



Preliminary Environmental Information (Work in Progress) Report (PEIR)

Draft Environmental Statement

Chapter 3: Transport

On behalf of
Oxfordshire Railfreight Limited

Prepared by ADC Infrastructure Ltd
Revision E
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3.1 INTRODUCTION

- 3.1.1 The Oxfordshire Strategic Rail Freight Interchange (OxSRFI), the 'Proposed Development' is described in Chapter 2 of this draft Environmental Statement (ES) and reference should be made to that chapter for the description of the development that has been assessed.
- 3.1.2 The transport chapter of the final ES will assess the likely significant environmental effects created by the changing transport conditions introduced by the Proposed Development. The chapter will therefore consider the main modes of travel including the development demands on the existing and planned transportation infrastructure for walking, cycling, public transport usage and vehicular traffic. At this stage much of the detailed assessment work is ongoing, and the definition of the study area is subject to the outputs from the strategic modelling work. This draft ES chapter has therefore been prepared to summarise the work undertaken to date and to set out the assessment scope, methodology and baseline conditions. It will be updated in due course to include a full assessment of the transport effects.
- 3.1.3 Ensuring good access to the Strategic Road Network (SRN) is a prerequisite for the Proposed Development. The Applicant's approach to the road access strategy has evolved from a starting assumption that a new junction on the M40 motorway midway between J9 and J10 would be the most appropriate approach. Following initial investigations into a new junction, and consultation with Oxfordshire County Council (OCC) and National Highways, it became clear that for a new junction to be compliant with DfT Circular 02/2013 requirements for new access onto the SRN (as specified at paragraph 4.85 of the National Policy Statement for National Networks), National Highways would require the Applicant to demonstrate that there were no alternative options to improve existing junctions.
- 3.1.4 The Applicant was also mindful that the initial assessment of a new junction identified a high degree of uncertainty regarding the acceptability of the available weaving distances between a new junction and the existing M40 Junctions 9 and 10. Furthermore, it was identified that a new junction would not necessarily negate the requirement for substantial improvements at M40 Junction 10 to accommodate the development traffic to and from the A43.
- 3.1.5 The access strategy for the Proposed Development has therefore evolved and is now centred on significant improvements to Junction 10 of the M40 motorway, in combination with the provision of a new bypass for the village of Ardley and a new relief road around the north-east quadrant of the village of Middleton Stoney, referred to as the Middleton Stoney Relief Road (MSRR). The unnamed road that passes through the Main Site would be removed as part of the development proposals, and so would be replaced with a new road link to the south of the Main Site, termed the Heyford Park Link Road (HPLR). Collectively termed the 'Highway Works' these

changes to the highway network are embedded into the design of the Proposed Development as described in Chapter 2 of this ES.

- 3.1.6 A detailed Transport Assessment (TA) and Framework Travel Plan will be part of, and appended to, the final ES. However, the work associated with these documents is ongoing and hence cannot yet be reported in full. Therefore, where relevant, high-level summaries only are provided in this draft ES chapter.
- 3.1.7 This draft ES chapter describes the assessment methodology, the work undertaken to date and the work to be undertaken prior to submission of the DCO application, the transport planning policy context, and the current and future baseline conditions at the Proposed Development site and its surroundings. It is structured as follows:
- Section 3.2 sets out the Assessment Scope and Methodology, including details of the formation of the Transport Working Group.
 - Section 3.3 details the Policy Context relevant to transport matters.
 - Section 3.4 describes the current and future baseline conditions at the Proposed Development site and its surroundings.
 - Section 3.5 describes the assessment of the likely effects, including a description of the embedded transport related mitigation measures.
 - Section 3.6 describes the residual effects that will be assessed.
 - Section 3.7 sets out how cumulative effects will be considered.
 - Section 3.8 presents a summary of the interim conclusions.
- 3.1.8 The final version of this ES chapter will include the assessment of the likely significant environmental effects during construction and operation, describe the proposed design measures required to prevent, reduce, or offset any significant adverse effects, and it will identify the likely residual effects after these measures have been employed.
- 3.1.9 The TA and Framework Travel Plan that will accompany the final version of the ES will examine the accessibility of the Main Site by public transport, cycling and walking, and identify the modal split of person trips associated with the development. The TA will evaluate the impact of the development trips on the surrounding transport infrastructure, including an appraisal of heavy goods vehicle (HGV) movements, to identify the need to provide any additional improvements to accommodate the development and reduce impacts to acceptable levels.
- 3.1.10 The Framework Travel Plan will accompany the TA and it will encourage employees and visitors of the site to use healthier and lower carbon transport options in contrast with single occupancy vehicle trips.

Competency

- 3.1.11 ADC Infrastructure Ltd provide consultancy services in transport planning, infrastructure design, and water management. Established in 2013, the company employs an experienced team who have extensive background in the production of

Environmental Statements and supporting Transport Assessments, Travel Plans and other technical documentation for a wide range of development projects. These include the Nationally Significant Infrastructure SRFI schemes at East Midlands Gateway and Northampton Gateway, along with strategic schemes such as: South East Coalville Urban Extension; Sustainable urban extension to the south of Melton Mowbray; and the Thoresby Colliery redevelopment. The principal authors of the draft Environmental Statement (Transport Chapter) are:

- Stuart Dunhill, BEng (Hons), PhD, MICE, CEng – Director and Chartered Civil Engineer with over 19 years’ experience providing transport planning and highways advice;
- Mark Higgins, MEng (Hons) – Associate Director with over 18 years’ experience providing specialist transport and modelling advice.

3.2 ASSESSMENT SCOPE AND METHODOLOGY

General Approach

- 3.2.1 A Transport Working Group (TWG) has been established comprising representatives from National Highways, who have responsibility for the SRN, Aecom (National Highways’ term consultant), and OCC, who have responsibility for the local highway network. In addition, Cherwell District Council, the local planning authority, attend the TWG meetings as appropriate. The objectives of the TWG are to:
- Provide a forum for consultation with the regulatory stakeholders.
 - Allow agreement, in a phased and methodical process, of key components, inputs and assumptions of the transport work that is required to support the DCO submission.
- 3.2.2 The TWG have been meeting regularly since November 2020 and this will continue throughout the preparation and agreement of the TA, Framework Travel Plan, ES chapter, and the submission of the DCO application.
- 3.2.3 To ensure that the potential transport impacts of the Proposed Development are fully considered, and to confirm that the proposed embedded Highway Works are appropriate in scale and function, a three-stage transport modelling assessment approach is being followed. This is detailed in Technical Note 2¹ (**Appendix 3.1** of this ES). It should be noted that since Technical Note 2 has been prepared, the proposed 2021 baseline year has been revised to 2022.
- 3.2.4 The first stage of the three-stage transport modelling work has comprised the options assessment and preliminary design of the embedded highway works at M40 Junction

¹ Technical Note 2: Transport Modelling Methodology (report reference ADC17940RP-H-v3), ADC Infrastructure Ltd, February 2022.

10, the Ardley Bypass, the Principal Access junction, the MSRR and HPLR, and the HGV routing strategy. That work has been based on traffic flow demands from the M40 Junction 10 VISSIM model developed by National Highways, and the transport work undertaken to support the Heyford Park development². The stage 1 transport modelling work is described further at Section 3.5 of this draft ES.

- 3.2.5 The objective of the first stage of work was to develop the preliminary design of the embedded Highway Works in sufficient detail to inform the Stage 1 Consultation and for coding into the strategic transport modelling to be undertaken as part of the second stage of work, which will use the Bicester Transport Model (BTM).
- 3.2.6 The BTM is a SATURN based highway model that also includes a variable demand model and public transport module. The model includes M40 Junctions 9 and 10 and was used to support the transport work for the adjacent Heyford Park development. The BTM was developed for OCC by WYG (now Tetra Tech) in 2016/17 to comply with WebTAG guidance for transport models, in order that it could be used in future year transport forecasting and for the purpose of operational, economic and environmental assessment. The BTM was updated and expanded in 2018 to ensure that it was suitable to use to assess the transport impacts of the Heyford Park development. This included the extension of the model simulation network coding to include the A4260 to the west of the site. The model provides a 2016 base year, and 2021, 2026 and 2031 forecast years.
- 3.2.7 It has been agreed with the TWG that the impact of the Proposed Development traffic and associated Highway Works will be examined using the BTM. As detailed in Technical Note 2 (**Appendix 3.1**), a further review of the BTM has been undertaken by Tetra Tech to ensure that the model validation is appropriate to assess the changing transport conditions associated with the Proposed Development.
- 3.2.8 By modelling the future assessment years both with and without the Proposed Development in place, the effects of the Proposed Development on the highway network can be defined. Based on the outputs from the BTM modelling, a study area for detailed assessment will be identified and agreed with the TWG. Work is ongoing with the TWG to agree the input parameters for the BTM modelling, with the modelling work expected to be concluded by Autumn 2022.
- 3.2.9 The final, third, stage of the transport modelling work will then comprise detailed assessment of the study area using industry standard assessment tools. This will also include micro-simulation assessment of the operation of the M40 Junction 10 complex, including the Principal Access and Ardley Bypass using VISSIM. VISSIM is an industry standard software package that is capable of simulating complex vehicle interactions realistically on a microscopic level (i.e. each vehicle on the highway network is simulated individually).

² Planning reference number 18/00825/HYBRID

- 3.2.10 Separate strategies are being developed to address access to the Proposed Development by public transport, walking and cycling. The DCO application will be supported by a Walking, Cycling & Horse-Riding Assessment Review and Stage 1 Road Safety Audit.
- 3.2.11 The above will be presented in detail in the TA that will be appended to the ES submitted to support the DCO application. In addition, the transport ES chapter will examine the environmental impacts of the changing transport conditions based on the following guidance:
- ‘Guidelines for the Environmental Assessment of Road Traffic’, the Institute of Environmental Assessment, 1993, now the Institute of Environmental Management and Assessment (IEMA).
 - Design Manual for Roads and Bridges (DMRB) LA104 ‘Environmental assessment and monitoring’ and DMRB LA112 ‘Population and human health’.
- 3.2.12 The IEMA Guidelines provide advice specifically aimed at the environmental effects of changes in transport and traffic as a result of a development. It defines those environmental effects which should be regarded as a material consideration and then considers the thresholds at which those effects should be defined. The guidelines therefore set out a list of environmental effects which could be considered as potentially material or significant whenever a new development is likely to give rise to changes in traffic flows.
- 3.2.13 In contrast to this, the DMRB guidance is predominantly aimed at the assessment of major road infrastructure projects rather than the assessment of developments. In this case the Proposed Development includes the provision of significant highways infrastructure (the Highway Works), which form part of the embedded mitigation for the Proposed Development.
- 3.2.14 As such, it is considered appropriate to combine IEMA Guidelines and the DMRB guidance to tailor the assessment methodology to the Proposed Development.

IEMA requirements

- 3.2.15 The IEMA Guidelines provide a list of environmental effects to consider in the EIA process, which include:
- Severance
 - Driver Delay
 - Pedestrian Delay
 - Pedestrian Amenity
 - Fear and Intimidation
 - Accidents and Safety
 - Hazardous Loads.

3.2.16 The IEMA Guidelines also recommends that environmental effects of transport associated with Noise and Vibration, Visual impact, Air Pollution and Dust and Dirt, Ecological impact, and Heritage and Conservation be examined. In that respect, these are assessed within their respective chapters of this ES.

DMRB requirements

3.2.17 Paragraph 4.2 of the DMRB guidance (LA104) sets out factors which should be considered in an ES, of which, the majority are examined in other chapters in the ES. The environmental factor directly related to this transport chapter is 'Population and human health'.

3.2.18 Further guidance on the environmental assessment of population and human health with reference to traffic and transport is set out in DMRB LA112. DMRB LA112 supersedes the historic DMRB Volume 11 which provided guidance regarding assessment techniques for assessing the environmental impacts of a development on various aspects of the environment including: pedestrians, cyclists, equestrians and community effects, and on vehicle travellers.

3.2.19 The guidance in the superseded DMRB Volume 11 was aimed at transport and traffic specific effects. In contrast to this, DMRB LA112 is broader in scope and suggests a more qualitative approach to assessment than the previous guidance, which provided specific thresholds and benchmarks. Hence, reporting on some of the potentially significant environmental effects arising from traffic and transport will be examined in the most appropriate chapter of this ES.

3.2.20 DMRB LA112 requires the assessment of population and human health to report on two areas:

- Land use and accessibility
- Human health.

3.2.21 The assessment of 'Land use and accessibility' considers the likely changes to accessibility and the risk of severance for private property and housing, community land and assets, development land and businesses, agricultural landholdings, and walkers, cyclists, and horse-riders (termed WCH).

3.2.22 DMRB LA112 requires the assessment of 'Human Health' to consider the following environmental conditions:

- Air Quality
- Noise
- Pollution
- Landscape amenity

- Severance/Accessibility.

3.2.23 The above conditions will be examined in the relevant chapters of the ES. The specific conditions effecting human health to be considered in the transport chapter are the impacts on Severance/Accessibility. The assessment of Severance/Accessibility considers access to open green space and recreational facilities, opportunities for WCHs, and access to healthcare facilities. Also considered as part of the assessment are Personal Injury Accidents (PIA), with an emphasis on those involving WCH.

Extent of Study Area and Assessment Scenarios

3.2.24 The final ES transport chapter will consider the following assessment scenarios:

- 2026 opening year baseline (Reference Case) including committed and allocated development and infrastructure but excluding the Proposed Development.
- 2031 future assessment year baseline (Reference Case) including committed and allocated development and infrastructure but excluding the Proposed Development.
- 2026 opening year (Do-Something) including committed and allocated development and infrastructure, including the first phase of the Proposed Development.
- 2031 future assessment year (Do-Something) including committed and allocated development and infrastructure and including the Proposed Development and all embedded Highway Works.
- 2031 future assessment year sensitivity test (Do-Something – Sensitivity Test) including committed and allocated development and infrastructure and including the Proposed Development and embedded Highway Works with the proposed Albion Land development in place³.

3.2.25 The assessment will consider the temporary and permanent effects on the study area, including changes to the highway network and public rights of way (PRoW) networks due to the Proposed Development, and/or changes in traffic levels. Assessment of the transport effects will be undertaken for both the construction and operational phases of the development.

3.2.26 When assessing the transport impacts, the extent of assessment is not necessarily limited to the Application Site and/or the transport network contained within it. The extent of the area for assessment ('study area') will be determined through a review of the BTM modelling outputs and hence cannot be fully defined until that work is complete.

³ Albion Land is a live planning application comprising three linked planning applications (21/03268/OUT, 21/03267/OUT, 21/03266/F) on land to the north of M40 Junction 10.

3.2.27 The IEMA Guidelines recommend the application of the following rules to identify the highway links that would form part of the 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%)
- **Rule 2:** include any other specifically sensitive areas where traffic flows have increased by 10% or more.

3.2.28 The IEMA Guidelines do not provide extensive guidance on what should be considered as a sensitive receptor, however, they do suggest that any identified affected groups and special interests should be a starting point, to include:

- Schools
- Health facilities
- Community facilities
- Areas with significant pedestrian/cycle movements.

3.2.29 The thresholds outlined above are applicable to the assessment contained in the ES. The assessment to be contained within the TA will not be based upon the thresholds outlined above. Indeed, the assessment contained in the TA will be mainly concerned with the capacity of links and junctions, and the capacity impacts resulting from changes in traffic volumes as a result of the Proposed Development. As such, the TA may consider impacts on links and junctions that may not be part of the assessment in the final ES transport chapter.

Environmental Value

3.2.30 Each of the highway links identified for detailed assessment using the rules outlined above will be assigned an Environmental Value (sensitivity) based on their scale/importance using the five-point scale set out in DMRB LA104. The sensitivity of a link is dependent on the scale/importance of a receptor. Depending on the type of environmental impact, the receptors can be either motorised or non-motorised users. Descriptions of value for a receptor are set out in DMRB LA104 and reproduced in Table 3.1 below.

Table 3.1: Value of Sensitivity

Value (sensitivity) of receptor/resource	Typical description
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.

Negligible	Very low importance and rarity, local scale.
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Magnitude of Impact

3.2.31 Following the assignment of sensitivity to the links identified for detailed assessment, a magnitude of change (either adverse or beneficial) will be assigned, based on the advice contained in both the IEMA Guidelines and DMRB. Based on the guidance contained in DMRB LA104, the magnitude of the impact is defined for the purposes of this assessment as per Table 3.2:

Table 3.2: Magnitude of Impact

Magnitude of impact (change)	Description
Major	Deterioration/improvement in local conditions or circumstance.
Moderate	Apparent change in conditions
Minor	Some measurable minor change in conditions or circumstance
Negligible	Very minor change in conditions or circumstance
No change	No discernible change in conditions.

3.2.32 The scale set out above will be applied to each assessed environmental effect using the relevant quantitative or qualitative approaches, in accordance with the advice provided in the IEMA Guidelines and DMRB. It is noted that for some environmental effects, neither document provides specific thresholds for some of the effects. Where this is the case, the impacts will be considered qualitatively.

Assigning Significance

3.2.33 The significance of effects will be assigned according to the magnitude of change and the environmental value (sensitivity) of the receptor. Significance will be assigned in accordance with the matrix contained in DMRB LA104, which is reproduced in Table 3.3 below.

Table 3.3: Environmental Value

	Magnitude of Impact					
	No Change	Negligible	Minor	Moderate	Major	
Environmental Value (Sensitivity)	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
	High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral	Slight

3.2.34 In accordance with DMRB LA104 the significance categories are typically described as set out in Table 3.4 below.

Table 3.4: Significance Category

Significance category	Typical description
Very large	Effects at this level are material in the decision-making process.
Large	Effects at this level are likely to be material in the decision-making process.
Moderate	Effects at this level can be considered to be material decision-making factors.
Slight	Effects at this level are not material in the decision-making process.
Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

3.2.35 The resulting significance of an effect will be reported considering its duration permanence (permanent or temporary), and the type of impact (beneficial or adverse).

Human Health outcome categories

3.2.36 In accordance with DMRB LA112 the human health outcomes within regard to Severance/Accessibility will be reported as set out in Table 3.5 below.

Table 3.5: Health Outcome

Health outcome category	Health outcome description
Positive	A beneficial health impact is identified
Neutral	No discernible impact is identified
Negative	An adverse health impact is identified
Uncertain	Where uncertainty exists as to the overall impact

Limitations and Assumptions

3.2.37 The BTM transport modelling will be based on inputs and assumptions agreed with the TWG. These assumptions will be detailed in the TA and accompanying appendices, and (when completed) should be read in conjunction with the ES findings.

3.3 POLICY CONTEXT

3.3.1 The key transport-related policies and guidance of relevance to the proposed development are contained within the following documents:

- National Policy Statement for National Networks (December 2014);

- National Planning Policy Framework (July 2021);
- National Planning Practice Guidance: Travel Plans, Transport Assessments and Statements in Decision Making (June 2021);
- DfT Circular 02/2013 'The Strategic Road Network and the Delivery of Sustainable Development' (DfT, 2013);
- Connecting Oxfordshire: Local Transport Plan 2015-2031 (updated 2016)

3.3.2 The Connecting Oxfordshire Local Transport Plan 2015–2031 is in the process of being updated and will be replaced by the Local Transport and Connectivity Plan (LTCP). The public consultation on the LTCP closed in March 2022 and OCC in the response to the scoping request advised that the LTCP would likely become relevant policy within the timescales of the DCO application. Therefore, at this draft ES stage a summary of the Local Transport Plan policy has not been provided, as this will be undertaken based on the LTCP, once the LTCP is adopted, and will form part of the final ES transport chapter.

The National Policy Statement for National Networks (NPSNN)

3.3.3 The purpose of the NPSNN is to set out the importance of delivering Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England to support national and local economic growth and regeneration. Hence, the NPSNN provides direction for NSIPs, including SRFIs, from a planning and design perspective, which the Secretary of State will use to decide whether to consent NSIP applications.

3.3.4 The overall strategic aims of the NPSNN and the National Planning Policy Framework (NPPF) are consistent due to both documents' over-arching theme to support sustainable development. However, the NPPF is not intended to contain specific policies for NSIPs. The NPSNN assumes that function and provides the Transport Policy which will guide individual NSIPs brought under it. The NPSNN provides guidance and imposes requirements on matters such as good scheme design, as well as the treatment of environmental impact.

3.3.5 The Government's vision and strategic objectives for the national networks is described on page 9 of the NPSNN as follows:

"The Government will deliver national networks that meet the country's long-term needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system. This means:

- *Networks with the capacity and connectivity and resilience to support national and local economic activity and facilitate growth and create jobs*
- *Networks which support and improve journey quality, reliability and safety*
- *Networks which support the delivery of environmental goals and the move to a low carbon economy*

- *Networks which join up our communities and link effectively to each other.*
- 3.3.6 A primary concern relating to the national network is the continued dependency on the strategic road network as *“...congestion is forecast to grow fastest on the strategic road network”* (paragraph 2.19).
- 3.3.7 Paragraph 2.29 identifies importance of the national rail network and the Government’s vision for the transport system to *“...Provide for the transport of freight across the country, and to and from ports, in order to help meet environmental goals and improve quality of life”*.
- 3.3.8 Paragraph 2.40 page 19 (Environment): *“Modal shift from road and aviation to rail can help reduce transport’s carbon emissions, as well as providing wider transport and economic benefits. For these reasons, the Government seeks to accommodate an increase in rail travel and rail freight where it is practical and affordable by providing for extra capacity.”*
- 3.3.9 Paragraph 2.41 page 19: *“The Government’s strategy is to provide for increasing use of efficient and sustainable electric trains for both passenger and freight services. The environmental performance of the railway will be improved by continuing to roll out a programme of rail electrification.”*
- 3.3.10 Paragraph 2.43 of the NPSNN identifies the importance of SRFIs to *“...enable freight to be transferred between transport modes, thus allowing rail to be used to best effect to undertake the long-haul primary trunk journey, with other modes (usually road) providing the secondary (final delivery) leg of the journey”*.
- 3.3.11 Paragraph 2.44 states *“The aim of a strategic rail freight interchange (SRFI) is to optimise the use of rail in the freight journey by maximising rail trunk haul and minimising some elements of the secondary distribution leg by road, through co-location of other distribution and freight activities. SRFIs are a key element in reducing the cost to users of moving freight by rail and are important in facilitating the transfer of freight from road to rail thereby reducing trip mileage of freight movements on both the national and local road networks.”*
- 3.3.12 To facilitate this modal transfer, the NPSNN states that a network of SRFIs is needed across the regions, to serve regional, sub-regional and cross-regional markets. In all cases it is essential that these have good connectivity with both the road and rail networks.
- 3.3.13 The Government has therefore concluded that *“...there is a compelling need for an expanded network of SRFIs”* (paragraph 2.56).
- 3.3.14 Given the strategic nature of large rail freight interchanges NSPNN states at paragraph 4.84 *“...it is important that new SRFIs or proposed extensions to RFIs upgrading them to SRFIs, are appropriately located relative to the markets they will serve, which will focus largely on major urban centres, or groups of centres, and key*

supply chain routes. Because the vast majority of freight in the UK is moved by road, proposed new rail freight interchanges should have good road access as this will allow rail to effectively compete with, and work alongside, road freight to achieve a modal shift to rail. Due to these requirements, it may be that countryside locations are required for SRFIs.”

- 3.3.15 The NPSNN provides specific advice for SRFI development, stating that a project with significant transport impacts should include a Transport Assessment, using the WebTAG methodology stipulated in DfT guidance. Paragraph 5.207 states *“If a development is subject to EIA and is likely to have significant environmental impacts arising from impacts on transport networks, the applicant’s environmental statement should describe those impacts.”*
- 3.3.16 In line with other Government policies, NPSNN seeks to encourage sustainable transport modes including public transport, cycling and walking. Specifically, regarding SRFI’s, paragraph 5.208 states: *“Where appropriate, the applicant should prepare a travel plan including management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport and sustainable modes where relevant, to reduce the need for any parking associated with the proposal and to mitigate transport impacts.”*
- 3.3.17 For schemes impacting on the Strategic Road Network, paragraph 5.209 states that *“...applicants should have regard to DfT Circular 02/2013 ‘The Strategic Road Network and the delivery of sustainable development’ (or prevailing policy).”*
- 3.3.18 Regarding SRFIs, paragraph 5.213 states: *“Projects may give rise to impacts on the surrounding transport infrastructure including connecting transport networks. The Secretary of State should therefore ensure that the applicant has taken reasonable steps to mitigate these impacts. Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the Secretary of State should expect applicants to accept requirements and/or obligations for funding infrastructure and otherwise mitigating adverse impacts on transport networks...”*
- 3.3.19 Paragraph 5.214 states *“Provided that the applicant is willing to commit to transport planning obligations and, to mitigate transport impacts identified in the WebTAG transport assessment (including environment and social impacts), with attribution of costs calculated in accordance with the Department’s guidance, then development consent should not be withheld. Appropriately limited weight should be applied to residual effects on the surrounding transport infrastructure.”*
- 3.3.20 Paragraph 5.215 sets out that *“...mitigation measures for schemes should be proportionate and reasonable, focussed on promoting sustainable development”,* and at paragraph 5.216 that *“...where development would worsen accessibility such impacts should be mitigated so far as reasonably possible”* and that *“...there is a very strong expectation that impacts on accessibility for non-motorised users should be*

mitigated". Paragraph 5.218 sets out that "...travel planning should be undertaken for all major developments which generate significant amounts of transport movement".

The National Planning Policy Framework (NPPF)

3.3.21 As referred to above, the NPSNN, rather than the NPPF, provides the national policy context for NSIP applications.

3.3.22 However, for context with regard to transport, paragraph 104 of the NPPF states: "*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;*
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- 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; and*
- e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places."*

3.3.23 Paragraph 109 states: "*Planning policies and decisions should recognise the importance of providing adequate overnight lorry parking facilities, taking into account any local shortages, to reduce the risk of parking in locations that lack proper facilities or could cause a nuisance. Proposals for new or expanded distribution centres should make provision for sufficient lorry parking to cater for their anticipated use."*

3.3.24 Paragraphs 110 and 111 of the NPPF guides decision makers to apply the following key principles:

"110. 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.

111. Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on the highway safety, or the residual cumulative impacts on the road network would be severe.”

3.3.25 Paragraph 113 states: *“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.”*

National Planning Practice Guidance (NPPG): Travel Plans, Transport Assessments and Statements in Decision Making

3.3.26 This document sets out the methodology and requirements for Travel Plans, Transport Assessments and Statements for developments. In determining whether a Transport Assessment and Travel Plan will be needed for a proposed development, this document states that local planning authorities should take into account the following considerations:

- the Transport Assessment and Statement policies, and the Travel Plan policies (if any) of the Local Plan;
- the scale of the proposed development and its potential for additional trip generation;
- existing intensity of transport use and the availability of public transport;
- proximity to nearby environmental designations or sensitive areas;
- impact on other priorities/ strategies (such as promoting walking and cycling);
- the cumulative impacts of multiple developments within a particular area;
- whether there are particular types of impacts around which to focus the Transport Assessment and Travel Plan (e.g. minimising traffic generated at peak times); and
- relevant national policies, including the decision to abolish maximum parking standards for both residential and non-residential development.

DfT Circular 02/2013

3.3.27 DfT Circular 02/2013 ‘The Strategic Road Network and the Delivery of Sustainable Development’ sets out National Highways (then the Highways Agency) policy on how it will engage with local communities and the development industry to deliver sustainable development and maintaining the principal purpose of the SRN.

3.3.28 The policy is intended for all parties involved in development proposals which may result in traffic or other impacts on the strategic road network. The aim of the policy

- is to cut unnecessary red tape and make the planning process simpler and more straightforward.
- 3.3.29 Paragraph 9 sets out the broad policy aims of the Circular as it relates to development proposals, stating that *“Development proposals are likely to be acceptable if they can be accommodated within the existing capacity of a section (link or junction)... or they do not increase demand for use of a section that is already operating at over-capacity levels, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be agreed”*.
- 3.3.30 With reference to decision making regarding developments, paragraph 9 goes on to state *“However, development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe”*.
- 3.3.31 Paragraph 11 states that *“Local authorities and developers will be required to ensure that their proposals comply in all respects with design standards. Where there would be physical changes to the network, schemes must be submitted to road safety, environmental, and non-motorised user audit procedures, as well as any other assessment appropriate to the proposed development. The Design Manual for Roads and Bridges sets out details of the Secretary of State’s requirements for access, design, and audit, with which proposals must conform.”*
- 3.3.32 Circular 02/2013 places an emphasis on the role of sustainable travel modes and travel planning as a means of managing the impact of development on the road network, acknowledging the role that area-wide travel plan initiatives can play to ‘free-up’ additional capacity.
- 3.3.33 In assessing development impact, the Circular states, in paragraph 33, that *“only after travel plan and demand management measure have been fully explored and applied will capacity enhancement measures be considered”*.
- 3.3.34 In terms of mitigation of development impact, paragraph 34 states that *“Where insufficient capacity exists to provide for overall forecast demand at the time of opening, the impact of the development will be mitigated to ensure that at that time, the strategic road network is able to accommodate existing and development generated traffic”*.
- 3.3.35 Paragraph 37 states that *“The creation of new accesses to the strategic road network can impact on its ability to fulfil the function of facilitating the safe and effective movement of goods and people in support of economic growth by compromising traffic movement and flow.”*
- 3.3.36 Paragraph 38 states that *“In delivering economic growth at local level, it is essential that the wider economic needs of the country are not compromised. New accesses to busy high speed strategic roads lead to more weaving and turning manoeuvres,*

which in turn create additional risk to safety and reduce the reliability of journeys, resulting in a negative impact on overall national economic activity and performance.”

- 3.3.37 Paragraph 39 states that *“Where appropriate, proposals for the creation of new junctions or direct means of access may be identified and developed at the Plan-making stage in circumstances where it can be established that such new infrastructure is essential for the delivery of strategic planned growth”.*
- 3.3.38 Paragraph 42 states that *“Access to motorways and routes of near motorway standard for other types of development will be limited to the use of existing junctions with all-purpose roads. Modifications to existing junctions will be agreed where these do not have an adverse impact on traffic flows and safety. In line with the standards contained in the Design Manual for Roads and Bridges, for safety and operational reasons, direct connections to slip roads and/or connector roads will not be permitted.”*
- 3.3.39 Paragraph 43 states *“...the preference will always be that new development should make use of existing junctions. Where a new junction or direct means of access is agreed, the promoter will be expected to secure all necessary consents, and to fund all related design and construction works.”*
- 3.3.40 Paragraph 48 states *“Transport assessment undertaken by the promoter of the development should be comprehensive enough to establish the likely environmental impacts, including air quality, light pollution and noise, and to identify the measures to mitigate these impacts.”*

Overall Compliance with Policy

- 3.3.41 The Proposed Development is being developed with due regard to the above policy documents, with emphasis given to the guidance set out in the NPSNN. The proposals include improvements and alterations to both the SRN and local highway network, as well as to sustainable infrastructure and transport services.
- 3.3.42 The policy documents state that development should be sited in sustainable locations with access to existing facilities and services. In the case of an SRFI it is also necessary to identify a suitable location to provide the required connection to the rail freight network, with excellent connections to the SRN. The Proposed Development site achieves these requirements and, as such, meets with the Government objectives in NPSNN. It can therefore be concluded that the Proposed Development meets relevant policy guidelines and it is anticipated will also meet the specific requirements in terms of transport.

3.4 BASELINE CONDITIONS

Site Location and Context

- 3.4.1 The location of the Proposed Development is described in detail in Chapter 2 of this draft ES. The Main Site is located to the southwest of M40 Junction 10, approximately 6km from Bicester and adjacent to the Heyford Park development.
- 3.4.2 As the majority of freight in the UK is moved by road, the NPSNN states that proposed SRFI should have good road access, as this will allow rail to effectively compete with and work alongside road freight to achieve a modal shift to rail. The main site is in a strategically significant location for logistics and distribution activity and, being located close to Junction 10 of the M40, has potential for excellent road connection opportunities with the rest of the UK.

Baseline Highway Network Conditions

Strategic Road Network

- 3.4.3 The M40 Motorway runs between London and Birmingham and is a strategic route for local, regional, national, and international traffic and plays an important role in England's SRN as a direct motorway link between the Midlands and the South and a major route between the two largest cities in the UK. Near Junction 10 it comprises a standard 3-lane motorway with hard shoulders.
- 3.4.4 The closest point of access to the SRN from the Main Site is at Junction 10 of the M40, approximately 1.6km to the north of the Main Site when accessed via the B430. The M40 connects Birmingham (and the M42 and M5) the north, and the M25 and London to the south. At the M40 Junction 10 there is also direct access to the A43, which is also part of the SRN. The A43 heads northeast from Junction 10 and connects to the M1 at Junction 15A. The Cherwell Valley motorway service area (MSA) is accessed from the Cherwell Roundabout at Junction 10. To access M40 Junction 10 from the Main Site currently involves travelling through the village of Ardley.
- 3.4.5 The layout of M40 Junction 10 was altered in 2015 as part of works carried out under Highways England's (now National Highways) Pinch Point Programme. The works involved the modification of the northern roundabout (Padbury Roundabout) to remove the M40 southbound merge slip road, with all southbound traffic now joining the M40 at what was previously the slip road from the motorway services. As part of the works the MSA roundabout (Cherwell Roundabout) was signalised.
- 3.4.6 The Pinch Point scheme was not a long-term fix for the junction and assessment work undertaken by National Highways has identified the time period from 2021 to 2026 as the tipping point for the Pinch Point improvement scheme at the junction, at which

point the junction performance will deteriorate. In addition, National Highways has identified that the A43/B4100 roundabout (Baynard's Green Roundabout), to the north of M40 Junction 10, currently operates over capacity, with the performance deteriorating significant in future years and adversely impacting the operation of M40 Junction 10.

- 3.4.7 National Highways have identified an improvement scheme at the Padbury Roundabout at M40 Junction 10 and at the Baynard's Green Roundabout, to safeguard the operation of these junctions through to 2031. The scheme will be delivered through a combination of the OCC Housing Growth Deal funding and contributions from the Heyford Park development. It is currently expected that the improvement scheme will be delivered in 2023.
- 3.4.8 However, assessment undertaken by National Highways shows that by 2031 the Cherwell Roundabout and B430/A43/M40 northbound off-slip roundabout (Ardley Roundabout) will also operate over capacity. The M40 southbound on-slip at the Cherwell Roundabout breaks down due to the merge type, whereas the Ardley Roundabout breaks down because of the right-turn demand from the M40 northbound off-slip. The break down at the Cherwell Roundabout has a knock-on impact at the Padbury Roundabout.
- 3.4.9 National Highways identified potential improvement schemes at the Cherwell Roundabout and the Ardley Roundabout, however, these are not committed and do not have funding. Even with these additional improvements, the operation of M40 Junction 10 would be at the tipping point by 2031 assessment year and assessment work undertaken by the Applicant (see Section 3.5) has shown that these potential improvements would not have capacity to accommodate traffic from the Proposed Development.
- 3.4.10 Although less direct, access to the M40 could also be possible via Junction 9, which is a 10.5km drive to the south of the site, when accessed via the B430, passing through the village of Middleton Stoney, and then via the B4030 and A41.
- 3.4.11 To the south, the A34 runs in a northeast to southwest direction and connects Bicester (via the A41) to Oxford. It continues further south, connecting with the M4 at Newbury and the M3 at Winchester. From the Main Site the most direct route to the A34 is via the B430 through Middleton Stoney and the village of Western-on-the-Green, although there is a 7.5 Tonne weight restriction on the overbridge at the A34/B430 interchange restricting movements to and from the A34 southbound. Access to the A34 from Bicester is from M40 Junction 9.

Local Road Network

- 3.4.12 The B430 runs along the eastern boundary of the Main Site between Junction 10 of the M40 to the north and the A34 to the south. It is subject to the national speed limit,

except where it passes through the villages of Ardley, Middleton Stoney and Weston-on-the-Green, where a 40mph, 30mph and 40mph speed limit is in place, respectively.

- 3.4.13 The B430 provides access to the Viridor 'Ardley Energy from Waste' facility which is located directly to the east of the Main Site. The facility is subject to a HGV routing agreement with OCC that requires all HGV traffic to access Junction 10 of the M40 via the B430 to the north.
- 3.4.14 An unnamed road passes through the Main Site . It connects the B430 to Camp Road. Camp Road continues west towards Upper Heyford. Chilgrove Drive is currently a farm track which runs along part of the western boundary of the site, connecting to Camp Road at its southern end. As part of the Heyford Park development (see future baseline section below) the Chilgrove Drive junction is proposed to be updated to provide a new signal-controlled layout. Other accesses to the Heyford Park development will be taken from Camp Road.
- 3.4.15 The village of Ardley is approximately 1km to the north of the Main Site. The B430 runs through the east of the village, with the main village centre to the west of the B430. To access the Main Site from M40 Junction 10 it is currently necessary to pass through Ardley on the B430 and over the Chiltern Main Line railway bridge, which narrows slightly, potentially making it difficult for two HGVs to pass one another.
- 3.4.16 The village of Middleton Stoney is approximately 2km south of the Main Site, accessed by the B430 which runs through the village in a north-south direction, connecting to the A34 to the south, and in doing so also passing through the village of Weston-on-the-Green.
- 3.4.17 In the centre of Middleton Stoney there is a traffic signal controlled staggered crossroads junction between the B430 and the B4030. The B4030 runs through the village in an east-west direction connecting to the A44 to the west, and to the east it connects with Bicester and in turn the A41, from where access to M40 Junction 9 can be gained.
- 3.4.18 There is a committed highway improvement scheme at the staggered crossroads at Middleton Stoney associated with the 2008 planning approval at the Heyford Park site. The committed highway improvement scheme retains the existing signalised junction, but widens the B430 Oxford Road approach, providing a right turn flare for vehicles turning into the B4030 Bicester Road and provides a short right turn bay for vehicles turning into B4030 Heyford Road. However, this scheme has not yet been implemented and the assessment work undertaken to support the Local Plan allocation at Heyford Park concludes that highway impacts at that junction would be severe unless other highway mitigation measures are also implemented.
- 3.4.19 The Heyford Park planning application therefore proposed a 'Middleton Stoney Mitigation Package', that would comprise the following measures:

- A bus gate on the B4030 to the west of the village, including a change in priority at the junction of the B4030 with the unnamed road running north to Camp Road.
- The introduction of more frequent 15-minute bus services between the Heyford Park development and Bicester via Middleton Stoney during weekdays.
- The introduction of a cycle route between Heyford Park and Middleton Stoney.
- A weight restriction on the B4030 to the east of Middleton Stoney to reduce the number of HGVs passing through the village.
- The preparation of a full Travel Plan setting out measures aimed at reducing journeys by the private car, especially between Heyford Park and Bicester.

3.4.20 The Heyford Park scheme received a resolution to grant planning permission subject to the S106 Agreement at the 5 November 2020 Planning Committee meeting. Nevertheless, due to the strength of feeling against the bus gate, which it is understood was considered by residents to simply move traffic from the B4030 Heyford Road to the B430 Ardley Road without reducing traffic flow through the village, it was agreed that rather than implement the Middleton Stoney Mitigation Package of improvement works, a 'monitor and manage' option will be implemented.

3.4.21 The Heyford Park developer will provide a financial contribution equivalent to the cost of the proposed Middleton Stoney Mitigation Package and including an additional sum for traffic monitoring. This traffic monitoring will then be carried out by OCC in the intervening period before the need for a bus gate is required. This period is likely to be several years dependent on the rate of construction at Heyford Park. In this way, the monies are available to deliver the Middleton Stoney Mitigation Package, if it is still shown as necessary, or an alternative solution of equivalent benefit (termed 'the Revised Middleton Stoney Mitigation Package') can then be delivered by OCC within the amount of the financial contribution as specified.

3.4.22 It is clear from the above that the means of dealing with the Heyford Park traffic impact through Middleton Stoney are not yet fully resolved and that the existing constraints would make it difficult to cater for further traffic impacts associated with the Proposed Development.

Baseline Conditions for Walking Cycling and Equestrians

3.4.23 For commuting journeys employees are typically prepared to walk up to 2km⁴. Based on this catchment, from the centre of Main Site, only Ardley and parts of the adjacent Heyford Park development are within walking distance. Currently the pedestrian facilities connecting these locations are limited to PRow, with no footways currently provided on the unnamed road, Chilgrove Drive or the B430 near the Main Site.

⁴ Guidelines for Providing for Journeys on Foot, Chattered Institution of Highways and Transportation, 2000.

- 3.4.24 In addition to the settlements above, Upper Heyford, Middleton Stoney, Lower Heyford, Fritwell, Somerton, and Bucknell are within a 5km cycle distance of the Main Site. A large part of Bicester would be within 8km cycle distance of the Main Site, an acceptable distance for regular cyclist commuters. Outside of Bicester there is currently little dedicated cycle infrastructure.
- 3.4.25 Drawing number ADC1794-DR-011 Rev P6 provided at **Appendix 3.2** shows the existing PRow network in the vicinity of the Application Site. Bridleways 109/28, 109/29, and 109/30 run through the Main Site. Bridleways 109/28 and 109/30 form one route which runs from the southwest to northeast across the Main Site between the unnamed Road in the southwest and the B430, close to the bridge over the railway in the northeast. Bridleway 109/29 runs from the southeast to northwest across the main site between the unnamed road, stopping short of the Heyford Park Airfield boundary.
- 3.4.26 There are a number of bridleways contained within, or in the immediate vicinity of, the Main Site, notably Bridleway 109/27 which runs west to east from the B430 and in combination with a number of other bridleways (297/6, 148/6) provides a link to Bicester.
- 3.4.27 A number of PRow would be affected by the delivery of the MSRR, including footpath 297/8 which runs northeast from Dewars Farm in the southwest to Bridleway 297/6 at Trow Pools in the northeast. Also affected is footpath 297/3, which in combination with footpath 148/5 provides a route from the B4030 Bicester Road in the south to the Bridleway 148/6 at Trow Pools in the north.
- 3.4.28 Bridleway 109/26 runs north to south from the Bridleway 297/6 to Ardley Road, close to its bridge over the M40. Along its route there is an at-grade crossing over the Chiltern Main Line railway.
- 3.4.29 A number of PRow would, separately, be affected by the delivery of the Ardley Bypass. Footpaths 109/22 and 109/24 run parallel to each other, routing west to east between the B430 and Bridleway 109/26.
- 3.4.30 There are limited existing opportunities for WCHs at M40 Junction 10. There is an at-grade pedestrian crossing over the A43 to the immediate south of the Padbury Roundabout. This crossing links to Bridleway 367/21 in the east, and a pedestrian footway on the western side of the A43, which continues alongside the A43 between the Cherwell and Ardley roundabouts respectively, terminating at the B430. There is no footway provided to access the MSA.
- 3.4.31 There are no facilities for non-motorised users at or near the M40 Junction 9.
- 3.4.32 Within Bicester there is a comprehensive network of pedestrian footways and cycle paths linking the outer ring road with the town centre.

3.4.33 Overall, there are limited opportunities for pedestrian travel to/from the Main Site, as these are limited by the restricted number of residential areas within an acceptable walking distance of the Main Site. Pedestrian journeys will however continue to play an important role, as promoting sustainable integrated transport involves providing good pedestrian links to public transport facilities. There are good opportunities for cycle travel associated with the Main Site, with the Heyford Park development and a large part of Bicester falling within cycling distance.

Baseline Public Transport Conditions

3.4.34 The nearest bus stop to the Main Site is located in Heyford Park, adjacent 'Park Homes' on Camp Road, some 500m from the western boundary of the Main Site. The stops serve the 250 service operated by Diamond Bus South East. The 250 service runs between Oxford and Bicester, serving the villages of Lower and Upper Heyford, Heyford Park and Middleton Stoney. The service was confirmed by OCC in a meeting on 24 February 2021 as scheduled to cease operation in December 2022. After the end of the service there will no longer be a service between Upper Heyford and Oxford. However, as part of the Heyford Park development, a new frequent bus service linking with Bicester is proposed.

3.4.35 The focus for the Heyford Park public transport strategy is on a convenient and direct bus route to Bicester, where significant growth is planned. It is understood that the Heyford Park scheme initially proposed a bus service to Bicester (at a 30-minute frequency from Monday to Saturday, with operating hours to facilitate rail commuter travel to London), and an hourly daytime service to Oxford. The Heyford Park work concluded that a service to Banbury was not commercially viable.

3.4.36 The Heyford Park bus strategy then progressed to focus solely on provisions to Bicester, on the basis that it would facilitate onward train travel to Oxford. OCC confirmed that the service will operate initially at a 30-minute frequency, increasing to 20 minutes and then 15 minutes as the development is built out, with contributions via the S106 Agreement to secure this, with additional funds secured for bus stops and shelters along Camp Road.

3.4.37 With regards to Bicester, the bus interchange is located at Manorsfield Road, adjacent to the Pioneer Square Shopping Centre. The interchange serves local routes within Bicester as well as regional destinations like Oxford, Headingham, and Brackley. The interchange includes toilets and is located adjacent to cafés and shops.

3.4.38 The nearest railway station is Heyford Railway Station, located in the village of Lower Heyford approximately 5km from the centre of the main site. Heyford Railway Station is not suitable for serving the Proposed Development as it receives a poor and irregular service. Trains arrive approximately hourly at peak times, two hourly off-peak with no trains on Sundays during the winter. Additionally, trains only travel between Banbury and Bicester.

- 3.4.39 The nearest station suitable for serving employees of the Main Site is therefore Bicester North Railway Station. Bicester North is located approximately 6km from the centre of the Main Site and approximately 600m north of the town centre. The station is on the Chiltern Main Line linking Birmingham and London Marylebone and there are generally three trains per hour to and from London Marylebone, with more at peak times. Average journey times are approximately 55 minutes to London; or approximately 1 hour 10 minutes to Birmingham Snow Hill and Stratford-upon-Avon.
- 3.4.40 Additionally, Bicester is served by Bicester Village Railway Station, which opened in 2015 to alleviate pressure and serve the Bicester Village shopping outlet. Bicester Village Station is located approximately 7km from the Main Site and 700m southeast of the town centre. The station is on the Oxford to Bedford line and there are generally two trains per hour to Oxford and London Marylebone. Average journey times are approximately 48 minutes to London Marylebone station or 15 minutes to Oxford.
- 3.4.41 The 250 bus service runs an irregular extension across the day to Bicester Village Railway Station, with the more regular service terminating at Manorsfield Road Bus Interchange.

Baseline Highway Safety Conditions

- 3.4.42 An initial assessment of the accident data on the road network in the vicinity of the Main Site has been undertaken. This will be expanded in due course to include any study area location more remote from the Proposed Development.
- 3.4.43 Work on analysing the accident data is ongoing, and therefore no detailed analysis is presented at this stage. However, Table 3.6 below summarises the recorded accidents over the most recent five-year period and **Figure 3.1** presents the PIA data as a heatmap, which illustrates the 'hotspots' within the initial study area.

Table 3.6: Recorded accidents over most recent five-year period

Severity	Number	Casualties
Slight	406	675
Serious	74	94
Fatal	14	16
Total	494	785

- 3.4.44 In addition to the above, the data indicates that over the most recent five-year period 13 of accidents involved pedestrians, 28 involved pedal cycles, and none involved equestrians.

Table 3.7: Recorded accidents over most recent five-year period pedestrians and cycles

Severity	Pedestrian	Cycle
Slight	7	18
Serious	4	9
Fatal	2	1
Total	13	28

- 3.4.45 While detailed analysis of the PIA records and the impact of the proposed development on the baseline road safety conditions is ongoing, a number of cluster sites have been identified. Major cluster sites include the A34 approach to the M40 Junction 9, at which there were 81 accidents over the most recent five-year period, The Bicester Park and Ride roundabout, at which 13 accidents occurred, including two fatal accidents on one arm of the junction, and the Esso Roundabout at which 15 accidents occurred.
- 3.4.46 Additional clusters have been identified at the M40 Junction 10, the A34/B4030 Junction, within Chesterton, the A34/B430 Junction, and at multiple junctions on the A4095, which forms the ring road at northwest Bicester. Work is ongoing to assess the impact of the proposed development on highway safety and to determine any required mitigation measures.
- 3.4.47 With regards to accidents involving WCHs, initial analysis has identified three cluster sites. Three serious accidents occurred at the Esso Roundabout, all on the eastern arm. All the accidents involved cyclists crossing the A41 entering the carriageway on red lights with varying secondary factors including a lack of lights, and inebriation. 11 collisions occurred along the A4095 at or between its junctions with the A421 Buckingham Road and the B4100 Banbury Road. The accidents had various causes and did not generally occur in the same precise location, however work to further assess this corridor is ongoing.

Future Baseline

- 3.4.48 The future baseline examines what would happen should the Proposed Development not proceed. In the context of transport, it examines future trips on the local highway network associated with committed and allocated developments, and the future baseline status of the SRN and local road networks, and commitments around PRoW and infrastructure for WCHs.
- 3.4.49 The future baseline conditions with regards to the committed and allocated development and infrastructure schemes will be agreed with the TWG and included in the BTM modelling. The committed and allocated development and infrastructure schemes are contained in the uncertainty log for the BTM. The uncertainty log

provides a record of the assumptions made in the BTM that will affect travel demand and supply, covering residential developments, employment development, retail developments, education development and infrastructure schemes.

- 3.4.50 Tetra Tech have updated the uncertainty log based on recent feedback from OCC and Cherwell District Council and considering Cherwell District Council's most recent Annual Monitoring Report, along with a review of current planning consents. The proposed uncertainty log that has been issued to the TWG for agreement is provided at **Appendix 3.3**. This includes the development and infrastructure scheme assumptions that are proposed to be included in each of the future baseline 2026 and 2031 assessment years. This process has considered the developments specifically referenced by Cherwell District Council in their comments provided as part of the Scoping Opinion.
- 3.4.51 Reference to the uncertainty log should be made for the full details of the development and infrastructure schemes including in the future baseline 2026 and 2031 assessment years. However, notably these include the OCC Housing Growth Deal highway improvement schemes at the Padbury Roundabout at M40 Junction 10 and at the Baynard's Green Roundabout on the A43, and the majority of the transport mitigation works associated with the Heyford Park development, including:
- Changes to the Chilgrove Drive/Camp Road/unnamed road junction to become a traffic signal controlled staggered crossroads. The arrangement would provide a new access to the Heyford Park development and provide a suitable bridleway connection for the Ave Ditch route, with the for Chilgrove Drive becoming a bridleway.
 - The existing B430 Station Road/Ardley Road priority controlled staggered crossroads, to become a traffic signal crossroad junction with restricted movements. The right turn from the B430 South to Ardley Road East is banned to increase the capacity of the junction.
 - B430 Ardley Road/unnamed Road replacement of the priority-controlled T-Junction with a traffic signal controlled T-junction.
 - A4260/B4030 (Hopcroft Holt) increased capacity at the existing traffic signal controlled staggered crossroads junction.
 - Provision of a frequent bus service to serve the Heyford Park site.
- 3.4.52 However, OCC have advised that due to uncertainty surrounding the bus gate that is proposed as part of the Heyford Park Middleton Stoney Mitigation package, the future baseline scenario should not include the bus gate.

3.5 ASSESSMENT OF LIKELY EFFECTS

Embedded Highway Works

- 3.5.1 The Proposed Development, through good sustainable design, will provide improved road access to the Main Site. The Proposed Development would also significantly improve public transport, pedestrian, and cyclist provision providing opportunities for non-car-based modes of transport. These embedded highway works are required to provide the required access to the Main Site and to prevent, or reduce to acceptable levels, the otherwise likely adverse significant transport effects of the Proposed Development.
- 3.5.2 The proposed Highway Works are illustrated on drawing number OxSRFI-BWB-GEN-ZZ-SK-CH-SK041-S1-P03 provided at **Appendix 3.4**.

Ardley Bypass

- 3.5.3 As discussed in Section 3.4, the village of Ardley is approximately 1km to the north of the Main Site. The B430 runs through the east of the village, to the east of the village centre. To access the Main Site from M40 Junction 10 it is necessary to pass through Ardley on the B430 and over the Chiltern Main Line railway bridge, where the carriageway narrows to approximately 6.5m in width with the parapets immediately behind the edge of carriageway, potentially making it difficult for two HGVs to pass one another.
- 3.5.4 Initial trip distribution work forecasts that around 57% of the light vehicle trips and 100% of the HGV trips associated with the Main Site could access the Main Site via M40 Junction 10 (see Technical Note 6⁵ provided at **Appendix 3.5**). Based on the agreed traffic generations for the Proposed Development this could equate to the traffic flows, shown in Table 3.8 below, seeking to access the M40 Junction 10 via the B430 and passing through the village of Ardley and having to use the narrow railway bridge over the Chiltern Main Line.

Table 3.8: Proposed Development traffic accessing M40 J10

Proposed Development traffic accessing M40 J10		
Period	Total (two-way)	of which HGV
AM peak hour	895	330
PM peak hour	1,054	299
Daily	13,793	4,905

⁵ Technical Note 6: M40 Junction 10 Options Report Traffic Flow Derivation, report reference ADC1794-RP-N-V2, 11 June 2021

- 3.5.5 It is considered these additional traffic volumes traveling on the B430 between the Main Site and M40 Junction 10, and the associated noise, vibration and air quality effects would represent an unacceptable impact on Ardley village. Therefore, it would not be appropriate for the Main Site traffic to route along the existing B430 and through Ardley.
- 3.5.6 Therefore, the Applicant considers that a prerequisite for any access strategy that seeks to access the SRN via M40 Junction 10 is the provision of a bypass around Ardley, including a new bridge over the Chiltern Main Line railway. Due to the layout of the Ardley village, which predominantly extends to the west of the B430, the bypass would pass on the eastern side of the village, on the land between the M40 and B430.
- 3.5.7 The bypass would connect to M40 Junction 10 at the Ardley roundabout and is proposed as a dual carriageway to provide sufficient link capacity to accommodate the existing B430 traffic in combination with the additional traffic from the Proposed Development. Ardley Road would not connect to the bypass and would be taken over the proposed bypass via a new bridge. At the southern end of the bypass, a new roundabout would be provided south of the Chiltern Mainline railway (via a new bridge over the railway), connecting to the existing B430 (south) and providing direct access into the Main Site. The B430 to the north of the new site access roundabout would be stopped up for vehicular traffic, with the existing B430 traffic using the new bypass to access M40 Junction 10. The proposed Ardley Bypass therefore would remove through-traffic from the village and deliver the primary new access road to the Main Site. A preliminary design for the Ardley Bypass is shown at drawing number OxSRFI-BWB-GEN-XX-SK-CH-SK038-S1-P02 provided at **Appendix 3.6**.

M40 Junction 10 Improvements

- 3.5.8 Ensuring good access to the SRN is a prerequisite of the Proposed Development. However, as reported in the baseline conditions, M40 Junction 10 currently operates over capacity, with the performance forecast to deteriorate significantly in future years.
- 3.5.9 The deficiencies associated with the existing junction layout would act as a barrier to the Proposed Development. Therefore, the development proposals include highway works to deliver a significant improvement and reconfiguration of M40 Junction 10. That work has been the subject of significant option testing that has been undertaken in consultation with National Highways and OCC, as detailed in the following Technical Notes that are appended to this draft ES:
- Technical Note 5: M40 Junction 10 Options Report.
 - Technical Note 5 Addendum: M40 Junction 10 Options Report Addendum: Response to National Highways Initial Comments on Options 11, 13, 18 & 19.
 - Technical Note 8: M40 Junction 10 Options 3A and 3B.
 - Technical Note 9: M40 Junction 10 Option 25.

- 3.5.10 Technical Note 5⁶ (**Appendix 3.7**) identified and assessed a long list of potential interventions at M40 Junction 10 that could be implemented by the Proposed Development to mitigate the impact of the development traffic. A short list of four options (Options 11, 13, 18 and 19) was identified to be taken forward for further consideration. All four options included provision of a southbound free-flow link between the A43 and the M40, removing traffic on this route from the Padbury and Cherwell roundabouts at M40 Junction 10.
- 3.5.11 Following a meeting on the 23 of July 2021, National Highways requested that the option for a large single grade-separated gyratory (Option 3) be given further consideration to examine whether identified capacity constraints could be overcome. Technical Note 8⁷ (**Appendix 3.8**) therefore examined in greater detail the opportunity to provide a large single grade-separated gyratory at M40 Junction 10. Technical Note 8 concluded that the proposed Options 11, 13, 18 and 19 presented in Technical Note 5 offer long-term benefit over a large complex signal-controlled roundabout.
- 3.5.12 National Highways provided initial feedback on the preferred options (Option 11, 13, 18 and 19) presented in TN5 via email on 21 September 2021, including DMRB compliance checks and audits of the LinSig modelling which supported Technical Note 5. It was agreed at the TWG meeting held on 24 September 2021 that to assist National Highways with their ongoing review of Technical Note 5, along with Technical Note 8, the Applicant would prepare a response to the feedback provided on 21 September 2021. This is Technical Note 5 Addendum⁸ (**Appendix 3.9**).
- 3.5.13 Following a TWG meeting on 17 November 2021, work was undertaken to prepare network models in LinSig such that an analysis of journey times through M40 Junction 10 could be undertaken. Network LinSig models for the reference case, Option 18, Option 19 and Option 3c (a further development of Option 3) arrangements for M40 Junction 10 were submitted to the TWG on 21 November 2021 with an analysis of journey times. This showed that all three mitigation options would provide betterment when compared to the reference case, particularly in the morning peak hour. The journey time analysis results also showed that Options 18 and 19 would provide benefit over Option 3C (which evolved from consideration of Options 3A and 3B), with little difference between Options 18 and 19.
- 3.5.14 Following additional feedback from National Highways on 15 and 19 November 2021, the network models were refined, and the journey time analysis was updated and expanded to include off-peak and inter-peak periods. A high-level assessment of the options with regards to conflicts points (relating to road safety) was also undertaken.

⁶ Technical Note 5: M40 Junction 10 Options Report, report reference ADC1794-RP-M -V3, 14 June 2021.

⁷ Technical Note 8: M40 Junction 10 Options 3A and 3B, report reference ADC1794-RP-Q-V4, 06 October 2021.

⁸ Technical Note 5 Addendum: M40 Junction 10 Options Report Addendum: Response to National Highways Initial Comments on Options 11, 13, 18 and 19, report reference ADC1794-RP-M1, 08 October 2021.

The refined network models and analysis was submitted to the TWG on 8 December 2021.

- 3.5.15 A scoring system for the junction options was proposed by National Highways, which was developed and agreed with OCC and the Applicant. Options 3C, 11, 13, 18 and 19 were appraised by National Highways in consultation with OCC using the scoring system. The conclusion of the scoring assessment was that the additional off-peak and inter-peak journey time assessment and conflict assessment work further supports the conclusion that either Option 18 or 19 are the preferred option to take forwards.
- 3.5.16 On 17 January 2022, National Highways confirmed that Options 18/19 are the preferred options to be taken forward. OCC confirmed that they had no objection to Options 18/19 being taken forward on 19 January 2022.
- 3.5.17 Both Option 18 and Option 19 include a new free-flow link between the A43 south of the Baynard's Green roundabout and the M40 southbound. The key difference between Options 18 and 19 was the relocation of the M40 northbound on-slip at Ardley roundabout. Under Option 18, the M40 northbound on-slip at Ardley roundabout would be moved to the north of the junction to facilitate the potential future provision of a M40 to A43 northbound free-flow link road.
- 3.5.18 As part of the further assessment work required for Options 18 and 19, National Highways requested that analysis was undertaken to see whether a M40 to A43 northbound free-flow link road could be reasonably achieved in the future in terms of geometrical compliance with DMRB, formation of appropriate junctions, and environmental impact.
- 3.5.19 Work has now been concluded to investigate how the northbound free-flow link between the M40 northbound and the A43 northbound could be achieved. This analysis is presented in Technical Note 9⁹ (**Appendix 3.10**). It is concluded that:
- Providing a northbound M40 to A43 free-flow link (in addition to providing a southbound A43 to M40 free-flow link) is feasible for Proposed Development as part of the improvements to M40 Junction 10.
 - Providing a northbound M40 to A43 free-flow link enables the previously proposed Ardley East junction and new south facing slip roads to be removed from the scheme, with reduced potential for environmental impacts in Ardley.
 - Option 25 was developed, that overall performs better than previous options with regards to capacity headroom, journey times, has a similar number of new of conflict points, and would offer buildability advantages.
- 3.5.20 Therefore, it is proposed that Option 25 (as shown on Highway Works Overview drawing provided at **Appendix 3.4** and at the preliminary general arrangement

⁹ Technical Note 9: M40 Junction 10 Option 25, report reference ADC1794-RP-T-V3, 08 April 2022

drawing shown on drawing number OxSRFI-BWB-GEN-XX-SK-CH-SK-042-S1-P01 provided at **Appendix 3.11**) is taken forward as the preferred option for the highway improvement at M40 Junction 10.

- 3.5.21 The final form of the M40 Junction 10 improvement scheme will be subject to ongoing assessment with National Highways and OCC as part of the TWG. This process will include further testing using a VISSIM microsimulation model and traffic data from the BTM modelling.

Principal Access and HGV Routing Strategy

- 3.5.22 Vehicle access to the Main Site (other than for buses, WCH and emergency service vehicles, which could also use the Secondary Access) is proposed via a new priority-controlled roundabout on the B430, located just to the south of the existing bridge over the Chiltern Main Line railway. A preliminary design of the junction is shown on drawing number OxSRFI-BWB-GEN-ZZ-CH-SK018-S1-P02 provided at **Appendix 3.12**. The northern arm would comprise the Ardley Bypass, with the existing section of the B430 to the north stopped up for vehicular traffic. The southern arm would be the existing B430. A segregated left-turn lane is proposed from the site access arm to the Ardley Bypass. A separate right-turn lane would be provided which would be subject to a height restriction, thereby requiring all HGVs existing the site to travel north to M40 Junction 10 using the Ardley Bypass.
- 3.5.23 It has been agreed with OCC that the Proposed Development would be subject to an HGV routing strategy to restrict HGVs from travelling to and from the south of the site on the B430. This is consistent with the routing agreement that is in place for the adjacent Ardley EFW facility, which requires all HGV traffic to access Junction 10 of the M40 via the B430 to the north. The HGV routing strategy would be enforced through a combination of a physical restriction at the Principal Access (as described above) to prevent HGVs exiting the site from being able to travel south on the B430, paired with a signage strategy and enforcement methodology, likely to be based on Automatic Number Plate Recognition (ANPR) cameras. Therefore, HGV traffic from the Proposed Development would route via M40 Junction 10 and would not use the B430 to and from the south of the site.

Middleton Stoney Relief Road and Heyford Park Link Road

- 3.5.24 The unnamed road passes through the Main Site, connecting the B430 to Camp Road and therefore providing access to Heyford Park and Upper Heyford. It is not desirable for the Proposed Development to retain this route for through-traffic and hence a new Heyford Park Link Road (HPLR) is proposed, connecting Camp Road and the B430 south of the development site.
- 3.5.25 The HPLR would provide a simple priority-controlled T-junction on its northern side that would form the Secondary Access to the Main Site (see below) for use by pedestrians, cyclist, buses, and emergency vehicles only. It would also provide a priority-controlled T-junction with a ghost island right turn harborage facility on its

southern side to provide access to the relocated waste facility, as shown on the Parameters Plan.

- 3.5.26 The TA for the Heyford Park development area identified that the B430/B4030 junction in Middleton Stoney would suffer from severe congestion in the 2031 'Reference Case' (no Heyford Park development). The initial trip distribution pattern for light vehicles shows that 34.1% of development light vehicle trips would be to/from Bicester with the most likely route being via the B430 and B4030 Bicester Road through the centre of Middleton Stoney. The distribution pattern also shows that 20% of development light vehicle trips would be to/from the A34, with a potential route being via the B430 through the centre of Middleton Stoney.
- 3.5.27 The light vehicle trip distribution will be confirmed via the BTM transport modelling and the improvements to M40 Junction 10 in combination with the design of the Principal Access and the Ardley Bypass are expected to encourage development traffic to travel to and from the A34 via the M40, using Junctions 9 and 10. However, at this stage, the initial distribution assessment serves to indicate the likely magnitude of the additional demand travelling through the B430/B4030 junction. Based on the initial trip distribution assessment, up to 54.1% of development light vehicle traffic could route through Middleton Stoney. This would equate to 541 two-way vehicles in the morning peak hour (341 vehicles traveling to/from Bicester, 200 vehicles travelling to/from the A34) and 723 vehicles in the evening peak hour (456 vehicles traveling to/from Bicester, 267 vehicles travelling to/from the A34).
- 3.5.28 The Proposed Development could therefore significantly increase traffic demand in Middleton Stoney, with the largest increase being between the B430 north of the village and the B4030 Bicester Road to the east. Based on the work undertaken to support the Heyford Park development, it is recognised that further improvements at the junction would not be feasible without impacting properties within the village, nor would such traffic increases through the village be desirable for environmental reasons such as the impact on noise, air quality and amenity.
- 3.5.29 Therefore, given the identified congestion issues within Middleton Stoney and the significant demand likely to be introduced by the Proposed Development, a Middleton Stoney Relief Road (MSRR) is proposed to reduce traffic levels within the village and improve journey time reliability for employees accessing the Proposed Development from Bicester. The MSRR would be provided around the northeast quadrangle of the village, connecting the B430 (north) and the B4030 (east).
- 3.5.30 It is proposed that the MSRR would work in combination with a bus gate on the B4030 (west) of the village, as proposed as part of the Heyford Park 'Middleton Stoney Mitigation Package', to be delivered either as planned as part of the Heyford Park development, or if not provided as part of the Heyford Park mitigation, then as part of the Proposed Development Highway Works.

- 3.5.31 It is understood that the principal concern with the bus gate under the Heyford Park proposals is that it does not remove traffic from Middleton Stoney, rather it simply moved it from the B4030 west arm to the B430 north arm of the B430/B4030 crossroads. However, with the proposed MSRR in place, traffic would be removed from the village. In combination, the MSRR and the bus gate would lead to a significant reduction in the east-north and east-west (and vice versa) traffic flows through the village, which would more than off-set the additional north-south (and vice versa) traffic flows on the B430 that could be associated with the Proposed Development.
- 3.5.32 To complement the MSRR, a 7.5T environmental weight restriction could be proposed on the eastern side of Middleton Stoney, between the MSRR and the existing B430/B4030 crossroads.
- 3.5.33 The MSRR and HPLR would be designed in accordance with the 'Design Manual for Roads and Bridges' (DMRB) and would incorporate, where required, suitable facilities for walking, cycling and horse-riding. The MSRR and HPLR would be designed in as a derestricted rural road, in keeping with the existing derestricted speed limits on the B4030, the B430 and the unnamed road. Both road links would include environmental mitigation, where considered appropriate.
- 3.5.34 The Applicant team has examined several options for the alignment of the MSRR and the HPLR. That work is reported in the Middleton Stoney Relief Road and Heyford Park Link Road Options Report¹⁰ (**Appendix 3.13**). That work resulted in the selection of the preferred alignment as shown on the Highway Works Overview Plan provided at **Appendix 3.4**. Preliminary general arrangement drawings of the selected MSRR and HPLR route are provided in Appendix A of the Option Report.
- 3.5.35 The final form of the MSRR and HPLR will be subject to ongoing assessment with National Highways and OCC as part of the TWG. This process will include further testing using traffic data from the BTM modelling.

Secondary Access

- 3.5.36 A Secondary Access for the use of pedestrians, cyclists, buses and emergency vehicles only is proposed on the southern boundary of the Main Site connecting with the HPLR via a simple priority-controlled junction.

Walking and Cycling and Public Rights of Way

- 3.5.37 Section 3.4 sets out the existing provisions for pedestrians and cyclists along with identifying the PRoW that would be impacted by the Proposed Development.

¹⁰ Middleton Stoney Relief Road and Heyford Park Link Road Options Report, Oxalis Planning, March 2022

3.5.38 The proposed strategy for pedestrian and cyclists and PRow is shown on the Footway/Cycleway/Rights of Way Strategy Overview drawing number ADC1794-DR-042-P3 provided at **Appendix 3.14**). In summary the following is proposed:

- Stopping up of public bridleways 109/28, 109/29 and 109/30 that are contained within the Main Site.
- Replacement of the above with a new bridleway route around the perimeter of the Main Site within the landscape areas, including a new bridge crossing of the SRFI rail sidings and connection to the existing bridge over the Chiltern Main Line railway at the southern end of Quarry Cottages.
- Upgrading public footpath 297/8 between bridleway 297/6 and the proposed MSRR to become a public bridleway and diverting it to pass beneath the proposed MSRR via an underpass, to connect with a new bridleway route provided to the south of the MSRR, forming part of the above-described perimeter route. The redundant section of the public footpath 297/8 would be stopped up.
- Stopping up and diversion of a short section of public footpath 148/5 to cross the MSRR using the proposed underpass.
- Provision a shared footway/cycleway alongside the HPLR and MSRR between Camp Road and the B4030, linking with the Secondary Access.
- Provision of a new off-road shared footway/cycleway facility to be provided along the B4030 between the new MSRR roundabout junction and the new infrastructure provided as part of the Himley Village development on the western edge of Bicester, thereby providing an off-road facility between Bicester, the Proposed Development, and Camp Road.
- Provision of a shared footway/cycleway on the western side of the B430 linking with the above-described footway/cycleway provided alongside the HPLR and MSRR, and the Principal Access.
- A further footway/cycleway link from the Principal Access to the section on the B430 that would be stopped up for vehicular traffic.
- Stopping up and diverting public bridleway 109/26 that runs alongside the M1 from the Chiltern Main Line railway and Ardley Road. This would include the closure of the existing level crossing on the Chiltern Main Line railway. The diverted bridleway route would cross the new rail sidings via a new bridge and would cross the Chiltern Main Line railway via an existing bridge. The diverted route would run alongside the Ardley Bypass within the landscaped area, before connecting back to Ardley Road. A new bridleway link would also be provided from this diverted route, passing within the span of the new Ardley Bypass bridge over the Chiltern Main Line railway, before connecting with the section of the B430 that is proposed to be stopped up for vehicular traffic.
- Stopping up of public footpath 109/24, which is replaced by the provision described above.
- Stopping up and diversion of the now redundant section of public footpath 109/22 from the Ardley Bypass to the stopped-up bridleway 109/26, to be replaced by a new public footpath link connecting with Ardley Road.

- Provision of a shared footway/cycleway on the new Ardley Road bridge over the Ardley Bypass.
- Stopping up of bridleway 109/32 to the north of the Ardley Roundabout at M40 Junction 10 and the replacement of this facility with a new shared footway/cycleway.
- New signal-controlled crossings on the M40 overbridge at Ardley Roundabout connecting with the above new facility and the provision of a short section of footway linking the existing footway on the southern side of the M40 overbridge with public bridleway 367/20, providing access to Stoke Wood.
- Provision of a new public bridleway to the east of the M40 southbound on-slip, linking public bridleway 367/20 at Stoke Wood with public bridleways 367/1 and 109/31 to the south.
- Provision of new permissive footpaths and cycle routes within the Main Site.

3.5.39 The proposed Footway/Cycleway/Rights of Way Strategy is subject to ongoing discussion with OCC and hence will be assessed in detail in due course and following feedback from the Stage 1 Consultation.

3.5.40 The opportunities to provide and improved facilities for WCHs and the integration with local facilities will also be considered in further detail in the Walking, Cycling & Horse-Riding Assessment Report (WCHAR) that will be submitted with the DCO application.

Public Transport Strategy

3.5.41 The DCO application will be supported by a Public Transport Strategy for the Proposed Development, the overarching aims and principles of which are to ensure that:

- The Main Site is well served by public transport so that employees have a reasonable alternative to the private car for their journey to work, when walking and cycling are not appropriate modes.
- The provision to the site is commercially sustainable, operating in the long term without subsidy to ensure that public transport continues to be a reasonable alternative to the private car beyond developer investment.
- The strategy is responsive to the Main Site and local needs, evolving the public transport offer as necessary over time.

3.5.42 It is proposed that the following key objectives are defined to support the main aims:

- Public transport should be accessible within 400m-800m walking distance maximum of all units.
- Access to public transport should be safe and comfortable at all times of the day.
- Public transport should be accessible to all, including those with limited mobility.

- Public transport should be available at key times, reliable and of high quality.
- Public transport should have the capacity required at suitable times of day.
- Employees should have access to high quality and accurate public transport information to allow informed travel choices (through occupiers and their responsibilities through the Travel Plan).
- Public transport should be relatively affordable and fares easy to understand
- Travel times should not be prohibitive to public transport use (as an alternative to the private car).

3.5.43 Initial discussions with OCC have been undertaken, and high-level proposals considered including:

- Route destination.
- Diverting a bus service.
- Providing a new bus service.
- Combination of diverted and new bus services.
- Shuttle bus.

3.5.44 Regarding route destinations, in line with the Heyford Park approach, the most appropriate option is to focus on bus services to and from Bicester, connecting to Bicester train stations and bus station for travel to and from wider destinations. Given the proximity of the Main Site to Heyford Park, it will also be important to provide good quality connections to Heyford Park. In addition, initial assessment suggests that it may also be appropriate to consider providing a bus service to Banbury.

3.5.45 Currently, the nearest bus service is the Service 250 (as detailed in Section 3.4) which runs between Bicester and Oxford, via Heyford Park, at an hourly frequency from Monday to Saturday. There is no service on Sundays. The nearest bus stops are on Camp Road. OCC confirmed that the service is due to end in December 2022, and from then there will be no service between Upper Heyford and Oxford. However, as detailed in Section 3.4, as the Heyford Park development is built out, a new bus service will be provided to and from Heyford Park and Bicester starting with a 30-minute frequency service, increasing to 20-minute and then 15-minute frequency.

3.5.46 OCC initially considered that there was limited opportunity for synergy between the Heyford Park and the public transport strategy for the Main Site. This was on the basis that the purpose of the Heyford Park service is to maximise patronage and get people directly to and from Bicester as conveniently as possible, and any diversion through the Main Site would add delay to the journey time and may make the service unattractive to Heyford Park users.

3.5.47 However, OCC subsequently noted that it would not be necessary for all four Heyford Park services (one service every 15 minutes) to route directly to Bicester through Middleton Stoney at non-peak times. There could therefore be potential for two services to route directly through Middleton Stoney, and for the other two services to

- loop through the Main Site using the Secondary Access and along the MSRR (one every 30 minutes).
- 3.5.48 OCC also noted that there may be potential for the Heyford Park morning and evening peak services to be used given the opposing tidal flows (e.g. in the morning, the bus returning from Bicester to Heyford Park would be empty, and so could potentially be used to bring staff to work). OCC noted that there may be potential for this at other times, for example shift changeover times, provided that there was no inconvenience to Heyford Park users.
- 3.5.49 Therefore, there is potential for some of the bus services to Bicester to share the Heyford Park vehicles, and divert the route, subject to further assessment and consultation with OCC.
- 3.5.50 There is also the potential to provide a bespoke service for the Main Site, that would run in a loop arrangement to and from Bicester (and potentially services to Banbury). This would need to connect the development to Bicester town centre, including the train stations and bus station.
- 3.5.51 The public transport strategy could include a combination of diverted bus services (as detailed above) and new bespoke bus services. Any opportunities to integrate with the Heyford Park bus services would need to be carefully planned to avoid disruption to users of those services.
- 3.5.52 The option of a shuttle bus has also been explored, whereby the Heyford Park bus services could stop on the HPLR, at an interchange facility, to allow users to then use a shuttle bus for the internal journey within the Main Site. This shuttle bus could also be extended to route around Heyford Park to collect employees living locally to the development. However, it is recognised that to maximise the attractiveness of public transport as an option, direct bus services, without changes, are preferred. Hence a shuttle bus service is unlikely to be the preferred option.
- 3.5.53 The Public Transport Strategy for the Main Site needs to be flexible to allow for future changes and an evolving demand. It is recognised that public transport is most attractive when it is direct and with a regular timetable, and that for public transport to be attractive, provision needs to be in place at first occupation. However, flexibility in the strategy is important due to the potential unknowns associated with a development of this scale.
- 3.5.54 It is proposed the Public Transport Strategy would focus on routes to and from Bicester, given the significant housing and employment growth planned in Bicester, and to Banbury. Good connections should also be made to the adjacent Heyford Park development.

- 3.5.55 The primary Public Transport Strategy would be to provide a regular 15-minute frequent bus service during peak hours and shift change times direct to Bicester, which would loop through the Main Site using the Secondary and Principal accesses and route along the MSRR. This would include a combination of diverted Heyford Park services, and a new bespoke bus service. Initially, the services would run in the morning and evening peak periods (for office/admin roles). They would also run 15 minutes before and after each shift changeover time (for example: 0600, 1400, and 2200 hours) (for the warehouse operative roles). However, whatever the shift patterns, the bus service would be in place from first occupation to make it an attractive and realistic alternative to the private car. At other times of the day, it is proposed that service coverage would be supported by diverting two of the Heyford Park bus services to loop through the Main Site and along the MSRR (one every 30 minutes). As the Proposed Development is built out, the opportunity of continuing the bespoke bus service between the peaks and shift change times would be examined, thereby providing a regular service for users throughout the day.
- 3.5.56 The potential to provide a regular bus service to and from Banbury should also be explored, with details to be agreed as the development is built out.
- 3.5.57 Therefore, the approach is to implement a relatively flexible Public Transport Strategy, focused on providing a frequent bus service connecting with Bicester and Heyford Park, allowing service frequency and hours of operation to respond to the end user requirements as the Proposed Development is built out. This strategy will also allow the consideration of other destinations, such as Banbury. This will ensure that the bus services are suitable to serve the principal settlements from which the employees are sourced, maximise the attractiveness of a bus commute to and from the site, and help to ensure the bus services are commercially sustainable in the long run.
- 3.5.58 This partially accords with OCC's preferred approach, which is to request a financial contribution that they would use to deliver the service(s) themselves.
- 3.5.59 A contribution towards bus services under a flexible strategy is therefore a sensible approach. However, to manage the implementation of the Public Transport Strategy, including the control of the expenditure on the bus services, including the latest technology (electric vehicles, etc), it may be desirable to set up a Sustainable Transport Working Group. This approach is adopted successfully at other SRFIs. The working group would include representatives from OCC, as well as the developer, their consultants, and the bus operator(s). This will be further discussed with OCC.

Operational Phase

- 3.5.60 This section of the draft ES chapter will consider the impact with respect to transport once the Proposed Development would be in operation and with the embedded Highway Works in place. At this stage much of the detailed assessment work is ongoing, and definition of the study area is subject to the outputs from the BTM

modelling. Therefore, only an interim and partial assessment can be provided in the draft ES.

Operation

- 3.5.61 The Parameters Plan sets out a maximum area for the warehousing and distribution use at the Proposed Development of 6.5 million sqft (603,850 sqm). However, to provide some flexibility for future occupiers seeking mezzanine space, the Parameters Plan includes an allowance for a further 201,283 sqm in the form of B8 mezzanine floor space use. For assessment purposes the maximum floor area, including the allowance for mezzanine floor space, is therefore used in the transport work.
- 3.5.62 The Parameters Plan includes direct rail served warehouse units by means of dedicated rail connection to development Zones A1a, A1b, and A2.
- 3.5.63 The rail freight interchange would take the form of an independent facility and associated container storage provided in Zone C. The loading and unloading sidings and the associated pad would be able to accommodate trains of up to 775 metres in length, to allow the longest trains to be accommodated.
- 3.5.64 Container movements to the individual warehouse units on the site would either be direct to the individual warehouse unit (or plot) by rail, by means of an adjacent rail loading/unloading pad, or by delivery of the containers to the main loading/unloading terminal at the rail interchange facility, with the containers then being transferred between the rail interchange and warehouse units using the internal road network.
- 3.5.65 In keeping with most inland rail freight interchange, the rail freight terminal is likely to operate on a 24-hour basis from Monday to Friday, and until Saturday lunchtime. However, volume growth at the main ports could lead to an increase to 6 or 7-day operation. All the warehousing units are likely to operate on a 24-hour basis, seven days a week. The main shifts are therefore likely to be 0600-1400 hours, 1400-2200 hours and 2200-0600 hours, although there could be some variation depending on the individual occupier requirements.
- 3.5.66 It is anticipated that it would take several years before the rail freight interchange would operate at full capacity. The rail freight interchange will have capacity to accommodate up to 12 trains per day. To ensure a robust approach, the maximum capacity of 12 trains per day has been assumed to occur within the assessment periods set for the future year transport modelling assessment scenarios.

Modal Shift from Road Freight to Rail Freight

- 3.5.67 The Proposed Development, comprising both the warehousing and distribution units and the rail freight interchange, would generate the following type of trips:

- 1) Employee trips to and from work at both the warehousing units and the rail interchange.
- 2) Visitor and delivery trips to both the warehousing units and the rail interchange.
- 3) HGV traffic to and from the warehousing units.
- 4) HGV traffic to and from the rail interchange.
- 5) HGV (or tug) traffic between the rail terminal and the warehousing units.
- 6) Rail trips.

3.5.68 Only trip types 1 to 4 would use the off-site highway network. Trip type 5 would be on the internal road network, between the rail interchange and warehousing area. Trip type 6 would be on the rail network only. .

3.5.69 The TA will therefore focus on trip types 1 to 4, as the TA is ultimately concerned with the impact of the Proposed Development on the external highway network. However, it is recognised that the number of HGVs generated (trip types 3, 4 and 5) will be related to the number of rail trips (trip type 6) and the size of the containers/type of goods. Furthermore, the amount of external HGV trips (trip types 3 and 4) will be related to the number of internal trips (type 5) and the operation and interaction between the rail terminal and the on-site warehousing.

3.5.70 The above dependencies and interactions are examined in detail at Technical Note 3: Trip Generation¹¹ (see **Appendix 3.15**) and are included within the trip generation calculations. Once the rail facilities of the Proposed Development are fully operational, they could accommodate an average maximum through-put of around 984 containers a day. This is a mode shift from road freight to rail freight equivalent to 1,104 HGV movements per day. Rail journeys would typically replace road freight for journeys of 100 miles or more. The HGV mileage saving will be examined in more detail as part of the ongoing assessment work. However, it is possible to make a conservative estimate (based on the 100-mile figure) that, annually, the Proposed Development could remove over 31 million HGV miles per year from the highway network.

3.5.71 The reduction in overall HGV mileage on the road network demonstrates how the Proposed Development would comply with Government objectives, as set out in the NPSNN, to achieve a modal shift from road freight to rail.

3.5.72 It is important to understand that many of the remaining HGV trips forecast to be generated by the Proposed Development would already be present on the highway network. This is because many of the HGV trips would be associated with the delivery of goods to meet existing and future business demand in the locality. Such HGV movements would already exist locally to those businesses, and the development of the SRFI would not add additional HGV traffic in these areas. Rather, it will provide a

¹¹ Technical Note 3: Trip Generation (report reference ADC1794-RP-J-V3), ADC Infrastructure Ltd, April 2021

distribution hub, meaning that journey distances will be reduced, further reducing overall HGV mileage on the road network.

- 3.5.73 Taken together the above modal shift and resultant reduction in overall HGV mileage represents a **permanent beneficial** impact of **very large significance**.
- 3.5.74 Nevertheless, to ensure that the full impact of the Proposed Development is modelled in the vicinity of the site, the transport modelling will assume that all HGV trips would be new trips to the highway network.

Development Trip Generation

- 3.5.75 Technical Note 3 (**Appendix 3.15**) presents the person and vehicular traffic generation calculations for the Proposed Development. The two-way external person trip generation (combined total movements in and out of the site) are summarised IN Table 3.9 below. The trip generation has been agreed with the TWG.

Table 3.9: The two-way external person trip generation

Period	Person Trips
AM peak hour	1,418
PM peak hour	1,752
Daily	22,098

- 3.5.76 The vehicle trip generations (combined movements in and out of the site) are summarised in Table 3.10 below.

Table 3.10: The vehicle trip generations

Period	Light vehicles	HGVs	Total
AM peak hour	1,000	331	1,331
PM peak hour	1,336	300	1,636
Daily	15,730	4,920	20,650

- 3.5.77 The vehicle trip generations assume a single occupancy vehicle (SOV) rate of 92%. Whilst this provides a robust position for assessment of the highway capacity, it is not representative of the likely modal share that would be achieved by the Proposed Development once sustainable transport initiatives to be developed in the Travel Plan and the Public Transport Strategy are considered.
- 3.5.78 The employee (light) vehicle trips presented in the table above do not therefore represent the expected public transport modal share, or the potential for car sharing.
- 3.5.79 Notwithstanding the above, it has been agreed with the TWG that the assessment of the vehicle impacts be undertaken using the vehicle trip generation without considering the effect of the Travel Plan or Public Transport Strategy. The

assessment of the traffic impact of the Proposed Development is therefore robust. With the Public Transport Strategy and Travel Plan operational, vehicle trip generation would be reduced in comparison to the worst-case scenario assessed, and the residual traffic impacts would also be reduced.

Impact on Highway Network Operation

- 3.5.80 When taken together, the proposed A43 to M40 southbound free-flow link and M40 to A43 northbound free-flow link will remove approximately 32% of the existing traffic from the Padbury, Cherwell and Ardley junctions.
- 3.5.81 Based on the assessment work presented in Technical Note 9, with this reduction in traffic flow, combined with localised improvements to the junctions, the proposed M40 Junction 10 Improvements are forecast to deliver the capacity improvements summarised in Table 3.11 below in the 2031 future assessment year. This is when comparing the future baseline situation with the proposed OCC Housing Growth Deal improvements in place, but without the Proposed Development or associated highway improvements in place, to the future situation with the proposed highway improvements and additional traffic demand from the Proposed Development in place.

Table 3.11: Capacity improvement forecasts for the proposed M40 Junction 10 Improvements

Junction	Improvement in junction capacity compared to future baseline position in 2031	
	AM peak hour	PM peak hour
Baynard's Green	15%	16%
Padbury	16%	63%
Cherwell	41%	29%
Ardley	17%	30%

- 3.5.82 Journey times through Junction 10 will be improved. Initial forecasts suggest the improvements in journey time through the junction complex as shown in Table 3.12 below. This is the average improvement across all journeys through the junction.

Table 3.12: Journey time improvements for the proposed M40 Junction 10 Improvements

Period	Improvement in journey time compared to future baseline position (average of all movements)
AM peak (0700 to 1000 hrs)	40%
Interpeak (1000 to 1600 hrs)	14%
PM peak (1600 to 1900 hrs)	17%

Off-peak (1900 to 0700 hrs)	9%
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- 3.5.83 The above is subject to the final form of the M40 Junction 10 improvement scheme and will be revised using the forecast traffic demand from the BTM and further testing using a VISSIM microsimulation model of the M40 Junction 10 complex, Ardley Bypass and Principal Access junction. However, it is considered at this stage that the M40 Junction 10 highway improvement works will represent a **permanent beneficial** impact of **very large significance** with regards to highway network operation.
- 3.5.84 The proposed Ardley Bypass will remove all B430 through traffic from the village of Ardley, significantly reducing traffic levels within the village.
- 3.5.85 The MSRR (with the bus gate on the B4030 west of Middleton Stoney) is forecast to remove around 33% of the future baseline traffic from the village centre¹². This is when comparing the future baseline situation without the Highway Works or Proposed Development traffic to the future situation with the Highway Works and Proposed Development traffic.
- 3.5.86 This comparison holds true when compared against either a future baseline with the proposed Heyford Park bus gate in place, or a future baseline scenario without the bus gate in place. Depending on which reference case scenario the MSRR is compared against different changes in traffic flows are forecast on different arms of the B430/B4030 junction. With the bus gate in place in the future baseline, traffic that previously used the B4030 west has already switched to use the B430 north arm and hence switches to the MSRR and so there is a reduction in traffic through Middleton Stoney. In the future baseline without the bus gate in place, background traffic is still on the B4030 west arm, but then the Proposed Development would implement the bus gate, in which case the traffic switches to the MSRR. In both cases the overall reduction through the village is forecast at this initial stage to be approximately 33%.
- 3.5.87 The above is subject to further review with final assessment based on traffic demands from the BTM. However, it is considered at this stage that the forecast reductions in traffic passing through the village of Ardley will represent a **permanent beneficial** impact of **moderate significance**, and that the forecast reductions in traffic passing through the village of Middleton Stoney will represent a **permanent beneficial** impact of **moderate significance**.

Impact on Walkers, Cyclists, and Horse-riders

- 3.5.88 The proposed Footway/Cycleway/Rights of Way Strategy is subject to ongoing discussion with OCC and hence will be assessed in detail in due course and following feedback from the Stage 1 Consultation.

¹² Based on analysis of traffic flows provided at Appendix A of the MSRR and HPR L Options Report (Appendix 3.13)

Construction Phase

- 3.5.89 The overarching systems and controls that would be adopted during the construction of the Proposed Development and embedded Highway Works to minimise any adverse environmental impacts will be set out in the provisions of the DCO and will be detailed within the Construction Environmental Management Plan (CEMP).
- 3.5.90 The CEMP provides the framework with which each phase of development must accord. The exact number of phases will depend on the precise split of phases of work which has yet to be confirmed.
- 3.5.91 The final version of this ES chapter will include an assessment of likely significant effect of the construction phase of the Proposed Development, including an assessment of any proposed phasing of the Highway Works, and an assessment of the impact of construction traffic movements on the highway network.
- 3.5.92 The importance of managing the phasing of the development components to mitigate delays and disruption on the existing highway network is recognised as the most significant practical restraint. Generally, this is best achieved by diverting traffic onto new alignments away from works under construction and controlling the level of interference on the networks at any time. The routing of construction traffic would be agreed with the Police, OCC, National Highways and the Project Manager for each phase. All contractors shall then comply with the requirements of that strategy.
- 3.5.93 A combination of appropriate temporary diversions and closures to PRoW will be implemented before the commencement of any component of works and details shall be set out in each phase where appropriate. All permanent routes will be constructed and implemented as soon as practical.

3.6 MITIGATION AND RESIDUAL EFFECTS

Mitigation

- 3.6.1 The proposed Highway Works that are embedded as part of the Proposed Development are being developed to provide the required access to the SRN, whilst delivering appropriate site access infrastructure for all relevant modes of travel. The suitability of the embedded Highway Works to mitigate the transport effects of the Proposed Development, in combination with the Framework Travel Plan and Public Transport Strategy, will be further examined as part of the ongoing transport modelling work and TA process, which will include the consideration of impacts at locations more remote from the Application Site.
- 3.6.2 If required, additional mitigation measures will be identified and proposed to reduce any adverse impacts to acceptable levels. This work is ongoing and will be reported in due course.

Residual Effects

- 3.6.3 Following the above, the residual transport impacts associated with the construction and operational phases of the Proposed Development will be examined as part of the TA and ES.

Climate Change

- 3.6.4 Carbon dioxide (CO₂) is a greenhouse gas which contributes to global warming effects, and which is associated with climate change. Transport is one of the UK's largest emitters of greenhouse gases and hence, Transport is one of the sectors targeted where effective interventions can significantly reduce CO₂ emissions and therefore reduce the impact of climatic changes.
- 3.6.5 The Proposed Development responds to Government policy set out in the NPSNN, which states that providing a network of SRFIs is a key element in aiding the transfer of freight from road. The Proposed Development will facilitate a modal shift from road to rail freight and in doing so will reduce trip mileage of freight movements on the national and local road networks, thereby directly helping to achieve targets on reducing greenhouse emission.
- 3.6.6 The Development Sector can further help achieve targets on reducing greenhouse gas emissions by promoting sustainable modes of transport and reducing the need to travel. Common, effective initiatives include enabling a shift away from the private car, encouraging use of low emission vehicles through provision of electric vehicle charging points, and also introducing mitigation measures to reduce congestion.
- 3.6.7 The Proposed Development will include new footway and cycle infrastructure, connecting the Main Site with Bicester, the adjacent Heyford Park site, and villages of Middleton Stoney and Ardley. A Framework Travel Plan will be prepared for the Proposed Development, which along with the Public Transport Strategy, will set out ways in which the development can reduce the number of vehicle trips to the site by promoting more sustainable travel options. The Framework Travel Plan will promote a range of measures aimed at achieving a 10% modal shift from single occupancy car trips to sustainable modes.
- 3.6.8 The M40 J10 Highway Improvements include proposed free-flow links between the M40 and A43 and vice versa, reducing congestion at the junction and improving journey times and reliability for all traffic on this key route.
- 3.6.9 The Proposed Development would therefore directly help to contribute to targets on reducing greenhouse gas emissions from transport.

Human Health

- 3.6.10 As detailed in Section 3.2, the impact of the Proposed Development on human health will be considered as part of the final ES transport chapter.

3.7 CUMULATIVE EFFECTS

- 3.7.1 The cumulative environmental effects of the Proposed Development with committed or planned development and transport infrastructure projects will be accounted for in the BTM modelling. For each assessment year (2026 and 2031), the future baseline conditions (planned and committed development growth and infrastructure) to be included within the BTM transport modelling assessment year scenarios will be agreed with the TWG and will take account of the latest Annual Monitoring Report published by Cherwell District Council.
- 3.7.2 The BTM traffic flow outputs will therefore include an evaluation of the traffic generated by all pertinent committed and allocated developments in the vicinity of the Application Site that are highly likely to come forward before each of the assessment years. The BTM will also include all pertinent committed and allocated transport infrastructure schemes that are highly likely to come forward before the forecast assessment years. This will include appropriate allowances for development and transport infrastructure schemes associated with the adjacent Heyford Park site, the Great Wolf Lodge leisure resort near Chesterton, and the identified highway improvement schemes at the Baynard's Green Roundabout and the Padbury Roundabout that are to be delivered as part of the Oxfordshire Housing Growth Deal, along with the allocated growth at Bicester.
- 3.7.3 The above process will ensure that the ES appropriately evaluates the cumulative impacts of the Proposed Development in conjunction with other potential developments and transport infrastructure schemes. This same data and evidence will underpin the transport component of the assessment of Noise and Air Quality effects that will be assessed within other chapters of the ES.

3.8 SUMMARY AND CONCLUSIONS

- 3.8.1 The transport chapter of the final ES will assess the likely significant environmental effects created by the changing transport conditions introduced by the Proposed Development. The chapter will therefore consider the main modes of travel including the development demands on the existing and planned transportation infrastructure for walking, cycling, public transport usage and vehicular traffic. At this stage much of the detailed assessment work is ongoing, and the definition of the study area is subject to the outputs from the strategic modelling work. This draft ES chapter has therefore been prepared to summarise the work undertaken to date and to set out the

assessment scope, methodology and baseline conditions. It will be updated in due course to include a full assessment of the transport effects.

- 3.8.2 The Proposed Development, through good sustainable design, will provide improved road access to the Main Site ensuring appropriate connection to the SRN. The Proposed Development would also significantly improve public transport, pedestrian, and cyclist provision providing opportunities for non-car-based modes of transport. These embedded Highway Works are required to provide the required access to the Proposed Development and to prevent, or reduce to acceptable levels, the otherwise likely adverse significant transport effects of the Proposed Development.
- 3.8.3 The Proposed Development will facilitate a modal shift from road freight to rail freight with a resultant reduction in overall HGV mileage which represents a **permanent beneficial** impact of **very large significance**.
- 3.8.4 The suitability of the embedded Highway Works to mitigate the transport effects of the Proposed Development, in combination with the Framework Travel Plan and Public Transport Strategy, will be further examined as part of the ongoing transport modelling work and TA process, which will include the consideration of impacts at locations more remote from the Application Site.
- 3.8.5 However, it is considered at this stage that the M40 Junction 10 Improvement Works will represent a **permanent beneficial** impact of **very large significance** with regards to highway network operation, and that the forecast reductions in traffic passing through the villages of Ardley and Middleton Stoney will each represent a **permanent beneficial** impact of **moderate significance**.
- 3.8.6 If required, additional mitigation measures will be identified and proposed to reduce any adverse impacts to acceptable levels. This work is ongoing and will be reported in due course.
- 3.8.7 Following the above, the residual transport impacts associated with the construction and operational phases of the Proposed Development will be examined and identified as part of the TA and final ES transport chapter.