Botley West Solar Farm

Environmental Statement

Volume 1

Chapter 12: Traffic and Transport

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Glossary

Term	Meaning
Abnormal Indivisible Loads (AILs)	Loads or vehicles that exceed maximum vehicle weight, axle weight or dimensions as set out in the Road Vehicles (Construction and Use) Regulations 1986 as amended.
Baseline	The status of the environment without the Project in place.
Code of Construction Practice (CoCP)	A document detailing the overarching principles of construction, contractor protocols, construction-related environmental management measures, pollution prevention measures, the selection of appropriate construction techniques and monitoring processes.
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES.
Cumulative Effects	The combined effect of the Project in combination with the effects from other proposed developments, on the same receptor or resource.

Term	Meaning
Congestion Reference Flow (CRF)	An estimate of the Annual Average Daily Traffic (AADT) flow at which the carriageway is likely to be 'congested' in the peak period on an average day.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
Effect	The term used to express the consequence of an impact. The significance of effect is determined by correlating magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
EIA Scoping Report	A report setting out the proposed scope of the Environmental Impact Assessment process. The Scoping Report was submitted to The Planning Inspectorate (on behalf of the Secretary of State) for the Project in June 2023.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Growthed	The application of traffic growth rates to traffic flows.
Heavy Goods Vehicle (HGV)	A lorry with a gross weight exceeding 7.5 tonnes.
Heavy Vehicle (HV)	A vehicle with a gross weight exceeding 7.5 tonnes.
Impact	Change that is caused by an action/proposed development, e.g., land clearing (action) during construction which results in habitat loss (impact).
Inter-related Effects	Inter-related effects arise where an impact acts on a receptor repeatedly over time to produce a potential additive effect or where a number of separate impacts, such as noise and habitat loss, affect a single receptor.
Local Highway Authority	A body responsible for the public highways in a particular area of England and Wales, as defined in the Highways Act 1980.
Maximum design scenario	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Project.
Mitigation measures	This term is used interchangeably with Commitments. The purpose of such measures is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects.
Non-motorised user amenity	Broadly defined as the relative pleasantness of a journey.
Non-motorised user delay	The delay incurred to a journey by non-motorised users.

Term	Meaning
Outline Construction Traffic Management Plan (oCTMP)	A plan managing all construction traffic, including protocols for delivery of Abnormal Indivisible Loads to site, personnel travel, measures for road cleaning and sustainable site travel measures.
Personal Injury Accident	An accident that results in personal injury occurring on the public highway (including footways) in which at least one road vehicle was involved.
Preliminary Environmental Information Report	A report that provides preliminary environmental information in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of a project and which helps to inform consultation responses.
Scoping Opinion	Sets out the Planning Inspectorate's response (on behalf of the Secretary of State) to the Scoping Report prepared by the Applicants. The Scoping Opinion contains the range of issues that the Planning Inspectorate, in consultation with statutory stakeholders, has identified should be considered within the Environmental Impact Assessment process.
Severance	The perceived division that can occur within a community when it becomes separated by major transport infrastructure. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by infrastructure.
TEMPro	A computer software program developed by the Department for Transport providing traffic growth projections used in transport models and intended to act as a nationwide standardised distribution of growth in trip ends.
The Applicant	SolarFive Ltd
The Project	The Botley West Solar Farm (Botley West) Project
Traffic Flows	Traffic flow describes the number of vehicles passing a reference point per unit of time (e.g., vehicles per hour).
Transboundary effects	Effects from a project within one state that affect the environment of another state(s).
Transport Assessment (TA)	A transport assessment is a comprehensive and systematic process that sets out transport issues relating to a proposed development. It identifies what measures will be taken to deal with the anticipated transport impacts of the scheme and to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling and public transport.
Transport Statement (TS)	A simplified version of a transport assessment where the transport issues arising from development proposals are limited and a full transport assessment is not required.

Abbreviations

Abbreviation	Meaning
AADT	Annual Average Daily Traffic
AILs	Abnormal Indivisible Loads
ATC	Automatic Traffic Counter
BEIS	Department for Business, Energy and Industrial Strategy
CDC	Cherwell District Council
CEMP	Construction Environmental Management Plan
CoCP	Code of Construction Practice
CRF	Congestion Reference Flow
DCO	Development Consent Order
DECC	Department of Energy and Climate Change (now BEIS)
DESNZ	Department for Energy Security and Net Zero
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
ES	Environmental Statement
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicles
HV	Heavy Vehicle
IEMA	Institute of Environmental Management and Assessment
LPA	Local Planning Authority
LRN	Local Road Network
MCC	Manual Classified Count
NCN	National Cycle Network
NGET	National Grid Electricity Transmission
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
OCC	Oxfordshire County Council
oCTMP	Outline Construction Traffic Management Plan
PDE	Project Design Envelope
PEIR	Preliminary Environmental Information Report
PIA	Personal Injury Accident

Abbreviation	Meaning
PINS	The Planning Inspectorate
PPG	Planning Practice Guidance
PRoW	Public Right of Way
PV	Photovoltaic
PVDP	Photovolt Development Partners GmbH
SRN	Strategic Road Network
TA	Transport Assessment
TEMPro	Trip End Model Presentation Programme
TS	Transport Statement
VWHDC	Vale of White Horse District Council
WODC	West Oxfordshire District Council

Units

Unit	Description
km	Kilometre
m	Metre
m^2	Square Metre
MWe	Megawatt electrical
mph	Miles per Hour
s	Seconds
%	Percentage

12 Traffic and Transport

12.1 Introduction

Overview

12.1.1 This chapter of the ES sets out the approach to the assessment of likely significant effects, of the Project. The application for development consent is being made to the Planning Inspectorate (PINS) under the Planning Act 2008. The proposal is to install and operate approximately 840MWe of solar generation in parts of West Oxfordshire, Cherwell and Vale of White Horse Districts, within the county of Oxfordshire (the Project).

12.1.2 This chapter of the Environmental Statement (ES) has been prepared by RPS for Photovolt Development Partners GmbH (PVDP) on behalf of SolarFive Ltd (the Applicant).

12.1.3 SolarFive is the 'special purpose vehicle' (SPV) for the Project and has been awarded a generation licence by Ofgem and offered a grid connection by National Grid Electricity Transmission (NGET) from October 2027. SolarFive is a licence holder under the Electricity Act 1989 and is also a company registered in England and Wales (company no. 12602740).

12.1.4 This ES is in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, as amended (the EIA Regulations), and other required documents including a statement on pre-application consultation.

12.1.5 This ES Chapter has been prepared in accordance with the approach set out in the Scoping Report and the subsequent Preliminary Environmental Information Report (PEIR).

12.1.6 This chapter contains an integrated 'Transport Assessment' (TA) to consider the impacts and effects on the operation of the highway network arising from the Project.

12.1.7 An Outline Construction Traffic Management Plan (oCTMP) which sits within the Outline Code of Construction Practice **[EN010147/APP/7.6.1]** has been provided as part of the application for development consent.

12.1.8 This chapter also draws upon information contained within the following appendices and documents:

- Volume 3, Appendix 12.1: Description of network links and sensitivity **[EN010147/APP/6.5]**;
- Volume 3, Appendix 12.2: Traffic survey data **[EN010147/APP/6.5]**;
- Volume 3, Appendix 12.3: Base traffic flows **[EN010147/APP/6.5]**;
- Volume 3, Appendix 12.4: Public transport networks **[EN010147/APP/6.5]**;
- Volume 3, Appendix 12.5: Sensitive receptors **[EN010147/APP/6.5]**;

- Volume 3, Appendix 12.6: Construction vehicle trip generation assumptions **[EN010147/APP/6.5]**;
- Volume 3, Appendix 12.7: Traffic flows with construction traffic **[EN010147/APP/6.5]**;
- Volume 3, Appendix 12.8: Accesses and highway drawings **[EN010147/APP/6.5]**;
- Volume 3, Appendix 12.9: Personal Injury Accident (PIA) clusters **[EN010147/APP/6.5];**
- Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.

12.2 Legislative and Policy Context

Legislation

12.2.1 Legislation relevant to traffic and transport includes the Transport Act 2000, New Roads and Street Works Act 1991, Traffic Management Act 2004, Road Traffic Regulation Act 1984, the Highways Act 1980 and the Infrastructure Act 2015.

12.2.2 The Transport Act 2000 contains 'measures to create a more integrated transport system'. Specific measures include requirements to reduce road congestion and pollution. For example, local transport authorities should produce a local transport plan every five years and keep that plan under review.

12.2.3 The New Roads and Street Works Act 1991 enables new roads to be provided, to make new provision with respect to street works and provides a legislative framework for street works by undertakers. The aim of the New Roads and Street Works Act is to balance the statutory rights of highway authorities (street authorities) and undertakers (such as utility companies) to carry out works with the right of road users to expect the minimum disruption from works.

12.2.4 The Traffic Management Act 2004 sets out how road networks should be managed by local authorities and includes regulations for roadworks. The Road Traffic Regulation Act 1984 provides powers to regulate or restrict traffic on roads in Great Britain, in the interest of safety.

12.2.5 The Highways Act 1980 sets out the duties of the highway authorities and how the highway network will be managed and operated. Part VA covers EIA, which is relevant to this chapter. In addition, the Infrastructure Act 2015 defines the role of National Highways as a government-owned company responsible for ensuring improvements to the strategic road network.

Planning policy context

National Policy Statements

12.2.6 There are currently six designated energy National Policy Statements (NPSs), EN-1, EN-2, EN-3, EN-4, EN-5 and EN-6. The 2023 revised NPSs (EN-1 to EN-5) came into force on 17 January 2024. The 2011 version of the NPS for

Nuclear Power Generation (EN-6) remains in force. The Department for Energy Security and Net Zero (DESNZ) are in the process of preparing a new version.

12.2.7 **Table 12.1** sets out a summary of the policies within these NPSs, relevant to traffic and transport. This only includes NPS EN-1 and NPS EN-3 since no policy specific to traffic and transport is set out in NPS EN-5.

Table 12.1: Summary of designated NPS document requirements relevant to this chapter

Summary of NPS Requirement	How and where considered in the ES
NPS EN-1	
The transport of materials, goods and personnel to and from a development during all project phases can have a variety of impacts on the surrounding transport infrastructure and potentially on connecting transport networks, for example through increased congestion. Impacts may include economic, social and environmental effects. (paragraph 5.14.1 of NPS EN-1). Environmental impacts may result particularly from trips generated on roads which may increase noise and air pollution as well as greenhouse gas emissions. (paragraph 5.14.2 of NPS EN-1). Disturbance caused by traffic and abnormal loads generated during the construction phase will depend on the scale and type of the proposal. (paragraph 5.14.3 of NPS EN-1).	**Section 12.9** of this chapter provides an analysis of the impacts on traffic and transport during the construction of the Project. The traffic and transport study area has been established to include all relevant routes along the connecting transport network. Noise is considered in Volume 1, Chapter 13: Noise and Vibration, and inter-related effects are considered in Volume 1, Chapter 20: Cumulative Effects and Inter-relationships.
The consideration and mitigation of transport impacts is an essential part of Government's wider policy objectives for sustainable development as set out in Section 2.6 of NPS EN-1. (paragraph 5.14.4 of NPS EN-1).	**Section 12.9** of this chapter provides an analysis of the impacts on traffic and transport during construction of the Project and identifies transport impacts and ways to mitigate them. Any mitigation required in relation to traffic and transport has been set out in **Section 12.8** of this chapter.
If a project is likely to have significant transport implications, the applicant's Environmental Statement (ES) should include a transport appraisal. The Department for Transport's (DfT's) Transport Analysis Guidance (TAG) and Welsh Governments WelTAG provides guidance on modelling and assessing the impacts of transport schemes. (paragraph 5.14.5 of NPS EN-1).	This chapter contains an integrated TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Project in accordance with guidance, best practice and relevant parts of the DfT's TAG.
National Highways and Highways Authorities are statutory consultees on Nationally Significant Infrastructure Project (NSIP) applications including energy infrastructure where it is expected to affect the strategic road network and / or have an impact on the local	National Highways and Oxfordshire County Council (OCC) as the relevant highway authorities have been consulted on the potential impacts and mitigation relevant to the Strategic Road Network (SRN) and the Local Road Network (LRN) as set out in **Section 12.3** of this chapter.

Summary of NPS Requirement	How and where considered in the ES
road network. Applicants should consult with National Highways and Highways Authorities as appropriate on the assessment and mitigation to inform the application to be submitted. (paragraph 5.14.6 of NPS EN-1).	
The applicant should prepare a travel plan including demand management and monitoring measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by active, public and shared transport to: • reduce the need for parking associated with the proposal • contribute to decarbonisation of the transport network • improve user travel options by offering genuine modal choice (paragraph 5.14.7 of NPS EN-1).	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area. These highlight the sustainable transport options within the traffic and transport study area for construction staff. Movement by sustainable means will be facilitated and encouraged. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft Development Consent Order (DCO).
The assessment should also consider any possible disruption to services and infrastructure (such as road, rail and airports). (paragraph 5.14.8 of NPS EN-1).	A TA has been integrated into this chapter in accordance with guidance, best practice and relevant parts of the DfTs TAG. **Section 12.9** provides as assessment of the impacts on the LRN and SRN. No significant effects upon other transport services or infrastructure are anticipated.
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. (paragraph 5.14.9 of NPS EN-1). Applicants should discuss with network providers the possibility of co-funding by government for any third-party benefits. Guidance has been issued which explains the circumstances where this may be possible, although the government cannot guarantee in advance that funding will be available for any given uncommitted scheme at any specified time. (paragraph 5.14.10 of NPS EN-1).	No additional transport infrastructure is required for the Project since all accesses are existing gated field accesses. Details of the accesses are set out in Appendix 12.8 Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**. The existing gated field accesses to be used for maintenance will be used on a limited and irregular basis. They will not be for public use therefore these considerations do not apply.
Where mitigation is needed, possible demand management measures must be considered. This could include identifying opportunities to: • reduce the need to travel by consolidating trips • locate development in areas already accessible by active travel and public transport • provide opportunities for shared mobility	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area. These highlight the sustainable transport options within the traffic and transport study area for construction staff. Movement by sustainable means will be facilitated and encouraged.

Summary of NPS Requirement	How and where considered in the ES
• re-mode by shifting travel to a sustainable mode that is more beneficial to the network • retime travel outside of the known peak times • reroute to use parts of the network that are less busy (paragraph 5.14.11 of NPS EN-1).	Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the DCO.
If feasible and operationally reasonable, such mitigation should be required, before considering requirements for the provision of new inland transport infrastructure to deal with remaining transport impacts. All stages of the project should support and encourage a modal shift of freight from road to more environmentally sustainable alternatives, such as rail, cargo bike, maritime and inland waterways, as well as making appropriate provision for and infrastructure needed to support the use of alternative fuels including charging for electric vehicles. (paragraph 5.14.12 of NPS EN-1).	There are no commercial ports or commercial freight railway sidings in the vicinity that would allow materials to be viably transported via rail or water. No additional transport infrastructure is required for the Project since all accesses are existing gated field accesses which are in-situ irrespective of any modal shift of freight from road to more environmentally sustainable alternatives.
Regard should always 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 HGV drivers as appropriate. (paragraph 5.14.13 of NPS EN-1).	All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Appendix 12.8 Accesses and highway drawings and Site Construction Compound Accesses **[EN010147/APP/7.3.1]** and all temporary construction compounds will provide welfare facilities as set out in the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO.
The Secretary of State may attach requirements to a consent where there is likely to be substantial HGV traffic that: • control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements • make sufficient provision for HGV parking, and associated high quality drive facilities either on the site or at dedicated facilities elsewhere, to support driver welfare, avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions • ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force. (paragraph 5.14.14 of NPS EN-1).	HGV routes have been identified and are set out in the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO, along with associated mitigation measures including the prevention of loading/unloading on the highway and turning/parking provisions. All accesses will provide appropriate provisions for HGVs to ensure no impact upon the highway.
The Secretary of State should have regard to the cost-effectiveness of demand	As stated in response to paragraph 5.14.12 of NPS EN-1, no new provision of inland transport infrastructure is

Summary of NPS Requirement	How and where considered in the ES
management measures compared to new transport infrastructure, as well as the aim to secure more sustainable patterns of transport development when considering mitigation measures. (paragraph 5.14.15 of NPS EN-1).	required for the Project since all accesses are existing gated field accesses. Details of the existing gated field accesses are set out in Appendix 12.8 Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.
Applicants should consider the DfT policy guidance "Water Preferred Policy Guidelines for the movement of abnormal indivisible loads" when preparing their application. (paragraph 5.14.16 of NPS EN-1).	The movement of Abnormal Indivisible Loads (AILs) will not be consented by the DCO and will be subject to a Special Order issued by the Secretary of State for Transport following an application by the appointed heavy haulage contractor with due regard to this document.
If an applicant suggests that the costs of meeting any obligations or requirements would make the proposal economically unviable this should not in itself justify the relaxation by the Secretary of State of any obligations or requirements needed to secure the mitigation. (paragraph 5.14.17 of NPS EN-1).	The costs of transport mitigation currently envisaged by the applicant will not make the proposal economically unviable.
A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the Secretary of State should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development and by enhancing active, public and shared transport provision and accessibility. (paragraph 5.14.18 of NPS EN-1). Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the Secretary of State should consider requirements to mitigate adverse impacts on transport networks arising from the development, as set out below. (paragraph 5.14.19 of NPS EN-1).	**Section 12.9** provides an analysis of the impacts on traffic and transport during construction of the Project. **Section 12.8** sets out the mitigation measures adopted, where relevant. The relevant potential transport impacts during the construction phase take into account mitigation measures documented in the oCTMP **[EN010147/APP/7.6.1]**. No residual significant impacts (substantial as referenced within the NSIP) have been identified in **Section 12.9** and **Section 12.11**. The potential transport impacts during the operation and maintenance and decommissioning phases have been scoped out as set out in **Table 12.7.**
Development consent should not be withheld provided that the applicant is willing to enter into planning obligations for funding new infrastructure or requirements can be imposed to mitigate transport impacts. In this situation the Secretary of State should apply appropriately limited weight to residual effects on the surrounding transport infrastructure. (paragraph 5.14.20 of NPS EN-1).	**Section 12.9** considers all relevant transport impacts during the construction phase of the Project and ways to mitigate them where necessary. The potential transport impacts during the operation and maintenance and decommissioning phases have been scoped out as set out in **Table 12.7.** The relevant transport impacts during the construction phase are considered within **section 12.9** and have identified no specific requirements to enter into planning obligations or requirements to be imposed to fund new infrastructure to mitigate any impacts that result in significant effects. No residual significant effects have been identified and any impacts can be sufficiently mitigated via the oCTMP **[EN010147/APP/7.6.1].**
The Secretary of State should only consider refusing development on highways grounds if	**Section 12.9** provides an analysis of the impacts on traffic and transport during construction of the Project. **Section**

Summary of NPS Requirement	How and where considered in the ES
there would be an unacceptable impact on highway safety, residual cumulative impacts on the road network would be severe, or it does not show how consideration has been given to the provision of adequate active public or shared transport access and provision. (paragraph 5.14.21 of NPS EN-1).	**12.8** sets out the mitigation measures adopted, where relevant. The potential transport impacts during the operation and maintenance, and decommissioning phases have been scoped out as set out in **Table 12.7.** The relevant potential transport impacts during the construction phase are considered within **Section 12.9** which has not identified any unacceptable impacts on highway safety and that the residual cumulative impacts on the road network would not be severe. The oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO sets out travel plan measures which include demand management measures.
NPS EN-3	
Applicants will need to consider the suitability of the access routes to the proposed site for both the construction and operation of the solar farm with the former likely to raise more issues. (paragraph 2.10.35 of NPS EN-3).	**Section 12.6** of this chapter provides a description of the traffic and transport study area which has been established to include all relevant routes along the connecting transport network. Construction access routes have been identified and are set out in the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO.
Given that potential solar farm sites are largely in rural areas, access for the delivery of solar arrays and associated infrastructure during construction can be a significant consideration for solar farm siting. (paragraph 2.10.36 of NPS EN-3).	All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Appendix 12.8 Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.
Developers will usually need to construct on-site access routes for operation and maintenance activities, such as footpaths, earthworks, or landscaping. (paragraph 2.10.37 of NPS EN-3). In addition, sometimes access routes will need to be constructed to connect solar farms to the public road network. (paragraph 2.10.38 of NPS EN-3).	No additional transport infrastructure is required for the Project since all accesses are existing gated field accesses which are in-situ. All existing gated field accesses have been designed to accommodate the movement of HGVs as set out within Appendix 12.8 Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.
Applications should include the full extent of the access routes necessary for operation and maintenance and an assessment of their effects. (paragraph 2.10.39 of NPS EN-3).	Construction access routes have been identified and are set out in the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO. The potential transport impacts during the operation and maintenance and decommissioning phases have been scoped out as set out in **Table 12.7.**
Modern solar farms are large sites that are mainly comprised of small structures that can be transported separately and constructed on-site, with developers designating a compound on-site for the delivery and assemblage of the necessary components. (paragraph 2.10.120 of NPS EN-3).	The location of the four construction compounds is shown on **Figure 1.1** of Volume 3, Appendix 12.6 Construction vehicle trip generation assumptions**[EN010147/APP/6.5]** of the ES. Tractors and trailers will transport material from one of the four main construction compounds to the required gate, as detailed in Appendix 12.6 Construction vehicle trip generation assumptions **[EN010147/APP/6.5].**
Many solar farms will be sited in areas served by a minor road network. Public perception of the construction phase of solar farms will	**Section 12.9** of this chapter provides an analysis of the impacts on traffic and transport during the construction of the Project. The traffic and transport study area has been

Summary of NPS Requirement	How and where considered in the ES
derive mainly from the effects of traffic movements, which is likely to involve smaller vehicles than typical onshore energy infrastructure but may be more voluminous. (paragraph 2.10.121 of NPS EN-3).	established to include all relevant routes along the connecting transport network.
Generic traffic and transport impacts are covered Section 5.14 of EN-1. (paragraph 2.10.122 of NPS EN-3).	A response to all paragraphs in Section 5.14 of NPS EN-1 is provided above.
Applicants should assess the various potential routes to the site for delivery of materials and components where the source of the materials is known at the time of the application, and select the route that is the most appropriate. (paragraph 2.10.123 of NPS EN-3). Where the exact location of the source of construction materials, such as crushed stone or concrete is not be known at the time of the application, applicants should assess the worst-case impact of additional vehicles on the likely potential routes. (paragraph 2.10.124 of NPS EN-3).	**Section 12.6** of this chapter provides a description of the traffic and transport study area which has been established to include all relevant routes along the connecting transport network. **Section 12.7** of this chapter provides a description of the assumptions made to ensure a robust and worst-case assessment for the delivery route to the site.
Applicants should ensure all sections of roads and bridges on the proposed delivery route can accommodate the weight and volume of the loads and width of vehicles. Although unlikely, where modifications to roads and/or bridges are required, these should be identified, and potential effects addressed in the ES. (paragraph 2.10.125 of NPS EN-3).	Temporary Traffic Regulation Orders (TTRO) to temporarily reduce speed limits and temporarily amend weight limits on certain links within the traffic and transport study area is set out in Section 12.7 and the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO.
Where a cumulative impact is likely because multiple energy infrastructure developments are proposing to use a common port and/or access route and pass through the same towns and villages, applicants should include a cumulative transport assessment as part of the ES. This should consider the impacts of abnormal traffic movements relating to the project in question in combination with those from any other relevant development. Consultation with the relevant local highways authorities is likely to be necessary. (paragraph 2.10.126 of NPS EN-3).	**Section 12.11** considers the cumulative impact of construction vehicle movements arising from the Project and other cumulative developments on the LRN and SRN.
In some cases, the local highway authority may request that the Secretary of State impose controls on the number of vehicle movements to and from the solar farm site in a specified period during its construction and, possibly, on the routeing of such movements particularly by heavy vehicles. (paragraph 2.10.139 of NPS EN-3).	**Section 12.9** of this chapter provides an analysis of the impacts on traffic and transport during the construction of the Project. **Section 12.7** of this chapter provides a description of the assumptions made to ensure a robust and worst-case assessment for the delivery route to the site.

Summary of NPS Requirement	How and where considered in the ES
Where the Secretary of State agrees that this is necessary, requirements could be imposed on development consent. (paragraph 2.10.140 of NPS EN-3).	
Where cumulative effects on the local road network or residential amenity are predicted from multiple solar farm developments, it may be appropriate for applicants for various projects to work together to ensure that the number of abnormal loads and deliveries are minimised, and the timings of deliveries are managed and coordinated to ensure that disruption to residents and other highway users is reasonably minimised. (paragraph 2.10.141 of NPS EN-3). It may also be appropriate for the highway authority to set limits for, and coordinate these deliveries through, active management of the delivery schedules through the abnormal load approval process. (paragraph 2.10.142 of NPS EN-3).	**Section 12.11** considers the cumulative impact of construction vehicle movements arising from the Project and other cumulative developments on the LRN and SRN. Mitigation measures to minimise disruption during the construction phase have been set out in the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO. The movement of AILs will not be consented by the DCO and will be subject to a Special Order issued by the Secretary of State for Transport following an application by the appointed heavy haulage contractor.
Once consent for a scheme has been granted, applicants should liaise with the relevant local highway authority (or other coordinating body) regarding the start of construction and the broad timing of deliveries. Applicants may need to agree a planning obligation to secure appropriate measures, including restoration of roads and verges. (paragraph 2.10.143 of NPS EN-3). Further, it may be appropriate for any non-permanent highway improvements carried out for the development (such as temporary road widening) to be made available for use by other subsequent solar farm developments. (paragraph 2.10.144 of NPS EN-3).	The relevant highway authorities will be consulted as the oCTMP **[EN010147/APP/7.6.1]** and its associated measures and timings etc, secured as part of the CoCP requirement within the draft DCO develops into final CTMPs.
Once solar farms are in operation, traffic movements to and from the site are generally very light, in some instances as little as a few visits each month by a light commercial vehicle or car. Should there be a need to replace machine components, this may generate heavier commercial vehicle movements, but these are likely to be infrequent. (paragraph 2.10.161 of NPS EN-3).	The potential transport impacts during the operation and maintenance, and decommissioning phases have been scoped out as set out in **Table 12.7.**
The Secretary of State is unlikely to give any more than limited weight to traffic and transport noise and vibration impacts from the operational phase of a project. (paragraph 2.10.162 of NPS EN-3).	Noise and vibration is considered in Volume 1, Chapter 13: Noise and Vibration **[EN010147/APP/6.3]**.

The National Planning Policy Framework

12.2.8 The National Planning Policy Framework (NPPF) was published in 2012 and updated in 2018, 2019, 2021 and twice in 2023 (Department for Levelling Up, Housing and Communities, 2023). The NPPF sets out the Government's planning policies for England.

12.2.9 **Table 12.2** sets out a summary of the NPPF policies relevant to this chapter.

Table 12.2: Summary of NPPF requirements relevant to this chapter

Policy	Key Provisions	How and where considered in the ES
108.	Transport issues should be considered from the earliest stages of plan-making and development proposals, so that: (a) the potential impacts of development on transport networks can be addressed; […] (c) opportunities to promote walking, cycling and public transport use are identified and pursued; (d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains.	**Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN. Existing sustainable transport infrastructure is considered within **Section 12.6** of this chapter and at Volume 3, Appendix 12.4: Public transport networks and Volume 3, Appendix 12.5: Sensitive receptors **[EN010147/APP/6.5]**, which includes an analysis of public transport services and pedestrian and cycle infrastructure.
114.	In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that: (a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location; (b) safe and suitable access to the site can be achieved for all users; (c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and (d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.	Existing sustainable transport infrastructure is considered within **Section 12.6** of this chapter and at Volume 3, Appendix 12.4: Public transport networks and Volume 3, Appendix 12.5: Sensitive receptors **[EN010147/APP/6.5]**, which includes an analysis of public transport services and pedestrian and cycle infrastructure. Travel plan measures, details on staff parking and other relevant transport elements are included within the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO. **Section 12.9** assesses access routes and the impact of construction vehicle movements arising from the Project on the LRN and SRN. All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Appendix 12.8: Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1].**
115.	Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on	**Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative

Policy	Key Provisions	How and where considered in the ES
	highway safety, or the residual cumulative impacts on the road network would be severe.	impact of traffic and transport on the LRN and SRN. No unacceptable impacts on highway safety or residual severe cumulative impacts on the road network are predicted.
116.	Within this context, applications for development should: […] (d) allow for the efficient delivery of goods, and access by service and emergency vehicles.	Traffic management measures for construction vehicles to allow for efficient deliveries and access are set out in the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO. All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Appendix 12.8: Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.
117.	All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.	This chapter of the ES contains an integrated TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Project. Travel plan measures are included within a oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO.

12.2.10 The Government has published proposed reforms to the NPPF for consultation on 30 July 2024, with the consultation period ending on 24 September 2024 (Ministry of Housing, Communities and Local Government, 2024). Following consultation, the NPPF will be updated.

12.2.11 The consultation draft includes similar provisions as the designated NPPF. The consultation draft NPPF has been reviewed and there are no material updates for traffic and transport.

12.2.12 The Planning Practice Guidance (PPG) (Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government, 2021) supports the NPPF and provides guidance across a range of topic areas.

12.2.13 The guidance on 'Travel Plans, Transport Assessments and Statements' provides a concise report on the use and importance of Transport Assessments/Statements and Travel Plans. It considers that Transport Assessments/Statements and Travel Plans should be proportionate to the size and scope of the proposed development, be tailored to particular local circumstances and be established at the earliest practicable possible stage of a development proposal.

12.2.14 It sets out that the scope and level of detail in a Transport Assessment or Statement will vary from site to site and then lists a host of elements that should be considered.

12.2.15 This chapter contains an integrated TA throughout which is compliant with all relevant policy and has been tailored to the local circumstances and is proportionate in size and scope to the Project.

Strategic road network and the delivery of sustainable development (DfT Circular 01/2022)

12.2.16 The DfT Circular 01/2022 policy paper explains how National Highways will engage with the planning system to assist the delivery of sustainable development whilst maintaining, managing, and operating a safe and efficient SRN.

12.2.17 In relation to the assessment of development proposals, it states the following in Paragraph 47:

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

12.2.18 Paragraph 48 relating to Transport Assessments states the following:

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

12.2.19 Paragraph 49 continues to state the following:

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

12.2.20 This chapter contains an integrated TA throughout which considers accessibility by sustainable transport modes and existing and forecast levels of traffic on the SRN.

Local planning policy

12.2.21 The relevant local planning policies applicable to traffic and transport based on the extent of the study areas for this assessment are summarised in **Table 12.3**. **Table 12.3** also summarises relevant OCC transport policies applicable

to traffic and transport based on the extent of the study areas for this assessment.

Table 12.3: Summary of local planning policy relevant to this chapter

Policy	Key Provisions	How and where considered in the ES
Oxfordshire Local Transport and Connectivity Plan 2022 – 2050 (adopted July 2022)		
Policy 2: Cycle and walking networks	Ensure that all new developments have safe and attractive walking and cycling connections to the site, include a connected attractive network for when people are walking and cycling within the development and that the internal routes connect easily and conveniently to community facilities and the local cycle and walking network.	**Section 12.6** of this chapter sets out the existing pedestrian and cycling infrastructure within the traffic and transport study area, highlighting the walking and cycling connections available for construction staff.
Policy 11: Travel to school and work	OCC will: b. Work with employers and businesses in the county to improve promotion and education of travel choices	**Section 12.6** of this chapter sets out the existing pedestrian and cycling infrastructure within the traffic and transport study area, highlighting the sustainable transport options available for construction staff. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO.
Policy 15: Vision Zero	OCC will: a. Adopt the vision zero approach, which seeks to eliminate all fatalities and severe injuries on Oxfordshire's roads and streets, to have safer, healthier, and more equitable mobility for all.	A road safety analysis has been undertaken in **Section 12.6** of this chapter.
Policy 31: Network management	OCC will: c. Balance the needs of all network users, whilst promoting and prioritising walking, cycling and public transport at every opportunity.	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area. These highlight the sustainable transport options within the traffic and transport study area for construction staff. Movement by sustainable means will be facilitated and encouraged. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO.
Policy 33: Parking management	OCC will: a. Ensure the parking requirements of all modes of transport are considered, in line with OCC transport user hierarchy.	Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO.

Policy	Key Provisions	How and where considered in the ES
	b. Work to embed parking guidance into relevant guidance and decision-making processes and progress the associated actions.	
Policy 47: Freight and Logistics Strategy	OCC will develop and deliver a freight and logistics strategy based around the principles of: • Appropriate movement • Efficient movement • Net-zero movement • Safe movement • Partnership working	The movement of construction vehicles has been considered to make best use of the existing network to ensure efficient movement on the network. **Section 12.9** of this chapter assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Appendix 12.8 Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.
Policy 49: Local movement	OCC will a. Develop and deliver measures to encourage use of the most appropriate routes for HGVs. b. Support a range of additional measures to improve the safety of local goods movement and encourage uptake of zero-emission vehicles.	
Oxfordshire Minerals and Waste Local Plan Part 1 – Core Strategy (adopted September 2017)		
Policy C10: Transport	Proposals for minerals and waste development that would generate significant amounts of traffic will be expected to be supported by a transport assessment or transport statement, as appropriate, including mitigation measures where applicable	This chapter of the ES contains an integrated TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Project. Any mitigation required in relation to traffic and transport has been set out in **Section 12.8** of this chapter.
West Oxfordshire Local Plan 2031 (adopted September 2018)		
Policy T1: Sustainable Transport	Priority will be given to locating new development in areas with convenient access to a good range of services and facilities and where the need to travel by private car can be minimised, due to opportunities for walking, cycling and the use of public transport, particularly where this would help to reduce traffic congestion on the routes around Oxford and the Air Quality Management Areas at Witney and Chipping Norton. All new development will be designed to maximise opportunities for walking, cycling and the use of public transport, ensure the safe movement of vehicles and minimise the impact of parked and moving vehicles on local residents, business and the environment.	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area, highlighting the sustainable transport options for construction staff. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO.

Policy	Key Provisions	How and where considered in the ES
	Proposals for new developments that have significant transport implications either in themselves or in combination with other proposals will be required to include a TA, and a travel plan, in accordance with County Council requirements.	
Policy T2: Highway Improvement Schemes	All development will be required to demonstrate safe access and an acceptable degree of impact on the local highway network. Development proposals that are likely to generate significant amounts of traffic, shall be supported by a TA and a Travel Plan.	**Section 12.9** of this chapter assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. This chapter of the ES contains an integrated TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Project. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO. All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Appendix 12.8 Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.
Policy T3: Public Transport Walking and Cycling	All new development will be located and designed to maximise opportunities for walking, cycling and the use of public transport. Where opportunities for walking, cycling and using public transport are more limited, other measures will be sought to help reduce car use as appropriate	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area, highlighting the sustainable transport options for construction staff. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO.
Eynsham Neighbourhood Plan 2018 – 2031 ('made' February 2020)		
ENP7: Sustainable Transport	New development shall have safe access to local transport networks by private car and public transport. Where achievable, new developments should be accessed by motor vehicle from existing main roads (A40, B4044, B4449) and not through existing village roads. This provision should apply to both construction and residential traffic. Encouragement shall be given to the use of alternatives to private cars and	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area, highlighting the sustainable transport options for construction staff. The movement of construction vehicles has been considered to make best use of the existing network to ensure efficient movement on the network.

Policy	Key Provisions	How and where considered in the ES
	documented in Travel Plans submitted with each planning application where appropriate.	Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO.
Cherwell Local Plan 2011 – 2031 (Part 1) (adopted July 2015)		
Policy SLE 4: Improved Transport and Connections	All development where reasonable to do so, should facilitate the use of sustainable modes of transport to make the fullest possible use of public transport, walking and cycling. Encouragement will be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. Development which is not suitable for the roads that serve the development, and which have a severe traffic impact will not be supported.	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the initial traffic and transport study area, highlighting the sustainable transport options for construction staff. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO. **Section 12.9** of this chapter assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN.
Policy ESD 5: Renewable Energy	Planning applications involving renewable energy development will be encouraged provided that there is no unacceptable adverse impact, including cumulative impact, on the following issues, which are considered to be of particular local significance in Cherwell: • Highways and access issues	**Section 12.9** of this chapter assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Appendix 12.8: Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.
Vale of White Horse Local Plan 2031 Part 1 (adopted December 2016)		
Core Policy 33: Promoting Sustainable Transport and Accessibility	The Council will work with Oxfordshire County Council and others to: i. actively seek to ensure that the impacts of new development on the strategic and local road network are minimised ii. ensure that developments are designed in a way to promote sustainable transport access both within new sites, and linking with surrounding facilities and employment vi. promote and support improvements to the transport network that increase safety, improve air quality and/or make our towns and villages more attractive.	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area, highlighting the sustainable transport options for construction staff. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO. **Section 12.9** of this chapter assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN.
Core Policy 35: Promoting Public	The Council will work with Oxfordshire County Council and others to:	**Section 12.6** of this chapter sets out the available public transport and the existing

Policy	Key Provisions	How and where considered in the ES
Transport, Cycling and Walking	i. encourage the use of sustainable modes of transport and support measures that enable a modal shift to public transport, cycling and walking in the district vi. ensure proposals for major development are supported by a Transport Assessment and Travel Plan, in accordance with Oxfordshire County Council guidance	pedestrian and cycling infrastructure within the traffic and transport study area, highlighting the sustainable transport options for construction staff. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO.
Core Policy 37: Design and Local Distinctiveness	All proposals for new development will be required to be of high quality design that: iv. is well connected to provide safe and convenient ease of movement by all users, ensuring that the needs of vehicular traffic does not dominate at the expense of other modes of transport, including pedestrians and cyclists, or undermine the resulting quality of places	**Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area, highlighting the sustainable transport options for construction staff. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO.
Vale of White Horse Local Plan 2031 Part 2 (adopted October 2019)		
Development Policy 16: Access	Proposals for development will also need to provide evidence to demonstrate that: i. adequate provision will be made for loading, unloading, circulation, servicing and vehicle turning, and ii. acceptable off-site improvements to the highway infrastructure (including traffic management measures), cycleways, public rights of way and the public transport network can be secured where these are not adequate to service the development.	Traffic management measures for construction vehicles to allow for efficient deliveries and access are set out in the oCTMP **[EN010147/APP/7.6.1]** secured as part of the CoCP requirement within the draft DCO. All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Appendix 12.8: Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.
Development Policy 17: Transport Assessments and Travel Plans	Proposals for 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 scope of the assessment should be agreed with the County Council as the highway authority, in association with the district council, as the planning authority. Highways England should also be consulted as appropriate, in accordance with Highways England guidance.	This chapter of the ES contains an integrated TA throughout to consider the potential impacts and effects on the operation of the highway network arising from the Project. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO. National Highways and Oxfordshire County Council (OCC) as the relevant highway authorities have been consulted on the potential impacts and mitigation relevant to

Policy	Key Provisions	How and where considered in the ES
		the SRN and the LRN as set out in **Section 12.3** of this chapter.
Cumnor Parish Neighbourhood Development Plan 2021 – 2031 ('made' May 2021)		
Policy TI1: Sustainable Transport	New development should not have an unacceptable impact on the free and safe flow of traffic in general, and at the following locations in particular: i. Land adjacent to or near to the A420 approaching Botley Interchange ii. Lower Cumnor Hill and Eynsham Road; iii. The historic village core of Cumnor; iv. Swinford Toll Bridge.	**Section 12.9** of this chapter assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN.

12.3 Consultation and Engagement

12.3.1 On 15 June 2023, the Applicant submitted a Scoping Report to the Planning Inspectorate, which described the scope and methodology for the technical studies being undertaken to provide an assessment of any likely significant effects for the construction, operation and maintenance and decommissioning phases. It also described those topics or sub-topics which are proposed to be scoped out of the EIA process and provided justification as to why the Project would not have the potential to give rise to significant environmental effects in these areas.

12.3.2 Following consultation with the appropriate statutory bodies, the Planning Inspectorate (on behalf of the Secretary of State) provided a Scoping Opinion on 24 July 2023. Key issues raised during the scoping process specific to traffic and transport are listed in **Table 12.4**, together with details of how these issues have been addressed within the ES.

Table 12.4: Summary of scoping responses

Comment	How and where considered in the ES
Planning Inspectorate	
The Applicant proposes to scope out the impact of additional vehicle movements on LRN and SRN during operation and maintenance of the Proposed Development on the basis that a limited number of additional vehicle movements, associated with infrequent maintenance activities, are likely to be generated. The number of vehicle movements likely to be required during operation and maintenance are not provided in the Scoping Report. The Inspectorate has considered the characteristics of the Proposed Development. The Inspectorate agrees to scope this matter out subject to confirmation	This has been scoped out of the assessment for traffic and transport and is considered in **Section 12.4** of this chapter which includes confirmation of the type of operational/maintenance visits and vehicles and confirmation that these would not exceed relevant thresholds of effect.

Comment	How and where considered in the ES
of the type of operational/maintenance visits and vehicles and confirmation that these would not exceed relevant thresholds of effect (e.g. as set out in Environmental Assessment of Traffic and Movement, July 2023), taking account of any potential cumulative traffic effects.	
The Applicant proposes to scope out the impact of additional vehicle movements on the LRN and SRN during decommissioning, on the basis that the number of vehicle movements generated would be less than the construction phase. The Scoping Report also states that a CTMP, updated as necessary, will be employed during the decommissioning phase. Indicative traffic numbers for either the construction or decommissioning phases are not provided within the Scoping Report. Therefore, no evidence is provided to support the claim that traffic numbers during decommissioning would be lower than during construction. As such, the Inspectorate is not in a position to scope this matter out at this stage. The ES should identify the likely traffic generated during construction and operation, along with the basis for estimating traffic movements and any measures to manage the impact of traffic on the road network. Where the potential for a significant effect is identified, then this should be fully assessed within the ES.	Construction traffic flows are detailed in **Section 12.9** of this chapter. Vehicle movements generated during the decommissioning phase are not expected to exceed those during the construction phase since the removal of materials does not need to be delicately transported and can be bulk loaded whilst some infrastructure will be retained in-situ. Given that some infrastructure will be left in-situ, this results in less transport requirement which results in fewer vehicle movements in comparison to the construction phase. Thus, it can be determined that the identification of significant effects resulting from traffic generated during the construction phase, would also apply to the decommissioning phase. An assessment of the decommissioning phase specifically is therefore scoped out. Traffic management measures for decommissioning will be submitted and agreed with the relevant highway authorities prior to any decommissioning works commencing which will identify and set out appropriate mitigation measures for decommissioning generated vehicle movements that are identified and required at that time.
The Scoping Report notes that access routes and arrangements are not yet known at this stage. It is not clear whether highway improvement works are proposed as part of the Proposed Development. Paragraph 7.6.23 states that there may be a requirement for a new junction to access the construction work areas and Table 7.11 states that highway works may be required to facilitate the movement of AILs during construction. Paragraph 7.6.20 states that the Proposed Development could result in "*improved connectivity*" however it is not clear what this refers to. The ES should provide a description of the proposed access routes along with any associated highways works and identify works/accesses on a Figure. The ES should assess any associated significant effects that may arise as a result of any highways works where they are likely to occur.	Details on access routes and arrangements and associated highway works are set out in **Section 12.7** of this chapter.

Comment	How and where considered in the ES
The Scoping Report states that impacts on safety from the use of AILs will be assessed within the ES. Appropriate measures to ensure safe transportation of hazardous loads should be included within the outline Construction Environmental Management Plan (CEMP).	**Section 12.9** of this chapter assesses the impact of AILs on the safety of users of the LRN, SRN and other transport receptors. An Outline CoCP **[EN010147/APP/7.6.1]** is submitted in support of the application for Development Consent.
Scoping Report paragraphs 7.6.9 to 7.6.15 characterise the SRN, identifying A roads that link to the Proposed Development. It is noted that all A roads are described aside from the A4095 and it is unclear whether this is an omission or whether this is not considered part of the SRN. The ES should explain which roads form the SRN and why and describe the baseline in full.	**Section 12.4** and **Section 12.6** of this chapter sets out the traffic and transport study area and the baseline environment and includes all parts of the LRN and SRN that would be used by construction vehicles. This includes the A4095 which forms part of the LRN.
National Highways	
We do not offer a view of the scope of EIA's as this is for the Planning Inspectorate to determine. However, we note that the applicant states in section 7.6 of the scoping report that a Transport Statement (TS) will be produced to accompany the application. Based on what is known about the development proposals, it is highly likely that the A34 will be impacted by the development, particularly during construction. Therefore, we would recommend that the applicant contacts us to determine any requirements we may have for the scope of the TS.	This chapter contains an integrated TA throughout and considers the potential impacts and effects on the operation of the highway network, including the A34, arising from the Project in accordance with guidance and best practice as set out in **Section 12.9** of this chapter. **Section 12.10** of this chapter confirms that peak hour construction vehicle movements are below thresholds (30 vehicle movements per hour) in which transport assessments on the SRN would typically be undertaken in terms of highway performance and operation.
In addition, section 7.6.25 of the scoping report states that the applicant intends to submit a CTMP alongside the DCO. This should properly assess the impact of construction traffic on the A34.	This chapter contains an integrated TA throughout and considers the potential impacts and effects on the operation of the highway network, including the A34, arising from the Project in accordance with guidance and best practice as set out in **Section 12.9** of this chapter. An oCTMP **[EN010147/APP/7.6.1]** has been prepared in support of the application for Development Consent which also considers the potential impacts and effects on the operation of the highway network, including the A34, arising from the Project.
Oxfordshire County Council	
The proposals are to scope out the decommissioning phase of the works due to the construction phase presenting a worst-case scenario, two main reasons for this are given. Firstly, that the number of vehicle movements associated with the decommissioning would be lower than construction. This is difficult to validate however does seem likely, it is expected however that given the scale of the scheme the number of movements would still be significant.	Construction traffic flows are detailed in **Section 12.7** of this chapter. Vehicle movements generated during the decommissioning phase are not expected to exceed those during the construction phase since the removal of materials does not need to be delicately transported and can be bulk loaded whilst some infrastructure will be retained in-situ. Given that some infrastructure will be left in-situ, this results in less transport requirement which results in fewer vehicle movements in comparison to the construction phase. Thus, it can be determined that the identification of significant effects resulting from traffic generated during the

Comment	How and where considered in the ES
Secondly it is considered that the decommissioning traffic would be set against a higher level of background traffic in the future. This assumption conflicts with the LTCP ambition to remove approximately half of car trips from the network. The point of decommissioning is unknown however likely to be 2050 or later at which time if policy objectives are met whilst the overall level of network movements would be higher the mode by which these are taken would be materially changed. The number of active travel movements is likely to increase significantly, and these modes are more susceptible to impact from construction traffic.	construction phase, would also apply to the decommissioning phase. An assessment of the decommissioning phase specifically is therefore scoped out. Traffic management measures for decommissioning will be submitted and agreed with the relevant highway authorities prior to any decommissioning works commencing which will identify and set out appropriate mitigation measures for decommissioning generated vehicle movements that are identified and required at that time. Given OCCs ambition with future reduced vehicle movements and increased active travel movements, traffic management measures for decommissioning will be prepared just prior to decommissioning when the effects of OCCs ambition can be determined in terms of vehicle movements and active travel movements at that time. This will enable the traffic management measures for decommissioning to consider these movements at that time and determine the mitigation measures that would be required specific for those movements.

12.3.3 Following scoping, consultation and engagement with interested parties specific to traffic and transport has continued.

12.3.4 The PEIR was issued to inform the statutory consultation carried out on the Project between 30 November 2023 and 8 February 2024. It presented the preliminary findings of the EIA process for the Project at that time. The consultation responses specific to traffic and transport and the way in which they have been taken into account in this ES chapter.

12.3.5 A summary of the key issues raised during consultation activities undertaken to date is presented in **Table 12.5**, together with how these issues have been considered in the production of this ES chapter.

Table 12.5: Summary of consultation relevant to this chapter

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
20 January 2023	Meeting OCC Transport Development Management Team	OCC advised that some surrounding villages were isolated for pedestrians and cyclists and that opportunities and connections for cycling and walking through the Project site should be identified.	Existing and proposed rights of way through the Project site are considered in Volume 1 Chapter 17 Agricultural Land Use and Public Rights of Way of this ES.
20 January 2023	Meeting OCC Transport Development Management Team	OCC advised that the laying of cables would need input from the Network Management Team at OCC.	Meeting with OCC Network Management Team arranged for 02 February 2023.
20 January 2023	Meeting OCC Transport Development Management Team	OCC advised that Traffic Management Plans will be required and that access points should be agreed.	A oCTMP **[EN010147/APP/7.6.1]** has been submitted in support of the application for Development Consent.
02 February 2023	Meeting OCC Network Management Team	Discussed the proposals and the requirements for cable laying in the verge and/or highway.	Agreed to set up two workshops to discuss in more detail during March 2023.
02 March 2023	Workshop with OCC Network Management Team	Discussion on the alignment of the cable route and the requirements for cable laying in the verge and/or highway.	Agreed that OCC Network Management Team would study the broad location of the cable corridor during workshop on 09 March 2023 with a view to identifying any restrictions that may affect the laying of cables.
09 March 2023	Workshop with OCC Network Management Team	OCC Network Management Team studied the broad location of the cable corridor in the context of known constraints and known infrastructure within the verge and highway.	OCC Network Management Team advised they had no concerns with any of the cable route or its laying along the alignment proposed. This has provided confidence in the Project and there is no need for any specific assessment within this ES. Agreed that the Applicant would arrange to undertake trial pits at key locations along the cable route to inform micro-siting and whether the cable could be located within the verge or would be within the highway. This will be undertaken post submission of the application for Development Consent.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
December 2023, April 2024, June 2024, September 2024 and October 2024	Ongoing meetings, discussions and correspondence with OCC Network Management Team	Ongoing discussions and review of the cable corridor in the context of known constraints and known infrastructure within the verge and highway. Discussions on the Highway Authorities and Utilities Committee (HAUC(UK)) statutory suppliers. Discussions on the legal requirements for statutory undertakers. Discussions regarding Solar 5 Ltd and street manager for statutory undertaker status under the generating license. Discussions regarding the draft protective provisions within the draft DCO. Discussions regarding the OCC permit scheme.	OCC Network Management Team advised they had no concerns with any of the cable route or its laying along the alignment proposed. This has provided confidence in the Project and there is no need for any specific assessment within this ES. Discussions regarding the legal requirements, statutory undertaker status, street works, protective provisions and the OCC permit scheme have informed the drafting of the draft DCO.
April 2024	Section 42 response – National Highways	In the case of this development proposal, our interest is in the A34 located east of the site. The proposed site is large and spread out over several individual areas, but at the closest point to the SRN it is approximately 0.8 miles west of the A34.	A TA has been integrated into this chapter in accordance with guidance and best practice. **Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN. An oCTMP **[EN010147/APP/7.6.1]** has been submitted in support of the application for Development Consent.
April 2024	Section 42 response – National Highways	If a formal Development Consent Order (DCO) were to come forward for this site, we would expect to see a Transport Assessment (TA) containing the following as a minimum: • The site context and local highway network and a review of personal injury accidents within the vicinity of the site for the most recent three year period. • A broad summary of key national and local transport planning policies applicable to the scheme and how the scheme accords with these policies.	A TA has been integrated into this chapter in accordance with guidance and best practice. The site context, local highway network and road safety are addressed in **Section 12.6** of this chapter. The policies relevant to traffic and transport have been set out in **Section 12.2** of this chapter. **Section 12.6** of this chapter sets out the available public transport and the existing pedestrian and cycling infrastructure within the traffic and transport study area.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
		• The appropriateness of the local pedestrian, cycle and public transport networks with reference to opportunities for potential staff to travel via sustainable transport modes as a genuine alternative to single occupancy vehicle trips. • A detailed description of the development proposals. This will include details relating to the proposed parking, access and servicing arrangements. • An assessment of forecast vehicular trips generated by the site. • A distribution assessment indicating where vehicles will travel to/from the site. This should indicate what percentage of vehicles use the A27 to access the site.	These highlight the sustainable transport options within the traffic and transport study area for construction staff. Travel plan measures have been included within an oCTMP **[EN010147/APP/7.6.1]** secured as part of the Code of Construction Practice (CoCP) requirement within the draft DCO. Further details on the development proposals are included in Volume 1, Chapter 6: Project Description. All construction accesses are existing gated field accesses which have been designed to accommodate the movement of HGVs as set out within Volume 3, Appendix 12.8: Accesses and highway drawings **[EN010147/APP/6.5]** and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**. **Section 12.9** of this chapter provides an analysis of the impacts on traffic and transport during the construction of the Project. The traffic and transport study area has been established to include all relevant routes along the connecting transport network.
April 2024	Section 42 response – National Highways	The Transport Assessment when submitted should also take into account other committed development in the area, particularly anything which may also impact upon the A34.	A TA has been integrated into this chapter in accordance with guidance and best practice. **Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN.
April 2024	Section 42 response – National Highways	Chapter 12 of the PEIR contains information about how construction traffic impacts will be estimated. However, there is no clear indication of what the impact may be upon the SRN. We would ask that the TA in a future DCO application specifically estimates the number of construction vehicle trips expected at each junction of the A34.	The construction traffic flows along each link in the traffic and transport study area, including the A34, is included within **Section 12.9**

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
April 2024	Section 42 response – National Highways	We draw your attention to Paragraph 51 of the updated DfT Circular 01/2022, which states that where development proposals would have an unacceptable safety impact, or the residual cumulative impacts on the SRN would be severe, suitable mitigation should be identified and agreed to future-proof the network. National Highways considers that any development trips adding to a grade separated junction off-slip, which then results in mainline queuing, extends a mainline queue, and/or increases the frequency at which a mainline queuing occurs, to be an unacceptable safety impact. In such a circumstance, we would seek mitigation measures for any severe / significant impacts generated, also taking into consideration any improvements schemes identified as part of the emerging Local Plan.	The construction traffic flows along each link in the traffic and transport study area, including the A34, is included within **Section 12.9.** **Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN. An oCTMP **[EN010147/APP/7.6.1]** has been submitted in support of the application for Development Consent. Any mitigation required in relation to traffic and transport has been set out in **Section 12.8** of this chapter.
April 2024	Section 42 response – National Highways	We welcome the statement that a Construction Traffic Management Plan (CTMP) will be included in a future DCO application and encourage this to fully assess the impact of construction traffic upon the SRN.	An oCTMP **[EN010147/APP/7.6.1]** has been submitted in support of the application for Development Consent. **Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN.
April 2024	Section 42 response – National Highways	Given the complex nature of these proposals and the likely construction traffic impact on the SRN, we would welcome the opportunity to discuss these matters with the applicant's transport consultant before a DCO application is submitted. We can be contacted to request a meeting on the email address below.	The construction traffic flows along each link in the traffic and transport study area, including the A34, is included within **Section 12.9.** Peak hour vehicle movements are below thresholds in which National Highways would typically require assessment as set out in **Section 12.9.**
April 2024	Section 43 response – Oxfordshire County Council	The study area has been based on the assumption that all deliveries will arrive and depart the wider area via the A34, however it is also stated that at this time it is not known where deliveries to site will be coming from. The A34 makes connections north south however there are other major roads such as the A40 and A420 which	An oCTMP **[EN010147/APP/7.6.1]** has been prepared secured as part of the CoCP requirement within the draft DCO which details the construction access routes for HGVs.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
		would be the most likely route from other areas and therefore a potential route for HGVs.	**Section 12.6** of this chapter provides a description of the traffic and transport study area which has been established to include all relevant routes along the connecting transport network.
April 2024	Section 43 response – Oxfordshire County Council	Figure 12.1 shows the links that have been assessed however there is no indication as to how vehicles will be limited to these routes ie will there be a routing agreement included in the DCO and how would this be enforced.	An oCTMP **[EN010147/APP/7.6.1]** has been prepared secured as part of the CoCP requirement within the draft DCO which details the construction access routes for HGVs. **Section 12.6** of this chapter provides a description of the traffic and transport study area which has been established to include all relevant routes along the connecting transport network.
April 2024	Section 43 response – Oxfordshire County Council	This is relevant to some links that have a high level of sensitivity but are currently projected to have low movements such as Link 6. What would prevent vehicles using the A4095 to reach the Lower Road site by avoiding the A40? (which is frequently congested and will be subject to major works in the near future).	An oCTMP **[EN010147/APP/7.6.1]** has been prepared secured as part of the CoCP requirement within the draft DCO which details the construction access routes for HGVs. **Section 12.6** of this chapter provides a description of the traffic and transport study area which has been established to include all relevant routes along the connecting transport network.
April 2024	Section 43 response – Oxfordshire County Council	OCC have requested that rail services operating at Tackley station be included and the summary of desk study sources used be updated to include all public transport operators.	**Section 12.6** of this chapter sets out the available public transport within the traffic and transport study area which has been updated to include Tackley Station. A summary of the public transport network for the Project is also set out in Volume 3, Appendix 12.4: Public Transport Network of the ES.
April 2024	Section 43 response – Oxfordshire County Council	The Road Safety Data should be extended to include 2022 and 2023 in order to have 5 years of data that is not impacted by Covid 19 travel restrictions.	A full assessment of highway safety using the most recently available data including 2022, is included within **Section 12.6.**

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
April 2024	Section 43 response – Oxfordshire County Council	The descriptions and consideration of Links 13,14 and 16 should be in the context of the committed and commenced developments adjacent to them.	Since PEIR there has been a greater understanding of the build out of the Northern Gateway committed development. As such, the sensitivity of links in the vicinity of this location have been updated. A description of the network links and their sensitivity are set out in Appendix 12.1: Description of network links and sensitivity of the ES and in **Section 12.6.**
April 2024	Section 43 response – Oxfordshire County Council	Link 16 has not been taken forward for assessment on a precautionary basis as there are no sensitive receptors identified, however it is adjacent to a Local Plan allocation for which there is a live planning application. Depending on timescales for both projects there could be residential development completed at the time of construction. The cumulative impact of construction traffic relating to both developments could be particularly relevant here.	**Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN.
April 2024	Section 43 response – Oxfordshire County Council	It is not clear exactly where the site access on Link 21 the B4017 Cumnor Road will be however the assessment does not appear to address the significant pinch point at Filchampsted where the carriageway is narrow, this will need to be assessed if delivery vehicles are to pass through. It should also be noted that despite the lack of footways pedestrians use this route to access the leisure facilities at Farmoor Reservoir and it is a well used leisure cycling route due to the hill between Cumnor and Farmoor.	Details on access routes and arrangements and associated highway works are set out in **Section 12.7** of this chapter. **Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN.
April 2024	Section 43 response – Oxfordshire County Council	Specific detailed mitigation measures are still to be determined/designed in detail and the Highway Authority would welcome the opportunity to review these prior to submission.	An oCTMP **[EN010147/APP/7.6.1]** has been submitted in support of the application for Development Consent. Any mitigation required in relation to traffic and transport has been set out in **Section 12.8** of this chapter.
April 2024	Section 43 response – Oxfordshire County Council	The CTMP needs to include a mechanism for how vehicle restrictions would work ie identify locations where HGVs can safely layover if they are due to arrive at a	An oCTMP **[EN010147/APP/7.6.1]** has been submitted in support of the application for Development Consent.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
		restricted time. As highway capacity is limited this should ideally be provided on a suitable area of the site. Overall details of how vehicle movements will be managed through the construction process should be provided.	
April 2024	Section 43 response – Oxfordshire County Council	We welcome any proposed mitigation to enhance the walking and cycling networks adjacent to or through the proposed development area including public rights of way.	This is considered in Volume 1 Chapter 17 Agricultural Land Use and Public Rights of Way of this ES **[EN010147/APP/6.3]**.
April 2024	Section 43 response – Oxfordshire County Council	Whist some mitigation involving improved or new walking and cycling routes is proposed, we request more detail on the location and type of improvements. We request further direct engagement between the applicant and OCC in order to understand the detail of the mitigation measures proposed. It would be useful to meet to ensure that improvements are delivered to a high quality specification and the routes are meaningful for users, that is to say circular leisure routes, or routes that join origins and destinations.	This is considered in Volume 1 Chapter 17 Agricultural Land Use and Public Rights of Way of this ES **[EN010147/APP/6.3]**.
April 2024	Section 43 response – Oxfordshire County Council	It would be useful on plans to identify the type of existing or proposed PROW eg.. footpath from bridleway; as bridleways can be used for cycling however footpaths should not. There may be need for conversion of some footpaths to bridleways to enable cycling for example. Consider using a numbering system to discuss the proposed improvements to PROW.	This is considered in Volume 1 Chapter 17 Agricultural Land Use and Public Rights of Way of this ES **[EN010147/APP/6.3]**.
April 2024	Section 43 response – Oxfordshire County Council	North Area: • We seek more detail on the propose a new cycle route between Woodstock and Wootton. • NCN 5 and All PROW at the Northern Site will remain open is any enhancement proposed?	This is considered in Volume 1 Chapter 17 Agricultural Land Use and Public Rights of Way of this ES **[EN010147/APP/6.3]**.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
April 2024	Section 43 response – Oxfordshire County Council	Central Area: • A new footpath has been proposed to join onto the existing footpath from Cassington to connect to Church Hanborough. Proposing to upgrade a footpath between Bladon and Begbroke into a cycle route and proposing a new circular walk close to Cassington. Please provide more detail on these. • We welcome the proposal to assist in the delivery of a new off-road shared cycling/walking path along Lower Road which is identified as an important link in Oxfordshire's emerging Strategic Active Travel Network (SATN). A cycle route along Lower Road would provide a key connection between Hanborough Railway Station/ Long Hanborough and the new Salt Cross Garden Village as well as providing important connectivity to the cycle route along the A40 and the B4449/ B4044 – along which a new cycle route is also proposed. We would like to discuss this further.	This is considered in Volume 1 Chapter 17 Agricultural Land Use and Public Rights of Way of this ES **[EN010147/APP/6.3]**.
April 2024	Section 43 response – Oxfordshire County Council	Southern Area: • We note there is no identified preferred route as yet for the cabling across the River Thames at Swinford we request early notification of when this is confirmed in order to assess any implications. • We would like to discuss what the cabling involves in terms of highway impact? Are there opportunities to improve footway cycle way provision off carriageway whilst the cabling work is carried out, particularly on the B4044 between Farmoor and Eynsham?	A TA has been integrated into this chapter in accordance with guidance and best practice. **Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN. An oCTMP **[EN010147/APP/7.6.1]** has been submitted in support of the application for Development Consent.
October 2024	Meeting OCC Transport Development Management Team	Construction vehicle movements, access strategy and access routes discussed. OCC advised these were sensible and that access routes and management would	A TA has been integrated into this chapter in accordance with guidance and best practice.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
		be the responsibility of OCCs Network Management Team.	**Section 12.9** assesses the impact of construction vehicle movements arising from the Project on the LRN and SRN. **Section 12.11** assesses the cumulative impact of traffic and transport on the LRN and SRN. An oCTMP **[EN010147/APP/7.6.1]** has been submitted in support of the application for Development Consent.

12.4 Assessment Methodology

Relevant Guidance

12.4.1 For EIA methodology specific to the assessment of traffic and transport, the following guidance documents have been considered:

- Environmental Assessment of Traffic and Movement (IEMA, 2023) (the 'IEMA Guidelines'); and
- Design Manual for Roads and Bridges (DMRB) LA104: Environmental Assessment and Monitoring (Highways England (now National Highways), *et al.,* 2020).

Scope of the Assessment

12.4.2 The scope of this ES has been developed in consultation with relevant statutory and non-statutory consultees as detailed in **Table 12.4** and **Table 12.5**.

12.4.3 Taking into account the scoping and consultation process, **Table 12.6** summarises the issues considered as part of this assessment.

Table 12.6: Issues considered within this assessment

Activity	Potential effects scoped into the assessment
Construction Phase	
The impact of increases in traffic flows as a result of construction traffic or works due to, for example, cable trenching, upon driver and non-motorised user delay and non-motorised user amenity for users of the LRN and SRN.	Additional vehicle movements or works required to facilitate construction of the Project may impact the effective operation of the LRN, SRN and other transport receptors (e.g., Public Rights of Way (PRoW)) and cause driver and non-motorised user delay/impact on non-motorised user amenity.
The impact of increases in traffic flows as a result of construction traffic or works due to, for example, cable trenching, upon severance for users of the LRN and SRN.	Additional vehicle movements or works required to facilitate construction of the Project could limit the mobility/access of users of the LRN, SRN and other transport receptors (e.g., PRoW), causing severance between communities.
The impact of temporary delays to public transport services caused by increases in traffic flows as a result of construction traffic or works due to, for example, cable trenching.	Construction of the Project may disrupt public transport services (e.g., buses) due to the construction works themselves or additional vehicles movements causing delays.
The impact of increases in traffic flows as a result of construction traffic or works due to, for example, cable trenching, upon road safety for users of the LRN, SRN and other transport receptors.	Additional vehicle movements required to facilitate construction of the Project could impact the safety of users of the LRN, SRN and other transport receptors (e.g., PRoW).
The impact of AILs on the safety of users of the LRN, SRN and other transport receptors.	Construction of the Project will require the transportation of AILs, which may impact the safety of users of the LRN, SRN and other transport receptors.

12.4.4 Effects which are not considered likely to be significant have been scoped out of the assessment. A summary of the effects scoped out is presented in **Table 12.7**.

Table 12.7: Issues scoped out of the assessment

Issue	Justification
Operation and Maintenance Phase	
The impact of additional vehicle movements on the LRN and SRN on driver and non-motorised user delay, non-motorised user amenity, severance, public transport delay and road safety during operation and maintenance of the Project.	Operation and maintenance of the Project will generate a limited number of additional vehicle movements on the LRN and SRN. The Project does not require any manned facilities and requires only infrequent maintenance activities. Maintenance visits will be undertaken by a light vehicle (typically a 4x4) daily / weekly which is significantly below the assessment thresholds set out in **Section 12.5** and is therefore scoped out of the assessment. Therefore, the potential impact of additional vehicle movements on the LRN, SRN and other transport receptors during operation and maintenance of the Project is unlikely to result in significant effects and is scoped out of the assessment for traffic and transport.
Decommissioning Phase	
The impact of additional vehicle movements on the LRN and SRN on driver and non-motorised user delay, non-motorised user amenity, severance, public transport delay and road safety during decommissioning of the Project.	Vehicle movements generated during the decommissioning phase will not exceed those during the construction phase since the removal of materials does not need to be delicately transported and can be bulk loaded whilst some infrastructure will be retained in-situ. Given that some infrastructure will be left in-situ, this results in less transport requirement which results in fewer vehicle movements in comparison to the construction phase. Thus, it can be determined that the identification of significant effects resulting from traffic generated during the construction phase, would also apply to the decommissioning phase. An assessment of the decommissioning phase specifically has therefore been scoped out. A Decommissioning Traffic Management Plan will be submitted and agreed with the relevant highway authorities prior to any decommissioning works commencing which will identify and set out appropriate mitigation measures for decommissioning generated vehicle movements that are identified and required at that time. Given OCCs ambition with future reduced vehicle movements and increased active travel movements, traffic management measures for decommissioning will be prepared just prior to decommissioning when the effects of OCCs ambition can be determined in terms of vehicle movements and active travel movements at that time. This will enable the traffic management measures for decommissioning to consider these movements at that time and determine the mitigation measures that would be required specific for those movements.

Study area

12.4.5 The study area for the assessment of traffic and transport (traffic and transport study area) is shown at Volume 3, Appendix 12.1: Description of network links and sensitivity and presents the highway links that form the traffic and transport study area and is formed of those parts of the SRN and the LRN to be used by construction traffic to/from the construction compounds, HDD compounds and existing gated field accesses as determined from the access routes set out in **Section 12.7** of this chapter.

12.4.6 The A34 forms the outer boundary of the traffic and transport study area. It forms part of the SRN and is located on the eastern side of the Project, routeing broadly north to south between the M40 and the M4/M3 respectively (in a local context).

12.4.7 There are several 'A' classification roads in proximity to the Project that form part of the LRN which can be accessed from the A34 and there are some lower classification roads providing local access to local areas which also form part of the LRN.

12.4.8 Cable Route Corridor Options are being considered in four areas, as detailed in Chapter 4: Approach to Environmental Assessment **[EN010147/APP/6.3]**. The accesses to each of these options are all common, therefore the assessment of each cable corridor option is the same because the traffic and transport assessment included within this chapter relates to access routes to the access junctions.

Methodology for Baseline Studies

Desk studies

12.4.9 A comprehensive desk-based review was undertaken to inform the baseline for traffic and transport.

12.4.10 The following information on traffic and transport within the traffic and transport study area was collected through a detailed desktop review of existing studies and data sets:

- Identification of sensitive receptors as defined in **Section 12.5** of this chapter;
- Road geometries and layout;
- Identification of facilities for sustainable travel;
- Identification of potential route options;
- Existing publicly available traffic survey/traffic flow data that is up to date and suitable for assessment purposes; and
- Personal Injury Accident locations.

Site-specific surveys

12.4.11 Information on traffic and transport within the traffic and transport study area was collected through site-specific surveys consisting of:

- Automatic Traffic Counters (ATCs) along highway links within the traffic and transport study area; and
- Radar Surveys along highway links within the traffic and transport study area.

12.5 Assessment Criteria and Assignment of Significance

Overview

12.5.1 The significance of an effect is determined based on the sensitivity of a receptor and the magnitude of an impact. This section describes the criteria applied in this chapter to characterise the sensitivity of receptors and magnitude of potential impacts. The terms used to define magnitude and sensitivity are based on and have been adapted from those used in the Design Manual for Roads and Bridges (DMRB) methodology (Highways England *et al.,* 2020).

12.5.2 The approach to determining the significance of effects is a two-stage process that involves defining the magnitude of the impact and the sensitivity of the receptor. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in Volume 1, Chapter 4: Approach to Environmental Assessment of the ES.

12.5.3 The assessment within this chapter has been prepared in accordance with the IEMA Guidelines (IEMA, 2023) with reference to DMRB LA104: Environmental Assessment and Monitoring (Highways England *et al*., 2020) where relevant.

12.5.4 The significance of transport environmental effects has been assessed by considering the interaction between the magnitude of the impacts and the sensitivity of the receptors in the traffic and transport study area. The assessment within this chapter has assessed the construction traffic flows against the 2026 future year baseline traffic flows (the peak year of construction).

12.5.5 Consistent with the IEMA Guidelines, the following is considered in this chapter:

- Driver delay (including temporary delays to public transport services);
- Severance;
- Non-motorised user delay;
- Fear and intimidation (non-motorised user amenity);
- Road safety; and
- Abnormal Indivisible Loads.

12.5.6 Paragraph 3.11 of the IEMA Guidelines (IEMA, 2023) recognises that professional judgement should be used as part of the assessment and states the following:

‘The assessment of certain impacts may therefore depend more on description and judgement than any commonly agreed method. However, even where impacts are well studied, the methods of assessment are in a state of evolution. There may be a number of alternative assessment methods, in which case the competent traffic and movement expert should provide reasons, simply stated, for the actual choice of method’.

12.5.7 The effects of construction traffic are also considered upon the following chapters:

- Upon noise and vibration within Volume 1, Chapter 13: Noise and Vibration of the ES which is based upon traffic flows derived from this chapter **[EN010147/APP/6.3]**;
- Upon human health within Volume 1, Chapter 16: Human Health of the ES **[EN010147/APP/6.3]**;
- Upon PRoW and any diversions within Volume 1, Chapter 17: Agricultural Land Use and Public Rights of Way of the ES **[EN010147/APP/6.3]**; and
- Upon air quality within Volume 1: Chapter 19: Air Quality of the ES **[EN010147/APP/6.3]** which is based upon traffic flows derived from this chapter.

Delimiting the extent of assessment

12.5.8 In terms of the assessment of the environmental impacts of traffic and movement, the IEMA Guidelines sets out the following two 'rules' to delimit the geographic extent of assessment:

- Rule 1: include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2: include any other specifically sensitive areas where traffic flows will increase by 10% or more.

12.5.9 The assessment therefore identifies the sensitivity of affected transport routes, taking into account the presence and location of sensitive receptors or route users. The definition of sensitivity in this chapter uses professional judgement, guidance provided in the IEMA Guidelines.

12.5.10 In accordance with the IEMA Guidelines, for rule 1, any highway link with increases in total traffic flows that exceed 30% or HGVs that exceed 30% are screened into the assessment. For rule 2, those highway links that were not screened into the assessment under rule 1 but are deemed to be sensitive and have increases in total traffic flows that exceed 10% will also be screened into the assessment.

12.5.11 It should be noted that the IEMA Guidelines notes that the day-to-day variation of traffic on a road is frequently at least + or – 10% and goes on to set out that changes in traffic flows of less than 10% creates no discernible environmental impact.

12.5.12 The IEMA rule 1 and rule 2 thresholds which delimit the extent of EIA do not on their own apply to the impact upon driver delay as this relates to junction / highway capacity and operation and the impact upon this is defined by the TA. Generally, a potential impact upon driver delay may result when the highway network is at or close to capacity and not just with reference to the rule 1 and rule 2 thresholds.

12.5.13 The IEMA rule 1 and rule 2 thresholds are therefore not applied to the potential impact upon driver delay to delimit the extent of assessment and the extent of assessment is considered across the whole traffic and transport study area, from which key junctions or locations for assessment are identified using observations of existing driver delay, judgement and advice from highway authorities.

12.5.14 The IEMA rule 1 and rule 2 thresholds which delimit the extent of EIA also do not on their own apply to the impact upon road safety as this relates to the consideration of road safety along a highway and the impact upon this which is defined by the TA. Generally, a potential impact upon road safety may result at locations where there is an existing road safety issue or where proposals may create a road safety issue.

12.5.15 The IEMA rule 1 and rule 2 thresholds are therefore not applied to the potential impact upon road safety to delimit the extent of assessment and the extent of assessment is considered across the whole traffic and transport study area, from which key locations for assessment are identified from an analysis of PIAs and advice from highway authorities.

12.5.16 The determination of key locations within the traffic and transport study area for assessment upon driver delay and road safety are set out in **Section 12.9** of this chapter of the ES.

Receptor Value and Sensitivity

12.5.17 The criteria for defining sensitivity in this chapter are outlined in **Table 12.8** below.

Table 12.8: Sensitivity criteria

Sensitivity/Value	Definition
Very High	Very high concentration of receptors with greatest sensitivity due to site-specific characteristics which make them particularly sensitive to changes in traffic flow, very high instances of road collisions (’clusters’), urban/residential/built-up roads without commensurate footway provision, very high footfall, severely congested junctions.
High	High concentration of receptors with some sensitivity to changes in traffic flows, high instances of road collisions (’clusters’), urban/residential/built-up roads without commensurate footway provision, high footfall, congested junctions.
Medium	Some concentrations of receptors with some sensitivity to traffic flows, some instances of road collisions (’clusters’), urban/residential/built-up areas with narrow footway provision for its use, demand and footfall or with receptors where there are no setbacks from affected roads and junctions, unsegregated cycleways.
Low	Low concentrations of receptors with some sensitivity to traffic flows including urban/residential/built-up areas with good footway provision commensurate for its use, demand and footfall and other receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions.
Negligible	Receptors with negligible sensitivity to traffic flows and those sufficiently distant from affected roads and junctions or where no receptors are present.

12.5.18 All links are assessed against the rule 1 threshold. Links that are defined as high or very high sensitivity are deemed as sensitive, in accordance with the IEMA Guidelines thresholds, and are additionally assessed against the rule 2

threshold. Where predicted changes in traffic flow fall beneath these levels, a full assessment of effects is not required and no significant effects upon that highway link would be predicted.

Magnitude of impact

12.5.19 The criteria for defining magnitude in this chapter are outlined in **Table 12.9** below and are based upon the guidance set out in the IEMA Guidelines.

Table 12.9: Impact magnitude criteria

Sensitivity	Negligible	Low	Medium	High
Driver delay	Defined in conjunction with the TA and a review of the change in traffic flows or operation of a junction or highway link with a particular focus on the weekday peak hour periods when baseline traffic flows are at their highest.			
Severance	Change in total traffic flow of less than 30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 60% to 90%	Change in total traffic flows of over 90%
Non-motorised user delay	Change in total traffic flow of less than 30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 60% to 90%	Change in total traffic flows of over 90%
Fear and intimidation (non-motorised user amenity)	No step changes in the level of fear and intimidation	One step change in the level of fear and intimidation, with <400 vehicle increase in average 18hr vehicle movements and / or <500 HV increase in total 18hr HV flow	One step change in the level of fear and intimidation, but with >400 vehicle increase in average 18hr vehicle movements and / or >500 HV increase in total 18hr HV flow	Two step changes in the level of fear and intimidation
Accidents and Road Safety	Defined from a review of PIA data along highway links and the predicted changes in traffic flow.			
AILs	Defined by an assessment of the suitability of the access routes to accommodate AILs			

12.5.20 **Table 12.10** below presents the definition of terms relating to magnitude of impact.

Table 12.10: Definition of terms relating to the magnitude of an impact

Magnitude of impact		Definition
High	Adverse	Substantial or total loss of capability for movement along or across transport corridors, loss of access to key facilities and loss of highway safety. Severe delays to travellers.
	Beneficial	Large scale improvement in the capability for movement along and across transport corridors, major improvement in access to key facilities, in highway safety and in delays to travellers
Medium	Adverse	Loss of capability for movement along or across transport corridors, loss of access to key facilities and loss of highway safety. Delays to travellers

Magnitude of impact		Definition
	Beneficial	Improvement in the capability for movement along and across transport corridors, improvement in access to key facilities, in highway safety and in delays to travellers
Low	Adverse	Some measurable loss of capability for movement along and across transport corridors, some measurable loss of access to key facilities and some measurable loss of highway safety. Some measurable increase in delays to travellers
	Beneficial	Some measurable increase in the capability for movement along and across transport corridors, some measurable increase in access to key facilities and some measurable increase in highway safety. Some measurable increase in delays to travellers. Reduced risk of negative impacts occurring
Negligible	Adverse	Very minor loss of capability for movement along and across transport corridors, very minor loss of access to key facilities and very minor loss of highway safety. Very minor increase in delays to travellers
	Beneficial	Very minor increase in capability for movement along and across transport corridors, very minor increase in access to key facilities and very minor increase in highway safety. Very minor decreases in delays to travellers
No change		No loss or increase in the capability for movement along and across transport corridors, no loss or increase in access to key facilities and no loss or increase in highway safety. No increases or decreases in delays to travellers.

Significance of effect

12.5.21 The significance of the effect upon traffic and transport has been determined by taking into account the sensitivity of the receptor and the magnitude of the impact. The method employed for this assessment is presented in **Table 12.11**. Where a range of significance levels is presented, the final assessment for each effect is based upon expert judgement.

12.5.22 In all cases, the evaluation of receptor sensitivity, impact magnitude and significance of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.

12.5.23 For the purpose of this assessment, any effects with a significance level of minor or less are not considered to be significant in terms of the EIA Regulations.

Table 12.11: Assessment matrix

Sensitivity of Receptor	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
Negligible	Negligible	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	Negligible	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate

Sensitivity of Receptor	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
Medium	Negligible	Negligible or Minor	Minor	Moderate	Moderate or Major
High	Negligible	Minor	Minor or Moderate	Moderate or Major	Major
Very High	Negligible	Minor	Moderate or Major	Major	Substantial

12.5.24 Where the magnitude of impact is 'no change', no effect would arise.

12.5.25 The definitions for significance of effect levels are described as follows:

- Substantial: Only adverse effects are normally assigned this level of significance. These effects are generally, but not exclusively, associated with sites or features of international importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of national importance may also enter this category.
- Major: These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category. Effects upon human receptors may also be attributed this level of significance.
- Moderate: These beneficial or adverse effects have the potential to be important and may influence the key decision-making process. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse or beneficial effect on a particular resource or receptor.
- Minor: These beneficial or adverse effects are generally, but not exclusively, raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.
- Negligible: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
- No change: No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Assumptions and limitations of the assessment

12.5.26 The base traffic flow data has been obtained from recognised sources and methodologies and is considered representative of current conditions. In this sense, there are few limitations to their use.

12.5.27 At this stage, there are no procurements in place and the resultant origins of materials cannot be confirmed. The procurement of material affects the movement of construction HVs and thus affects the number of construction HVs along each highway link. It is likely that the origin of materials will change as the construction phase progresses as there is only a finite amount of material from each source. For example, an amount of material is sourced from one location, but when this amount is reached, material is then sourced from another location. This will change the movement of HVs as the construction phase progresses and result in day-to-day variances. **Section 12.7** of this chapter of the ES has therefore devised a methodology that accounts for this day-to-day variance by increasing the average amount of vehicles travelling to / from any particular location and thus maximising this variance within the assessment.

12.5.28 A peak rate of construction delivery has been assumed, in which construction compounds are set out with construction activities overlapping and following afterwards. This is a reasonable assumption for assessment purposes based on the typical procurement and delivery of stone to set out the construction compounds.

12.5.29 Overall, there are few limitations to the data and the use of that data, these limitations are considered to be typical of this project type and size.

12.6 Baseline Environment Conditions

Desk study

12.6.1 Information on traffic and transport within the traffic and transport study area was collected through a detailed review of existing studies and datasets. These are summarised in **Table 12.12**.

Table 12.12: Summary of desk study sources used

Title	Source	Year	Author
Identification of sensitive receptors including PRoWs, cycle routes, non-motorised user routes, schools / colleges and open space / recreational areas.	Google Maps [redacted] OCC PRoW Interactive Countryside Access Map https://publicrightsofway.oxfordshire.gov.uk/ Sustrans National Cycle Network [redacted]	Accessed 2023 and 2024	N/A
Road geometries and layouts	Google Maps https://www.google.co.uk/maps	Accessed 2023 and 2024	N/A
Identification of facilities for sustainable travel	Google Maps [redacted] Stagecoach Bus [redacted] Oxford Bus Company [redacted]	Accessed 2023 and 2024	N/A

Title	Source	Year	Author
	First & Last Mile Community Transport [redacted] Chiltern Railways https:/[redacted] Great Western Railway [redacted] Trainline [redacted]		
Identification of potential route options	Google Maps [redacted]	Accessed 2023 and 2024	
Existing publicly available traffic survey / traffic flow data	Department for Transport Road Traffic Statistics https://roadtraffic.dft.gov.uk/#6/55.250/-1.000/basemap-regions-countpoints Oxfordshire County Council Traffic Monitoring [redacted] National Highways WebTRIS [redacted]	Various	N/A
Personal Injury Accident Locations	CrashMap https://www.crashmap.co.uk/	Latest available five years data of 2018 to 2022 inclusive	N/A
Traffic Flow Data	West Oxfordshire District Council Planning Application Reference 21/00217/OUT Land North Of Banbury Road Woodstock Oxfordshire Environmental Statement Traffic and Transport Chapter	2019	David Tucker Associates
	Cherwell District Council Planning Application Reference 23/00517/F New Science Park Land West Of The Junction With The Boulevard Oxford Airport Langford Lane Kidlington Transport Assessment	2022	Transport Planning Practice
	Vale of White Horse District Council Planning Application Reference P23/V2624/FUL Red House Farm Eynsham Road Farmoor Oxford Transport Statement	2022	Rappor Consultants Ltd

Site-specific surveys

12.6.2 Information on traffic and transport within the traffic and transport study area was collected through site-specific traffic surveys consisting of:

- ATCs along highway links within the traffic and transport study area; and
- Radar Surveys along highway links within the traffic and transport study area.

12.6.3 Traffic surveys have been undertaken for a two-week period between the 08 November 2023 and 21 November 2023 to inform the base traffic flows of the ES. These are summarised at **Table 12.13** while the location and results of the

commissioned traffic surveys and the surveys acquired from online available data is presented at Volume 3, Appendix 12.2: Traffic survey data of the ES **[EN010147/APP/6.5]**.

Table 12.13: Summary of site-specific surveys

Title	Extent of survey	Overview of survey	Survey contractor	Dates	Reference to further information
Traffic Surveys	Along certain highway links within the traffic and transport study area.	Daily traffic flows and traffic speeds on key road links were measured by placing ATCs or Radar Surveys for a two-week period.	Auto Surveys Ltd	08 November 2023 – 21 November 2023	Volume 3, Appendix 12.2: Traffic survey data of the ES

Existing baseline conditions

Highway network

12.6.4 The A34 forms the outer boundary of the traffic and transport study area and forms part of the SRN which is operated and maintained by National Highways.

12.6.5 All other roads within the traffic and transport study area form part of the LRN and are operated and maintained by OCC.

12.6.6 The highway network within the traffic and transport study area includes the A34 and relevant parts of the LRN (determined as being likely to be used by construction vehicles) and has been depicted into highway links on **Figure 1.1** at Volume 3, Appendix 12.1 Description of network links and sensitivity of the ES **[EN010147/APP/6.5]**.

12.6.7 A description of all these highway links, their geometries and layout and their local environs have been presented in **Table 1.1** at Volume 3, Appendix 12.1 Description of network links and sensitivity of the ES **[EN010147/APP/6.5]**.

Public transport network

12.6.8 Details of local bus services accessible from bus stops located within or in the traffic and transport study area are summarised in **Table 12.14** and shown graphically at Volume 3, Appendix 12.4: Public transport networks of the ES. It should be noted that **Table 12.14** and **Table 12.15** do not include detail on the Sunday timetables as works are not proposed during this period.

Table 12.14: Summary of local bus services

Service	Operator	Route	Frequency (Monday to Friday)	Frequency (Saturday)	First Service	Last Service
E1	Stagecoach Oxfordshire	Oxford – Eynsham	Every 20 minutes	Every 20 minutes	05:30	00:25

Service	Operator	Route	Frequency (Monday to Friday)	Frequency (Saturday)	First Service	Last Service
H2	Stagecoach Oxfordshire	JR Hospital – Carterton	Every hour	Every hour	06:23	20:30
S1	Stagecoach Oxfordshire	Oxford – Carterton	Every 20 minutes	Every 20 minutes	05:50	00:45
S2	Stagecoach Oxfordshire	Oxford – Burford	Every 2 hours	Every 2 hours	06:45	19:25
S3	Stagecoach Oxfordshire	Oxford – Charlbury / Chipping Norton	Every 30 minutes	Every 30 minutes	06:23	00:59
S4	Stagecoach Oxfordshire	Oxford - Banbury	Every hour	Every hour	07:15	23:05
S7	Stagecoach Oxfordshire	Oxford – Witney	Every 30 minutes	Every 30 minutes	04:55	00:55
S9	Stagecoach Oxfordshire	Oxford – Wantage	Every 30 minutes	Every 30 minutes	06:13	23:50
2/2A	Stagecoach Oxfordshire	Oxford - Kidlington	Every 7 minutes	Every 7 minutes	04:30	01:35
300 Park&Ride	Oxford Bus Company	Redbridge Park&Ride – Pear Tree Park&Ride	Every 12 minutes	Every 15 minutes	06:00	23:15
411	First & Last Mile	Hanborough – Freeland – Eynsham	Every 2 hours	No Saturday service	09:00	17:50
418	First & Last Mile	Eynsham – Stanton Harcourt – Standlake	Every 2 hours	No Saturday service	08:30	18:15
63	Oxford Bus Company	Oxford City Centre – Southmoor	Every hour	No Saturday service	09:00	17:49

12.6.9 Oxford Parkway Railway Station is located in Oxford on the Chiltern Railway Line, Hanborough Railway Station is located in Long Hanborough on the Great Western Railway Line and Tackley Railway Station is located in Kidlington on the Great Western Railway Line, all in close proximity to the traffic and transport study area. Details of rail services at Oxford Parkway Railway Station, Hanborough Railway Station and Tackley Railway Station are summarised in **Table 12.15.** The locations of key rail stations are presented at Volume 3, Appendix 12.4: Public transport networks of the ES **[EN010147/APP/6.5]**.

Table 12.15: Summary of rail services

Origin	Destination	Weekday			Saturday		
		First Service	Last Service	Typical Frequency	First Service	Last Service	Typical Frequency
Oxford Parkway	London Marylebone	05:41	22:50	Every 30 minutes	06:17	22:17	Every 30 minutes
	Oxford	06:09	01:06	Every 30 minutes	07:13	00:21	Every 30 minutes
Hanborough	London Paddington	06:19	23:56	Every hour	07:19	22:26	Every hour
	Great Malvern	07:02	21:54	Every hour	06:58	20:54	Every hour
Tackley	Banbury	05:30	00:33	Every hour / Every two hours	06:32	21:32	Every hour / Every two hours
	Didcot Parkway	06:52	21:55	Every hour / Every two hours	09:52	22:21	Every two hours

Pedestrian and cyclist infrastructure

12.6.10 The Project is located within sections of Oxfordshire consisting of primarily agricultural land, however there are some built up residential areas adjacent to the Project including Eynsham, Farmoor, Cassington, Begbroke, Yarnton and Bladon which have commensurate footway provision throughout.

12.6.11 There are three National Cycle Network (NCN) routes that are in close proximity to the Project. These include:

- NCN Route 5, which routes broadly north-west to south-east between the Northern and Central site areas and then through the Northern site area;
- NCN Route 51, which routes broadly south-west to north-east on the eastern side of the Northern site area; and
- NCN Route 442, which routes broadly north-west to south-east on the western side of the Central site area.

12.6.12 A description of the highway links with footway provision is set out at Volume 3, Appendix 12.1 Description of network links and sensitivity of the ES.

12.6.13 The on-road and off-road cycle routes, NCN and PRoWs within the traffic and transport study area are highlighted at Volume 3, Appendix 12.5: Sensitive receptors of the ES. Volume 1, Chapter 17: Agricultural Land use and Public Rights of Way of this ES considers PRoW and promoted routes in further detail **[EN010147/APP/6.5]**.

Base traffic flows

12.6.14 **Table 12.12** and **Table 12.13** set out that existing publicly available traffic data has been obtained and that site-specific traffic surveys have been undertaken.

Volume 3, Appendix 12.2: Traffic survey data sets out the locations and results of these **[EN010147/APP/6.5]**.

12.6.15 Volume 3, Appendix 12.3: Base traffic flows **[EN010147/APP/6.5]** sets out the base traffic flows and includes total vehicles (all classifications of all vehicles) and heavy vehicles (HVs), which comprise all vehicles in excess of 7.5 tonnes gross weight and include HGVs and buses.

12.6.16 The highway link numbers, and their locations are shown at Volume 3, Appendix 12.1: Network Links and Sensitivity **[EN010147/APP/6.5]**.

Road safety

12.6.17 Personal Injury Accident (PIA) data obtained from Crashmap, which is a database of all road traffic injury accidents as published by DfT, covering the latest available five year period 2018 to 2022 (inclusive) has been used to consider road safety within the traffic and transport study area.

12.6.18 The Crashmap database has been interrogated for the area comprising the highway links shown at Volume 3 Appendix 12.1: Description of network links and sensitivity **[EN010147/APP/6.5]** of the ES and which form the traffic and transport study area to identify clusters of PIAs. These are set out in **Table 12.16.**

12.6.19 PIA clusters are determined as areas with four or more injury accidents in one location (or within 25 m of each other).

Table 12.16: PIA clusters within the traffic and transport study area

Cluster ID	Location	Number of PIAs
1	Southbound arm of A44 Woodstock Road at Peartree Roundabout	4
2	Westbound arm of A40 Northern By Pass Road at Wolvercote Roundabout	4

12.6.20 The analysis identified two clusters of PIAs within the traffic and transport study area during the five-year period. These clusters were formed based upon, amongst other things, traffic patterns and traffic flows during the period 2018 to 2022 inclusive. For the purposes of the ES, the above clusters of PIAs provide an indication of the road safety record within the traffic and transport study area between the period 2018 to 2022 inclusive.

12.6.21 These two PIA clusters have been further assessed to determine the cause of each PIA and to determine whether there were any consistent contributory factors that are attributable to the layout and geometries of the highway network or driver error.

12.6.22 The location of the PIA clusters are presented graphically at Volume 3, Appendix 12.9: Personal Injury Accident (PIA) clusters **[EN010147/APP/6.5]** of the ES.

12.6.23 PIA cluster 1 included four PIAs of slight severity. Three of these were shunts associated with vehicles entering Peartree Roundabout from the A44 Woodstock Road and appear to be the result of a driver not paying attention and therefore driver error. The final PIA within this cluster involved the nearside

of a vehicle colliding with the offside of another vehicle on Peartree Roundabout, in the vicinity of the southbound arm of the A44 Woodstock Road. This PIA appears to be caused by a vehicle changing lane and therefore appears to be a result of driver error.

12.6.24 PIA cluster 2 included four PIAs of slight severity. The first PIA involved a vehicle hitting street furniture off the carriageway at the westbound arm of the A40 with Wolvercote Roundabout. This appears to be from a vehicle losing control and therefore driver error. The second PIA involved the nearside of a vehicle colliding with the offside of another vehicle on Wolvercote Roundabout, in the vicinity of the westbound arm of the A40. This PIA appears to be caused by a vehicle changing lane and therefore appears to be a result of driver error. A third PIA occurred at the signal-controlled pedestrian crossing on the A40 westbound arm of Wolvercote Roundabout. This PIA involved a vehicle colliding with the nearside of a vehicle turning left onto the A40. The point of impacts suggests this PIA is likely to be a result of a driver not paying attention and therefore driver error. The final PIA occurred at the signal control on Wolvercote Roundabout in the vicinity of the A40. This involved a vehicle colliding with the nearside of a vehicle stationary at the signal. The point of impact suggests this PIA is likely to be a result of a vehicle merging onto Wolvercote Roundabout and failing to observe the traffic signals or not paying attention, therefore this PIA would appear to be a result of driver error.

12.6.25 In their response to the PEIR, OCC raised concerns regarding the pinch point at Filchampstead on the B4017 Cumnor Road where the carriageway is narrow. The Crashmap database has been interrogated in the vicinity of the pinch point at Filchampstead and has shown that no PIAs have occurred in the latest five-year period. This demonstrates there are no existing road safety issues on the B4017 Cumnor Road through Filchampstead. Notwithstanding this, some localised widening is proposed in this location as part of the Project as set out in Section 12.7. This will be widened principally to facilitate the movements of AILs but will also provide a betterment for other vehicle movements including HGVs.

12.6.26 The above analysis of the PIA clusters and the B4017 Cumnor Road through Filchampstead determined there were no consistent contributory factors amongst the PIAs that could be attributed to the highway network. It is considered that there are no underlying road safety issues along the highway network within the study area.

Future baseline conditions

12.6.27 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires at Schedule 4 paragraph 3 that *"an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge"* is included within the ES. This section provides an outline of the likely future baseline conditions in the absence of the Project.

12.6.28 The above describes the existing baseline conditions, as well as current base traffic flows. This section considers the potential future changes in baseline

conditions due to foreseeable changes, including those arising as a result of climate change. It provides a description on how climate change might change the baseline in the future.

12.6.29 In traffic and transport terms and in specific relation to this chapter, this relates to how climate change may affect movement (for example traffic flows, pedestrian movement or cyclist movement) and how it may alter the sensitivity of receptors.

12.6.30 In terms of sensitivity, receptors that are sensitive to changes in traffic flows should not be altered by climate change and neither would their assessment of sensitivity (i.e. negligible, low, medium or high) i.e. the receptors identified within **Table 12.18** would remain relevant.

12.6.31 People could be considered able to adapt to the effects of climate change in the sense that if a movement is needed by a particular mode of transport, then it is reasonable to assume that movement would still occur regardless of climate change (e.g. a person would still walk to a local shop or a person would still drive to and from work). It is perhaps not climate change that would affect such movement in the future but rather technological advances, which are difficult to predict over the lifetime of the project.

12.6.32 On this basis, it is considered that climate change is unlikely to affect future baseline conditions to such an extent that it would affect the conclusions reached in this chapter.

12.6.33 Future baseline traffic flows have been calculated by applying traffic growth rates to observed base traffic flows and then adding the traffic flows generated by any committed developments. Committed developments are those that have been through the consenting process and have planning consent, are not yet generating any traffic flows (for example, because the development has not yet been built out yet) but are expected to generate traffic flows during the construction phase of the Project.

12.6.34 This methodology in the treatment of other developments is a TA methodology. The TA considers sustainability, the ultimate capacity of the highway network and the impact of development upon the transport network. Developments that already have planning consent have already been through that process and have identified any highway and transport improvements/interventions that may or may not be necessary to mitigate their impact. There is no further opportunity for these developments to provide additional highway or transport mitigation and so these developments and their highway and transport schemes are treated as committed within any future year scenarios.

12.6.35 For this reason, those developments (traffic flows and their highway and transport mitigation schemes) form part of a future transport baseline scenario for any other developments that follow. In doing that, the impact of development proposals that follow consented developments is able to be determined in the knowledge of what has already been consented in transport and highways terms along with the need for any additional highway and transport improvements that may be necessary.

12.6.36 Other developments that emerge at the same time are treated together and are cumulatively assessed against the baseline scenario described above to

determine their cumulative impact and their cumulative highway and transport mitigation requirements (if required).

12.6.37 The TA has been undertaken in this way so that the transport impacts on highway capacity and the transport network is correctly judged and correct conclusions are drawn. This chapter of the ES adopts this same approach in terms of committed developments and cumulative developments as part of the integrated TA.

12.6.38 The only exceptions to this is the recently consented Tar Farm Solar Farm. Given its close proximity and overlapping traffic and transport study areas, and similar nature of development, this development has been considered as part of the cumulative assessments as set out in **Section 12.11.**

12.6.39 Using the cumulative effects assessment (CEA) long list, those projects that have planning consent have been firstly identified to establish those that are all committed development. A filtering process has then been undertaken to establish the level of traffic that each would generate within the study area. Those that would generate negligible levels within the study area have been discounted from the process and those that would generate material levels within the study area retained.

12.6.40 The traffic growth rates obtained from Trip End Model Presentation Programme (TEMPro) include for organic changes in background traffic flows and also for changes in traffic caused by new development. Therefore, the application of traffic growth rates makes an allowance for new traffic flows generated by committed developments. The committed developments discounted from the above process are not therefore discounted entirely because the traffic flows that they would generate are included as part of the growth rates that are applied to the base traffic flows. The traffic flows generated by those committed developments are therefore allowed for within the assessment via the growth rates.

12.6.41 To establish which committed developments are retained, a filtering process was undertaken. The traffic flows generated by those that are retained are added to the base traffic flows to create the future baseline traffic flows. For those not retained, their traffic flows that would be generated form part of the growth rates and have therefore included within the future baseline traffic flows accordingly.

12.6.42 Upon identifying the committed developments, those that would not generate a material level of traffic within the traffic and transport study area and those that do not have a temporal overlap with the construction of the Project have been discounted.

12.6.43 The planning applications of the remaining committed developments were then interrogated to determine their traffic generation. Committed developments were only retained if a form of TA, Transport Statement or traffic and transport chapter of an ES was submitted in support of their planning application (i.e., they would generate a level of traffic that could be material within the traffic and transport study area and were therefore retained as a committed development).

12.6.44 The TA / Transport Statement / ES of the remaining committed developments were then interrogated to establish their estimations of vehicle movements within the traffic and transport study area. Professional judgement was used to determine whether these traffic flows are material and whether the development should be retained as a committed development.

12.6.45 The remaining were then confirmed as committed developments, as set out in **Table 12.17**Error! Reference source not found. below.

12.6.46 The evolution of the observed traffic flows to the 2026 baseline traffic flows is set out in Volume 3, Appendix 12.3: Base traffic flows of the ES.

Table 12.17: Committed developments

Planning application reference	Description of development	Status
West Oxfordshire District Council Land East of Hill Rise, Woodstock 21/00189/FUL	Hybrid planning application consisting of full planning permission for 48 dwellings, 57 sqm of community space (Class E), a parking barn, means of access from the A44, associated infrastructure, open space, engineering and ancillary works; outline planning permission for up to 132 dwellings, up to 57 sqm of community space (Class E), a parking barn, with associated infrastructure, open space, engineering and ancillary works (amended).	Pre-construction
West Oxfordshire District Council Land East of Woodstock 16/01364/OUT	Outline planning application (all matters reserved except for means of access in respect of new junction arrangements) comprising up to a maximum of 300 residential dwellings, up to 1100sqm of A1/A2/B1/D1 floorspace; associated infrastructure, engineering and ancillary works; provision of public open space; formation of vehicular accesses; and Full Planning Application for the development of phase 1 comprising 46 residential dwellings (46 of the 300 described above) with associated infrastructure and engineering works.	Construction
Cherwell District Council New Science Park, Oxford Airport 23/00517/F	Redevelopment of the site to include the demolition of existing buildings and development of new accommodation across 5 buildings for employment uses (Class E(g)(ii) and (iii)) plus ancillary amenity building, outdoor amenity space, car parking, cycle parking, landscaping and associated works	Construction
Oxford City Council Hybrid Application for Northern Gateway 18/02065/OUTFUL	Hybrid planning application comprising: (i) Outline application (with all matters reserved save for "access"), for the erection of up to 87,300 sqm (GIA) of employment space (Use Class B1), up to 550 sqm (GIA) of community space (Use Class D1), up to 2,500 sqm (GIA) of Use Classes A1, A2, A3, A4 and A5 floorspace, up to a 180 bedroom hotel (Use Class C1) and up to 480 residential units (Use Class C3), installation of an energy sharing loop, main vehicle access points from A40 and A44, link road between A40 and A44 through the site, pedestrian and cycle access points and routes, car and cycle parking, open space, landscaping and associated infrastructure works. Works to the A40 and A44 in the vicinity of the site. (ii) Full application for part of Phase 1A comprising 15,850 sqm (GIA) of employment space (Use Class B1),	Construction

Planning application reference	Description of development	Status
	installation of an energy sharing loop, access junctions from the A40 and A44 (temporary junction design on A44), construction of a link road between the A40 and A44, open space, landscaping, temporary car parking (for limited period), installation of cycle parking (some temporary for limited period), foul and surface water drainage, pedestrian and cycle links (some temporary for limited period) along with associated infrastructure works. Works to the A40 and A44 in the vicinity of the site. (Amended plans and additional information received 19.06.2019)	

Key receptors

12.6.47 **Table 12.18** identifies the receptors taken forward into the assessment. These are the highway links within the traffic and transport study area as identified at Volume 3, Appendix 12.1 Description of network links and sensitivity of this ES to be used by construction vehicles as set out in **Section 12.7** of this chapter.

12.6.48 Sensitivities are qualified using the criteria set out in **Table 12.18,** the review of the links set out in Volume 3, Appendix 12.1: Description of network links and sensitivity **[EN010147/APP/6.5]** of the ES and professional judgement. The links set out in **Table 12.18** are presented graphically on **Figure 1.1** of Volume 3, Appendix 12.1: Description of network links and sensitivity **[EN010147/APP/6.5]** of the ES.

Table 12.18: Key receptors taken forward to assessment

Link	Sensitivity	Qualification
Link 1: A4260 Banbury Road between Gate 6 / HDD Access 1.1 and B4027 (West)	Low	Single carriageway road subject to the NSL. Few sensitive receptors including a hotel / public house and car dealership, both set back from the carriageway. Access to PRoW (footway) and narrow footway commensurate with demand.
Link 2a: B4027 between A4260 Banbury Road and Banbury Road	Negligible	No sensitive receptors.
Link 2b: B4027 between Banbury Road and Gate 134 / 76	Medium	Single carriageway road subject to the NSL. Few sensitive receptors including residential dwellings, small commercial area, and farm access. Unsegregated crossing of NCN Route 5 across the carriageway. Access to PRoW (footpath and bridleway).
Link 3: A4260 Banbury Road between B4027 (East) and A4095 Bunkers Hill	Low	Single carriageway road subject to speed restriction variances based on section (NSL and 50mph). Unsegregated crossing of PRoW (bridleway) across the carriageway and narrow footway commensurate with demand.
Link 4: A4260 Banbury Road between A4095 Bunkers Hill and A4095 Upper Campsfield Road	Low	Single carriageway road subject to 50mph speed restriction. Access to a PRoW (footpath).

Link	Sensitivity	Qualification
Link 5: A4095 Upper Campsfield Road between A4260 Banbury Road and A44 Woodstock Road	Low	Single carriageway road with speed restriction variances based on section (NSL and 50mph). Frontage to some residential dwellings and small commercial area, set back from the carriageway with good hedgerow screening between vehicles on the carriageway and people in their home / work. Access to PRoW (footpaths).
Link 6a: A4095 Bladon Road between A44 Woodstock Road and Orchard Field Lane	High	Single carriageway road with speed restriction variances based on section (30mph and NSL). Throughout Bladon there is extensive frontage access to residential dwellings. Footways provided in high footfall locations and access to PRoW (footpath).
Link 6b: A4095 between Orchard Field Lane and Manor Road	High	Single carriageway road with speed restriction variances based on section (30mph and 20mph). Throughout Bladon there is extensive frontage access to residential dwellings, a church, primary school, and public house. Footways provided in high footfall locations and access to PRoW (footpaths).
Link 6c: A4095 Main Road between Manor Road and Cassington Road	Low	Single carriageway road with speed restriction variances based on section (20mph and 50mph). Frontage to few residential dwellings, set back from the carriageway with good hedgerow screening between vehicles on the carriageway and people in their home.
Link 6d: A4095 Main Road between Cassington Road and Lower Road	Negligible	No sensitive receptors.
Link 7: Cassington Road / Burleigh Road between A4095 Main Street and Yarnton Road	Low	Single carriageway road subject to the NSL. Few sensitive receptors including residential properties and small commercial areas. Sensitive receptors are set back from the carriageway. Access to PRoW (footpaths).
Link 8: A44 Woodstock Road between A4095 and Langford Lane	Low	Dual carriageway road with speed restriction variances based on section (NSL and 50mph). Frontage to some residential dwellings with shared footways/cycleways segregated from the carriageway by a verge. Access to PRoW (footpath).
Link 10: A44 Woodstock Road between Langford Lane and A4260 Frieze Way	Low	50mph dual carriageway road then 50mph single carriageway road with frontage to some residential dwellings, public house, allotments, and business units. Shared footways / cycleways, in parts segregated from the carriageway by a verge. Good screening between vehicles on the carriageway and people in their home. Footway provision commensurate with footfall and use. Access to PRoW (footpaths).
Link 11: A44 between A4260 Frieze Way and A34	Low	Dual carriageway road subject to a 50mph speed restriction. No sensitive receptors however one cluster of four slight PIAs on southbound arm of A44 at Peartree Roundabout, with no identified common contributory factors.

Link	Sensitivity	Qualification
Link 12: A34 Northeast of A44 Woodstock Road	Negligible	No sensitive receptors.
Link 13: A44 Woodstock Road between A34 and A40 Northern By Pass Road	Medium	Dual carriageway road subject to 30mph speed restriction. Limited frontage to a petrol station, small commercial area and car garage and footway provision commensurate with footfall and use. Northern Gateway being built out currently with associated pedestrian and cyclist facilities and activity.
Link 14: A40 between A44 Woodstock Road and Eynsham Road	Low / Medium	Dual carriageway and single carriageway road with speed restriction variances based on section (30mph, 40mph and NSL). Receptors of low sensitivity including a petrol station and car garage. Good footway provision commensurate with footfall and use. One cluster of four PIAs (one serious and 3 slight) on westbound arm of A40 at Wolvercote Roundabout, with no identified common contributory factors. Northern Gateway being built out currently to the east of the A34, with associated pedestrian and cyclist facilities and activity, therefore eastern section of Link 14 (to the east of the A34) is medium sensitivity and to the west of the A34 is low sensitivity.
Link 15: A40 to the West of Eynsham Road	Low	Single carriageway road subject to the NSL. Receptors of low sensitivity including a petrol station. Good footway / cycleway provision commensurate with footfall and use. Crossing of PRoW (footpath) across the carriageway.
Link 16a: Lower Road between A40 and Gate 18 / 138 / Access 5.2	Low	Single carriageway road subject to the NSL. Frontage access to receptors of low sensitivity including small commercial and agricultural area. Unsegregated crossing of PRoW (bridleway) across the carriageway.
Link 16b: Lower Road between Gate 18 / 138 / Access 5.2 and Church Road	Low	Single carriageway road subject to the NSL. Limited frontage access to one residential dwelling, small agricultural area and Willow Cottage Nursery, low footfall.
Link 16c: Lower Road between Church Road and A4095 Main Road	Low	Single carriageway road subject to the NSL. Limited frontage access to one residential dwelling and small commercial areas. Access to PRoW (footpaths).
Link 17: B4449 between A40 and Cassington Road / HDD Access 6.1A	Low	Single carriageway road subject to 40mph speed restriction. No frontage access to sensitive receptors. Unsegregated crossing of PRoW (bridleway) across the carriageway.
Link 18: B4449 between Cassington Road / HDD Access 6.1A and B4044 / Wharf Road	Low	Single carriageway road subject to 40mph speed restriction. Adequate footway provision commensurate with footfall and use to Eynsham Village. Crossing of PRoW (footpath) across the carriageway.
Link 19: Wharf Road between B4044 Oxford Road / HDD Access 6.1B	Medium	Single carriageway road (designated as a bridleway) with frontage to some sensitive receptors including a large employment area and allotments. Some on street parking and footway provision commensurate with demand.

Link	Sensitivity	Qualification
Link 20: B4044 Oxford Road between HDD Access 6.2A / 6.2B and B4017 Cumnor Road	Medium	Single carriageway road with speed restriction variances based on section (30mph, 40mph and 50mph). 30mph speed restriction throughout Farmoor village with frontage to residential dwellings and footway provision. Residential dwellings and footways are generally set back from the carriageway by a wide verge. Oxford Language College and commercial area well screened from the carriageway by hedgerow. Access to PRoW (footpaths) and some cyclist movements.
Link 21: B4017 Cumnor Road between B4044 and Gate 1	Medium	Single carriageway road with speed restriction variances based on section (20mph, 40mph and NSL). Some sensitive receptors including frontage to residential dwellings, village hall, nursery, and commercial areas with footway provision commensurate with demand. Access to PRoW (footpaths) and some cyclist movements.
Link 22: B4044 Eynsham Road between B4017 Cumnor Road and A420	Low	Single carriageway road with speed restriction variances based on section (50mph and 30mph). Frontage to some residential dwellings, commercial areas, accommodation and nursing and residential home, all set back from the carriageway and well screened by hedgerow. Footway provision commensurate with demand. Access to PRoW (footpaths) and some cyclist movements.
Link 23: A420 between B4044 Eynsham Road and A34	Negligible	No sensitive receptors.
Link 24: A34 Southeast of A420	Low	Dual carriageway trunk road subject to 50mph speed restriction. Some frontage to residential dwellings and footway provision commensurate for its use and footfall.
Link 25: A34 between A420 and A44 Woodstock Road	Negligible	No sensitive receptors.
Link 27: Langford Lane between A44 Woodstock Road and The Boulevard	Low	Single carriageway road with speed restriction variances based on section (NSL and 30mph). Shared footway / cycleway along part of link and footway along remainder commensurate with demand.
Link 28: Banbury Road between the B4027 and Gate 5 / 66	Low	Single carriageway road subject to NSL. Limited use of non-motorised users along link.
Link 29: Stratford Lane between the B4027 and Gate 70	Low	Single carriageway road subject to the NSL. Limited frontage access to the Oxford School of Drama, low footfall.
Link 30: Yarnton Road between Burleigh Road and Gate 47 - Gate 52	Low	Single carriageway road subject to 40mph speed restriction. Limited frontage access to few residential properties, and Worton Park (accommodation, events hall, and business area), all very set back from the carriageway with good hedgerow screening from vehicles on the carriageway. Access to PRoW (footpath).

12.7 Key Parameters for Assessment

Maximum design scenario

12.7.1 The maximum design scenarios identified in **Table 12.19** have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the Project Design Envelope provided in Volume 1, Chapter 6: Project Description of the ES **[EN010147/APP/6.3]**. Any other development scenario is considered to have less significant effects, based on details within the Project Design Envelope (e.g. different infrastructure layout), to that assessed here being taken forward in the final design scheme.

12.7.2 There is an inter-relationship with this chapter and the Air Quality, Noise and Vibration and Human Health chapters in so far as these chapters consider traffic flows. The traffic flows and conclusions of the chapter have been made available to the Air Quality, Noise and Vibration and Human Health authors, and these have been utilised as part of their assessments and are therefore fully consistent with the above. Any inter-related impact between traffic and transport and another assessment has been considered and set out in **Section 12.13** of this chapter.

Table 12.19: Maximum design scenario considered for the assessment of potential impacts

Potential Impact Phase	Phase			Maximum Design Scenario	Justification
	C	O	D		
The impact of increases in traffic flows as a result of construction traffic upon driver (including public transport) and non-motorised user delay or fear and intimidation (non-motorised user amenity) for users of the LRN and SRN. The impact of increases in traffic flows as a result of construction traffic upon severance for users of the LRN and SRN. The impact of increases in traffic flows as a result of construction traffic upon road safety for users of the LRN, SRN and other transport receptors.	✓	×	×	**Construction phase** The maximum duration of construction is 24 months. A construction assessment year of 2026 is adopted. There will be one compound in the Northern site area, two compounds in the Central site area and one compound in the Southern site area. HV payloads delivering stone and sand to the compounds of 20 tonnes. HV payloads delivering concrete to the compounds of 26 tonnes. HV payloads delivering other materials to the compounds of 12 tonnes. Tractor and trailer payloads of 11 tonnes. It is assumed that all materials etc are transported by road. All construction staff are transported by minibus with 8 minibus arrivals per day. A 6-day working week (Monday to Saturday) 07.00 to 19.00 has been adopted.	Adopting 2026 as the construction assessment year represents the year in which the greatest impact will result (when the peak generation of daily HGV movements occur). This is because baseline traffic flows may continue to grow year-on-year for a small number of years until OCCs measures to realise their ambitions to reduce vehicle movements have a significant effect to result in reduced vehicle movements. Therefore such an assumption is reasonable and results in the greatest increases in traffic flows relative to the baseline traffic flows. The peak generation of daily HGV movements represents the greatest potential for impacts on non-motorised user delay and amenity; severance; temporary delays to public transport services; and road safety for transport receptors as a result of larger numbers of HGV movements. Assuming transportation of material by road generates the largest number of daily HGV movements. Assuming a reasonable estimation of working days and working hours results in a reasonable balance of maximum construction traffic flows for both daily and weekday peak hour periods.

Potential Impact Phase	Phase			Maximum Design Scenario	Justification
	C	O	D		
The impact AILs on the safety of users of the LRN, SRN and other transport receptors.	✓	✗	✗	**Construction phase** A reasonable maximum estimate for electrical components such as the dimensions and weights, will maximise the transportation requirements for AILs in terms of highway geometries. A reasonable maximum estimate of the number of heavy electrical components will maximise the number of AILs.	The maximum weight and dimensions of the electrical components will maximise the AIL requirements and present the greatest potential for impact on transport receptors. The greatest number of heavy electrical components will maximise the number of and present the greatest potential for impact on transport receptors.
The impacts arising from traffic associated with the operation of the Project upon driver (including public transport) and non-motorised user delay or fear and intimidation (non-motorised user amenity) for users of the LRN and SRN. The impacts arising from traffic associated with the operation of the Project upon severance for users of the LRN and SRN. The impacts arising from traffic associated with the operation of the Project upon road safety for users of the LRN, SRN and other transport receptors.	✗	✓	✗	**Operational and maintenance phase** Maintenance visits will be undertaken by a light vehicle (typically a 4x4) daily / weekly.	Maximising the number of routine inspections and maintenance/repairs/replacements would maximise the number of vehicle movements.

[a] C=construction, O=operational and maintenance, D=decommissioning

Construction vehicle trip generation, distribution and assignment

Construction vehicle trip generation

12.7.3 The construction vehicle movements associated with the construction of the Project has been undertaken by the Applicant using a first principles approach based upon estimates of construction materials, construction and engineering requirements and construction programme. The construction traffic flows use the maximum design scenario set out in **Table 12.19** of this chapter. The construction vehicle movement assumptions and calculations are set out in Volume 3, Appendix 12.6: Construction vehicle trip generation assumptions of the ES.

12.7.4 For the purposes of calculating construction traffic flows, the total number of peak daily construction vehicle movements for the Project are determined on each highway link in the traffic and transport study area.

Origin of construction HGV movements

12.7.5 The origin of construction HGV movements cannot be determined at this stage and will be predicated upon the procurement of materials at the time of construction. However, they will arrive from the A34 which forms the outer boundary of the traffic and transport study area, therefore the precise origin does not affect the assessments contained within this chapter.

12.7.6 To ensure a robust assessment whereby a reasonable maximum number of construction HGVs have been assigned onto each highway link, it is assumed that all materials are procured from outside of the traffic and transport study area. This ensures that construction HGVs are assigned onto all relevant highway links within the traffic and transport study area.

12.7.7 There are two entry highway links to the traffic and transport study area as follows:

- The A34 northeast of Peartree Roundabout (highway link 12); and
- The A34 southeast of Botley Interchange (highway link 24).

12.7.8 Based upon a simple spread of entries to the traffic and transport study area, this would equate to 50% of all construction HGVs arriving from (and then departing to) each of these.

12.7.9 However, there may be days when construction HGVs arrive wholly from the A34 northeast of Peartree Roundabout (highway link 12) and days when construction HGVs arrive wholly from the A34 southeast of Botley Interchange (highway link 24). Therefore, to ensure a robust assessment, it is assumed that up to 100% of all construction HGVs could arrive from (and then depart to) each of these.

12.7.10 When these construction HGVs leave the A34 and enter onto the LRN, their origin (A34 northeast of Peartree Roundabout or A34 southeast of Botley Interchange) does not affect the number of construction HGVs that are on the LRN.

12.7.11 This assumption allows for a reasonable maximum number of construction HGVs on each of these entry highway links for assessment purposes.

12.7.12 The aggregation of the above equates to 200%, however, to ensure the assessment remains reasonable, the proportion of construction HGVs on any one highway link is capped at 100%, however, the proportion on each would change on a day- by-day basis.

Origin of construction staff movements

12.7.13 Consistent with the assumption for construction HGVs and to ensure a reasonable maximum number of construction staff vehicle movements are assigned onto each highway link, it is assumed that all construction staff arrive from outside of the traffic and transport study area.

12.7.14 The same assumptions have been made with regards to the two entry highway links to the traffic and transport study area whereby it is assumed that up to 100% of all construction staff vehicles could arrive from (and then depart to) both the A34 northeast of Peartree Roundabout (highway link 12) and the A34 southeast of Botley Interchange (highway link 24).

12.7.15 It is also assumed that 50% of construction staff minibus vehicles will enter the traffic and transport study area via the A4095 Main Road and 50% via Lower Road, to allow for any staff travelling via rail at Hanborough Railway Station and picked up by minibus who would not enter the study area via the A34.

12.7.16 The aggregation of the above equates to 300%, however, to ensure the assessment remains reasonable, the proportion of construction HGVs on any one highway link is capped at 100%.

Assignment of construction vehicle movements

12.7.17 For the purposes of assessment and to ensure a robust assessment, it is assumed that up to 100% of all construction HGVs could arrive from (and then depart to) both the A34 northeast of Peartree Roundabout (highway link 12) and the A34 southeast of Botley Interchange (highway link 24). The construction HGV movements then converge onto the LRN and have then been assigned along the other highway links to their respective access. This method results in construction HGVs being assigned onto all potential access routes allowing for day-to-day fluctuations in delivery origins but no more than 100% of construction HGVs on any part of the access route.

12.7.18 The access strategy has been defined as follows:

- The Project will be constructed from the compounds using internal access tracks and without reliance upon the public highway as far as possible.
- There are some fields that cannot be accessed using internal access tracks. Materials for these fields will be delivered to the compounds via HVs and then transferred to those fields using tractors and trailers so as to minimise the use of HVs along the public highway.
- Deliveries of PCS units, access track matting and HDD activities will be direct to their respective access.

- Due to the geometries of the B4044 Eynsham Road / B4017 Cumnor Road / B4044 Oxford Road mini-roundabout, temporary highway works will be undertaken to enlarge it on its south-eastern side and enable HVs to turn safely through it. Following construction, the mini-roundabout will be restored to its existing geometries.
- Widening works will be undertaken on the B4017 Cumnor Road through Filchampstead to accommodate AILs and also provide betterment for HVs.
- Widening works will be undertaken on the south-eastern side of the B4027 / Banbury Road junction to accommodate AILs.
- Temporary widening works to be undertaken at the Burleigh Road / Yarnton Road junction to accommodate large vehicles.
- The 7.5 tonne (except for loading) restriction along Cassington Road and Burleigh Road will be extended along Yarnton Road to the Cassington Sewage Treatment Works access.
- The eastern extent of the 7.5 tonne restriction along Stratford Road will be relocated.

12.7.19 Plans showing the access routes are set out in the oCTMP **[EN010147/APP/7.6.1]** and at Volume 3, Appendix 12.6: Construction vehicle trip generation assumptions of the ES. The following key construction vehicle movement management measures will be adopted as part of the oCTMP **[EN010147/APP/7.6.1]** which has informed the access routes:

- Due to a low bridge on the northern section of Lower Road, construction HGVs delivering PCS units:
  - Must arrive at accesses along Cassington Road / Burleigh Road / Yarnton Road via the A44 and the A4095 as they are unable to route under the low bridge.
  - Must depart accesses along Cassington Road / Burleigh Road / Yarnton Road via Lower Road as they are able to route under the low bridge.
- Due to a low bridge on the northern section of Lower Road, construction HGVs routeing to HDD compounds on Cassington Road / Burleigh Road must:
  - Arrive and depart accesses along Cassington Road / Burleigh Road via the A44 and the A4095 as they are unable to route under the low bridge.

12.7.20 These restrictions are reflected on the access routes shown in the oCTMP **[EN010147/APP/7.6.1]**.

12.7.21 The peak daily construction vehicle movements have been assigned onto the SRN and LRN in accordance with the above and as attached at Volume 3, Appendix 12.7: Traffic flows with construction traffic of the ES.

Access and highway works

12.7.22 Construction accesses to the Project make use of existing gated field accesses. The location of these and preliminary access design layouts along with highway work drawings are set out within Appendix 12.8 Accesses and highway drawings and Site Construction Compound Accesses **[EN010147/APP/7.3.1]**.

12.7.23 There are accesses on Cassington Road and Burleigh Road which will have geometries suitable for large vehicles to turn through. Although Cassington Road and Burleigh Road are single carriageway roads with a width enabling two vehicles to pass one-another, the accesses will be such that large vehicles could use them as passing places.

12.7.24 In particular, they will be of a width that a HGV or a tractor and trailer could stop within them to allow other large vehicles to safely pass. The accesses therefore provide wider benefit to users of Cassington Road and Burleigh Road.

12.8 Mitigation and Enhancement Measures Adopted as Part of the Project

12.8.1 The design process for the Project has been heavily influenced by the findings of early environmental appraisals and the EIA process. The Project has had several measures incorporated into the design to avoid or minimise environmental impacts.

12.8.2 The key aspects where the design has evolved are described in ES Volume 1, Chapter 5: Alternatives Considered **[EN010147/APP/6.3]**. These include measures required for legal compliance, as well as measures that implement the requirements of good practice guidance documents. The assessment has been undertaken on the basis that these measures are incorporated in the design and construction practices (i.e. they are 'embedded mitigation').

12.8.3 Embedded mitigation measures for the construction phase are set out in the ES Volume 1, Chapter 6: Project Description **[EN010147/APP/6.3]**, Appendix 6.1: Project Mitigation Measures and Commitments Schedule **[EN010147/APP/6.5]** and the various management plans outlined in this chapter **[EN010147/APP/7.6]**.

12.8.4 Implementation of embedded mitigation relied upon in the assessment will be secured in the DCO, including by ensuring the works described in Schedule 1 of the DCO are restricted to their corresponding works areas shown on the Works Plans **[EN010147/APP/2.3]**, a DCO requirement requiring compliance of detailed design of the Project to accord with the Outline Design Principles **[EN010147/APP/7.7]**, or through specific DCO requirements requiring compliance with a management strategy, plan, or other requirement document.

12.8.5 Consideration has been given to any ‘additional mitigation’ over and above the embedded mitigation that may be required and has the potential to mitigate any significant adverse effects identified following the assessment of the Project inclusive of its embedded mitigation. Where significant effects remain

following the implementation of embedded mitigation and achievable further measures could lower the identified effect, this chapter identifies additional mitigation and explains how the additional mitigation is secured, for example via a specific DCO requirement, via a management plan, or document secured by a DCO requirement like the Project Mitigation Measures and Commitments Schedule **[EN010147/APP/6.5]**.

12.8.6 To the extent any likely significant effects are anticipated following the assessment of the Project after the implementation of embedded and additional mitigation, this chapter will report these as residual effects. Residual effects for all topics are summarised in Chapter 21: Summary of Significant Environmental Effects of the ES **[EN010147/APP/6.3]**.

12.8.7 Where relevant, measures have also been identified that may result in enhancement of environmental conditions. Enhancement measures are not required to mitigate significant effects of the Project and are not factored into the determination of residual effects. They are further measures which would have additional beneficial outcomes should they be implemented.

12.8.8 Both embedded and additional mitigation measures relevant to this chapter are summarised in **Table 12.20**.

Table 12.20: Mitigation measures intended to be adopted as part of the Project

Commitment number	Measure adopted	How the measure will be secured
Embedded Mitigation		
12.1	Suitable HGV routes identified.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.2	Adoption of an oCTMP which will set out that road condition surveys will be undertaken before the start of works and after the substantial completion of works on minor road links and new junctions used by HGVs to access the Project. Damage to the highway that has been demonstrably caused by construction traffic will be repaired.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.3	Adoption of an oCTMP which will set out the construction working hours. For the Project, the core working hours will be 07:00 to 19:00 Monday to Saturday, save for any works that require 24 hour operations. Some HDD works may require 24 hour working depending on the nature and scale of the crossing. Other activities that will require 24-hour operation will be: site security, oil filling of transformers, possible remedial works in response to severe weather events and	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.

Commitment number	Measure adopted	How the measure will be secured
	construction critical operations such as major plant item installation and concrete pours. . It is expected that in some circumstances working hours could be extended when this would reduce the magnitude of environmental impacts of construction (e.g., to increase safety, reduce driver delays, reduce the duration of impacts etc.) which would be agreed with the relevant planning authorities in advance.	
12.4	Adoption of an oCTMP which will set out any restrictions that may be required on HGV operating hours, for example along sections of the highway network that provide access to local schools.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.5	Adoption of an oCTMP which will set out any restrictions that may be required on HGV operating hours and measures to minimise the number of HGV movements through sensitive areas when access to construction compounds and HDD sites is essential.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.6	Adoption of an oCTMP which will set out the requirement for wheel cleaning methods at appropriate locations where it is necessary to eliminate the risk of mud and debris on the highway.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.7	Adoption of an oCTMP which will set out measures to minimise dust and dirt associated with the movement of construction vehicles.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.8	The provision of appropriate parking facilities for construction workers in terms of quantum and location to prevent any parking on the public highway.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.9	Adoption of an oCTMP which will set out traffic management measures at those points	Forming part of the oCTMP secured as a requirement of the DCO via

Commitment number	Measure adopted	How the measure will be secured
	where trenches are cut into highways or where existing access rights are affected.	the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.10	Adoption of an oCTMP which will encourage the re-use of HGVs wherever possible, such as backloading. Where practical, local suppliers will be used to minimise the distance travelled by HGVs.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.11	Adoption of an oCTMP which will set out the local management of vehicle movements to minimise the risks of vehicles meeting each other on narrow sections of highway.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.12	The design of HGV access points, including visibility standards and, where necessary, temporary speed restrictions on the adjacent highway will be agreed with the relevant highway authorities.	Via the ES chapter and TA submitted in support of the application for Development Consent and via a subsequent Section 278 Agreement with the relevant highway authorities.
12.13	Outline Construction Traffic Management Plan (oCTMP)	Secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.14	A route for AILs will be identified (this will be between the port of entry, the SRN and the Project). The route timing and method of transport of AILs will be discussed and agreed with the relevant highways and bridge authorities and the police.	As part of the process to receive a Special Order to permit the movement of AILs on the highway as issued by the Secretary of State for Transport following an application by the appointed heavy haulage contractor.
12.15	The heavy haulage contractor appointed to transport the AILs will be required to comply with statutory regulations in terms of consulting with the relevant highways and bridge authorities and the police.	As part of the process to receive a Special Order to permit the movement of AILs on the highway as issued by the Secretary of State for Transport following an application by the appointed heavy haulage contractor.
12.16	The timing of AIL deliveries will be discussed with the relevant highway authorities to	As part of the process to receive a Special Order to permit the

Commitment number	Measure adopted	How the measure will be secured
	minimise delay for other road users and to minimise risk to highway users.	movement of AILs on the highway as issued by the Secretary of State for Transport following an application by the appointed heavy haulage contractor.
12.17	The routeing of AIL deliveries will be agreed with the relevant highway authorities. The delivery of AILs would be undertaken under escort. Where AILs require the full width of the carriageway or for unusual manoeuvres at junctions, appropriate temporary traffic management will be put in place as appropriate to maintain the safety of other road users.	As part of the process to receive a Special Order to permit the movement of AILs on the highway as issued by the Secretary of State for Transport following an application by the appointed heavy haulage contractor.
12.18	A Decommissioning Traffic Management Plan will be submitted and agreed with the relevant highway authorities prior to any decommissioning works commencing which will identify and set out appropriate mitigation measures for decommissioning generated vehicle movements that are identified and required at that time.	Secured as a requirement of the DCO, as set out within outline Decommissioning Plan **[EN010147/APP/7.6.4]**.
12.19	All construction staff to be transported to / from compounds via minibuses.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.
12.20	Highway works on the B4044 Eynsham Road / B4017 Cumnor Road / B4044 Oxford Road mini-roundabout, the B4017 Cumnor Road through Filchampstead, the Burleigh Road / Yarnton Road junction and the B4027 / Banbury Road junction.	Forming part of the oCTMP secured as a requirement of the DCO via the Code of Construction Practice. An oCTMP is set out in the Outline CoCP **[EN010147/APP/7.6.1]**, and detailed fully in the Detailed CoCP secured as a requirement of the DCO.

12.9 Assessment of effects

12.9.1 The impacts of the construction phase of the Project on traffic and transport receptors have been assessed. The potential impacts arising from the construction phase of the Project are listed in **Table 12.6** along with the maximum design scenario against which each impact has been assessed.

12.9.2 As set out in **Table 12.7**, the impacts of the operation and maintenance and decommissioning phases of the Project have been scoped out of the assessment.

12.9.3 A description of the potential effect on receptors caused by each identified impact is given below.

Delimiting the extent of assessment of transport environmental impacts

12.9.4 In accordance with the IEMA Guidelines, the peak daily construction vehicle movements generated by the Project are assessed against the baseline traffic flows in **Table 12.21.**

Table 12.21: Impact of the Project peak daily construction traffic flows

Link Reference	2026 Base traffic flows		Peak construction traffic flows		% Increase	
	Total Vehicles	HVs	Total Vehicles	HVs	Total Vehicles	HVs
Link 1: A4260 Banbury Road between Gate 6 / HDD Access 1.1 and B4027 (West)	10,583	398	189	145	1.8%	36.4%
Link 2a: B4027 between A4260 Banbury Road and Banbury Road	4,553	122	71	11	1.6%	9.4%
Link 2b: B4027 between Banbury Road and Gate 134 / 76	3,945	106	58	8	1.5%	7.8%
Link 3: A4260 Banbury Road between B4027 (East) and A4095 Bunkers Hill	10,323	267	159	145	1.5%	54.3%
Link 4: A4260 Banbury Road between A4095 Bunkers Hill and A4095 Upper Campsfield Road	14,731	776	159	145	1.1%	18.7%
Link 5: A4095 Upper Campsfield Road between A4260 Banbury Road and A44 Woodstock Road	9,638	463	159	145	1.6%	31.3%
Link 6a: A4095 Bladon Road between A44 Woodstock Road and Orchard Field Lane	13,531	412	62	2	0.5%	0.5%
Link 6b: A4095 between Orchard Field Lane and Manor Road	14,011	392	61	1	0.4%	0.2%
Link 6c: A4095 Main Road between Manor Road and Cassington Road	13,248	282	61	1	0.5%	0.3%
Link 6d: A4095 Main Road between Cassington Road and Lower Road	13,248	282	81	21	0.6%	7.3%
Link 7: Cassington Road / Burleigh Road between A4095 Main Street and Yarnton Road	1,135	10	81	21	7.2%	207.2%

Link Reference	2026 Base traffic flows		Peak construction traffic flows		% Increase	
	Total Vehicles	HVs	Total Vehicles	HVs	Total Vehicles	HVs
Link 8: A44 Woodstock Road between A4095 and Langford Lane	23,282	1,145	193	145	0.8%	12.7%
Link 10: A44 Woodstock Road between Langford Lane and A4260 Frieze Way	22,139	483	173	145	0.8%	30.0%
Link 11: A44 between A4260 Frieze Way and A34	29,033	1,507	173	145	0.6%	9.6%
Link 12: A34 Northeast of A44 Woodstock Road	67,243	11,367	262	177	0.4%	1.6%
Link 13: A44 Woodstock Road between A34 and A40 Northern By Pass Road	32,213	1,870	163	145	0.5%	7.8%
Link 14: A40 between A44 Woodstock Road and Eynsham Road	23,098	1,304	163	145	0.7%	11.1%
Link 15: A40 to the West of Eynsham Road	25,132	1,404	163	145	0.6%	10.3%
Link 16a: Lower Road between A40 and Gate 18 / 138 / Access 5.2	7,167	185	173	145	2.4%	78.6%
Link 16b: Lower Road between Gate 18 / 138 / Access 5.2 and Church Road	7,167	185	89	29	1.2%	15.6%
Link 16c: Lower Road between Church Road and A4095 Main Road	7,167	185	88	28	1.2%	15.0%
Link 17: B4449 between A40 and Cassington Road / HDD Access 6.1A	11,757	386	22	2	0.2%	0.4%
Link 18: B4449 between Cassington Road / HDD Access 6.1A and B4044 / Wharf Road	10,828	510	22	2	0.2%	0.3%
Link 19: Wharf Road between B4044 Oxford Road / HDD Access 6.1B	844	32	22	2	2.6%	5.1%
Link 20: B4044 Oxford Road between HDD Access 6.2A / 6.2B and B4017 Cumnor Road	9,540	298	22	2	0.2%	0.5%
Link 21: B4017 Cumnor Road between B4044 and Gate 1	2,765	315	220	177	7.9%	56.0%

Link Reference	2026 Base traffic flows		Peak construction traffic flows		% Increase	
	Total Vehicles	HVs	Total Vehicles	HVs	Total Vehicles	HVs
Link 22: B4044 Eynsham Road between B4017 Cumnor Road and A420	9,934	513	220	177	2.2%	34.4%
Link 23: A420 between B4044 Eynsham Road and A34	28,558	2,548	220	177	0.8%	6.9%
Link 24: A34 Southeast of A420	70,382	8,243	262	177	0.4%	2.1%
Link 25: A34 between A420 and A44 Woodstock Road	75,731	8,674	262	177	0.3%	2.0%
Link 27: Langford Lane between A44 Woodstock Road and The Boulevard	10,393	465	16	6	0.2%	1.3%
Link 28: Banbury Road between the B4027 and Gate 5 / 66	1,296	5	40	10	3.1%	189.1%
Link 29: Stratford Lane between the B4027 and Gate 70	1,296	0	24	4	1.8%	N/A
Link 30: Yarnton Road between Burleigh Road and Gate 47 - Gate 52	3,500	45	19	9	0.5%	19.3%

12.9.5 The highway links that exceed their respective rule 1 or rule 2 threshold are set out in **Table 12.22** and are those for which an assessment of effects has been undertaken.

Table 12.22: Highway links for Environmental Impact Assessment

Link Reference	Sensitivity of receptor	% Increase	
		Total Vehicles	HVs
Link 1: A4260 Banbury Road between Gate 6 / HDD Access 1.1 and B4027 (West)	Low	1.8%	36.4%
Link 3: A4260 Banbury Road between B4027 (East) and A4095 Bunkers Hill	Low	1.5%	54.3%
Link 5: A4095 Upper Campsfield Road between A4260 Banbury Road and A44 Woodstock Road	Low	1.6%	31.3%
Link 7: Cassington Road / Burleigh Road between A4095 Main Street and Yarnton Road	Low	7.2%	207.2%
Link 10: A44 Woodstock Road between Langford Lane and A4260 Frieze Way	Low	0.8%	30.0%

Link Reference	Sensitivity of receptor	% Increase	
		Total Vehicles	HVs
Link 16a: Lower Road between A40 and Gate 18 / 138 / Access 5.2	Low	2.4%	78.6%
Link 21: B4017 Cumnor Road between B4044 and Gate 1	Medium	7.9%	56.0%
Link 22: B4044 Eynsham Road between B4017 Cumnor Road and A420	Low	2.2%	34.4%
Link 28: Banbury Road between the B4027 and Gate 5 / 66	Low	3.1%	189.1%
Link 29: Stratford Lane between the B4027 and Gate 70	Low	1.8%	N/A

12.9.6 **Table 12.22** sets out that ten highway links (L1, L3, L5, L7, L10, L16a, L21, L22, L28 and L29) exceed their respective rule 1 or rule 2 threshold and have been assessed to determine their significance of effect.

12.9.7 In terms of the other highway links (all highway links save for those in **Table 12.22**), in accordance with the IEMA Guidelines, these would have changes in traffic flows that would create no discernible environmental impact. Therefore, the effect on these will be of **negligible adverse** significance, which is not significant.

12.9.8 In terms of driver delay, road safety and AILs, these form part of the TA and the impacts upon each of these are assessed throughout the entire traffic and transport study area and not only those links set out in **Table 12.22** above.

The impact on driver delays caused by construction works or construction traffic (including temporary delays to public transport services as part of that driver delay)

12.9.9 Driver delays during the construction phase can result from the following:

- An increase in traffic flows, particularly during peak hours resulting in increased queues on links and at junctions.
- The passage of slow-moving vehicles such as AILs.
- Reduction in link capacity resulting from changes in carriageway width or other highway characteristics.
- Construction works within the highway resulting in lane closures and traffic management measures.

12.9.10 The IEMA rule 1 and rule 2 thresholds which delimit the extent of EIA do not on their own apply to this impact as this relates to junction/highway capacity and operation and the impact upon this which is defined by the TA. Generally, a potential impact upon driver delay may result when the highway network is at or close to capacity and not just with reference to the rule 1 and rule 2 thresholds.

12.9.11 The IEMA rule 1 and rule 2 thresholds are therefore not applied to this impact to delimit the extent of assessment and the extent of assessment is considered across the whole traffic and transport study area, from which key junctions or locations for assessment are identified using observations of existing driver delay, judgement, and advice from highway authorities.

12.9.12 As presented in **Table 12.9** the assessment of driver delay incorporates analysis as part of a TA where a review of the change in the operation of junctions or parts of the highway during the weekday peak hour periods when the baseline traffic flows are at their highest.

12.9.13 Based upon this an assessment of driver delay has been undertaken with consideration of:

- driver delay during peak hours at key junctions within the traffic and transport study area as a result of construction traffic;
- driver delay along key links of lower classification roads including:
  - Cassington Road / Burleigh Road
  - Lower Road
  - B4017 Cumnor Road
  - B4044 Eynsham Road
- driver delay caused by the passage of AILs; and
- driver delays caused by street works to facilitate cable installation at the following links / junctions:
  - B4027
  - Stratford Lane
  - Banbury Road
  - A4095 Upper Campsfield Road
  - A44 Woodstock Road
  - A44 / A4095 Bladon Roundabout
  - Cassington Road
  - Langford Lane
  - Lower Road
  - Yarnton Road
  - A40 / Lower Road / B4449 Eynsham Roundabout
  - B4449
  - B4044 Oxford Road
  - Wharf Road
  - B4017 Cumnor Road

Sensitivity of the receptor

12.9.14 In terms of sensitivity of receptor, these range from negligible to high. The sensitivity of the receptors are deemed to be of negligible to high vulnerability, high recoverability and low to high value. The sensitivity of the receptor is therefore, considered to be **negligible to high**.

Magnitude of impact

12.9.15 In accordance the IEMA Guidelines, the magnitude of impact upon driver delay has been assessed across the whole traffic and transport study area (rather than only those links where traffic flow increases exceed the rule 1 and rule 2 thresholds) with consideration to delay at key junctions, delay due to AILs and delay as a result of caballing linearly within the highway and crossing a highway. Each of these are considered separately, from which the overall magnitude of impact is then identified.

Potential driver delay at key junctions within the traffic and transport study area

12.9.16 To consider the impact of construction traffic flows on key junctions during the peak hours, an assessment of the respective peak hour traffic flows has been undertaken.

12.9.17 Vehicles would travel to/from the traffic and transport study area throughout the whole 12 hour construction working day. Notwithstanding, the movements during the AM and PM peak hours have been calculated on the basis of only 10 hours; this allows for any hourly variations (albeit any such variations would even themselves out over the whole construction duration) and a reasonable assessment.

12.9.18 Based on the above, **Table 12.23** below sets out the AM and PM peak hour vehicle movements through each junction during the peak construction period. The duration of the peak construction period for each junction is also presented in **Table 12.23.**

12.9.19 Based on the construction hours of 07:00-19:00, staff will arrive before the AM peak hour and would depart after the PM peak hour. Therefore, the construction vehicles travelling through the junctions during the AM and PM peak hours will be HVs or management staff.

Table 12.23: Maximum opposing peak hour construction traffic flows at each key junction during construction

Key Junction	Adjacent Highway Links	Peak Hour Vehicle Movements	Duration of Peak Hour Vehicle Movements
A4260 Banbury Road / B4027 staggered crossroads junction	L1, L2a, L3	19	Two Months
A4260 Banbury Road / A4095 Upper Campsfield Road priority junction	L4, L5	16	Two Months

Key Junction	Adjacent Highway Links	Peak Hour Vehicle Movements	Duration of Peak Hour Vehicle Movements
A44 / A4095 Bladon Roundabout	L5, L6a, L8	19	Two Months
A4095 Main Road / Cassington Road priority junction	L6c, L6d, L7	6	24 Months
A4095 Main Road / Lower Road priority junction	L6d, L16c	6	24 Months
A44 Woodstock Road / Langford Lane signalised junction	L8, L10, L27	17	Two Months
A44 Woodstock Road / Spring Hill Road roundabout	L10	17	Two Months
A44 Woodstock Road / Sandy Lane / Rutten Lane roundabout	L10	17	Two Months
A44 Woodstock Road / Cassington Road roundabout	L10	17	Two Months
A44 Woodstock Road / A4260 Frieze Way roundabout	L10, L11	17	Two Months
A34 / A44 Peartree Roundabout	L11, L12, L13, L25	17	Two Months
A44 / A40 Wolvercote Roundabout	L13, L14	16	Two Months
A40 / B4449 / Lower Road roundabout	L15, L16a, L17	16	Two Months
B4449 / Cassington Road roundabout	L17, L18	0	24 Months
B4449 / B4044 Oxford Road / Oxford Road roundabout	L18	0	24 Months
B4044 Oxford Road / Wharf Road priority junction	L18, L19	0	24 Months
B4044 Oxford Road / B4044 Eynsham Road / B4017 Cumnor Road mini roundabout	L20, L21, L22	19	Two Months
A420 / B4044 priority junctions	L22, L23	19	Two Months
A34 / A420 Botley Interchange Roundabout	L23, L24, L25	19	Two Months
B4027 / Banbury Road priority junction	L2a, L2b, L28	5	24 Months
B4027 / Stratford Lane priority junction	L2b, L29	4	24 Months
Burleigh Road / Yarnton Road bifurcated junction	L7, L30	2	24 Months

12.9.20 It is generally recognised within the transport planning industry that vehicle movements of less than 30 per hour would create negligible impacts upon highway capacity and the operation of junctions/highways. This includes during the AM and PM peak hours.

12.9.21 **Table 12.23** show that there are no occasions during the peak construction period that there would potentially be more than 30 opposing peak hour vehicle movements at any of the key junctions within the traffic and transport study area.

12.9.22 It is therefore concluded that the construction traffic flows would not have any noticeable impact upon the operation of key junctions within the traffic and transport study area. This is due to the low number of peak hour construction vehicle movements and their temporary nature.

12.9.23 The impact in terms of driver delay at key junctions within the traffic and transport study area resulting from construction is predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **low.**

Potential driver delay at key links of lower classification roads within the traffic and transport study area

12.9.24 To consider the impact of construction traffic flows on key links during the peak hours, an assessment of the respective Congestion Reference Flows (CRF) has been undertaken.

12.9.25 The CRF of a link is an estimate of the AADT flow at which the carriageway is likely to be 'congested' in the peak periods on an average day. The CRF is a measure of the performance of a road link between junctions.

12.9.26 Guidance to calculate CRF is set out within TA46/97 'Traffic Flow Ranges for Use in the Assessment of New Rural Roads', as set out in Volume 5, Section 1, Part 3 of the Design Manual for Roads and Bridges (DMRB).

12.9.27 This document was withdrawn from the DMRB in March 2020, but TA46/97 and CRF are both still referenced as a means of assessing highway capacity in the latest version of the DfTs TAG Unit A1.3 which was last updated in May 2022. Thus, CRF is still a recognised methodology of assessing highway capacity in accordance with the DfTs TAG.

12.9.28 The CRF of a link is given by the following formula:

CRF = CAPACITY * NL * Wf * 100/PkF * 100/PkD * AADT/AAWT

12.9.29 Where: CAPACITY is the maximum hourly lane throughput;

NL is the Number of Lanes per direction;

Wf is a Width Factor;

PkF is the proportion (percentage) of the total daily flow (2-way) that occurs in the peak hour;

PkD is the directional split (percentage) of the peak hour flow;

AADT is the Annual Average Daily Traffic flow on the link;

AAWT is the Annual Average Weekday Traffic flow on the link.

12.9.30 Based on the above, **Table 12.24** below sets out the CRF on key links of lower classification roads within the traffic and transport study area.

Table 12.24: Capacity of key links of lower classification roads

Key Link	CRF (AADT)	2026 Baseline + Peak Construction Traffic Flows	% of CRF
Cassington Road / Burleigh Road	5,200*	1,216	23%
Lower Road	13,230	7,340	56%
B4017 Cumnor Road	17,444	2,985	17%

Key Link	CRF (AADT)	2026 Baseline + Peak Construction Traffic Flows	% of CRF
B4044 Eynsham Road (between the B4017 and the A420)	22,748	10,153	45%

*CRF has been reduced by 25% to allow for width factor ranges

12.9.31 As **Table 12.24** shows, the 2026 baseline plus peak construction traffic flows are well within the CRF of the key links of lower classification roads within the traffic and transport study area (ranging from 17% to 56% of their capacity). Therefore, congestion is not predicted on any of these links, there remains available capacity along those links and they are sufficient to accommodate the peak construction vehicle movements.

12.9.32 It is therefore concluded that the construction traffic flows would not have any noticeable impact upon the operation of key links of lower classification roads within the traffic and transport study area, and all those links are expected to operate without congestion in the peak hours based upon the CRF calculation.

12.9.33 The impact in terms of driver delay at key links of lower classification roads within the traffic and transport study area resulting from construction is predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **negligible.**

Potential driver delay caused by AILs

12.9.34 The AILs are expected to be components that exceed standard load weight and possibly exceed standard width and length. These movements are irregular (there will be four transformer deliveries that will be classified as AILs) throughout the traffic and transport study area. The magnitude of impact relating to AILs is therefore considered across the whole traffic and transport study area.

12.9.35 The transport of the AILs would necessarily be timed to minimise delays to other road users and would be controlled by the police (using their escort powers) to manage the AILs and other road users accordingly to minimise driver delay.

12.9.36 Furthermore, the movement of AILs in terms of their route and precise dates and times would be advertised in advance so that other users of the route are forewarned and would be able to plan their own journey accordingly.

12.9.37 In terms of AILs, the impact is predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **negligible.**

Potential driver delays caused by cabling across the highway

12.9.38 It is expected that the open cut trenching would be undertaken on certain links within the traffic and transport study area. Open cut trenching would be undertaken on approximately one half of each highway link with the remainder

being open to traffic before switching over to enable open cut trenching on the other half of the highway link with the remainder being open to traffic.

12.9.39 Because only one lane of traffic would be open, temporary traffic control would be adopted by way of shuttle working, by priority control whereby one direction of travel receives priority over the other direction and drivers would self-manage themselves through the works area or by signal control.

12.9.40 This arrangement would be set out in accordance with The Traffic Signs Manual Chapter 8 Traffic Safety Measures and Signs for Road Works and Temporary Situations published by DfT / Highways Agency (now National Highways), Welsh Assembly Government (now Welsh Government), Transport Scotland, Department for Regional Development (now Department for Infrastructure), 2009, to maintain highway safety at all times.

12.9.41 The open cut trenching on highway links is not expected to result in any road closures and would maintain access at all times including for emergency services and for buses.

12.9.42 The Traffic Signs Manual Chapter 8 Traffic Safety Measures and Signs for Road Works and Temporary Situations published by DfT / Highways Agency (now National Highways), Welsh Assembly Government (now Welsh Government), Transport Scotland, Department for Regional Development (now Department for Infrastructure), 2009, states that overload of the controlled shuttle working area can occur with a one-way flow of 900 vehicles per hour with signal control, and exceptional delays may result. On this basis, for assessment purposes only, the street works capacity of links undergoing open cut trenching is assumed to be 1,800 two-way vehicle movements, with any value above this experiencing significant driver delay.

12.9.43 It should be noted that the above threshold applies to single carriageway roads only, and the street works capacity for a dual carriageway is 1,710 vehicles per lane per hour, based upon the advice given in the Traffic Signs Manual Chapter 8 Traffic Safety Measures and Signs for Road Works and Temporary Situations.

12.9.44 Based on the above, **Table 12.25** below sets out the observed peak hour vehicle movements on each highway link where open cut trenching is envisaged and provides commentary on the capacity of each highway link during street works.

Table 12.25: Street Works Capacity

Link Reference	Observed Peak Hour Traffic Flows Total Vehicles	Street works Capacity (Two-Way Vehicle Flows Per Hour)	Comments
L2a	403	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L2b	349	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026

Link Reference	Observed Peak Hour Traffic Flows Total Vehicles	Street works Capacity (Two-Way Vehicle Flows Per Hour)	Comments
L5	882	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L7	163	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L8	929	1,710*	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L10	882	1,710*	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L16a	721	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L16b	721	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L16c	721	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L17	1019	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L18	985	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L19	121	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L20	944	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L21	270	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L27	889	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L28	125	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026

Link Reference	Observed Peak Hour Traffic Flows Total Vehicles	Street works Capacity (Two-Way Vehicle Flows Per Hour)	Comments
L29	125	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026
L30	350	1,800	Observed traffic flow well within street works capacity and will remain to do so with peak construction traffic flows in 2026

*Capacity value (vehicles per lane per hour) as it is a dual carriageway

12.9.45 **Table 12.25** show that each of the highway links where open cut trenching is expected to occur, are well within street works capacity and will remain to do so with peak construction traffic flows in 2026.

12.9.46 The impact in terms of driver delay caused by open-cut trenching at these locations is therefore predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **low.**

12.9.47 Open cut trenching is also expected to occur at the A40 / Lower Road / B4449 roundabout (Eynsham Roundabout). There is no guidance on what the capacity of a roundabout may be in such instances, however it is considered that the street works may result in additional temporary congestion whilst the cables are being installed, the extent of this driver delay is subject to professional judgement.

12.9.48 Street works at Eynsham Roundabout would likely be undertaken over a period of a few days with recognition to the peak hour periods where priority would be given to traffic over the street works. On this basis, the impact in terms of driver delay caused by open-cut trenching at Eynsham Roundabout is therefore predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **medium.**

Significance of effect

12.9.49 In regard to driver delay the sensitivity of the receptors is considered to be **negligible to high** and the magnitude of impact is deemed to be **negligible to medium**. The effect will, therefore, be of **negligible adverse** to **minor adverse** significance, which is not significant.

The impact on non-motorised user delay caused by construction works or construction traffic

12.9.50 The IEMA Guidelines sets out that the assessment of pedestrian delay serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads.

12.9.51 Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend upon the general level of pedestrian and non-motorised user activity, visibility and general physical conditions.

12.9.52 Given the range of local factors and conditions that can influence non-motorised user delay, for example, a discrete delay may have a lesser impact in an urban environment than a rural setting, the IEMA Guidelines do not set out definitive thresholds against which to assess non-motorised user delay. The IEMA Guidelines recommends that the competent traffic and movement expert uses judgement to determine whether any changes in pedestrian and non-motorised user delay may be significant.

12.9.53 The IEMA Guidelines also states that pedestrian delay and severance can be grouped together as an increase in traffic flows is likely to lead to greater increases in delays and states that increases in total traffic flows of 30%, 60% and 90% could result in slight, moderate and substantial changes in non-motorised user delay respectively.

12.9.54 In accordance with the IEMA Guidelines, these thresholds have been considered to assess the impact on non-motorised delay.

Sensitivity of the receptor

12.9.55 In terms of sensitivity of receptor, these range from low to medium (as set out in **Table 12.22**). The sensitivity of the receptors is deemed to be of low to medium vulnerability, high recoverability and low to medium value. The sensitivity of the receptor is, therefore, considered to be **low to medium**.

Magnitude of impact

12.9.56 The ten highway links assessed in terms of non-motorised user delay are set out in **Table 12.26** along with their predicted changes in total traffic flows and subsequent magnitude of impacts.

Table 12.26: Summary of magnitude of impacts upon non-motorised user delay

Link Reference	Percentage Increase – Total Vehicle	Magnitude of Impact
L1	1.8%	Negligible
L3	1.5%	Negligible
L5	1.6%	Negligible
L7	7.2%	Negligible
L10	0.8%	Negligible
L16a	2.4%	Negligible
L21	7.9%	Negligible
L22	2.2%	Negligible
L28	3.1%	Negligible

Link Reference	Percentage Increase – Total Vehicle	Magnitude of Impact
L29	1.8%	Negligible

12.9.57 In accordance with the IEMA Guidelines, the magnitude of impacts on all ten highway links are all well below the 30% threshold at which a slight (the lowest category) impact could occur upon non-motorised user delay.

12.9.58 The impact is predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. Therefore, the overall magnitude of impact is **negligible adverse.**

Significance of effect

12.9.59 Overall, the sensitivity of the receptors is considered to be **low to medium** and the magnitude of impacts is deemed to be **negligible**. The effect will, therefore, be of **negligible to minor adverse** significance, which is not significant.

The impact on fear and intimidation (non-motorised user amenity) caused by construction works or construction traffic

12.9.60 The term non-motorised user amenity is broadly defined as the relative pleasantness of a journey and is considered to be affected by traffic flow, traffic composition and footway width/separation from traffic. This definition comprises fear and intimidation.

12.9.61 The IEMA Guidelines sets out that fear and intimidation from traffic, in terms of vehicular criteria, encompasses total traffic movements, HGV movements and vehicle speeds. It assigns a 'degree of hazard' score to each of these from which a total degree of hazard score is calculated and from which impacts can then be determined. This is calculated using the criteria set out in the IEMA guidelines, which is replicated in **Table 12.27** below.

Table 12.27: Degree of hazard score criteria

Average traffic flow over 18 hour day (vehicles/hour) (a)	Total 18 hour heavy goods 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

12.9.62 A 'total hazard score' is then calculated for each link for traffic flow scenarios. Table 3.2 of the IEMA Guidelines provides an example of the total hazard score calculation to identify a level of fear and intimidation and is replicated in **Table 12.28** below.

Table 12.28: Total hazard score and level of fear and intimidation calculation

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

Sensitivity of the receptor

12.9.63 In terms of sensitivity of receptor, these range from low to medium (as set out in **Table 12.22).** The sensitivity of the receptors is deemed to be of low to medium vulnerability, high recoverability and low to medium value. The sensitivity of the receptor is, therefore, considered to be **low to medium**.

Magnitude of impact

12.9.64 **Table 12.29** and **Table 12.30** calculate the level of fear and intimidation for the 2026 baseline traffic flows and the 2026 baseline plus construction traffic flows respectively based upon the IEMA Guidelines. **Table 12.31** then calculates the magnitude of impact upon fear and intimidation (non-motorised user amenity).

12.9.65 For those highway links subject to speed restriction variances based upon section, the assessment has been separated depending on the variances in average vehicle speed.

Table 12.29: Level of fear and intimidation (2026 baseline traffic flows)

Link	Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HV flow	Average vehicle speed	Total hazard score	Level of fear and intimidation
L1	588	398	52	30	Moderate
L3 (NSL)	574	267	60	30	Moderate
L3 (50mph)	574	267	52	30	Moderate
L5 (NSL)	535	463	60	30	Moderate
L5 (50mph)	535	463	47	30	Moderate
L7	63	10	38	20	Small
L10	1,230	483	36	40	Moderate
L16a	398	185	44	30	Moderate
L21 (20mph)	154	315	20	10	Small

Link	Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HV flow	Average vehicle speed	Total hazard score	Level of fear and intimidation
L21 (40mph)	154	315	40	20	Small
L21 (60mph)	154	315	60	30	Moderate
L22 (30mph)	552	513	26	10	Small
L22 (50mph)	552	513	50	30	Moderate
L28	72	5	40	20	Small
L29	72	0	40	20	Small

Table 12.30: Level of fear and intimidation (2026 baseline plus construction traffic flows)

Link	Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HV flow	Average vehicle speed	Total hazard score	Level of fear and intimidation
L1	598	543	52	30	Moderate
L3 (NSL)	582	412	60	30	Moderate
L3 (50mph)	582	412	52	30	Moderate
L5 (NSL)	544	608	60	30	Moderate
L5 (50mph)	544	608	47	30	Moderate
L7	68	31	38	20	Small
L10	1240	628	36	40	Moderate
L16a	408	330	40	20	Small
L21 (20mph)	166	491	20	10	Small
L21 (40mph)	166	491	40	20	Small
L21 (60mph)	166	491	40	20	Small
L22 (30mph)	564	690	26	10	Small
L22 (50mph)	564	690	50	30	Moderate

Link	Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HV flow	Average vehicle speed	Total hazard score	Level of fear and intimidation
L28	74	15	40	20	Small
L29	73	4	40	20	Small

Table 12.31: Step change and magnitude of impact upon fear and intimidation

Link	Level of fear and intimidation – 2026 baseline traffic flows	Level of fear and intimidation – 2026 baseline plus construction traffic flows	Step change	Magnitude of impact
L1	Moderate	Moderate	0	Negligible
L3 (NSL)	Moderate	Moderate	0	Negligible
L3 (50mph)	Moderate	Moderate	0	Negligible
L5 (NSL)	Moderate	Moderate	0	Negligible
L5 (50mph)	Moderate	Moderate	0	Negligible
L7	Small	Small	0	Negligible
L10	Moderate	Moderate	0	Negligible
L16a	Moderate	Small	-1	Negligible
L21 (20mph)	Small	Small	0	Negligible
L21 (40mph)	Small	Small	0	Negligible
L21 (60mph)	Moderate	Small	-1	Negligible
L22 (30mph)	Small	Small	0	Negligible
L22 (50mph)	Moderate	Moderate	0	Negligible
L28	Small	Small	0	Negligible
L29	Small	Small	0	Negligible

12.9.66 The assessments show that there are no adverse step changes in the level of fear and intimidation (non-motorised user amenity) and there is therefore a negligible magnitude of impact on all links. Link 16a and the section of Link 21 which is subject to a 60mph speed restriction will have a negative step change during the construction of the Project. This is because these sections of highway will have a temporary speed reduction to 40mph during the construction phase only.

Significance of effect

12.9.67 Overall, the sensitivity of the receptors is considered to be **low to medium** and the magnitude of impacts is deemed to be **negligible**. The effect will, therefore, be of **negligible to minor adverse** significance, which is not significant.

12.9.68 It is recognised that a negative step change in all accounts is a beneficial effect and strictly speaking should result in a negligible beneficial significance of effect. However, the construction vehicles along these links are noted and for assessment purposes only, the significant of effect on those links which experience a negative step change are considered to be **negligible adverse** signage, which is not significant.

The impact on severance caused by construction works or construction traffic

12.9.69 Severance is only likely to occur on highly trafficked roads and result from the perceived division the road and traffic creates between communities on either side.

12.9.70 The IEMA Guidelines states that increases in total traffic flows of 30%, 60% and 90% could result in slight, moderate and substantial changes in severance respectively.

Sensitivity of the receptor

12.9.71 In terms of sensitivity of receptor, these range from low to medium (as set out in **Table 12.22).** The sensitivity of the receptors is deemed to be of low to medium vulnerability, high recoverability and low to medium value. The sensitivity of the receptor is, therefore, considered to be **low to medium**.

Magnitude of impact

12.9.72 The ten highway links assessed in terms of severance are set out in **Table 12.32** along with their predicted changes in total traffic flows and subsequent magnitude of impacts.

Table 12.32: Magnitude of impact for severance

Link	% Increase – total vehicles	Magnitude of impact
L1	1.8%	Negligible
L3	1.5%	Negligible
L5	1.6%	Negligible
L7	7.2%	Negligible
L10	0.8%	Negligible
L16a	2.4%	Negligible
L21	7.9%	Negligible
L22	2.2%	Negligible

Link	% Increase – total vehicles	Magnitude of impact
L28	3.1%	Negligible
L29	1.8%	Negligible

12.9.73 In accordance with the IEMA Guidelines, the magnitude of impacts on all ten highway links are all well below the 30% threshold at which a slight (the lowest category) impact could occur upon severance.

12.9.74 The impact is predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. Therefore, the overall magnitude of impact is **negligible adverse.**

Significance of effect

12.9.75 Overall, the sensitivity of the receptors is considered to be **low to medium** and the magnitude of impacts is deemed to be **negligible**. The effect will, therefore, be of **negligible to minor adverse** significance, which is not significant.

The impact on road safety caused by construction traffic

12.9.76 It is possible to estimate the impact of increased traffic on road safety from existing injury accident records, national statistics and the type and quantity of traffic generated. The assessment of the baseline environment in relation to road safety is set out in **Section 12.6** and at Volume 3, Appendix 12.9: Personal Injury Accident (PIA) clusters **[EN010147/APP/6.5]** of the ES.

12.9.77 The IEMA rule 1 and rule 2 thresholds which delimit the extent of EIA do not on their own apply to this impact as this relates to the consideration of road safety along a highway and the impact upon this which is defined by the TA. Generally, a potential impact upon road safety may result at locations where there is an existing road safety issue or where proposals may create a road safety issue.

12.9.78 The IEMA rule 1 and rule 2 thresholds are therefore not applied to this potential impact to delimit the extent of assessment and the extent of assessment is considered across the whole study area, from which key locations for assessment are identified from an analysis of PIAs and advice from highway authorities.

12.9.79 In order to determine key locations within the study area for assessment within this chapter, Section 12.6 analysed PIAs and found there were no current road safety concerns within the traffic and transport study area.

12.9.80 In their response to the PEIR, OCC advised that the pinch point at Filchampstead on the B4017 Cumnor Road (Link 21) where the carriageway is narrow is of particular interest within the traffic and transport study area relating to road safety.

Sensitivity of the receptor

12.9.81 An analysis of road safety set out in **Section 12.6** identified that there are no road safety issues within the traffic and transport study area.

12.9.82 In terms of road safety, all links throughout the traffic and transport study area are deemed to be of negligible to low vulnerability, high recoverability and high value. The sensitivity of the receptor is therefore considered to be **negligible to high.**

12.9.83 OCC have highlighted the pinch point at Filchampstead (Link 21) as a location of road safety concern. Link 21 is considered to be of low vulnerability, high recoverability and medium value. The sensitivity of Link 21 is therefore considered to be **Medium.**

Magnitude of impact

12.9.84 Analysis of PIA data is set out in **Section 12.6** and highlights locations of the highway where there are any clusters of PIAs.

12.9.85 The analysis undertaken determined that there were no common contributory factors amongst the PIAs that were attributable to the highway network and the common contributory factor was driver error. The conclusion of this assessment was that there are no road safety issues within the study area.

12.9.86 The analysis also determined that no PIAs have occurred in the vicinity of the pinch point on the B4017 Cumnor Road (Link 21) through Filchampstead in the latest five-year period. This demonstrates there are no existing road safety issues in this location. Notwithstanding this, some localised widening is proposed in this location as part of the Project. This will be widened principally to facilitate the movements of AILs but will also provide a betterment for other vehicle movements including HGVs.

12.9.87 The construction vehicles would not result in significant increases in traffic and the composition of traffic and would not alter the injury accident rates by any noticeable amounts.

12.9.88 The construction HGVs would all be routeing through the study area under strict traffic management control via the oCTMP **[EN010147/APP/7.6.1]**, and warning signage will be used where relevant (for example at access junctions) to alert other drivers of the construction traffic.

12.9.89 In terms of Cassington Road and Burleigh Road, the access improvements provided along these will act as passing places such that a HGV or a tractor and trailer could stop within them to allow other large vehicles to safely pass; thus, no associated road safety issues are predicted to be introduced in this regard.

12.9.90 The impact is predicted to be of local spatial extent, short term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be **low.**

12.9.91 The impact in terms of road safety at the pinch point through Filchampstead is predicted to be of local spatial extent, short term duration and high reversibility.

It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **low.**

Significance of effect

12.9.92 Overall, the sensitivity of the receptors is considered to be **low to high** and the magnitude of impacts is deemed to be **low**. The effect will, therefore, be of **negligible to minor adverse** significance, which is not significant.

The impact of AILs on the safety of users of the LRN, SRN and other transport receptors

Sensitivity of the receptor

12.9.93 The access route used by the AILs would generally need to be of good standard to accommodate the transport delivery vehicles. The key access routes to the Project are formed of A classification roads which are of a good standard for accommodating such movements.

12.9.94 Any restrictions would also necessarily be removed to accommodate the transport delivery vehicles and they would travel under controlled environments.

12.9.95 In terms of sensitivity of receptor, these range from negligible to high. The sensitivity of the receptors are deemed to be of negligible to high vulnerability, high recoverability and low to high value. The sensitivity of the receptor is therefore, considered to be **negligible to high**.

Magnitude of impact

12.9.96 The AILs are expected to be components that exceed standard load weight and possibly exceed standard width and length. These movements are irregular (there will be four transformer deliveries that will be classified as AILs) throughout the traffic and transport study area. The magnitude of impact relating to AILs is therefore considered across the whole traffic and transport study area.

12.9.97 Depending on the width, length or weight of the laden vehicle, different notice periods have to be provided to highway authorities, bridge authorities and the police. These can vary between two and five days. The following activities would need to be undertaken in accordance with the Road Vehicles (Authorisation of Special Types) Order 2003 (STGO):

- Before the start of any journey, notify in accordance with Schedule 5 the chief office of police for each area in which the vehicle or vehicle-combination is to be used.
- Ensure that the vehicle or vehicle-combination is used in accordance with the requirements of that Schedule.
- Ensure that the vehicle or vehicle-combination is accompanied during the journey by one or more attendants employed in accordance with Schedule 6.

12.9.98 The number of AIL movements would be low, each load would be present on the network for a short period of time and standard measures (including traffic management measures) would be applied in accordance with the above notification requirements and the heavy haulage company's insurance requirements in terms of route, timing and method of delivering to minimise delays to other highway users. Where relevant, the police may be notified of AIL movements and if applicable, there would be prior notification to the locality via local newspapers/radio etc so that other users have advance notification and can avoid or re-time their journeys so as to negate any impact.

12.9.99 Some AILs may also require escort, as directed by the local police authority or as provided by the haulage contractor. Escorts would not only control the AILs but would also interact with other road users to control, guide and protect them accordingly so as to safeguard their safe and expedient passage. This includes not just other vehicles but also non-motorised users and those who simply wish to watch/observe the movement of the AILs.

12.9.100 Based upon the above, the impact is predicted to be of local spatial extent, short term duration, intermittent and highly reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **negligible**.

Significance of effect

12.9.101 Overall, the sensitivity of the receptors is considered to be **negligible to high** and the magnitude of impact is deemed to be **negligible**. The effect will, therefore, be of **negligible to minor adverse** significance, which is not significant.

Future monitoring

12.9.102 No monitoring to test the predictions made within the impact assessment is considered necessary.

12.10 Cumulative Effects

12.10.1 The Cumulative Effects Assessment (CEA) takes into account the impact associated with the Project together with other projects and plans. The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see Volume 3, Appendix 20.1: Cumulative Developments Longlist and Shortlist **[EN010147/APP/6.5]** of the ES. Each project has been considered on a case-by-case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

12.10.2 Whilst the cumulative projects considered for traffic and transport are grouped into different tiers these have been assessed as one cumulative impact. As set out in **Table 12.34** below the maximum design scenario is greatest when the greatest number of schemes and thus greatest number of cumulative development traffic flows (generated from other projects and plans and the Project) are considered.

12.10.3 The specific projects, plans and activities scoped into the CEA, are outlined in **Table 12.33**. The selection of projects was based upon those that would generate a material volume of traffic into the study area during the peak construction period of the Project (i.e. the period in which the Project creates the largest impact).

12.10.4 This is based on professional judgement with regards to each sites potential timing for granting of planning consent, discharge of conditions etc, construction period and build out rate, opening year and their change in traffic generation during its build out period to when full occupation may be achieved.

12.10.5 These aspects are all considered in the context of the potential for each site to generate a material volume of traffic into the traffic and transport study area during the peak construction period of the Project in 2026.

12.10.6 If a future year cumulative assessment year beyond 2026 was selected then the following applied.

- Baseline traffic flows would be higher (due to traffic growth), thus diluting the cumulative impact.
- The construction traffic generated by the Project would be lower than their peak, thus reducing its impact.
- The traffic flows generated by other projects and plans would be higher as they are built out and thus their impact would be higher.
- The contribution to the cumulative impact from the Project would be reduced as a consequence of these factors.
- Thus, a future year CEA in 2026 is selected because that is the period in which the contribution from the Project is at its highest and represents a proportionate cumulative assessment.

12.10.7 Sites that are not considered to generate a material volume of traffic into the traffic and transport study area during 2026 have been discounted from the CEA. Sites that are considered to generate a material volume of traffic into the traffic and transport study area during 2026 have been included within the CEA.

12.10.8 As Tar Farm Solar Farm has had consent granted, this should be assessed as part of the committed developments, however due to its close proximity and overlapping traffic and transport study areas, and similar nature of development, this development has been considered alongside the other cumulative developments to ensure a robust assessment.

12.10.9 The specific projects, plans and activities scoped into the CEA, are outlined in **Table 12.33.**

12.10.10 The traffic and transport CEA methodology has generally followed the methodology set out in Volume 1, Chapter 4: Approach to Environmental Assessment and a TA methodology as set out in **Section 12.6** of this chapter. As part of the assessment, all projects and plans considered alongside the Project have been allocated into ‘tiers’ reflecting their current stage within the planning and development process.

- Tier 1

  - Under construction
  - Permitted application
  - Submitted application
  - Those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact
- Tier 2
  - Scoping report has been submitted
- Tier 3
  - Scoping report has not been submitted
  - Identified in the relevant Development Plan
  - Identified in other plans and programmes.

12.10.11 This assessment is followed by all other relevant projects, identified by tier.

12.10.12 This tiered approach is adopted to provide a clear assessment of the Project alongside other projects, plans and activities.

12.10.13 The specific projects, plans and activities scoped into the CEA, are outlined in **Table 12.33.**

Table 12.33: List of other projects, plans and activities considered within the CEA

Project/Plan	Status	Distance from the Project (nearest point, km)	Description of project/plan	Overlap with the Project
Tier 1				
Salt Cross Garden Village 20/01734/OUT	Submitted (pending approval)	Adjacent	Outline application with means of access for a mixed-use Garden Village, comprising residential, retail, food and drink, health and community facilities, hotel, class B1, B2 and B8 employment uses, education provision, burial ground, public open space with sports pitches together with ancillary facilities, landscaping and associated infrastructure and works.	No. This cumulative development passed initial screening tests however it has been scoped out of the CEA due to WODC advising that construction of the development is likely to commence in 2029.
Land North of Banbury Road 21/00217/OUT	Submitted (pending approval)	0.3	Outline planning application with all matters reserved except for means of access for up to 235 dwellings with community space and car barns together with associated works (Amended).	Yes, assumed under construction in 2026.
Tar Farm Solar Farm 21/03711/FUL	Determined - Approved	6.0	Installation of renewable energy scheme comprising ground mounted photovoltaic arrays with associated substation, invertors, internal access track, landscaping and biodiversity measures, fencing, access gate and ancillary infrastructure (Amended).	Yes. This development has had consent granted, therefore from a TA perspective, this should be considered as a committed development and form part of the baseline scenario, however due to its close proximity and overlapping traffic and transport study areas, and similar nature of development, this development has been considered alongside the other cumulative developments to ensure a robust assessment.
West of Rutten Lane, Yarnton 21/03522/OUT	Determined - Approved	Adjacent	The erection of up to 540 dwellings (Class C3), up to 9,000sqm GEA of elderly/extra care residential floorspace (Class C2), a Community Home Work Hub (up to 200sqm)(Class E), alongside the creation	No. This cumulative development passed initial screening tests however it has been scoped out of the CEA as the development was consented in 2024, therefore forms part of the baseline. Traffic

Project/Plan	Status	Distance from the Project (nearest point, km)	Description of project/plan	Overlap with the Project
			of two locally equipped areas for play, one NEAP, up to 1.8 hectares of playing pitches and amenity space for the William Fletcher Primary School, two vehicular access points, green infrastructure, areas of public open space, two community woodland areas, a local nature reserve, footpaths, tree planting, restoration of historic hedgerow, and associated works. All matters are reserved, save for the principal access points.	generation for this development has been included as part of TEMPro growth rates as discussed in **Section 12.6.**
Begbroke Science Park 23/02098/OUT	Submitted (pending approval)	Adjacent	Outline application, with all matters reserved, for a multi-phased (severable), comprehensive residential-led mixed use development comprising: Up to 215,000 square metres gross external area of residential floorspace (or c.1,800 homes which depending on the housing mix could result in a higher or lower number of housing units) within Use Class C3/C4 and large houses of multiple occupation (Sui Generis); Supporting social infrastructure including secondary school/primary school(s) (Use Class F1); health, indoor sport and recreation, emergency and nursery facilities (Class E(d)-(f)). Supporting retail, leisure and community uses, including retail (Class E(a)), cafes and restaurants (Class E(b)), commercial and professional services (Class E(c)), a hotel (Use Class C1), local community uses (Class F2), and other local centre uses within a Sui Generis use including public houses, bars and drinking establishments (including with expanded food provision), hot food takeaways, venues for live music performance, theatre, and cinema. Up to 155,000 net additional square metres	Yes, assumed under construction in 2026.

Project/Plan	Status	Distance from the Project (nearest point, km)	Description of project/plan	Overlap with the Project
			(gross external area) of flexible employment uses including research and development, office and workspace and associated uses (Use E(g)), industrial (Use Class B2) and storage (Use Class B8) in connection with the expansion of Begbroke Science Park; Highway works, including new vehicular, cyclist and pedestrian roads and paths, improvements to the existing Sandy Lane and Begbroke Hill road, a bridge over the Oxford Canal, safeguarded land for a rail halt, and car and cycle parking with associated electric vehicle charging infrastructure; Landscape and public realm, including areas for sustainable urban drainage systems, allotments, biodiversity areas, outdoor play and sports facilities (Use Class F2(c)); Utility, energy, water, and waste water facilities and infrastructure; together with enabling, site clearance, demolition and associated works, including temporary meanwhile uses. The Proposed Development affects the setting of a listed building and includes potential alterations to public rights of way. The application is accompanied by an Environmental Statement	
Former Piggery and Land North of Woodstock Road 23/03307/OUT	Submitted (pending approval)	1.3	Outline planning application for the residential development of up to 300 dwellings with associated infrastructure and open space (outline) and new access off the A44 (detailed)	Yes, assumed under construction in 2026.
Yarnton Home And Garden	Application Withdrawn	3.4	Retention of existing garden centre and associated car parking, in a modified fashion. Outline application, with all matters reserved except for access, with retention of vehicular access from	No. This cumulative development passed initial screening tests however it has been scoped out of the CEA as the planning application was withdrawn in September 2024.

Project/Plan	Status	Distance from the Project (nearest point, km)	Description of project/plan	Overlap with the Project
24/00657/OUT			Sandy Lane (to serve new housing only) and creation of proposed new vehicular access from Begbroke Hill (to serve the remainder of the retained and proposed development). Proposed 10no. two storey dwellings accessed from Sandy Lane. Proposed new day nursery (approx. 90no. children) and proposed 120no. units of retirement living accommodation in two to four storey development. Proposed new two-tier decked car park to provide approximately 270no. car parking spaces, plus retention of existing car parking area in modified fashion, and staff car parking. Proposed 39no. cycle parking spaces for the garden centre, plus approx. 115no. staff and visitor cycle parking spaces across the site. Proposed landscaping, including public open space, and pedestrian and cycle links	
Oxford Stadium 24/00539/F	Submitted (pending approval)	5.9	Erection of a stadium (Use Class F2) with flexible commercial and community facilities and uses including for conferences, exhibitions, education, and other events, club shop, public restaurant, bar, health and wellbeing facility/clinic, and gym (Use Class E/Sui Generis), hotel (Use Class C1), external concourse/fan-zone, car and cycle parking, access and highway works, utilities, public realm, landscaping and all associated and ancillary works and structures.	Yes, assumed under construction in 2026.
Land At Oxpens Road 22/02954/OUT and 22/02955/FUL	Submitted (pending approval)	3.7	Outline application (with all matters reserved except for access) for a mixed-use scheme comprising residential and student accommodation (Class C2, Class C3 and Sui Generis), commercial, business and service (Class E), and Hotel (Class C1) uses,	Yes, assumed under construction in 2026.

Project/Plan	Status	Distance from the Project (nearest point, km)	Description of project/plan	Overlap with the Project
			with public realm, landscaping, associated infrastructure and works, including pedestrian and cycle routes (additional information) (Amended Plans & Description) Implementation of flood mitigation scheme and the reinstatement of the Oxpens Meadow, demolition and installation of interim boundary treatments including fencing, alongside ground works and installation of sheet piling to regrade areas of public realm, including works to the existing towpath to allow for outfall pipes (additional information and amended plans).	
Oxford Flood Alleviation Scheme MW.0027/22	Submitted (pending approval)	2.5	A flood alleviation scheme to reduce flood risk in Oxford, comprising: Construction of a new two stage channel from the confluence of the Botley and Seacourt Streams, extending south easterly to north Kennington; Floodwalls to the north of Botley Road, at Seacourt Park and Ride and adjacent to Bullstake Close allotments; Floodgates at Helen Road, Henry Road and Seacourt Park and Ride; Flood defences at New Hinksey between Abingdon Road in the west and the River Thames in the East, Ferry Hinksey Road and north of South Hinksey; Control Structures at Bulstake Stream, Eastwyke Ditch, Hinksey Pond, Redbridge Stream and Cold Harbour; Bridges and culverts to cross highways and footpaths maintaining access routes; Spillways, embankments, low flow control structure, modifications to Seacourt Stream, ford crossings, channel clearance, ditch widening and deepening, removal of weir and installation of	Yes, assumed under construction in 2026.

Project/Plan	Status	Distance from the Project (nearest point, km)	Description of project/plan	Overlap with the Project
			telemetry cabinets; Repairs to existing walls along Osney Stream and in Hinksey Park. The creation of new and improved habitat for flora, fauna and fisheries, and change of use of land to provide exchange for existing open space. Works will include extraction of some sand and gravel for reuse on the site and exportation from the site	
Tier 2				
University Farm Solar 23/00760/SCREEN	Screening Opinion Submitted	7.0	Screening Opinion (Environmental Impact Assessment (EIA) for proposed solar farm and Battery Stations together with all associated works, equipment and necessary infrastructure at University Farm, Hailey Witney OX29 9UH	Yes, assumed under construction in 2026 for robustness.
Ramsden Solar Farm 23/00770/SCREEN	Screening Opinion Submitted	7.8	Request for EIA Re-Screening Opinion - Installation of a ground mounted solar photovoltaic array and battery energy storage system (BESS) and associated equipment	Yes, assumed under construction in 2026 for robustness.
Caswell Lane Solar Farm 24/01127/SCREEN	Screening Opinion Submitted	12.8	Screening opinion (EIA) for development of a 30MW solar farm with 30MW BESS and associated works, equipment, and necessary infrastructure.	Yes, assumed under construction in 2026 for robustness.
Cumnor Solar Farm P23/V0306/SCR	Screening decision - positive	1.5	Request for an Environmental Impact Assessment (EIA) Screen Opinion prior to the submission of an application for the installation of a solar photovoltaic array and Battery Storage facility	Yes, assumed under construction in 2026 for robustness.

Maximum design scenario – cumulative effects assessment

12.10.14 The maximum design scenarios identified in **Table 12.34** have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been selected from the Project Design Envelope provided in Volume 1, Chapter 6: Project Description, of the ES as well as the information available on other projects and plans, in order to inform a 'maximum design scenario'. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g., different foundation type or substation layout), to that assessed here, be taken forward in the final design scheme.

Table 12.34: Maximum design scenario for the assessment of cumulative effects

Potential cumulative effect	Phase			Maximum Design Scenario	Justification
	C	O	D		
The impact of increases in traffic flows as a result of construction traffic upon driver (including public transport) and non-motorised user delay or fear and intimidation (non-motorised user amenity) for users of the LRN and SRN.	✓	✗	✗	Maximum design scenario as described for the Project (**Table 12.19**) assessed cumulatively with the following other projects/plans: **Tier 1** • Begbroke Science Park • Land at Oxpens Road • Oxford Stadium • Land North of Banbury Road • Former Piggery and Land North of Woodstock Road • Oxford Flood Alleviation Scheme • Tar Farm Solar Farm - This development has had consent granted, therefore from a TA perspective, this should be considered as a committed development and form part of the baseline scenario, however, for TA purposes, to create a MDS with maximised cumulative traffic flows, all cumulative development is considered together and thus, for the reasons above, Tar Farm Solar Farm is considered with the other cumulative developments. **Tier 2** • Cumnor Solar Farm • Caswell Lane Solar Farm • Ramsden Solar Farm • University Farm Solar **Tier 3** • No schemes identified	Outcome of the CEA will be greatest when the greatest number of other schemes are considered
The impact of increases in traffic flows as a result of construction traffic upon severance for users of the LRN and SRN.	✓	✗	✗		
The impact of increases in traffic flows as a result of construction traffic upon road safety for users of the LRN, SRN and other transport receptors.	✓	✗	✗		

[a] C=construction, O=operational and maintenance, D=decommissioning

12.11 Cumulative effects assessment

Introduction

12.11.1 The estimated traffic generation from the cumulative developments have been taken from their respective transport document submission and are replicated in Volume 3, Appendix 12.7: Traffic flows with construction traffic **[EN010147/APP/6.5]** of the ES.

12.11.2 A description of the significance of cumulative effects upon traffic and transport receptors arising from each identified impact is given below.

Delimiting the extent of assessment of transport cumulative environmental impacts

12.11.3 In accordance with the IEMA Guidelines, the cumulative vehicle movements (which include those from the Project) are assessed against the 2026 baseline traffic flows.

12.11.4 It is noted that the estimated traffic generation from the cumulative developments only impact 11 links in the traffic and transport study area. On this basis, the assessments undertaken in **Section 12.9** cover the CEA for all highway links except L5, L8, L10, L11, L12, L13, L14, L15, L23, L24 and L25.

12.11.5 The cumulative vehicle movements (which include those from the Project) for these 11 links are assessed against the 2026 baseline traffic flows in **Table 12.35**.

Table 12.35: Impact of cumulative development peak daily construction traffic flows (11 highway links)

Link Reference	2026 Base traffic flows		Cumulative development + peak Project traffic flows		% Increase	
	Total Vehicles	HVs	Total Vehicles	HVs	Total Vehicles	HVs
Link 5: A4095 Upper Campsfield Road between A4260 Banbury Road and A44 Woodstock Road	9,638	463	202	166	2.1%	36.0%
Link 8: A44 Woodstock Road between A4095 and Langford Lane	23,282	1,145	424	196	1.8%	17.2%
Link 10: A44 Woodstock Road between Langford Lane and A4260 Frieze Way	22,139	483	868	267	3.9%	55.4%
Link 11: A44 between A4260 Frieze Way and A34	29,033	1,507	910	278	3.1%	18.4%
Link 12: A34 Northeast of A44 Woodstock Road	67,243	11,367	624	301	0.9%	2.7%

Link Reference	2026 Base traffic flows		Cumulative development + peak Project traffic flows		% Increase	
	Total Vehicles	HVs	Total Vehicles	HVs	Total Vehicles	HVs
Link 13: A44 Woodstock Road between A34 and A40 Northern By Pass Road	32,213	1,870	466	196	1.4%	10.5%
Link 14: A40 between A44 Woodstock Road and Eynsham Road	23,098	1,304	323	174	1.4%	13.3%
Link 15: A40 to the West of Eynsham Road	25,132	1,404	323	174	1.3%	12.4%
Link 23: A420 between B4044 Eynsham Road and A34	28,558	2,548	231	179	0.8%	7.0%
Link 24: A34 Southeast of A420	70,382	8,243	644	297	0.9%	3.6%
Link 25: A34 between A420 and A44 Woodstock Road	75,731	8,674	652	306	0.9%	3.5%

12.11.6 The highway links that exceed their respective rule 1 or rule 2 threshold are set out in **Table 12.36** and are those for which an assessment of cumulative effects has been undertaken.

Table 12.36: Highway links for cumulative Environmental Impact Assessment

Link Reference	Sensitivity of receptor	% Increase	
		Total Vehicles	HVs
Link 5: A4095 Upper Campsfield Road between A4260 Banbury Road and A44 Woodstock Road	Low	2.1%	36.0%
Link 10: A44 Woodstock Road between Langford Lane and A4260 Frieze Way	Low	3.9%	55.4%

12.11.7 **Table 12.36** sets out that two highway links (L5 and L10) exceed their respective rule 1 or rule 2 threshold and have been assessed to determine their significance of effect.

12.11.8 In terms of the other highway links (all highway links save for those in **Table 12.36**), in accordance with the IEMA Guidelines, these would have changes in traffic flows that would create no discernible environmental impact. Therefore, the effect on these will be of **negligible adverse** significance, which is not significant.

12.11.9 In terms of driver delay, the cumulative projects and plans that generate peak hour vehicle movements during their operational phases have assessed the impact of these and identified mitigation measures where necessary whilst during their construction phase will be mitigated via their associated CTMP. A

review of the TAs that supported the planning applications for the other projects and plans that form the CEA set out that their residual impacts would not be material. The cumulative sites would not generate any AILs and considerations in this regard are the same as those set out in **Section 12.9**. On this basis, no further CEA is required in this regard.

The impact on non-motorised delay caused by cumulative development traffic

Sensitivity of the receptor

12.11.10 In terms of sensitivity of receptor, Link 5 and Link 10 are considered to be of low sensitivity, with footway provision commensurate with its use and demand. These links are deemed to be of low vulnerability, high recoverability and low value. The sensitivity of these receptors is therefore considered to be **low**.

Magnitude of impact

12.11.11 As set out in **Table 12.36**, the daily cumulative development traffic flows would result in an increase of 2.1% and 3.9% on Link 5 and Link 10 respectively. In accordance with the IEMA Guidelines, this is less than the 30% threshold upon which a slight (the lowest category) effect upon non-motorised user delay may occur.

12.11.12 The cumulative impact is predicted to be of local spatial extent, long term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **negligible.**

Significance of effect

12.11.13 Overall, the sensitivity of the receptors is considered to be **low** and the magnitude of the cumulative impact is deemed to be **negligible**. The cumulative effect will, therefore, be of **negligible adverse** significance, which is not significant.

The impact on fear and intimidation (non-motorised user amenity) caused by cumulative development traffic

Sensitivity of the receptor

12.11.14 In terms of sensitivity of receptor, Link 5 and Link 10 are considered to be of low sensitivity, with footway provision commensurate with its use and demand. These links are deemed to be of low vulnerability, high recoverability and low value. The sensitivity of these receptors is therefore considered to be **low**.

Magnitude of impact

12.11.15 **Table 12.29** sets out the level of fear and intimidation for the 2026 baseline traffic flows and **Table 12.37** sets this out for the 2026 baseline plus cumulative development traffic flows based upon the IEMA Guidelines. **Table 12.38**Error!

Reference source not found. then calculates the cumulative magnitude of impact upon fear and intimidation (non-motorised user amenity).

12.11.16 Link 5 is subject to speed restriction variances based upon section; therefore, the assessment has been separated depending on the variances in average vehicle speed.

Table 12.37: Level of fear and intimidation (2026 baseline plus cumulative development traffic flows)

Link	Average traffic flow over 18-hour day – all vehicles/hour	Total 18-hour HV flow	Average vehicle speed	Total hazard score	Level of fear and intimidation
L5 (NSL)	547	629	60	30	Moderate
L5 (50mph)	547	629	47	30	Moderate
L10	1278	751	36	40	Moderate

Table 12.38: Step change and magnitude of impact upon fear and intimidation

Link	Level of fear and intimidation – 2026 baseline traffic flows	Level of fear and intimidation – 2026 baseline plus cumulative development traffic flows	Step change	Magnitude of impact
L5 (NSL)	Moderate	Moderate	0	Negligible
L5 (50mph)	Moderate	Moderate	0	Negligible
L10	Moderate	Moderate	0	Negligible

12.11.17 The assessments show that there are no step changes in the level of fear and intimidation (non-motorised user amenity) and there is therefore a negligible cumulative magnitude of impact on Link 5 and Link 10.

12.11.18 The cumulative impacts are predicted to be of local spatial extent, long term duration, intermittent and high reversibility. The cumulative magnitude is therefore, considered to be **negligible.**

Significance of effect

12.11.19 Overall, the sensitivity of the receptors is considered to be **low** and the magnitude of the cumulative impact is deemed to be **negligible**. The cumulative effect will, therefore, be of **negligible adverse** significance, which is not significant.

The impact on severance caused by cumulative development traffic

Sensitivity of the receptor

12.11.20 In terms of sensitivity of receptor, Link 5 and Link 10 are considered to be of low sensitivity, with footway provision commensurate with its use and demand. These links are deemed to be of low vulnerability, high recoverability and low value. The sensitivity of these receptors is therefore considered to be **low**.

Magnitude of impact

12.11.21 As set out in **Table 12.34**, the daily cumulative development traffic flows would result in an increase of 2.1% and 3.9% on Link 5 and Link 10 respectively. In accordance with the IEMA Guidelines, this is less than the 30% threshold upon which a slight (the lowest category) effect upon severance may occur.

12.11.22 The cumulative impact is predicted to be of local spatial extent, long term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **negligible.**

Significance of effect

12.11.23 Overall, the sensitivity of the receptors is considered to be **low** and the magnitude of the cumulative impact is deemed to be **negligible**. The cumulative effect will, therefore, be of **negligible adverse** significance, which is not significant.

The impact on road safety caused by cumulative development traffic

Sensitivity of the receptor

12.11.24 An analysis of road safety set out in **Section 12.6** identified that there are no road safety issues within the traffic and transport study area.

12.11.25 In terms of road safety, Link 5 and Link 10 are deemed to be of low vulnerability, high recoverability and high value. The sensitivity of the receptor is therefore considered to be **low**.

Magnitude of impact

12.11.26 Analysis of PIA data is set out in **Section 12.6** and highlights locations of the highway where there are any clusters of PIAs.

12.11.27 The analysis undertaken determined that there were no PIA clusters on Link 5 or Link 10 and no road safety issues along these links.

12.11.28 The cumulative development traffic flows would not result in significant increases in traffic or the composition of total traffic flows and would not alter the injury accident rates by any noticeable amounts along Link 5 or Link 10.

12.11.29 The cumulative impact is predicted to be of local spatial extent, long term duration, intermittent and high reversibility. It is predicted that the cumulative impact will affect the receptor directly. The magnitude is therefore, considered to be **low.**

Significance of effect

12.11.30 Overall, the sensitivity of the receptors is considered to be **low** and the magnitude of the cumulative impact is deemed to be **low**. The cumulative effect will, therefore, be of **negligible adverse** significance, which is not significant.

12.12 Transboundary effects

12.12.1 A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects with regard to traffic and transport for the Project upon the interests of other states. This is because the impacts from traffic and transport are of local spatial extent.

12.13 Inter-related effects

12.13.1 Inter-relationships are the impacts and associated effects of different aspects of the Project on the same receptor. These are as follows.

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Project (construction, operation and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three phases (e.g., construction noise effects from piling, operational substation noise, and decommissioning disturbance).
- Receptor led effects: Assessment of the scope for all effects (including inter-relationships between environmental topics) to interact, spatially and temporally, to create inter-related effects on a receptor. As an example, all effects on traffic and transport, such as construction dust and noise, increased traffic and visual change etc, may interact to produce a different, or greater effect on this receptor than when the effects are considered in isolation. Receptor-led effects may be short term, temporary or transient effects, or incorporate longer term effects.

12.13.2 A description of the likely interactive effects arising from the Project on traffic and transport is provided in Volume 1, Chapter 19: Cumulative Effects and Inter-relationships **[EN010147/APP/6.3]** of the ES.

12.13.3 **Table 12.39** lists the inter-related effects (project lifetime effects) that are predicted to arise during the construction, operational and maintenance and decommissioning phases of the Project, and also the inter-related effects (receptor-led effects that are predicted to arise for traffic and transport receptors.

Table 12.39: Summary of likely significant inter-related effects

Description of impact	Phase C	O	D	Likely significant inter-related effects	Significance
Effects on people associated with driver delay (including temporary delays to public transport services), non-motorised user delay, non-motorised user amenity and severance.	✓	x	x	These effects will be caused by construction works or construction traffic using the LRN and SRN and therefore are confined to this phase. Therefore, it is considered that there is no potential for project lifetime effects to occur on this receptor group. An assessment of inter-related effects has been undertaken by comparing the effects for each impact upon each link. For those where there is more than one effect that is higher than negligible, the magnitude has been reviewed for each impact. For all of those, only one impact has a magnitude that is higher than negligible. No significant inter-related effects are predicted between impacts from the construction of the Project on traffic and transport receptors.	No change resulting from inter-related assessment.

Receptor-led effects

Receptors include people that are living in and using facilities and using transport networks. There is potential for inter-related effects from transport with noise and vibration, air quality and human health. The construction phase has the highest likelihood of receptor-led effects. However, these effects would be managed through measures set out in the CoCP.

12.14 Summary of impacts, mitigation measures and monitoring

12.14.1 Information on traffic and transport within the traffic and transport study area was collected through desktop reviews, site specific surveys, scoping and consultation.

12.14.2 **Table 12.40** presents a summary of the potential impacts, measures adopted as part of the Project and residual effects in respect to traffic and transport. The impacts assessed include:

- Driver delay including delays to public transport services (as part of that driver delay)
- Severance
- Non-motorised user delay
- Fear and intimidation (non-motorised user amenity)
- Road safety
- AILs.

12.14.3 Overall, it is concluded that there will be no significant effects arising from the Project during the construction, operation and maintenance or decommissioning phases.

12.14.4 **Table 12.41** presents a summary of the potential cumulative impacts, mitigation measures and residual effects. The cumulative impacts assessed include:

- Driver delay including delays to public transport services (as part of that driver delay)
- Severance
- Non-motorised user delay
- Fear and intimidation (non-motorised user amenity)
- Road safety
- AILs.

12.14.5 Overall, it is concluded that there will be no significant cumulative effects from the Project alongside other projects/plans.

12.14.6 No potential transboundary impacts have been identified in regard to effects of the Project.

12.14.7 There is potential for inter-related effects from transport with noise and vibration (Volume 1, Chapter 13: Noise and vibration of the ES), air quality (Volume 1, Chapter 19: Air quality of the ES) and human health (Volume 1, Chapter 16: Human health of the ES) **[EN010147/APP/6.3]**. The construction phase has the highest likelihood of receptor-led effects. However, these effects would be managed through measures set out in the CoCP. Further details of inter-related effects are provided in Volume 4, Chapter 20: Cumulative Effects and Inter-relationships of the ES. **[EN010147/APP/6.3]**

Table 12.40: Summary of potential environmental effects, mitigation and monitoring.

Description of impact	Phase C	Phase O	Phase D	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
The impact on driver delay (including temporary delays to public transport services) caused by construction works or construction traffic using the LRN and SRN.	✓	x	x	C: Low to Medium	C: Negligible to High	C: Negligible to Minor Adverse	N/A	C: Negligible to Minor Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.
The impact on non-motorised user delay caused by construction works or construction traffic using the LRN and SRN.	✓	x	x	C: Negligible	C: Low to Medium	C: Negligible to Minor Adverse	N/A	C: Negligible to Minor Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.
The impact on fear and intimidation (non-motorised user amenity) caused by construction works or construction traffic using the LRN and SRN.	✓	x	x	C: Negligible	C: Low to Medium	C: Negligible to Minor Adverse	N/A	C: Negligible to Minor Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.
The impact on severance caused by construction works or construction traffic.	✓	x	x	C: Negligible	C: Low to Medium	C: Negligible to Minor Adverse	N/A	C: Negligible to Minor Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.

Description of impact	Phase			Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D						
The impact on road safety caused by construction traffic	✓	x	x	C: Low	C: Negligible to High	C: Negligible to Minor Adverse	N/A	C: Negligible to Minor Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.
The impact of AILs on the safety of users of the LRN, SRN and other transport receptors	✓	x	x	C: Negligible	C: Negligible to High	C: Negligible to Minor Adverse	N/A	C: Negligible to Minor Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.

[a] C=construction, O=operational and maintenance, D=decommissioning

Table 12.41: Summary of potential cumulative environmental effects, mitigation and monitoring.

Description of effect	Phase C	Phase O	Phase D	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Tier 1, Tier 2 and Tier 3									
The cumulative impact on driver delay (including temporary delays to public transport services) caused by cumulative traffic using the LRN and SRN.	✓	x	x	C:	C	C: Negligible to Minor Adverse	N/A	C: Negligible to Minor Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.
The cumulative impact on non-motorised user delay caused by cumulative traffic using the LRN and SRN.	✓	x	x	C: Negligible	C: Low	C: Negligible Adverse	N/A	C: Negligible Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.
The cumulative impact on fear and intimidation (non-motorised user amenity) caused by cumulative traffic using the LRN and SRN.	✓	x	x	C: Negligible	C: Low	C: Negligible Adverse	N/A	C: Negligible Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.
The cumulative impact on severance caused by cumulative traffic.	✓	x	x	C: Negligible	C: Low	C: Negligible Adverse	N/A	C: Negligible Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s)

Description of effect	Phase C O D	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
							will be developed in accordance with the oCTMP prior to construction.
The cumulative impact on road safety caused by cumulative traffic	✓ x x	C: Low	C: Negligible to High	C: Negligible to Minor Adverse	N/A	C: Negligible to Minor Adverse	An oCTMP **[EN010147/APP/7.6.1]** is submitted with the application for development consent. CTMP(s) will be developed in accordance with the oCTMP prior to construction.

[a] C=construction, O=operational and maintenance, D=decommissioning

12.15 References

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