and signalised crossings. On roads between settlements, there are areas of limited to no footway provision. Other crossing points outside of residential areas include two pedestrian bridges over the A34, connecting the site to Drayton via Kiln Lane and Barrow Road.
- 12.6.5 The site is currently traversed by 31 PRoW. Some of these are part of a wider network providing pedestrian connection locally between the surrounding settlements such as Marcham, Drayton and East Hanney, and are partially within the draft Order limits.
- 12.6.6 The Thames Path National Trail runs to the east of the site along the eastern bank of the River Thames and through Abingdon, meandering past Drayton and heading towards London.
- 12.6.7 The Ridgeway, which is a national trail, runs approximately 6.5km south of the railway lines, between the A34 to the east and B4494 to the west. Although it is not located within the

draft Order limits, it does pass through the North Wessex Downs National Landscape and the proposed reservoir would be visible from it.

- 12.6.8 The PRoW network along with the national trails within the study area are shown in Figure 12.3: Existing PRoW and cycling routes. A detailed description of the PRoW network and national trails is included in the PTAR.

Cycling

- 12.6.9 Cycle routes are available across the site as part of the PRoW network, including bridleways and restricted byways. National Cycle Network (NCN) Route 5 runs in the north-south direction to the east of the site between Oxford and Didcot passing through Abingdon, Caldecott and Sutton Courtenay, including Didcot Parkway Station, and is partially located within the draft Order limits. There is also a shared pedestrian-cycle path along the southern edge of the A415, running east-west from Abingdon to Marcham. Cycle routes around the study areas are shown in Figure 12.3: Existing PRoW and cycling routes. Further detail of the cycling network is provided in the PTAR.

Public transport

Rail

- 12.6.10 The Great Western Main Line (GWML) runs in both east and west directions within the 5km study area, and partially within the draft Order limits. The railway line between Didcot and Oxford runs north-south to the east of the site but is not within the draft Order limits.
- 12.6.11 There are several railway stations within the study area including Radley, Culham, Appleford and Didcot Parkway stations. The latter is an important interchange, served by Great Western Railway services, which provide railway connections between London, Reading, Oxford, Swindon, Bristol, south-west England and South Wales.
- 12.6.12 Further detail of the rail network is provided in the PTAR.

Bus services

- 12.6.13 Bus services are available near the site, with bus routes covering the A415, A338, and B4017. These provide connections locally through Marcham to Abingdon, Drayton, Steventon, Rowstock, Wantage, Grove, East Hanney, West Hanney, Frilford and at a regional level to Oxford and further afield. Bus stops are located along these routes, which can be accessed via the existing footway provision within the study area. Bus stops on the A415 and A338 are served by bus routes X1 and S8 providing connection with Abingdon Town Centre and High Street, which serves as a central hub for regional bus services, offering convenient links to both local and regional destinations.
- 12.6.14 Further details of the public transport network, including services frequencies and destinations are provided in the PTAR.

River navigation

- 12.6.15 The River Thames, a waterway of national significance, meanders in a southward direction within the 5km study area, with a short section south-east of Abingdon being within the draft Order limits. It is navigable in the area surrounding the proposed SESRO intake/outfall infrastructure, where the river varies between 40-60m in width. To the north adjacent to the

draft Order limits is the Abingdon Marina. Further north-east is the Abingdon Lock, and Culham Lock is located to the east. The River Thames in this area supports a diverse range of recreational activities, with vessels such as cruisers, barges, streamers, narrowboats, and smaller powered boats.

- 12.6.16 There are charter tour boat services on the River Thames between Oxford and Abingdon operating up to two round-trip services per day for pre-booked groups.

Highway network

- 12.6.17 The study area includes parts of the SRN such as the A34 which is a dual carriageway road with grade-separated interchanges and is the responsibility of National Highways. The study area also includes other regionally significant roads, including the A415, A417 and A338, which are typically single carriageway roads with signalised and non-signalised junctions facilitating connectivity within the region and are the responsibility of Oxfordshire County Council.
- 12.6.18 A network of locally significant roads within the study area provides connection between towns and villages including the B4017 Abingdon Road / Drayton Road, which runs in the north-south direction to the east of the site providing connection between Steventon and Abingdon through Drayton, and Steventon Road / Hanney Road, which provides connection between the villages of Steventon and East Hanney.
- 12.6.19 Further detail of the baseline highway network is provided in the PTAR.

Accident data

- 12.6.20 The total number of accidents per year within a 5km radius around the site is summarised in Table 12.24 and the annual average data is shown in Table 12.25. The location of accidents is shown in Figure 12.4: Accident data.
- 12.6.21 The location of accidents suggests that junctions tend to have a higher risk of accidents because of potential conflicts and sensitivity to human error.

Table 12.24 Summary of accidents – number of people

Year	2019	2020	2021	2022	2023
Fatal	3	6	2	4	4
Serious	19	24	35	39	20
Slight	129	105	91	93	101
Total	151	135	128	136	125

Table 12.25 Accident data (average per year)

Severity	Fatal	Serious	Slight	Total
Average per year	4	27	104	135

Future baseline

- 12.6.22 The following sections describe the future baseline scenarios, based on the anticipated changes to the transport infrastructure in the absence of the Project.

- 12.6.23 Background traffic growth at this stage for the PEI Report has been forecast using the DfT's TEMPro growth factors, which take into account new residential developments, employment growth, increase in urbanisation and improvements in the active travel infrastructure. Future baseline traffic flows for 2036 have been used to test the performance of the highway network to cope with the additional construction traffic associated with the Project.
- 12.6.24 Any planned new infrastructure, including active travel improvements, has also been considered in the future baseline. A brief description of these is included below.
- National infrastructure investments: various central government papers promote continued large-scale infrastructure investment across the South East, which may lead to cumulative effects on the transport network within the wider area if they come forward.
 - Oxford–Cambridge Arc & Wider Growth Ambitions: Although the formal Arc framework was paused, the region remains a focus for strategic growth. Policy signals within the NPPF and the Levelling-Up and Regeneration Act 2023 continue to support significant housing delivery, which may place pressure on the transport network around growth nodes such as Abingdon.
 - Safeguarded Routes for Abingdon and Marcham Bypasses: Oxfordshire County Council's Local Transport and Connectivity Plan (LTCP 2022–2050), and both the adopted and draft local plans, identify long-term aspirations for highway improvements to relieve congestion on the A415 corridor. No schemes are currently committed; however, the safeguarding of potential bypass alignments suggests that new transport infrastructure could emerge in these locations within the study area over the course of several decades, with associated impact on the surrounding road network and traffic levels.
 - Large-scale developments: local policy shows several areas designated as strategic land for development, such as the Dalton Barracks site, which is a strategic housing allocation site. This development could see the construction of up to 5,250 homes over several decades, resulting in a new urban edge to the west of Abingdon, significantly increasing the need for travel and as such the traffic within the local area. The proposal is yet to secure planning permission, however given the size of the proposal and its proximity to the Project site, it has been considered in this assessment.

Traffic and transport receptors considered in the Preliminary Assessment

- 12.6.25 Table 12.26 shows the Traffic and transport receptors in the study area that have been considered in the preliminary assessment for the PEI Report. In some cases, individual receptors have been grouped where anticipated effects and mitigation are likely to be very similar. The sensitivity of each receptor is defined in the table with commentary justifying the sensitivity category assigned. The table also identifies the area ID and effect ID(s) relevant to each receptor. The effect IDs are unique identifiers of each effect assessed (discussed further in Appendix 12.3: Preliminary assessment of effects for Traffic and transport), whilst the area ID relates to the spatial extent of the receptor assessed. Figures 12.5: Traffic and transport receptors – PRoW and cycling routes, 12.6: Traffic and transport receptors – Bus routes and 12.7: Traffic and transport receptors – Junctions, links and rivers shows the locations of the receptors that have been spatially defined for the preliminary assessment for the PEI Report, with relevant Area IDs noted. Table 12.26

signposts to which figure shows which area ID. Further data gathering to inform the ES will inform any revisions to the defined spatial extents of receptors.

Table 12.26 Receptors assessed in the preliminary assessment

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
Receptors relating to junctions, links and the river (shown on Figure 12.7: Traffic and transport receptors – Junctions, links and rivers)				
All road users at A34 / A4130 Milton Interchange	High	Sensitivity based on location having more than nine personal injury accidents in the five year period.	TT-237, TT-713	EIA-709
All road users at A34 / A415 Marcham Interchange	Moderate	Sensitivity based on location having three to nine personal injury accidents in the five year period.	TT-227, TT-703	EIA-707
All road users at A34 near the Faringdon Road overpass	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-229, TT-705	EIA-807
All road users at A415 west of Millets Farm, Frilford	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-224, TT-700	EIA-817
All road users at A420 near junction with Digging Lane, Fyfield	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-220, TT-696	EIA-815
All road users at Chain Hill south of Wantage	Moderate	Sensitivity based on location having three to nine personal injury accidents in the five year period.	TT-235, TT-711	EIA-811
All road users at High Street at Steventon Bridge	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-236, TT-712	EIA-813
All road users at Junction of A338 and Grove Park Drive, Grove	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-234, TT-710	EIA-810
All road users at Junction of A338 and Main Street	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-231, TT-707	EIA-714
All road users at Junction of A420 and A338	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-222, TT-698	EIA-723
All road users at Junction of A420 and Abingdon Road	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-221, TT-697	EIA-721
All road users at Junction of A420 and Besselsleigh Road, Bessels Leigh	Moderate	Sensitivity based on location having three to nine personal injury accidents in the five year period.	TT-223, TT-699	EIA-816

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
All road users at Junction of A420 and Lodge Lane, Kingston Bagpuize	Moderate	Sensitivity based on location having three to nine personal injury accidents in the five year period.	TT-217, TT-693	EIA-805
All road users at Junction of A420 and Witney Road	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-219, TT-695	EIA-722
All road users at Junction of Abingdon Road and Wantage Road, Rowstock	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-238, TT-714	EIA-814
All road users at Junction of Charlton Village Road and Reading Road	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-233, TT-709	EIA-711
All road users at Junction of Farrington Road and Hanney Road, Kingston Bagpuize	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-218, TT-694	EIA-812
All road users at Junction of Frilford Road and Church Street, Marcham	Moderate	Sensitivity based on location having three to nine personal injury accidents in the five year period.	TT-226, TT-702	EIA-806
All road users at Junction of Marcham Road and Nuffield Way	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-228, TT-704	EIA-730
All road users at Junction of Ock Street and Bath Street, Abingdon	Moderate	Sensitivity based on location having three to nine personal injury accidents in the five year period.	TT-230, TT-706	EIA-808
All road users at Ormond Road east of junction with Chain Hill, Wantage	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-232, TT-708	EIA-809
All road users at Wantage Road between Kingston Road and Frilford Road	Low	Sensitivity based on location having less than three personal injury accidents in the five year period.	TT-225	EIA-706
All road users at Wantage Road between Kingston Road and Frilford Road	Low	Sensitivity based on location having three to nine personal injury accidents in the five year period.	TT-701	EIA-706
All road users on A34 between A415 Marcham Interchange and A4130 Milton Interchange	Negligible	Sensitivity based on sensitivity identified for NMU in this location.	TT-244	EIA-764
All road users on A34 north of A415 Marcham Interchange	Negligible	Sensitivity based on sensitivity identified for NMU in this location.	TT-243	EIA-763

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
All road users on A34 south of A4130 Milton Interchange	Negligible	Sensitivity based on sensitivity identified for NMU in this location.	TT-245	EIA-765
All road users on A415 Marcham Road between Nuffield Road roundabout and Colwell Drive roundabout	High	Sensitivity based on sensitivity identified for NMU in this location.	TT-246	EIA-769
All road users on A415 Marcham Road between the A34 and Tesco access	High	Sensitivity based on sensitivity identified for NMU in this location.	TT-241	EIA-743
All road users on B4017 Abingdon Road between Drayton and Abingdon	High	Sensitivity based on sensitivity identified for NMU in this location.	TT-242	EIA-746
All road users on B4017 construction compound A6	Negligible	Sensitivity based on sensitivity identified for NMU in this location.	TT-247	EIA-824
NMU on A338 Grove Road between A417 and Harcourt Way (Wantage)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-146, TT-201, TT-43, TT-528, TT-628, TT-680	EIA-773
NMU on A338 Manor Road south of Wantage	High	Sensitivity based on the highway link passing a particularly sensitive location (Wantage Town Football Club, Wantage Primary School).	TT-129, TT-184, TT-26, TT-511, TT-611, TT-663	EIA-756
NMU on A338 Oxford Road between A415 and Abingdon Road / Faringdon Road (Frilford Heath)	Negligible	Sensitivity based on the highway link not being on desire lines (direct routes which pedestrians and cyclists prefer to take to reach their destination) and having no footway or dedicated cycle provision.	TT-112, TT-167, TT-494, TT-594, TT-646, TT-9	EIA-739
NMU on A338 between Frilford and South Oxfordshire Crematorium	High	Sensitivity based on the highway link passing a particularly sensitive location (South Oxfordshire Crematorium).	TT-10, TT-113, TT-168, TT-495, TT-595, TT-647	EIA-740
NMU on A338 between Grove and Old Man's Lane	Negligible	Sensitivity based on the highway link not being on desire lines (direct routes which pedestrians and cyclists prefer to take to reach their destination) and having no footway or dedicated cycle provision.	TT-132, TT-187, TT-29, TT-514, TT-614, TT-666	EIA-759

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
NMU on A338 between Old Man's Lane and East Hanney	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-133, TT-188, TT-30, TT-515, TT-615, TT-667	EIA-760
NMU on A338 between South Oxfordshire Crematorium and Steventon Road (East Hanney)	High	Sensitivity based on the highway link passing a particularly sensitive location (South Oxfordshire Crematorium).	TT-11, TT-114, TT-169, TT-496, TT-596, TT-648	EIA-741
NMU on A338 between Steventon Road and new proposed roundabout location	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-156, TT-211, TT-53, TT-538, TT-638, TT-690	EIA-783
NMU on A34 between A415 Marcham Interchange and A4130 Milton Interchange	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-137, TT-192, TT-34, TT-519, TT-619, TT-671	EIA-764
NMU on A34 north of A415 Marcham Interchange	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-136, TT-191, TT-33, TT-518, TT-618, TT-670	EIA-763
NMU on A34 south of A4130 Milton Interchange	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-138, TT-193, TT-35, TT-520, TT-620, TT-672	EIA-765
NMU on A4130 Abingdon Road between Milton Hill and Grove Road (Rowstock)	Moderate	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of between 4,000 and 8,000 vehicles per day.	TT-124, TT-179, TT-21, TT-506, TT-606, TT-658	EIA-751
NMU on A4130 between the A34 and Milton interchange	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-123, TT-178, TT-20, TT-505, TT-605, TT-657	EIA-750
NMU on A415 Frilford Road between A338 and Marcham	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-139, TT-194, TT-36, TT-521, TT-621, TT-673	EIA-766

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
NMU on A415 Kingston Road between Kingston Bagpuize and Frilford	High	Sensitivity based on the highway link passing a particularly sensitive location (Abingdon Preparatory School).	TT-110, TT-165, TT-492, TT-592, TT-644, TT-7	EIA-737
NMU on A415 Marcham Road between Faringdon Road and the A34	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-141, TT-196, TT-38, TT-523, TT-623, TT-675	EIA-768
NMU on A415 Marcham Road between Marcham and Faringdon Road (east of proposed site access)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-140, TT-195, TT-37, TT-522, TT-622, TT-674	EIA-767
NMU on A415 Marcham Road between Marcham and Faringdon Road (west of proposed site access)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-115, TT-12, TT-170, TT-497, TT-597, TT-649	EIA-742
NMU on A415 Marcham Road between Nuffield Road and Colwell Drive (Abingdon)	High	Sensitivity based on the highway link passing a particularly sensitive location (Abingdon Community Hospital, Unicorn School, Bright Horizons Nursery).	TT-142, TT-197, TT-39, TT-524, TT-624, TT-676	EIA-769
NMU on A415 Marcham Road between the A34 and Nuffield Way (Abingdon)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-116, TT-13, TT-171, TT-498, TT-598, TT-650	EIA-743
NMU on A415 between the A420 and Newbridge	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-108, TT-163, TT-490, TT-5, TT-590, TT-642	EIA-735
NMU on A415 between the River Thames and The Burycroft (Culham)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-118, TT-15, TT-173, TT-500, TT-600, TT-652	EIA-745
NMU on A417 Denchworth Road between Mably Way and Mill Street (Wantage)	High	Sensitivity based on the highway link passing a particularly sensitive location (Fitzwaryn School).	TT-144, TT-199, TT-41, TT-526, TT-626, TT-678	EIA-771

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
NMU on A417 Faringdon Road between East Challow and Circourt Road	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-131, TT-186, TT-28, TT-513, TT-613, TT-665	EIA-758
NMU on A417 Mably Way between A338 and Denchworth Road (Wantage)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-145, TT-200, TT-42, TT-527, TT-627, TT-679	EIA-772
NMU on A417 Reading Road between Harwell and Harwell Link Road roundabout	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-125, TT-180, TT-22, TT-507, TT-607, TT-659	EIA-752
NMU on A417 Reading Road between Rowstock and Wantage	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-127, TT-182, TT-24, TT-509, TT-609, TT-661	EIA-754
NMU on A4183 Oxford Road between the A34 and Dunmore Road roundabout (Abingdon)	High	Sensitivity based on the highway link passing a particularly sensitive location (Our Lady's Abingdon school to the south).	TT-117, TT-14, TT-172, TT-499, TT-599, TT-651	EIA-744
NMU on A4185 Newbury Road south of Rowstock	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-126, TT-181, TT-23, TT-508, TT-608, TT-660	EIA-753
NMU on A420 between A338 and Besselsleigh Road (Bessels Leigh)	High	Sensitivity based on the highway link passing a particularly sensitive location (St Lawrence Church).	TT-111, TT-166, TT-493, TT-593, TT-645, TT-8	EIA-738
NMU on A420 between the A415 and Abingdon Road (Fyfield)	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-109, TT-164, TT-491, TT-591, TT-6, TT-643	EIA-736
NMU on A420 between the A415 and B4508 (Pusey)	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-107, TT-162, TT-4, TT-489, TT-589, TT-641	EIA-734

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
NMU on B4016 Drayton Road between Drayton and Sutton Courtenay	Moderate	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of between 4,000 and 8,000 vehicles per day.	TT-120, TT-17, TT-175, TT-502, TT-602, TT-654	EIA-747
NMU on B4017 Abingdon Road between Drayton and Abingdon	High	Sensitivity based on the highway link passing a particularly sensitive location (Drayton Primary School to the south).	TT-119, TT-16, TT-174, TT-501, TT-601, TT-653	EIA-746
NMU on B4017 High Street between Steventon and A4130	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-122, TT-177, TT-19, TT-504, TT-604, TT-656	EIA-749
NMU on B4017 High Street between Steventon and Drayton	Moderate	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of between 4,000 and 8,000 vehicles per day.	TT-121, TT-176, TT-18, TT-503, TT-603, TT-655	EIA-748
NMU on B4494 Chain Hill between Wantage and Farnborough	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-128, TT-183, TT-25, TT-510, TT-610, TT-662	EIA-755
NMU on B4507 Ickleton Road between A338 Newbury Street and Ham Road (Wantage)	Moderate	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of between 4,000 and 8,000 vehicles per day.	TT-153, TT-208, TT-50, TT-535, TT-635, TT-687	EIA-780
NMU on B4507 Ickleton Road between Wantage and Letcombe Hill (East Challow)	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-130, TT-185, TT-27, TT-512, TT-612, TT-664	EIA-757
NMU on B4507 Ormond Road between Charlton Road and Chain Hill (Wantage)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-152, TT-207, TT-49, TT-534, TT-634, TT-686	EIA-779
NMU on Charlton Road between Garston Lane and Charlton Village Road (Charlton)	High	Sensitivity based on the highway link passing a particularly sensitive location (Wantage Community Hospital).	TT-148, TT-203, TT-45, TT-530, TT-630, TT-682	EIA-775

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
NMU on Faringdon Road between A415 Marcham Road and Gozzard's Ford	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-155, TT-210, TT-52, TT-537, TT-637, TT-689	EIA-782
NMU on Ham Road between B4507 and A417 (Wantage)	Moderate	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of between 4,000 and 8,000 vehicles per day.	TT-154, TT-209, TT-51, TT-536, TT-636, TT-688	EIA-781
NMU on Hanney Road at Steventon	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-135, TT-190, TT-32, TT-517, TT-617, TT-669	EIA-762
NMU on Harcourt Road between A338 and Charlton Village Road (Wantage)	High	Sensitivity based on the highway link passing a particularly sensitive location (Charlton Primary School).	TT-147, TT-202, TT-44, TT-529, TT-629, TT-681	EIA-774
NMU on Ock Street between Spring Road and Stratton Way (Abingdon)	High	Sensitivity based on the highway link passing a particularly sensitive location (Carswell Community School).	TT-143, TT-198, TT-40, TT-525, TT-625, TT-677	EIA-770
NMU on Seesen Way between Little Lane and Wallingford Street (Wantage)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-151, TT-206, TT-48, TT-533, TT-633, TT-685	EIA-778
NMU on Steventon Road at the A338 (East Hanney)	Negligible	Sensitivity based on the highway link not being on desire lines and having no footway or dedicated cycle provision.	TT-134, TT-189, TT-31, TT-516, TT-616, TT-668	EIA-761
NMU on Wallingford Street between B4507 and Seesen Way (Wantage)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-149, TT-204, TT-46, TT-531, TT-631, TT-683	EIA-776
NMU on Wallingford Street between Partridge Close and Seesen Way (Wantage)	High	Sensitivity based on the highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day.	TT-150, TT-205, TT-47, TT-532, TT-632, TT-684	EIA-777

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
River vessel users on Culham Cut between Culham Lock and River Thames	Low	Sensitivity based on the location observed to have 10 or fewer vessel transits on average in the peak hour.	TT-240, TT-716	EIA-704
River vessel users on River Thames between Nag's Head Island and Culham Cut	High	Sensitivity based on the location observed to have more than 30 vessels transits on average in the peak hour.	TT-239, TT-715	EIA-703
Vehicle users at A338 Grove Street north / Harcourt Way, Wantage	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-548, TT-66	EIA-713
Vehicle users at A338 Newbury Street / B4507 Ormond Road, Wantage	Moderate	Sensitivity based on existing maximum V/C of between 85% and 95%; congestion occurs sometimes.	TT-554, TT-72	EIA-719
Vehicle users at A338 Oxford Road / A415 Frilford Road, Frilford	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-541, TT-59	EIA-706
Vehicle users at A338 Oxford Road / Abingdon Road, Frilford Heath	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-555, TT-73	EIA-720
Vehicle users at A4130 / A34 Milton Interchange	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-544, TT-62	EIA-709
Vehicle users at A4130 Abingdon Road / A417 Reading Road, Rowstock	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-545, TT-63	EIA-710
Vehicle users at A4130 Abingdon Road / B4017 High Street, Steventon	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-550, TT-68	EIA-715
Vehicle users at A4130 Abingdon Road / Grove Road, Rowstock	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-560, TT-78	EIA-725
Vehicle users at A415 / A34 Marcham Interchange	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-542, TT-60	EIA-707
Vehicle users at A415 Frilford Road / Mill Road, Marcham	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-567, TT-85	EIA-732

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
Vehicle users at A415 Marcham Road / Colwell Drive, Abingdon	Moderate	Sensitivity based on existing maximum V/C of between 85% and 95%; congestion occurs sometimes.	TT-566, TT-84	EIA-731
Vehicle users at A415 Marcham Road / Nuffield Way, Abingdon	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-565, TT-83	EIA-730
Vehicle users at A415 Stratton Way / A415 Ock Street, Abingdon	Moderate	Sensitivity based on existing maximum V/C of between 85% and 95%; congestion occurs sometimes.	TT-564, TT-82	EIA-729
Vehicle users at A415 Stratton Way / A4183 Vineyard, Abingdon	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-563, TT-81	EIA-728
Vehicle users at A420 / A338 roundabout, Tubney Wood	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-558, TT-76	EIA-723
Vehicle users at A420 / A415 Witney Road, Kingston Bagpuize	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-557, TT-75	EIA-722
Vehicle users at A420 / Abingdon Road, Tubney	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-556, TT-74	EIA-721
Vehicle users at B4017 Abingdon Road / High Street, Drayton	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-551, TT-69	EIA-716
Vehicle users at B4017 High Street / Hanney Road, Steventon	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-543, TT-61	EIA-708
Vehicle users at Charlton Village Road / A417 Reading Road , Charlton	High	Sensitivity based on existing maximum V/C of over 95%; congestion likely.	TT-546, TT-64	EIA-711
Vehicle users at Crown Meadow (A338) / The Green and Main Street, East Hanney	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-549, TT-67	EIA-714
Vehicle users at Garston Lane / Charlton Rd, Wantage	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-553, TT-71	EIA-718
Vehicle users at High Street / Stert Street, Abingdon	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-561, TT-79	EIA-726

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
Vehicle users at Malby Way / Denchworth Road, Wantage	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-552, TT-70	EIA-717
Vehicle users at Seesen Way / A417 Wallingford Street, Wantage	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-547, TT-65	EIA-712
Vehicle users at Spring Rd / Ock Street, Abingdon	High	Sensitivity based on existing maximum V/C of over 95%; congestion likely.	TT-559, TT-77	EIA-724
Vehicle users at Stert Street / Bridge Street, Abingdon	Low	Sensitivity based on existing maximum V/C of below 85%; little or no congestion.	TT-562, TT-80	EIA-727
Receptors relating to PRow and cycling routes (shown on Figure 12.5: Traffic and transport receptors – PRow and cycling routes)				
NMU on NCN Route 5	High	Sensitivity based on the busiest PRow section on this route having more than 100 existing users per day.	TT-105, TT-587	EIA-790
NMU on PROW between A338 and Drayton	High	Sensitivity based on the busiest PRow section on this route having more than 100 existing users per day.	TT-101, TT-583	EIA-786
NMU on PROW between Abingdon and Reading Road	Low	Sensitivity based on the busiest PRow section on this route having less than 20 existing users per day.	TT-581, TT-99	EIA-784
NMU on PROW between East Hanney and Steventon	Moderate	Sensitivity based on the busiest PRow section on this route having between 20 and 100 existing users per day.	TT-104, TT-586	EIA-789
NMU on PROW between East Hanney and railway lines	Low	Sensitivity based on the busiest PRow section on this route having less than 20 existing users per day.	TT-102, TT-584	EIA-787
NMU on PROW between Marcham and Drayton	Moderate	Sensitivity based on the busiest PRow section on this route having between 20 and 100 existing users per day.	TT-100, TT-582	EIA-785

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
NMU on PROW between Marcham and Steventon	High	Sensitivity based on the busiest PRow section on this route having more than 100 existing users per day.	TT-103, TT-585	EIA-788
NMU on Thames Path	High	Sensitivity based on the busiest PRow section on this route having more than 100 existing users per day.	TT-106, TT-588	EIA-791
Receptors relating to bus routes (shown on Figure 12.6: Traffic and transport receptors – Bus routes)				
Bus users on route 33	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-568, TT-86	EIA-690
Bus users on route 33A	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-569, TT-87	EIA-691
Bus users on route 35	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-570, TT-88	EIA-692
Bus users on route 44	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-571, TT-89	EIA-693
Bus users on route S9	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-572, TT-90	EIA-694
Bus users on route ST1	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-573, TT-91	EIA-695
Bus users on route X1	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-574, TT-92	EIA-696
Bus users on route X15	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-575, TT-93	EIA-697
Bus users on route X2	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-576, TT-94	EIA-698
Bus users on route X3	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-577, TT-95	EIA-699

Receptor Name	Sensitivity	Sensitivity Commentary	Effect-ID(s)	Area-ID
Bus users on route X32	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-578, TT-96	EIA-700
Bus users on route X35	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-579, TT-97	EIA-701
Bus users on route X36	Moderate	Sensitivity based on bus route having one to four services per hour during the day.	TT-580, TT-98	EIA-702

12.7 Project parameters, assumptions and limitations

- 12.7.1 Chapter 2: Project description relies on the use of relevant parameters and assumptions to allow flexibility in the final design of the Project, in accordance with the Rochdale envelope approach (Planning Inspectorate, 2018). This preliminary assessment for the Traffic and transport aspect uses the parameters and assumptions outlined in Chapter 2: Project description as well as additional parameters and assumptions specific to this aspect to ensure that the reasonable worst-case scenario is considered within this assessment.

Project parameters and assumptions specific to this aspect

- 12.7.2 Table 12.27 identifies the Project parameters, components and activities relevant to this assessment where assumptions specific to the preliminary Traffic and transport assessment have been generated.

Table 12.27 Project parameters and assumptions forming the basis of assessment

Project parameter / component / activity	Assumption (basis of assessment)
Construction	
Peak construction year	The peak year of construction activity has been identified based on the highest projected volume of construction materials traffic, which would occur in 2036 when excavation, embankment construction, tunnelling and pumping station works will all be under way. This peak level of materials traffic has been applied to the forecasted background traffic flows on the highway network for the corresponding year to assess potential impacts. It should be noted that the peak volume of construction traffic will not occur for the whole of the construction phase and in many years, the amount of construction traffic will be lower than assessed in this chapter, either in total or on particular routes or at particular access points. Consequently the effects identified in this chapter may occur in only a proportion of the overall construction phase and therefore represent a reasonable worst-case scenario.
Working periods	Chapter 2: Project description provides detailed information on the anticipated working hours during the construction period.
Rail and road movements during construction	Chapter 2: Project description provides detailed information on the anticipated working hours during the construction period. For the purposes of the Traffic and transport assessment, construction workers have been assumed to arrive and depart during weekday highway peak periods. Construction materials movements by road have been assumed to arrive over a ten-hour period during the day. It is assumed that trains transporting construction materials could arrive or depart at any time of day.
Material transported by rail	For the assessment it is assumed that the materials capable of being transported by rail are rip-rap rock, rip-rap bedding, sand and gravel filter material, and topsoil. The assessment assumes that three train paths arriving and three leaving would be available for the transport of

Project parameter / component / activity	Assumption (basis of assessment)
	these materials, once the Rail Sidings and Materials Handling facility has been completed.
Material transported by road	It is assumed that all construction materials could be transported by road if and when necessary (for example if they cannot be transported by rail, or before the Rail Sidings and Materials Handling facility is complete, or if there is not sufficient rail capacity to transport the total volume of a particular material). Further information on the distribution of materials between road and rail is provided in the PTAR.
HGV distribution	The specific sources of materials that may be transported by road have not been confirmed. In the absence of definitive information, the traffic modelling assumes that construction materials traffic would use the SRN (motorways and principal A-roads) as far as practicable and that 60% of this traffic would approach and leave the site via the A34 from the north, with the remaining 40% arriving from and departing to the south.
Construction vehicle access points	It is assumed that the majority of construction materials vehicles would enter and leave the site from the main access point on the A415. Other access points will be necessary from the A338 in the vicinity of the Rail Sidings and Materials Handling facility and the East Hanney to Steventon Road; to the East Hanney to Steventon Road from its eastern end; and to the intake / outfall location from the B4017 Drayton Road. The number of vehicles needing access to these secondary locations will be kept to the reasonably practicable minimum. The assessment assumes that there would be no new direct connection (temporary or permanent) between the site and the A34 to present the worst-case assumption for Traffic and transport.
Construction worker numbers	It is estimated that the maximum number of workers present on site at any one time will be approximately 1,800. During the peak period of construction material movements, in 2036, the daily average on-site workforce is expected to be around 1,500 personnel.
Construction workers travel	Assumptions for traffic modelling and assessment purposes: • No on-site worker residential accommodation would be available, representing a reasonable worst case for traffic assumptions. • Workers would travel from surrounding areas and the distribution of worker origins is assumed to reflect the distribution of operational staff. The distribution of construction and operation staff is based on Census information for the existing area. Further information is provided in the PTAR. • Workers would arrive over a 90-minute period before, and depart over a 90-minute period after, the start of the daily shift, with 75% travelling in the principal 60 minutes of this period • Workers' arrivals and departures would coincide with the highway peak hours (although in practice shift end times in particular are likely to be after the typical evening highway peak hour)

Project parameter / component / activity	Assumption (basis of assessment)
	- Workers would use access points in the same proportions as construction materials vehicles - The assumption is that there would be an average vehicle occupancy of 2.5 workers, to take into account potential for car sharing and organised transport, such as shuttle buses from nearby stations and settlements.
Active travel routes, additional footpaths and NMU provision	Diversion routes for the PRoW currently traversing the site would be provided during construction. Further refinement to the route and timing of the diversion proposals will be undertaken for the DCO application.
Operation	
Opening year	The opening year is defined as the first year in which the full forecasted visitor numbers would be realised. For the purposes of this assessment, it is assumed that this would occur three years following the WAFU (Water Available for Use) date, coinciding with the completion of final construction activities. The WAFU date is 2040 and the opening year in this assessment is 2043.
Annual operational visitor and staff numbers	For the purposes of traffic modelling, the full annual visitation rate is assumed to be 1.058 million visitors per annum. Allowance has been made for approximately 100 staff commuting to and from the site for the legacy uses on a daily basis.
Daily visitor trips	The methodology for processing the annual visitor number to the number of visitor trips per day is based on the approach used for the planning application for the Havant Thicket reservoir in Hampshire. Taking account of seasonal and weekly variations, it is assumed that an August weekend day would be the peak day for visits. It is also assumed that 70% of visitors would travel by private vehicle and the average private vehicle occupancy would be 2.2 persons per vehicle. The remaining 30% of visitors are assumed to travel by public transport, by cycle or on foot.
Distribution of visitors	The vehicle routes assumed to be used by visitors to and from the site have been determined by considering the distribution of population within a 90-minute catchment area and the most likely routes to access the site based on journey times.
Water Sports Centre, Nature Education Centre, Recreational Lakes Centre	The operational trip generation does not assess any large scale events at the Water Sports Centre, Nature Education Centre or Recreational Lakes Centre as it is currently assumed that these facilities would not be used for this type of event.
Access roads	The main vehicular access to the site would be from the A415 Marcham Road. A new roundabout would be provided to the west of the A34, designed to also enable future access for the Dalton Barracks development to the north. A separate vehicular access would be provided on the realigned East Hanney to Steventon route to provide access to a car park for the Nature Education Centre.

Project parameter / component / activity	Assumption (basis of assessment)
	It is assumed that there would be no public vehicular through route within the site. The potential for having controlled access to allow bus services (public or private) to operate a through route will be explored further. Through routes for pedestrians and cyclists would be available.
Active travel routes, additional footpaths and NMU provision	A new network of PRoW / permissive paths will be provided during operation. Further refinement to the proposed active travel network will be undertaken for the DCO application.

Assessment assumptions and limitations

12.7.3 This section identifies the aspect-specific assumptions and limitations for the preliminary Traffic and transport assessment including those related to the availability of data to inform the assessment and assumptions used in the methodology. The assessment of effects in this chapter is preliminary and will be revisited in the ES to take into account the evolution of the design, such as following statutory consultation, and in light of the data available at that time and the design taken forward for submission. Preliminary assessments reported within this PEI Report chapter are considered a reasonable 'worst case' as a precautionary approach has been taken where design, construction or baseline information is incomplete. Nevertheless, the preliminary assessment is considered sufficiently robust to enable consultees to understand the likely significant environmental effects of the Project, based on current design information and understanding of the baseline environment. Gaps in information identified within the PEI Report will be considered and addressed as part of the assessment during the production of the ES, as noted in Section 12.10: Next steps. Assumptions and limitations identified in relation to the preliminary Traffic and transport assessment include:

- The assessment of Traffic and transport effects has been based on initial information about construction material quantities, in order that the assessment analysis could also inform other environmental aspects such as Air quality (Chapter 13), Noise and vibration (Chapter 14) and Greenhouse gases (Chapter 17). Further refinement to the design of the Project and the associated quantities of construction materials will continue to take place, including in response to the statutory consultation, to inform the ES for the DCO application.
- Construction materials have been converted from unbulked¹ material volumes into transportable weights through the application of an appropriate bulking factor². This approach ensures consistency in evaluating the transport requirements associated with material movements.
- The assessment of Traffic and transport effects is based on traffic flow information obtained from surveys undertaken in November and early December 2024. Further

¹ Unbulked refers to the volume of material in its natural situation (for example, the volume of clay removed from the ground).

² The bulking factor allows for the propensity of material, once removed from its natural situation, to expand and occupy a greater volume in a 'bulked' state (for example, clay removed from the ground is no longer restrained nor compressed, so occupies a greater volume after being excavated than when in-situ).

survey work has already been undertaken, in April and July 2025, which will be used to inform the analysis for the ES..

- The assessment of Traffic and transport effects uses a 'static' highway model, in which the assignment of traffic to different highway routes is based on consideration of the catchment for construction materials, construction workers and operational visitors and the routes available from that catchment to and from the site. Professional judgement is applied to these aspects to derive a distribution of traffic. The effects of the change in traffic flows on driver delay are then assessed using industry-standard junction modelling software (LinSig traffic signal junction modelling and Junctions 11 modelling software). Further work will be undertaken using a strategic highway model which allows 'dynamic' assignment to different highway routes between an origin and a destination, taking detailed account of highway network conditions at different times of day.

12.7.4 The methodology for converting the annual visitor number to the number of visitor trips per day is based on the approach used for the planning application for the Havant Thicket reservoir in Hampshire. Further details on travel demand are provided in the PTAR.

12.7.5 Assumptions in relation to the construction and operational trip generation are set out in the PTAR.

12.8 Embedded design mitigation and standard good practice

12.8.1 As described within Chapter 4: Approach to the environmental assessment, identified embedded design (Primary) mitigation and standard good practice (Tertiary) measures are assumed to be applied within this preliminary assessment, to reduce the potential for environmental effects.

12.8.2 Embedded design mitigation identified for the Project at this stage are noted in Chapter 2: Project description. These, and standard good practice measures to be applied, are described in greater detail within the Draft commitments register in Appendix 2.2.

12.8.3 Table 12.28 and Table 12.29 list the embedded design mitigation and standard good practice measures applicable to the preliminary Traffic and transport assessment during construction and operation respectively, including the unique commitment IDs that relate to the Draft commitments register (see Appendix 2.2) (where further detail on each can be referred to). The tables also state the purpose of each mitigation and the applicable securing mechanisms.

Table 12.28 Construction: Relevant embedded design mitigation and standard good practice measures, their purpose and the securing mechanism

Embedded design mitigation or standard good practice measure (unique commitment ID)	Purpose of mitigation measure	Indicative securing mechanism
Use of rail to transport bulk construction materials, if practicable (ED-05)	Transporting construction materials by rail means that fewer HGV movements are required. This helps to reduce impacts on the operation of the highway network and to reduce effects on pedestrians, cyclists,	Under the terms of the DCO

Embedded design mitigation or standard good practice measure (unique commitment ID)	Purpose of mitigation measure	Indicative securing mechanism
	other wheelers, horse-riders, vehicle users and on local communities.	
Reduce transport disruption between Steventon and East Hanney (ED-19)	Maintaining a realigned road route between East Hanney and Steventon would avoid the need for users to take longer diversionary routes by road whilst the remainder of the Project is constructed.	CoCP and under the terms of the DCO
Reduce the impact of the Steventon to East Hanney road diversion on environmental receptors (ED-20)	Improved provision would be made for pedestrians and cyclists in the realigned Hanney Road corridor to provide increased separation from traffic, which would be in place for part of the duration of the construction programme.	Design Principles
Road safety audits (SGP-01)	Road safety audits provide a structured review of highway designs with the aim of identifying potential safety concerns, allowing highway layouts to be amended at the design or implementation stages.	CoCP
Standard good practice measures to reduce impact of construction traffic on communities and the environment (SGP-19)	A range of measures can be used to help to reduce and manage the effects of construction materials traffic, including measures to specify travel routes and manage arrival and departure times. Construction worker traffic can also be managed by encouraging workers to travel by means other than the car, providing transport for workers to nearby settlements or transport hubs and providing necessary car parking. The purpose of these measures is to reduce the impacts associated with construction traffic that would otherwise prevail.	CoCP
Off-site Construction Traffic Management Measures (SGP-20)	Off-site traffic management measures can be used to provide safe approach, access and departure to site compounds, or to provide safe routes and working areas through highway works.	CoCP and under the terms of the DCO
On-site Construction Traffic Management Measures (SGP-21)	On-site traffic management measures can be used to manage the reception and dispatch of construction vehicles at site compounds and to reduce the potential for queues to form on the public highway. Measures can also be used to ensure separation between construction vehicles and the general public in areas where access is constrained. Construction vehicles are considered to be HGVs delivering or removing materials at the Site during the construction phase and vehicles associated with construction worker travel.	CoCP
Liaison with communities prior to and during construction (SGP-27)	Ongoing liaison helps to ensure that local communities are aware in advance of permanent or temporary changes to the transport network.	CoCP

Embedded design mitigation or standard good practice measure (unique commitment ID)	Purpose of mitigation measure	Indicative securing mechanism
Temporary mitigation for PRoW and active travel route diversions (SGP-49)	During construction, PRoW across the site would need to be extinguished, or closed, to ensure public safety and to be able to construct the Project. Temporary diversions (whether as PRoW or as permissive paths) would be provided during the construction phase, where feasible, to maintain public access by walking, cycling, other wheeling and horse-riding.	CoCP

Table 12.29 Operation: Relevant embedded design mitigation and standard good practice measures, their purpose and the securing mechanisms

Embedded design mitigation or standard good practice measure (unique commitment ID)	Purpose of mitigation measure	Indicative Securing mechanism
Reduce transport disruption between Steventon and East Hanney (ED-19)	Maintaining a road route between East Hanney and Steventon would avoid the need for users to take longer diversionary routes by road once the Project is operational.	CoCP and under the terms of the DCO
Reduce the impact of the Steventon to East Hanney road diversion on environmental receptors (ED-20)	Improved provision would be made for pedestrians and cyclists in the realigned Hanney Road corridor to provide increased separation from traffic.	Design Principles
Permanent reinstatement or realignment of PRoW (ED-25)	Although the existing PRoW network cannot be replaced like for like, a new network of PRoW across the site would provide connectivity between the areas around the site.	Under the terms of the DCO
Road safety audits (SGP-01)	Road safety audits provide a structured review of highway designs with the aim of identifying potential safety concerns, allowing highway layouts to be amended at the design or implementation stages.	CoCP

12.9 Preliminary assessment of likely significant effects

Introduction

- 12.9.1 This section summarises the findings of the preliminary assessment of effects for Traffic and transport, focusing on key effects that are initially anticipated to be 'significant'. The judgement of significance has been made assuming that embedded design mitigation and

standard good practice mitigation relevant to traffic and transport is applied (these are noted in Table 12.28, Table 12.29 and provided in detail in the Draft commitments register in Appendix 2.2). Nevertheless, the assessment assumes that additional mitigation is not yet applied, as the precise nature and extent of any additional mitigation measures is not confirmed at this stage in the EIA process. As a result, consideration of residual effects (those that remain after the implementation of *all* mitigation, including additional mitigation) has not been completed for the PEI Report.

12.9.2 As noted in paragraphs 12.1.7 and 12.1.8, assessments reported within this PEI Report chapter are considered a reasonable 'worst case' in line with the precautionary approach that has been taken. Where initial likely significant effects are identified at this stage, these may ultimately be determined as not significant in the ES once data gaps are addressed, and the design and mitigation are further developed. The next steps for the Traffic and transport assessment, including further exploration of relevant additional mitigation, are set out in Section 12.10: Next steps.

12.9.3 Appendix 12.3: Preliminary assessment of effects for Traffic and transport, sets out the preliminary assessment of effects, receptor by receptor, for construction and operation phases respectively. The appendix is split into tables that list effects that are initially anticipated to be significant, and tables that list effects that are not anticipated to be significant. The tables identify the following for each effect:

- Receptor name, the Effect ID (a unique identifier for each effect), and sensitivity category
- Project components and activities giving rise to the effect
- Relevant embedded mitigation and standard good practice mitigation (with unique Commitment ID, which relates to Appendix 2.2: Draft commitments register)
- Magnitude of impact category and narrative
- Initial category of effect significance, including whether it is adverse, beneficial or neutral (taking account of embedded design mitigation and standard good practice mitigation)
- Description and duration of the effect and
- Any additional mitigation and monitoring identified at this stage (with unique Additional Mitigation ID to enable cross reference to the measures noted in Section 12.10: Next steps)

Summary of construction effects

12.9.4 This section summarises the construction effects that are initially anticipated to be 'significant' through the preliminary assessment of effects for Traffic and transport. It pulls out the key potential causes and receptors affected.

Key potential causes of effects

12.9.5 Chapter 2: Project description explains the construction components and activities for the Project. Key effects on Traffic and transport may result from:

- Any construction activities that result in an increase or change in traffic flows.
- Construction activities, including those associated with construction of the reservoir (including reservoir embankment and directly associated infrastructure), active travel

routes, additional footpaths and NMU provision, the Steventon to East Hanney road diversion, site compounds, haul routes, temporary bridges/culverts.

- Construction activities associated with the construction of the intake/outfall structure on the River Thames.

Key likely significant effects

- 12.9.6 The likely major (significant) and moderate (significant) construction effects on Traffic and transport receptors are summarised below and provided in full in Appendix 12.3: Preliminary assessment of effects for Traffic and transport.

Major (significant) construction effects

- 12.9.7 The 'major' adverse effects identified for the construction phase in relation to Traffic and transport relate to NMU delay due to changes to the PRoW network. This is applicable to NMU users on the PRoW network between the A338 and Drayton and on the PRoW network between Marcham and Steventon. These effects are expected to be felt long term (defined in Chapter 4: Approach to the environmental assessment as being temporary effects with durations that are longer than five years) and have been assessed as major due to the sensitivity of the receptor (i.e. the PRoW having more than 100 users per day) and the large magnitude of impact based on journey lengths changing by more than 500m due to the Project.

Moderate (significant) construction effects

- 12.9.8 The 'moderate' adverse effects identified for the construction phase in relation to Traffic and transport relate to:
- Long-term NMU delay due to changes to the PRoW network. This is applicable to NMU users on the PRoW network between Abingdon and Reading Road, between Marcham and Drayton, between East Hanney and Steventon and NMU on NCN Route 5. These effects are expected to be felt long term (temporary effect longer than five years) and have been assessed as moderate due to the sensitivity of the receptors (i.e. which range from high to low depending on their frequency of daily use) and the magnitude of impacts based on journey lengths changing by 500m or more due to the Project.
 - Driver delay due to changes in traffic flows on the A415/A34 Marcham Interchange. This effect has been assessed as moderate due to the low sensitivity of the receptor (based on existing maximum V/C of below 85% / little or no congestion) and a large magnitude of impact (due to the maximum V/C with the Project in peak hours ranging between 62% and 106%, a change of between two and 24 percentage points).
 - Long-term severance effect due to changes in traffic flows. This is applicable to NMU on the A415 Marcham Road between Marcham and Faringdon Road (east of the proposed site access). This effect has been assessed as moderate significance due to the high sensitivity of the receptor (i.e. highway link having footways and/or cycle provision and traffic flows of more than 8,000 vehicles per day) and the small magnitude of impact (i.e. change of peak hour traffic flow of between 30% and 60%).
 - Permanent effect due to the reduction in the navigable width of the River Thames associated with construction of the infall/outfall structure. This effect has been assessed as moderate significance due to the high sensitivity of the receptor (i.e. location observed to have more than 30 vessel transits on average in the peak hour)

and small magnitude of impact based on a change in navigable width of less than 25% due to the Project.

- 12.9.9 For some effects, no further additional mitigation has been able to be identified at this stage. This will be reviewed for the ES stage.

Implications of transporting all construction materials by road

- 12.9.10 In its Scoping Opinion (see Table 12.2, PINS ID 3.6.7), PINS indicated that the environmental effects of transporting all materials by road should be considered in the ES.
- 12.9.11 It is not the Project's intention to transport all construction materials by road and therefore this is not considered a reasonably likely scenario. The Project intends to use the railway to transport construction materials as far as is practicable.
- 12.9.12 There may be logistical challenges in transporting material of certain types or to and from certain locations, depending on the source and disposal destinations for each material. For example, the source or disposal location might have no direct rail links; or rail transport might involve long journeys and/or complex timetabling; or rail transport could take significantly longer or be less reliable than using road transport. As the proposals develop, the benefits of rail transport will need to be considered in the context of other environmental aspects (such as air quality and carbon emissions).
- 12.9.13 There may be reasons why rail transport might not be available at certain times or why the amount of material transported by rail might vary from that assumed for this chapter. These might include closure of the railway for periods of infrastructure maintenance and repair (beyond what has already been assumed), or unplanned disruption or an emergency, or non-availability of the required trains (rolling stock or motive power).
- 12.9.14 Disruption or emergency situations are likely to be short-lived. Planned maintenance or repair may require railway closures over longer periods but dates are typically known well in advance. Any lack of rolling stock is also likely to be temporary, as the intention is to secure appropriate service agreements with one or more freight operating companies in advance of construction commencing.
- 12.9.15 This chapter considers the likely significant effects that may arise during the peak period of construction, but that level of activity will not occur for the whole of the construction phase. Construction traffic will vary according to the time of year and activities being carried out and for a substantial part of the programme construction traffic volumes will be lower than assessed.
- 12.9.16 If rail transport is temporarily unavailable, there may be a need for all materials to be transported by road, but this is likely to be for only a relatively short period (assumed to be a maximum of one month) within the overall construction programme and may not coincide with the peak of construction activity.
- 12.9.17 The ES will contain further analysis to consider the potential for significant effects to occur but the following paragraphs provide a preliminary qualitative commentary on the possible implications.
- 12.9.18 If all construction materials had to be transported by road and if that were during the peak period of construction, this would lead to approximately 110 HGV movements per hour in total, compared to around 40 HGV movements per hour which are assumed in the

assessment presented in this chapter. The number of workers' vehicle trips is unlikely to change. The majority of construction materials vehicles would enter and leave the site from the A415 west of the A34 Marcham interchange and therefore would not pass through local settlements.

- 12.9.19 Considering each of the aspects assessed in this chapter, the short-term increase in HGV movements would not alter the conclusions in relation to:
- NMU amenity, which is based on changes in journey distance on PRow and other walking, cycling and horse-riding routes.
 - Effects on river vessel users, which are based on changes to facilities or the width of the river.
 - Effects related to the movement of hazardous or large loads, which are independent of the number of construction materials HGV movements.
- 12.9.20 The remaining aspects are discussed below.

Severance of communities

- 12.9.21 The magnitude of impact for severance is determined from changes in peak hour traffic flow, with thresholds of 30%, 60% and 90%. The potential increase in HGV movements for an 'all by road' scenario is small in comparison to total traffic flows on the construction vehicle routes. It is therefore unlikely that any additional significant effects would occur in relation to severance.

Road vehicle driver and passenger delay

- 12.9.22 The magnitude of impact for road user delay is determined from the forecast performance of highway junctions and the change resulting from the Project. The assessment has already identified a high magnitude of impact at the A34 Marcham interchange in the weekday peak hours. The majority of construction HGV movements and workers' vehicles would pass through this junction and the magnitude of impact leads to a significant (moderate adverse) effect.
- 12.9.23 The additional HGV movements associated with an all by road scenario would have a further small impact on junction performance, but it is unlikely that this would lead to any additional significant effect beyond that already identified.
- 12.9.24 On other routes used by construction vehicles, the number of additional HGV movements for an 'all by road' scenario would be small and unlikely to give rise to any additional significant effects.

Public transport (bus) user delay

- 12.9.25 The magnitude of impact for public transport user (bus) delay is based on changes to journey time on identified bus routes, which in turn derives from changes in delay at junctions along those routes. As noted above, additional HGV movements associated with an 'all by road' scenario may have a small impact on junction performance at the A34 Marcham interchange, but it is considered unlikely that this would increase bus delays to the point where any additional significant effects would arise.

Fear and intimidation on and by road users

- 12.9.26 The magnitude of impact for this aspect considers changes in average hourly traffic flow, total HGV flow and traffic speed. The additional HGV movements associated with an 'all by road' scenario would result in only a small change in average hourly traffic flow, and there would be no change to traffic speed. Total HGV flow would increase but that change is only potentially material for receptors on the A415 between the A34 Marcham interchange and the new access roundabout, where the majority of construction HGV would be concentrated. No significant effect has been identified on this stretch of road in the assessment, but in a short-term 'all by road' scenario, it is possible for an additional significant effect to arise in this location as a result of the additional number of daily HGV movements. It is unlikely that any significant additional effects would arise elsewhere.

NMU amenity

- 12.9.27 The magnitude of impact for this aspect considers the effects related to fear and intimidation together with changes to the provision of footways and cycleways adjacent to roads. In an 'all by road' scenario there would be no change to physical route provision and therefore the likely outcome in relation to NMU amenity would be similar to that for fear and intimidation noted above.

Road user and pedestrian safety

- 12.9.28 The magnitude of impact for this aspect considers changes in traffic flow at locations where there has been a cluster of personal injury accidents over the past five years. As with severance, the additional HGV movements associated with an 'all by road' scenario would be small in relation to total flows. It is therefore unlikely that any additional significant effects would occur in relation to road safety.

Summary of operational effects

- 12.9.29 This section summarises the operational effects that are initially anticipated to be 'significant' through the preliminary assessment of effects for Traffic and transport. It pulls out the key potential causes and receptors affected.

Key potential causes of effects

- 12.9.30 Chapter 2: Project description explains the operational activities for the Project. Key effects on Traffic and transport may result from:
- The provision and use of a revised network of PRoW and permissive paths
 - Operation of the intake/outfall structure

Major (significant) operational effects

- 12.9.31 A 'major' adverse effect from NMU delay due to changes in the PRoW network has been identified for PRoW users between the A338 and Drayton. This effect is assessed as major due to the high sensitivity off the receptor (based on having more than 100 existing users per day) and the large magnitude of impact based on journey length changing by more than 500m.

Moderate (significant) operational effects

- 12.9.32 The 'moderate' adverse effects identified for the operational phase in relation to Traffic and transport relate to:
- NMU delay due to changes in the PRow network between Abingdon and Reading Road, between Marcham and Drayton and between East Hanney and Steventon. These effects have been assessed as moderate significance due to their sensitivity (ranging from low to moderate as a reflection of the number of existing users) and the magnitude of impacts (which are large based on journey lengths changing by more than 500m).
 - Permanent effect due to the reduction in the navigable width of the River Thames associated with construction of the intake/outfall structure. This effect has been assessed as moderate significance due to the high sensitivity of the receptor (i.e. location observed to have more than 30 vessel transits on average in the peak hour) and small magnitude of impact based on a change in navigable width of less than 25% due to the Project.

Micro-climate and road safety

- 12.9.33 Changes in fog or frost incidence could lead to a change in the number of frost- or fog-related road traffic accidents. However, earlier studies and a further review of available research suggests that there may be an overall slight increase in local fog risk and a decrease in local frost risk as a result of the presence of a large body of water. A short technical note on these issues is contained in Appendix 12.2: Potential for fog and frost technical note.
- 12.9.34 For frost, the presence of the water body is expected to reduce overnight frost risk. However, climate change is expected to have a much greater influence, with climate change projections showing that the number of frost days is projected to reduce significantly (UK Climate Projections 2018 forecasts for the Representative Concentration Pathways 8.5 scenario show an average 35% decrease as early as the 2030s) and therefore it is unlikely that there will be any increase in risk of frost-related incidents.
- 12.9.35 For fog, the risk of additional fog formation is considered low due to the nature of the terrain and wind conditions, although it is recognised that the reservoir may contribute moisture to the atmosphere and landscape features or buildings may influence fog formation by obstructing airflow. However, the overall risk of increased fog formation is considered to be very limited.
- 12.9.36 The analysis of collision data indicates that, in the last five years, six accidents (less than 1% of the total of 675 accidents in the study area) were attributed to foggy or frosty conditions. Given that the proportion of accidents resulting from fog or frost conditions is very low, it is therefore unlikely that the micro-climate impacts from the Project will create any marked deterioration in road safety in the surrounding area.

12.10 Next steps

- 12.10.1 As part of next steps, the Project is proactively developing the design, refining the construction approach and continuing to define the environmental baseline, in conjunction with ongoing consultation and engagement. These activities will inform the EIA process and

provide a robust evidence base for the ES. The aim is that where initial likely significant effects are identified at this stage, these may ultimately be determined as not significant in the ES once data gaps are addressed, and the design and mitigation proposals are further developed. Effects that remain after the implementation of all mitigation are referred to as 'residual effects'. These effects are not reported in the PEI Report as additional mitigation is not assumed to be implemented at this stage of the assessment. The assessment of the significance of residual effects after all mitigation is applied is a key outcome of the EIA process and will be reported within the ES, which will be submitted with the DCO application.

- 12.10.2 The next steps anticipated to be undertaken in relation to the Traffic and transport assessment prior to completion of the ES and submission of the DCO application are explained below.

Further exploration of additional mitigation

- 12.10.3 A key aspect of the next steps is to further explore additional mitigation that may reduce adverse effects that the preliminary assessment has initially identified as likely to be significant. Additional mitigation that has been identified for the Traffic and Transport assessment is noted against relevant likely significant effects in Appendix 12.3: Preliminary assessment of effects for Traffic and Transport. All additional mitigation that has been identified in relation to the Traffic and Transport assessment to date is listed below in Table 12.30 along with a description of what each measure entails. Each measure has a unique Additional Mitigation ID to enable cross reference between Appendix 12.3: Preliminary assessment of effects for Traffic and transport and Table 12.30. As noted previously above, the preliminary assessment presented in the PEI Report assumes that additional mitigation is not yet applied, as the precise nature and extent of any additional mitigation measures is not confirmed at this stage in the EIA process.

Table 12.30 Additional mitigation identified to date in relation to the Traffic and transport assessment

Additional mitigation ID	Additional mitigation name	Description of additional mitigation measure
AM-08	Highways improvements to reduce effects on the wider transport network.	These highway improvements may include the provision of improved NMU crossing facilities on the A415 to provide safer crossing opportunities and mitigate severance effects. They may also include improvements to the A415/A34 Marcham Interchange to ensure the network continues to function satisfactorily during construction. Other examples under consideration include potentially improving or widening junctions or carriageways, other provision of/improvements to pedestrian crossings, pedestrian and cycleway enhancements, parking/loading restrictions, traffic calming features, speed limit alterations, highway lighting improvements or signing, and road marking improvements.
AM-10	Encourage the use of sustainable modes of transport for workforce travel	The use of sustainable modes of transport for workforce travel would help reduce the number of car trips resulting from construction. Such measures would be contained in a Construction Workforce Travel Strategy and could include,

Additional mitigation ID	Additional mitigation name	Description of additional mitigation measure
		for example, cycle parking provision, the promotion of public transport usage, the use of shuttle bus to transport the workforce, and car-sharing to reduce single-occupancy car trips etc.
AM-11	Measures to reduce effects to navigation on the River Thames	Additional measures may be applied to ensure minimal disruption to the River Thames and vessels that use the waterway. Example measures could include: • Undertaking a Navigational Risk Assessment to cover construction, operation and emergency scenarios; • Providing notice to mariners for construction works; • Providing appropriate signage (during construction and operation); • Engaging with the Environment Agency and other relevant stakeholders to reduce disturbance; or • Obtaining relevant consents for river works.

Other next steps

- 12.10.4 Other steps that are continuing or are planned to be undertaken to support the Traffic and transport assessment prior to completion of the ES and submission of the DCO application are noted below with an explanation of how these will inform the EIA process:
- The development and use of a strategic highway model to provide more detailed analysis of traffic flows to inform the assessment of effects related to Traffic and transport and to feed into assessments related to noise and vibration, air quality and greenhouse gases.
 - Additional traffic and NMU surveys if necessary to support development of the strategic highway model. If needed, these would supplement the data collected in November 2024 and April and July 2025.
 - Further development of design proposals for highway works to mitigate significant effects.
 - Further development of proposals for, and the phasing of, changes to PRow during the construction phase and of opportunities for PRow and other active travel routes during the operational phase, to mitigate significant effects. A Walking Cycling and Horse Riding Assessment will also be produced.
 - Development of an Operational Travel Strategy to support the aims of sustainable travel use by visitors and staff.
 - Continued engagement with Oxfordshire County Council, National Highways and Vale of White Horse District Council as the assessment is refined and developed, as noted in Table 12.3.
 - Continued engagement with Network Rail to refine and validate the proposals for transporting construction materials by rail.

References

It should be noted that the Institute of Environmental Management and Assessment (IEMA) has recently rebranded as the Institute of Sustainability and Environmental Professionals (ISEP). Guidance that was historically published by IEMA is still referenced under that institute name.

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