

TRANSPORT ASSESSMENT

# Tritax Symmetry and Siemens Healthineers

Symmetry Park, Oxford North

March 2022

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## Report control

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Primary Author:	James Werby	Initialled:	JW
Contributor:	Harry Fairclough	Initialled:	HF
Review by:	James Bancroft	Initialled:	JB

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## Contents

Executive Summary .....	1
1 Introduction .....	3
2 Baseline Conditions .....	5
3 Policy Context.....	16
4 Development Proposals .....	22
5 Trip Attraction, Traffic Distribution and Committed Developments .....	28
6 Highway Impact Assessment – Local Network .....	35
7 Highway Impact Assessment – Strategic Highway Network.....	40
8 Mitigation Measures.....	48
9 Summary and Conclusions.....	50

## Figures (Within Text)

Figure 2.1	- Local Site Location
Figure 2.2	- Strategic Site Location
Figure 2.3	- Walking and Cycling Isochrone
Figure 2.4	- Extract from OCCH PRoW Map
Figure 2.5	- Local Cycle Network
Figure 2.6	- Bus Route Map
Figure 4.1	- Relocated and Enhanced Bus Stops

## Figures (Appended)

Figure 5.1	- Existing Staff Distribution AM
Figure 5.2	- Existing Staff Distribution PM
Figure 5.3	- Proposed Staff Distribution AM
Figure 5.4	- Proposed Staff Distribution PM
Figure 6.1	- 2024 Without Development AM (based on BTM data)
Figure 6.2	- 2024 Without Development PM (based on BTM data)
Figure 6.3	- 2031 Without Development AM (based on BTM data)
Figure 6.4	- 2031 Without Development PM (based on BTM data)
Figure 6.5	- Proposed Development Traffic AM
Figure 6.6	- Proposed Development Traffic PM
Figure 6.7	- 2024 With Development AM (based on BTM data)
Figure 6.8	- 2024 With Development PM (based on BTM data)
Figure 6.9	- 2031 With Development AM (based on BTM data)
Figure 6.10	- 2031 With Development PM (based on BTM data)

Figure 6.11	- Baseline November 2021 Surveys AM
Figure 6.12	- Baseline November 2021 Surveys PM
Figure 6.13	- 2024 Without Development AM (based on survey data)
Figure 6.14	- 2024 Without Development PM (based on survey data)
Figure 6.15	- Proposed Development Traffic AM
Figure 6.16	- Proposed Development Traffic PM
Figure 6.17	- 2024 With Development AM (based on survey data)
Figure 6.18	- 2024 With Development PM (based on survey data)

## Appendices

Appendix A	- Baseline Transport Statistics (Census and Bus Timetable)
Appendix B	- BREEAM AI Calculation
Appendix C	- Personal Injury Accident Data
Appendix D	- Proposed Site Layout
Appendix E	- Siemens Healthineers Work from Home Policy
Appendix F	- Proposed Site Access Arrangement
Appendix G	- Stage 1 RSA
Appendix H	- Proposed Shared Pedestrian/Cycle Link
Appendix I	- Parking Strategy Note
Appendix J	- Swept Path Analysis
Appendix K	- Traffic Generation and Distribution Note
Appendix L	- Journey Time Analysis
Appendix M	- Committed Development Assessment
Appendix N	- Bicester Traffic Model Flows (2024 and 2031)
Appendix O	- ARCADY Report (Vendee Drive Roundabout)
Appendix P	- Linsig Report (Proposed Signalised Access)
Appendix Q	- M40 J9 Capacity Assessment Methodology Note
Appendix R	- M40 Model Calibration/Validation Note with LinSig Outputs
Appendix S	- Travel Plan
Appendix T	- Framework Delivery and Servicing Management Plan

## Executive Summary

The Symmetry Park Oxford North site is currently in agricultural use and extends across open fields, with the Grange Farm Industrial Estate and Lower Grange Farm bordering the site to the east and the M40 to the west.

The development proposals comprise the new development to accommodate the current and future requirements of Siemens Healthineers within a purpose built commercial building that will have a floor area of 53,830 sqm.

This facility is intended to replace Siemens Healthineers existing operation at Eynsham, and in doing so will retain key high skilled jobs as well as generating new roles that will boost the local economy.

The proposed development will be accessed via the creation of a new signalised junction on the A41, and will be served by a total of 474 car parking spaces and up to 160 cycle parking spaces. It is worthy to note that 24 of the car parking spaces are designed to accommodate blue badge users and a further 120 spaces will be able to charge electric vehicles.

The site benefits from a good level of accessibility by sustainable modes with NCN Route 51 located to the south of the site as well as four bus services per hour between Oxford and Bicester accessible from the A41.

As part of the access strategy enhancements will be made to the current bus stops located opposite Wendlebury. Moreover, the access design includes dedicated crossing facilities that will significantly improve access for existing residents to these bus stops and Footpath 161/4/20.

The overall accessibility of the site will be further improved through the introduction of enhanced cycle links. These are intended to be achieved through the creation of a link to NCN Route 51, but it should be noted that discussions with Oxfordshire County Council are on-going in this regard.

This Transport Assessment, which has been prepared having regard to detailed pre-application discussions with Oxfordshire County Council and National Highways, demonstrates:

The site is well located to encourage people to travel by modes of transport other than the private car;

- Safe and suitable access for all can be delivered from the A41;
- The internal layout is designed in accordance with nationally recognised standards and/or best practice guidance; and,
- The potential impact of the development proposals considered to date are unlikely to lead to any demonstrable harm to the local highway network, let alone the severe impact referred to in the NPPF as being the only legitimate reason to resist a proposed development on highways and transportation grounds.

Notwithstanding this, the applicant intends to adopt a range of mitigation measures to ameliorate the impact of the proposed development both during its construction phase and when it is fully operational. The mitigation measures are expected to comprise a:

- Construction Management Plan, which will seek to manage the routing of HGVs and other associated transport impacts of the construction process.
- Travel Plan, which will provide a mechanism by which employees and visitors will be encouraged to travel to the site by alternative modes of transport.
- Delivery and Servicing Plan, which will ensure delivery vehicles avoid sensitive routes.

It is therefore considered that the proposed development is entirely consistent with the overarching transportation policies that underpin the NPPF. It is also consistent with the Development Plan policies pertinent to transport. Accordingly, it is concluded that it is consistent with the principles of a sustainable development.



## 1 Introduction

- 1.1 Vectos has been commissioned by Tritax Symmetry and Siemens Healthineers to provide transportation advice in relation to the proposed development on land to the north east of Junction 9 of the M40. The site is located within the administrative boundaries of Cherwell District Council (CDC) and Oxfordshire County Council Highways (OCCH).
- 1.2 The boundary of the Site fronts the A41 road and extends across several open fields that are currently in agricultural use. There are a number of buildings in agricultural or commercial use located in the north east part of the Site. The eastern extent of the Site is defined by field boundaries and hedgerows, the Grange Farm Industrial Estate, and Lower Grange Farm. The Wendlebury Brook defines the western edge of the Site, flowing from north to south towards a small area of woodland, where its course then changes to flow east across the Site, before passing under the A41.
- 1.3 The site is located approximately 4 km south-west of Bicester in Oxfordshire, adjacent to the A41 and M40 at Junction 9. The A41 provides direct access to Bicester and the M40 provides access to London to the south-east and Birmingham to the north-west.
- 1.4 The development proposals comprise:

*“Full planning application for the erection of a new high quality combined research, development and production facility comprising of Class B2 floorspace and ancillary office floorspace with associated infrastructure including: formation of signal-controlled vehicular access to the A41 and repositioning of existing bus stops; ancillary workshops; staff gym and canteen; security gate house; a building for use as an energy centre (details of the energy generation reserved for future approval); loading bays; service yard; waste management area; external plant; vehicle parking; landscaping including permanent landscaped mounds; sustainable drainage details; together with the demolition of existing agricultural buildings within the red line boundary; and the realignment of an existing watercourse”.*

- 1.5 This Transport Assessment (TA) has been produced to assess the transport and highway implications of the application, including the suitability of the proposed site access arrangements in safety and highway capacity terms.
- 1.6 It is noteworthy that extensive pre-application discussions have taken place with OCCH and National Highways (NH) and that these discussions inform the access strategy and assessments presented in this report.

### Report Structure

- 1.7 This report details the potential impact of the proposed development on the surrounding transport network. It is divided into the following sections:
- **Section 2: Baseline Conditions** – describes the existing conditions at the proposed development site, and the surrounding transport network;
  - **Section 3: Planning Policy** – outlines the relevant local and national transport planning policies and local planning policies;

- **Section 4: Development Proposals** – describes the proposed development, access arrangements and parking;
- **Section 5: Trip Attraction, Traffic Distribution and Committed Developments** – assessment of the number of trips that are likely to be generated by the proposed development, and the impact;
- **Section 6: Highway Impact Assessment – Local Network** – assesses the highway impact of the proposed development on the local network;
- **Section 7: Highway Impact Assessment – Strategic Highway Network** – assesses the highway impact of the proposed development on the strategic highway network (M40 J9);
- **Section 8: Mitigation Measures** – provides ways in which the impact of the proposed development will be kept to a minimum during construction and operational phases; and
- **Section 9: Summary and Conclusions** – summary of the findings of the transport assessment.



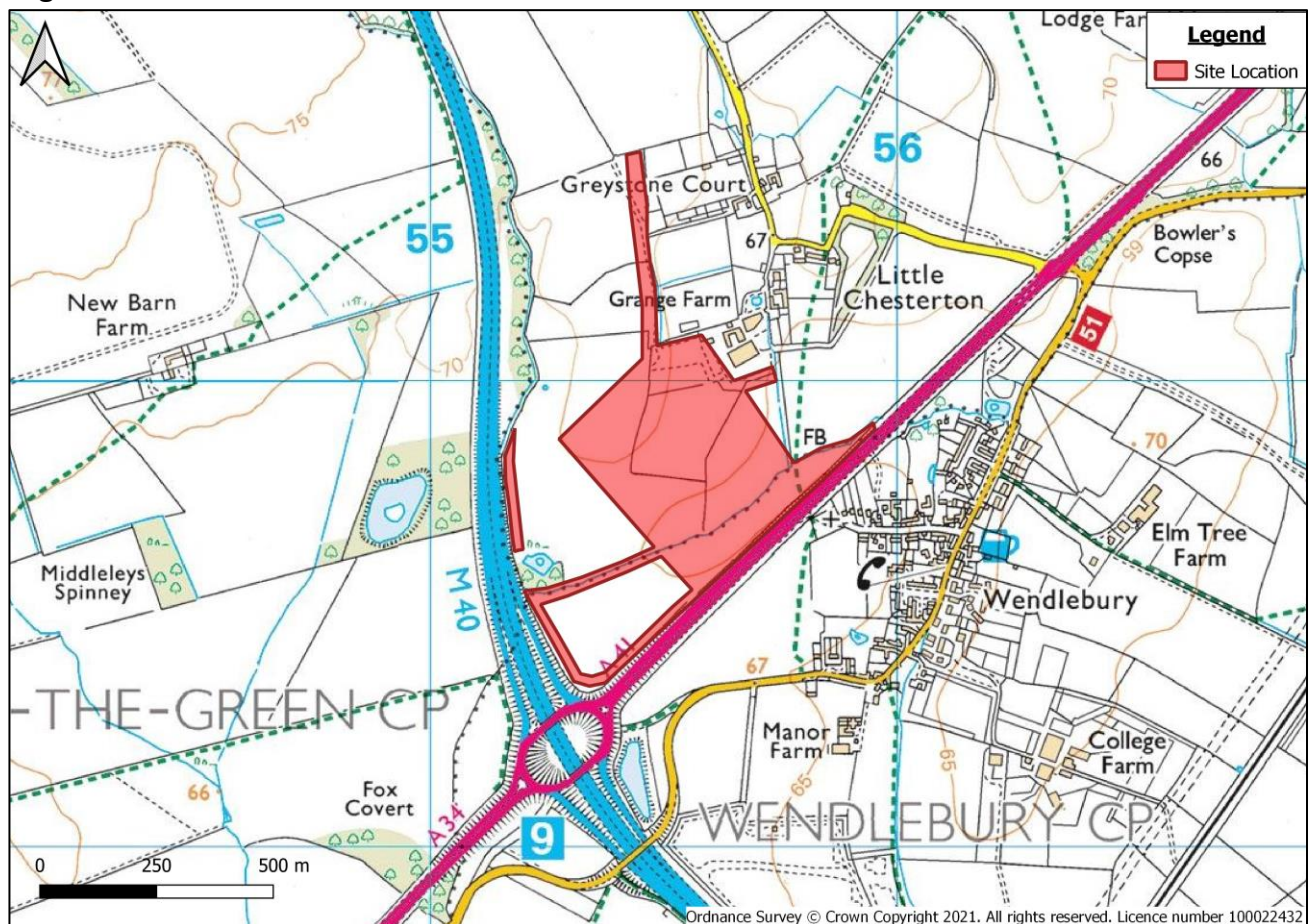
## 2 Baseline Conditions

- 2.1 This section of the report summarises the existing characteristics of the site and the surrounding area, including details of the existing operation of the site and its accessibility by non-car modes of transport.

### Site Details

- 2.2 The Site is located approximately 4 km south-west of Bicester in Oxfordshire, adjacent to the A41 and M40 at Junction 9. The A41 provides direct access to Bicester and the M40 provides access to London to the south-east and Birmingham to the north-west.
- 2.3 The site is currently undeveloped covering an area of approximately 19.26 hectares. The boundary of the Site fronts the A41 road and extends across several open fields that are currently in agricultural use. There are a number of buildings in agricultural or commercial use located in the north east part of the Site. The eastern extent of the Site is defined by field boundaries and hedgerows, the Grange Farm Industrial Estate, and Lower Grange Farm. The location of the site is illustrated in **Figure 2.1**.

**Figure 2.1 - Local Site Location**





## Local Highway Network

- 2.4 The site can be accessed via Green Lane, an unclassified road to the north of the site, as well as the A41, a dual-carriageway and trunk road which runs in an east/west alignment from J9 of the M40 to J20 of the M25.
- 2.5 The A41 provides access to Bicester to the north east, Oxford to the south west (via the A34) and Aylesbury to the west as well as Junction 9 of the M40 to the south west of the site. The M40 connects London to Birmingham, providing a strategic connection throughout the country.
- 2.6 The strategic context of the site is illustrated in **Figure 2.2**.

**Figure 2.2 - Strategic Site Location**



## South Eastern Perimeter Road (SEPR)

- 2.7 It is also understood that there is a long-standing aspiration to develop the South Eastern Perimeter Road (SEPR). We note from the most recent OCC consultation process that the western end of the SEPR is expected to include the construction of a new roundabout on the A41, which would replace the current A41/Wendlebury Road left-in/left-out junction.
- 2.8 Whilst it is understood that OCCH is currently undertaking a wider review of the A41, it is currently unknown when, and if, the SEPR will be implemented. As such this report considers the highway



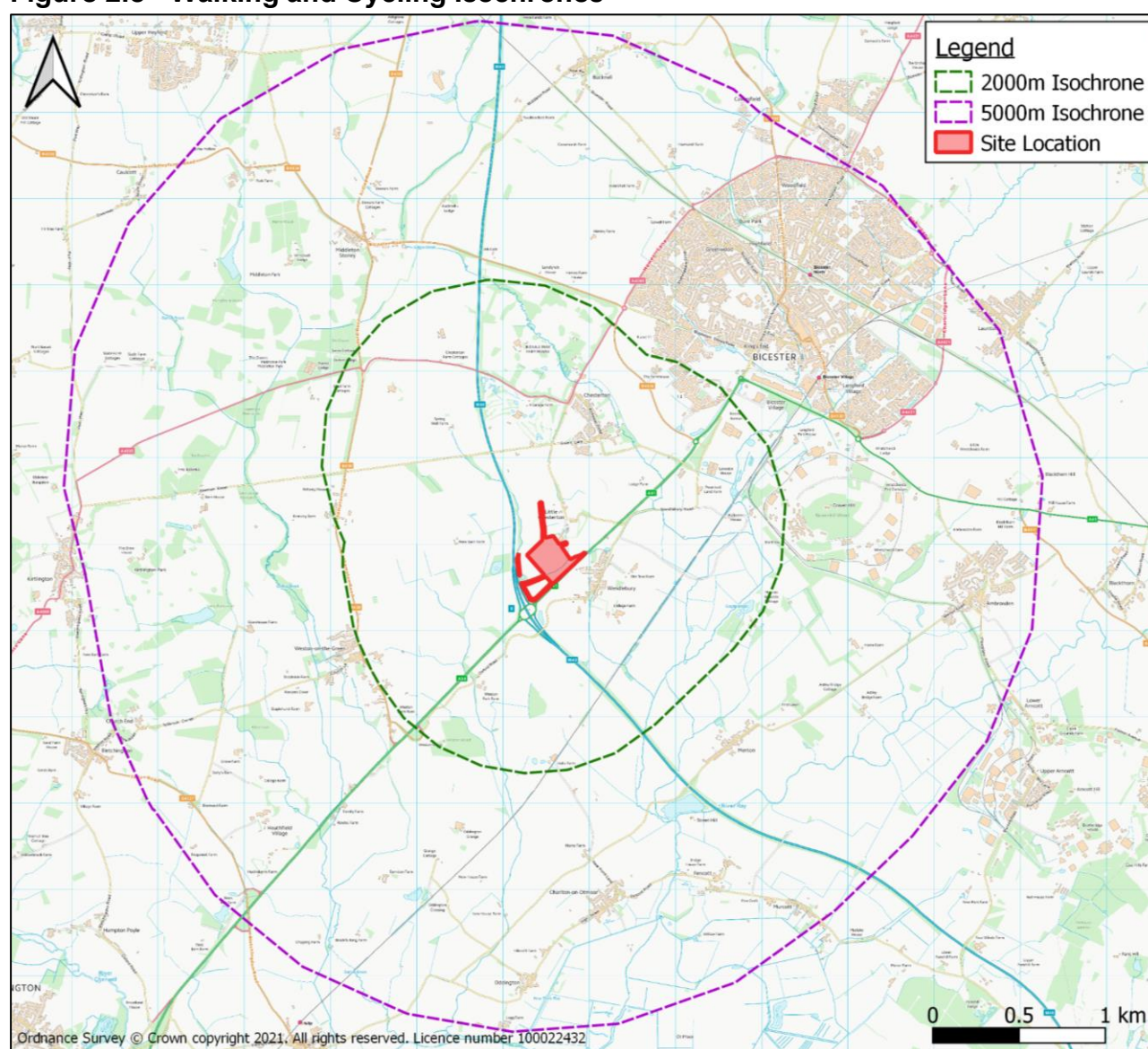
impact assessment without the SEPR in place. However, it should be noted that the access strategy for the site has been designed to ensure that it does not preclude the delivery of the SEPR at a later date, and this approach has been discussed and agreed with OCCH.

## Accessibility by Non-Car Modes

### Accessibility by Walking and Cycling

- 2.9 Walking is a convenient mode of transport for most people for trips up to around 2km in length, which equates to an approximate 20 minute walk time. This walking catchment for the site is shown in **Figure 2.3** below.

**Figure 2.3 - Walking and Cycling Isochrones**

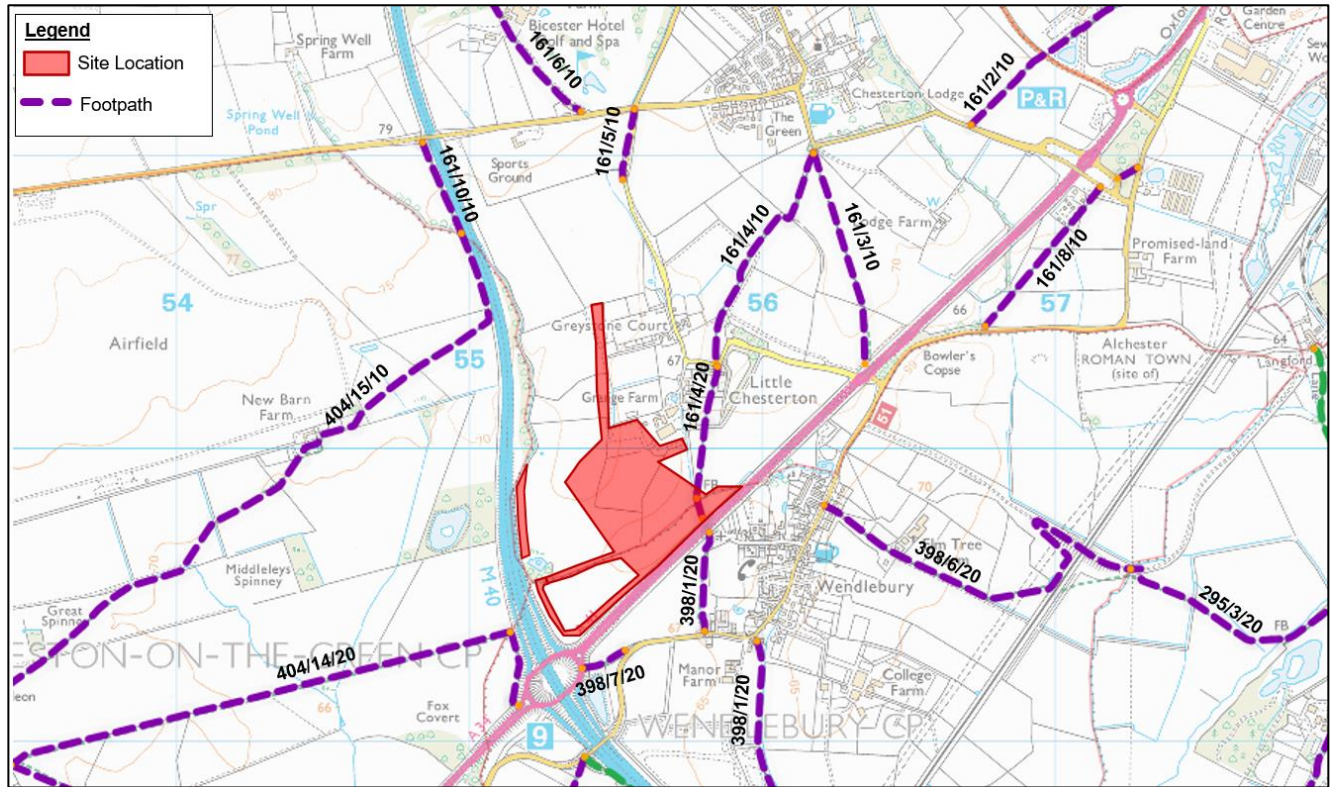


- 2.10 Whilst it is noted pedestrian accessibility to the site is currently fairly limited, there is a section of footway located approximately 200m to the north of the site from the junction of Green Lane with the

A41. This footway becomes public right of way across open land to the village of Chesterton, 1km to the north.

- 2.11 Footpath 161/4/20 traverses the site and crosses the A41 into the village of Wendlebury as shown below at **Figure 2.4**. At present there are no formal crossing points, but there is a pedestrian refuge area provided in the central reserve.

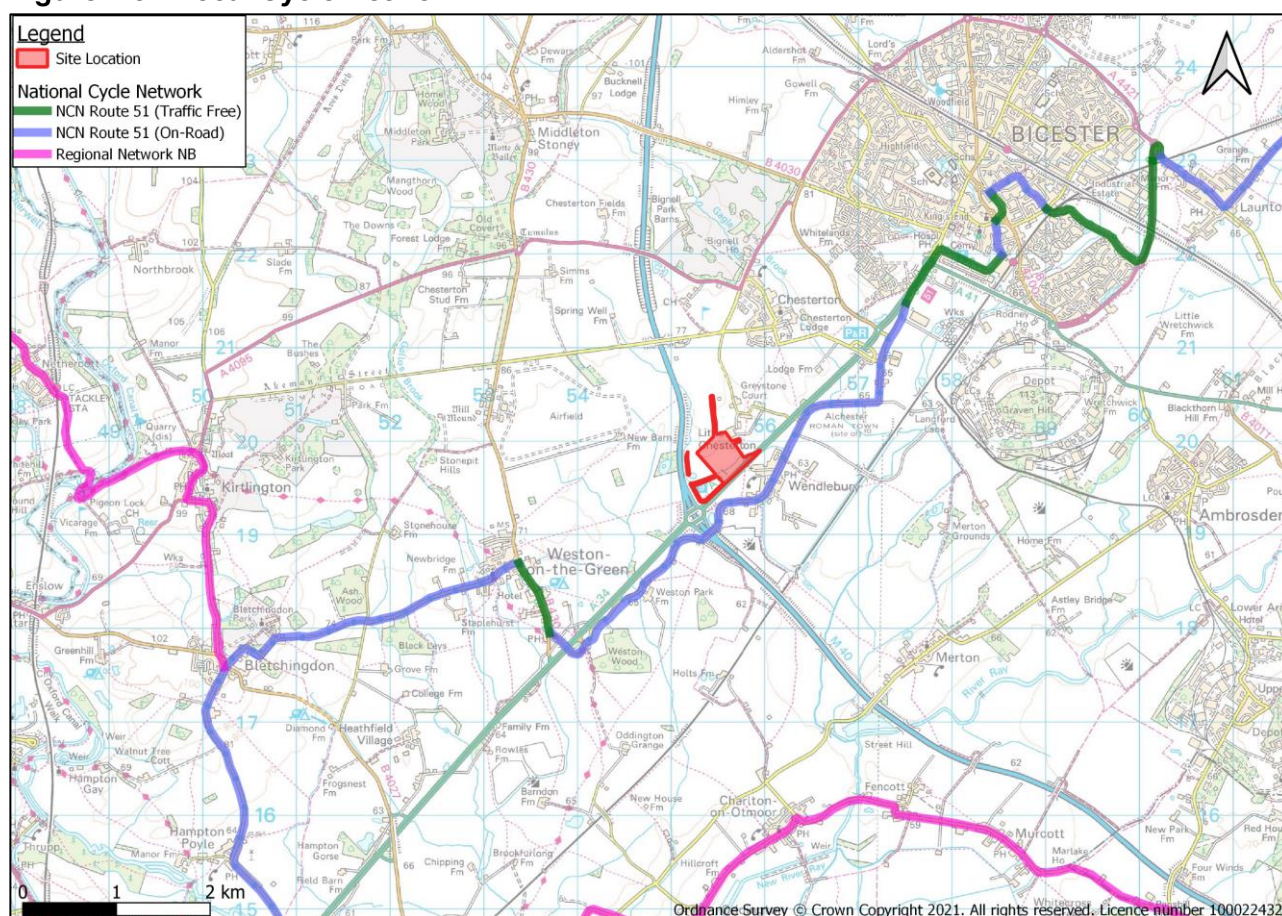
**Figure 2.4 – Extract from OCCH PRoW Map**



- 2.12 With regard to cycling, it is considered that this mode of transport is an option for trips up to around 5km in length, which equates to a 20 minute journey time in an urban environment. The 5km distance is shown in **Figure 2.3** above and shows that the built up area of Bicester and many of the surrounding villages are within an accessible distance by bike.
- 2.13 In addition, National Cycle Network (NCN) Route 51 is located to the south of the A41. NCN Route 51 provides a connection to Bicester to the north east of the site and on to Milton Keynes, Bury St Edmunds and Ipswich. A map showing cycling routes in the vicinity of the site is shown at **Figure 2.5**.



Figure 2.5 – Local Cycle Network



- 2.14 Furthermore, the Bicester Local Cycling and Walking Infrastructure Plan (LCWIP) was adopted in September 2020 and sets out a vision and plan to increase cycling and walking for the town of Bicester. With regard to cycling, the plan states that there is a target to increase cycle journeys in Bicester by 200%. As such, it is anticipated that cycling will become a more accessible mode of transport in the future as development is built out in Bicester.

### Accessibility by Bus

- 2.15 The closest bus stop to the site is located along the A41 ('Wendlebury Turn'), on the southern boundary of the site. One service is provided from this bus stop, namely the S5 Gold. This route provides services between Bicester and Oxford. A breakdown of the service and the frequency provided is set out in **Table 2.1**, and a bus route map is provided at **Figure 2.6**.

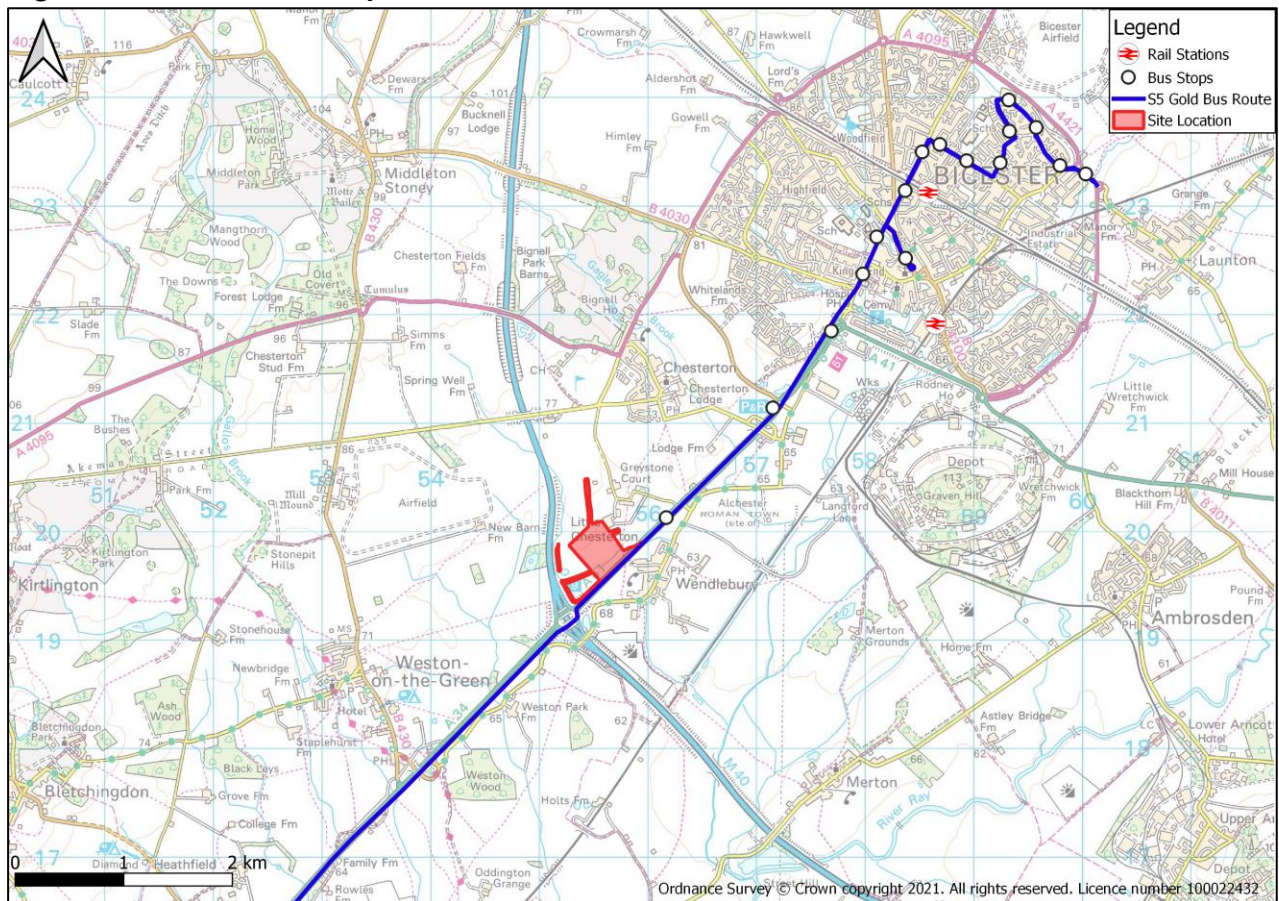
Table 2.1 – Bus Services and Approximate Frequencies

Bus Service	Locations	Frequency		
		Monday-Friday	Saturday	Sunday & Bank Holidays
S5 Gold	Oxford - Kidlington - Bicester	4 per hour	4 per hour	2 per hour



- 2.16 A more detailed analysis of bus times arriving/departing the bus stops adjacent to the site has been undertaken using timetable information provided at **Appendix A**. The information at **Appendix A** shows that buses serve the Wendlebury Turn throughout the day, which correspond with shift times associated with the Siemens operation at the site. As such, travel by bus to and from the site is a viable option. Further details on staff shift patterns is set out in Section 4.
- 2.17 The average journey time from the bus stops located nearest to the site to the centre of Oxford is approximately 25 minutes on the S5 Gold service. The journey time to Bicester town centre is approximately 9 minutes.
- 2.18 In addition to the above, there is a night bus service (NS5) which runs one service a day Monday-Thursdays after midnight and on Fridays there are four services running from midnight to 3am.

**Figure 2.6 – Bus Route Map**



### Accessibility by Rail

- 2.19 Bicester North Railway Station is situated approximately 4km to the north east of the site and is accessible using the S5 Gold bus service. From Bicester North Railway Station, services are provided to Birmingham Snow Hill, Banbury and London Marylebone.
- 2.20 Bicester North Railway Station provides disabled and step-free access along with 673 car parking spaces and 6 Blue Badge spaces. A total of 65 cycle parking spaces are available in covered and sheltered locations.



- 2.21 A breakdown of the services available from Bicester North Railway Station and their frequency are provided in **Table 2.2**.

**Table 2.2 – Rail Services from Bicester North Railway Station**

Service	Notable Stops	Frequency		
		Monday-Friday	Saturday	Sunday & Bank Holidays
London Marylebone	London Marylebone	Twice per hour	Twice per hour	Once every 45 minutes
Birmingham Snow Hill	Banbury, Warwick, Solihull, Birmingham Moor Street, Birmingham Snow Hill	Once per hour	Once per hour	Once per hour

- 2.22 As shown above, the S5 bus service provides a route to/from Bicester North Railway Station. The S5 is a frequent service with four buses an hour and runs throughout the day, which is beneficial for future employees at the site.

### Accessibility Index

- 2.23 Using the BREEAM Accessibility Index (AI) Calculator, the AI for the site has been calculated. This takes into account the bus services available within 650m walk of the site. From these calculations (as shown at **Appendix B**), the proposed site has achieved an AI figure of 2.11.
- 2.24 Whilst this is a relatively low score, it reflects the fact that the site is currently located outside of the built area of Bicester, adjacent to the strategic highway network. However, it is important to recognise that whilst the BREEAM scoring system takes into account the frequency of a service, it does not take account destinations of the service. Therefore, a frequent service that does not provide access to a variety of destinations would score higher, when in fact a service which serves a wider area could be more beneficial. In addition, no consideration is given to the quality of the waiting facilities or the provision of real-time information. Furthermore, any public transport node beyond the thresholds is not included and therefore where the bus service provides direct access to the rail station, this is not included in the AI calculation.
- 2.25 Notwithstanding the relatively low AI figure of the site, there accessibility of the site will be improved through hard and soft measures, that will come forward as a result of the proposed development, Further details of these are provided later in this report and within the Travel Plan.

### Existing Travel Patterns

- 2.26 In order to establish the existing travel patterns for staff, census data has been analysed from the NOMIS website, a summary of which is provided in **Table 2.3**, and the full results can be found in **Appendix A**.

**Table 2.3 - Census Journey to Work data (Cherwell 016)**

Method of Travel to Work	Percentage of Method to Work
Public Transport	5%
<i>Underground, metro, light rail or tram</i>	0%
<i>Train</i>	1%
<i>Bus, minibus or coach</i>	4%
Taxi	0%
Motorcycle, scooter or moped	1%
Driving a car or van	80%
Passenger in a car or van	8%
Bicycle	2%
On foot	4%
<b>Total</b>	<b>100%</b>

- 2.27 As seen in **Table 2.3**, the majority of people travel to work in the area via car, with 80% of people driving and 8% of people as passengers. Alternately, 5% of people travel by public transport and 4% on foot.

### Local Amenities

- 2.28 It is noted that the number of local amenities within 500m of the site is limited, there are urban areas within the 2km walking catchment area, such as Chesterton and the edge of Bicester, which provide access to additional facilities.

### Personal Injury Accident Data

- 2.29 ID42-015 of the National Planning Practice Guide recommends that:

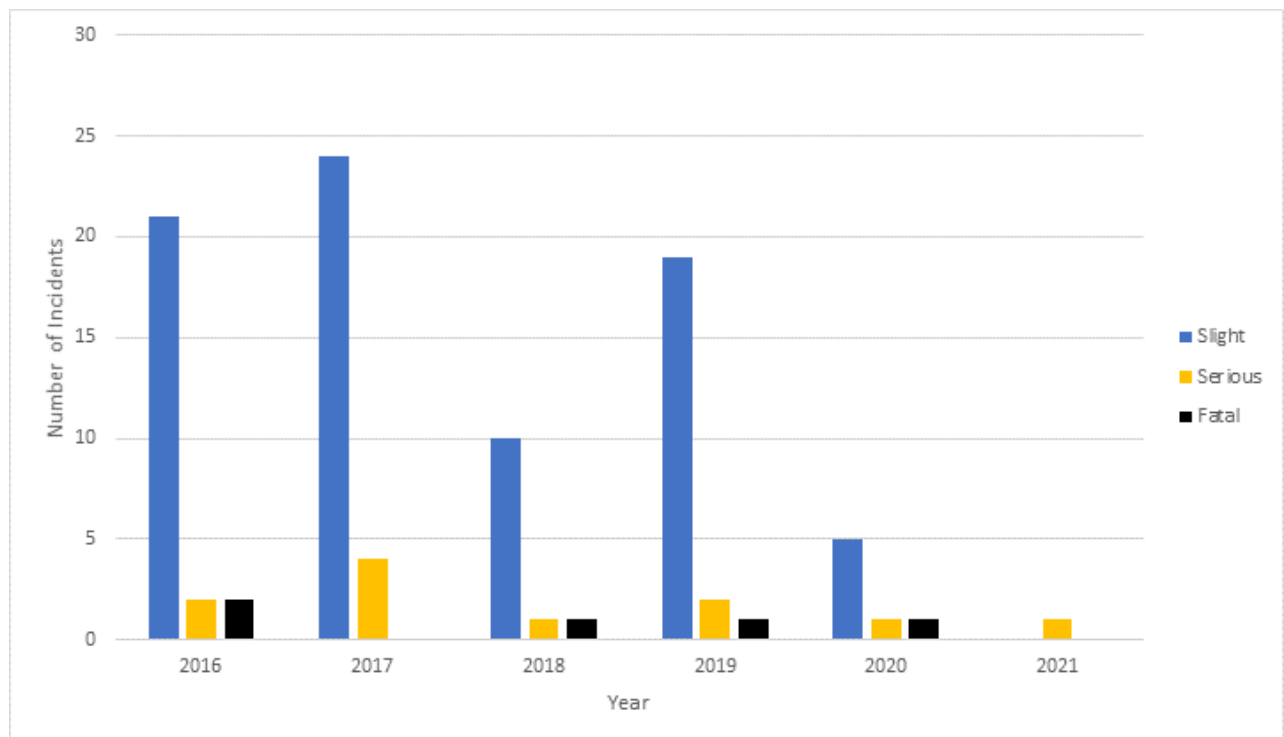
*“The scope and level of detail in a Transport Assessment or Statement will vary from site to site but the following should be considered when settling the scope of the proposed assessment: [...]*

- an analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent 3-year period, or 5-year period if the proposed site has been identified as within a high accident area; [...]*”

- 2.30 Personal injury Accident Information has been obtained from OCCH on the collisions occurring within the 5 year period from 1<sup>st</sup> January 2016 to 31<sup>st</sup> July 2021. The full accident report is attached at **Appendix C**. This highlights that 95 accidents occurred during this period.
- 2.31 Of the total 95 accidents, 5 were fatal, 11 serious and 79 were slight. **Table 2.4** and **Graph 2.1** below shows the split of these over the five year period.

**Table 2.4 – Accident Severity Summary**

Accident Severity	2016	2017	2018	2019	2020	2021	Total
Slight	21	24	10	19	5	0	79
Serious	2	4	1	2	1	1	11
Fatal	2	0	1	1	1	0	5
Total	25	28	12	22	7	1	95

**Graph 2.1: Accident Severity Summary**

2.32 As shown in **Table 2.4** and **Graph 2.1** above there were 5 fatal accidents recorded in the study area over the 5 year period selected. These are summarised in **Table 2.5** below.

**Table 2.5 – Fatal Accident Summary**

Accident Ref	Date	Time	Location	Causation Factors
<b>P2210716</b>	27/07/2016	04:22	M40 southbound at exit slip road to a34 Wendlebury interchange	<ul style="list-style-type: none"> <li>— Impaired by drugs (illicit or medicinal)</li> <li>— Pedestrian wearing dark clothing at night</li> </ul>
<b>43160320608</b>	12/11/2016	07:50	M40 nbound at j/w exit slip road to m40 / a34 Wendlebury interchange	<ul style="list-style-type: none"> <li>— Slippery road (due to weather)</li> <li>— Travelling too fast for conditions</li> <li>— Loss of control</li> </ul>
<b>43180245825</b>	10/08/2018	17:31	A41 sbound Wendlebury 600m ne of m40 Wendlebury interchange	<ul style="list-style-type: none"> <li>— Aggressive driving</li> <li>— Exceeding speed limit</li> <li>— Poor or defective road surface</li> </ul>
<b>43190177431</b>	12/06/2019	20:13	A41 at rbt j/w b4030 vendee drive & Bicester Park and ride access	<ul style="list-style-type: none"> <li>— Exceeding speed limit</li> <li>— Failed to look properly</li> <li>— Travelling too fast for conditions</li> </ul>
<b>200218195</b>	16/07/2020	22:08	A41 j/w b4030 vendee drive	<ul style="list-style-type: none"> <li>— Exceeding speed limit</li> <li>— Loss of control</li> <li>— Impaired by alcohol</li> <li>— Impaired by drugs (illicit or medicinal)</li> </ul>

- 2.33 Looking at these attributing factors stated for each fatal accident, it is evident that all incidents occurred due to driver error, rather than defects associated with the highway. This assumption is supported when reviewing the rest of the data in the assessment period. Of all the total 236 attributing factors given for the 95 total collisions, all were related to driver error. To this end, it is considered the local highway network does not suffer from any significant defect that is likely to result in an abnormally high accident rate.
- 2.34 However, it is apparent that there are references to excessive speed and we are aware through the course of our pre-application discussions with OCCH that this is something that the Local Highway Authority is reviewing as part of its A41 study. Indeed, the speed limit has recently been reduced on the approaches to Vendee Roundabout as part of an initial phase of speed limit updates. In recognition of this, and through the course of pre-application discussions with OCCH, it has been agreed that the recent speed limit changes will be extended to coincide with the location of the proposed traffic signal-controlled site access junction (see Section 4).
- 2.35 At this stage it is assumed that the speed limit will be reduced to 50 miles per hour. Irrespective of the final speed limit change, the traffic signal-controlled junction will:
- act as a natural speed restraint given vehicles will be required to stop for red lights.
  - provide a safer crossing point for pedestrians and cyclists, including those that are seeking to use the PRow network and access the existing bus stops opposite Wendlebury.

## Summary

- 2.36 On the basis of the above, it has been demonstrated that the site has a good level of accessibility by sustainable modes with NCN Route 51 located to the south of the site as well as four bus services per hour between Oxford and Bicester accessible from the A41. The S5 bus service provides a link towards Bicester railway stations, making longer distance public transport journeys a viable option. The next Sections of this report detail how the proposals will tie in and enhance the existing sustainable transport infrastructure, which will further improve the accessibility of the site.
- 2.37 In addition, it is noteworthy that the site is well located to take advantage of the strategic highway network being located adjacent to Junction 9 of the M40 as well as the A41 providing a connection to Oxford.
- 2.38 Finally, it has been shown through reference to recent accident statistics that the study area is not subject to any inherent design issues that results in clusters of accidents. Indeed, the causation factors for all of the accidents recorded in the last five years can be classified as being driver error. Notwithstanding this, it should be recognised that the proposed site access, which is outlined in Section 4, will provide overall safety improvements to the A41 through reducing vehicle speeds and enhancing the safety for those people wishing to access the PRow network and bus stops located opposite Wendlebury.

### 3 Policy Context

3.1 There are a number of documents that contain planning policies relevant to transport. The key policy documents which set the context for the development proposals are as follows:

- National Planning Policy Framework – July 2021;
- Planning Practice Guidance – March 2014;
- Saved policies of the Adopted Cherwell Local Plan 1996 – November 1996;
- Adopted Cherwell Local Plan 2011-2031 Part 1 – July 2015 (re-adopted December 2016); and
- OCC Street Design Guide (2021).

#### National Policy

##### National Planning Policy Framework (NPPF) (July 2021)

- 3.1 The National Planning Policy Framework (NPPF) was published by the Ministry of Housing, Communities and Local Government in July 2021. This replaces all previous versions of the NPPF.
- 3.2 The NPPF sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced.
- 3.3 The three overarching objectives to achieve sustainable development outlined within the NPPF include:
- i. **an economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
  - ii. **a social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
  - iii. **an environmental objective** – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
- 3.4 Chapter 9 covers the promotion of 'Sustainable Transport' and Paragraph 104 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.”*

3.5 Paragraph 105 goes onto state:

*“The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”*

3.6 Paragraph 107 states in relation to parking standards:

*“If setting local parking standards for residential and non-residential development, policies should take into account:*

- a) the accessibility of the development;*
- b) the type, mix and use of development;*
- c) the availability of and opportunities for public transport;*
- d) local car ownership levels; and*
- e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.*

### **Considering Development Proposals**

3.7 NPPF states that in assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that (Paragraph 110):

*“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.”*

- 3.8 Guidance is provided on the consideration of proposals. It is mentioned in Paragraph 111 that *“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe”*.
- 3.9 Within the above context it is stated that all applications for developments should (Paragraph 112):
- “a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
  - b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
  - c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
  - d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
  - e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.”*

### **Planning Practice Guidance**

- 3.10 Planning Practice Guidance (PPG), which is available from the Ministry of Housing, Communities and Local Government website, supports the overarching aims of the NPPF. Relevant transport guidance for planning applications is provided in “Travel plans, Transport Assessments and Statements” (March 2014) which identifies that the Transport Assessment of a planning application should typically consider the following (paragraph 15):
- information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport);
  - information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;

- data about existing public transport provision, including provision/ frequency of services and proposed public transport changes;
- a qualitative and quantitative description of the travel characteristics of the proposed development, including movements across all modes of transport that would result from the development and in the vicinity of the site;
- an assessment of trips from all directly relevant committed development in the area (i.e. development that there is a reasonable degree of certainty will proceed within the next three years);
- data about current traffic flows on links and at junctions (including by different modes of transport and the volume and type of vehicles) within the study area and identification of critical links and junctions on the highways network;
- an analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high accident area;
- an assessment of the likely associated environmental impacts of transport related to the development, particularly in relation to proximity to environmentally sensitive areas (such as air quality management areas or noise sensitive areas);
- measures to improve the accessibility of the location (such as provision/ enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms;
- a description of parking facilities in the area and the parking strategy of the development;
- ways of encouraging environmental sustainability by reducing the need to travel; and
- measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing walking and cycling facilities, physical improvements to existing roads.

## Local Policy

### Adopted Cherwell Local Plan 1996

- 3.11 'Saved' policies of the Adopted Cherwell Local Plan 1996 remain part of the statutory Development Plan to which regard must be given in the determination of planning applications.
- 3.12 Policy TR1 states that the Council will require satisfaction that highways improvements and traffic measures will be provided before permitting development.
- 3.13 In addition, Policy TR7 states that development that is likely to generate significant traffic flows will be required to have access to major through routes and principal roads.

### Adopted Cherwell Local Plan 2011-2031 (Part 1)

- 3.14 The Adopted Cherwell Local Plan 2011-2031 (Part 1) contains strategic planning policies for development and the use of land. It forms part of the statutory Development Plan for Cherwell to which regard must be given in the determination of planning applications.
- 3.15 Policy PSD1 states that a proactive approach to development proposals to reflect the presumption in favour of sustainable development will be adopted so proposals can be approved wherever possible.
- 3.16 Policy SLE1 states that proposals will be supported if *“the proposal will not give rise to excessive or inappropriate traffic and will wherever possible contribute to the general aim of reducing the need to travel by private car”* and *“there are no suitable available plots or premises within existing nearby employment sites in the rural areas”*.
- 3.17 Policy SLE4 notes that development will be required to provide financial contributions to mitigate the transport impacts of development and should facilitate the use of sustainable modes of transports to support Policy ESD1 which highlights the importance of reducing the need to travel and encourage sustainable travel.
- 3.18 Furthermore, Policy INF1 states development proposals will be required to demonstrate that infrastructure requirements can be met including the provision of transport facilities.
- 3.19 The Cherwell Local Plan sets out that Applicants will also need to have regard to policies from Oxfordshire County Council, such as the Parking Policy.
- 3.20 Whilst Oxfordshire Parking Standards are understood to be in draft form, it has been agreed with OCCH that these should be used to assess the development proposals against. The relevant B2 vehicle and cycle parking standards are therefore set out below.

**Table 3.1 – Oxfordshire Parking Standards**

Use	Car Parking Standard (Maximum)	Cycle Parking Standard (Minimum)
B2 – General Industry	1 space per 50 sqm	Long Stay: 1 stand* per 350 sqm
		Short Stay: 1 stand per 1000 sqm

\*1 stand = 2 spaces

- 3.21 In addition to the above, it is understood that the ‘Oxfordshire Electric Vehicle Infrastructure Strategy’ has recently been adopted. Within this document, Policy EVI 8 states *‘planning permission will only be granted for non-residential development that includes parking spaces if a minimum of 25% of the spaces are provided with electric charging points’*.
- 3.22 Blue badge provision will also be provided in line with the standard provision outlined in the DfT’s Inclusive Mobility Publication.

**OCC Design Guide (2021)**

- 3.23 OCC has recently published a new guide that seeks to help developers building new developments in Oxfordshire to do so at the same time improve the quality of life of residents. The document is the update to the previous residential design guide and as such mainly focuses on residential development, however there are some key themes and objectives that are also relatable to commercial development.
- 3.24 One of the key street design objectives is to prioritise sustainable and active travel to help reduce congestion, which means creating streets that are linked, well connected, safe and attractive for walking and cycling.
- 3.25 With regard to cycle parking, the design guide states that reference is made to OCC's 'Cycling Design Standards'. Reference to OCC standards are set out in Table 3.1 above and incorporated into the design of the scheme.
- 3.26 The guide also makes reference to EV charging spaces, which should be provided at a minimum of 25%. This again is referenced above and will be incorporated into the design of the scheme.

## 4 Development Proposals

### Overview

- 4.1 The following text outlines details of the proposed development and summarises how it is likely to be accessed.

### Development Proposals

- 4.2 The Application is seeking planning permission for:

*“the erection of a new high quality combined research, development and production facility comprising of Class B2 floorspace and ancillary office floorspace with associated infrastructure including: formation of signal-controlled vehicular access to the A41 and repositioning of existing bus stops; ancillary workshops; staff gym and canteen; security gate house; a building for use as an energy centre (details of the energy generation reserved for future approval); loading bays; service yard; waste management area; external plant; vehicle parking; landscaping including permanent landscaped mounds; sustainable drainage details; together with the demolition of existing agricultural buildings within the red line boundary; and the realignment of an existing watercourse”.*

- 4.3 The proposed masterplan is provided at **Appendix D**.
- 4.4 Siemens Healthineers expects the proposed development to employ a total of 1,315 people by 2040. These will be split across production (i.e. 1,014) and office (i.e. 301 people) functions. As with the current facility that the intended end user operates in Eynsham<sup>1</sup>, several shift patterns will be operated at the proposed development. These include:
- Production - 06:00 to 14:00 (i.e. 338 employees)
  - Production - 14:00 to 20:00 (i.e. 338 employees)
  - Production – 20:00 to 06:00 (i.e. 338 employees)
  - Office – 06:00 to 20:00 (i.e. 301 employees)
- 4.5 The above shift patterns have been used to inform the trip generation assessments presented in Section 5 and the detailed highway impact assessments presented at Sections 6 and 7.
- 4.6 It should be noted that Siemens Healthineers has adopted a flexible working policy following the COVID-19 pandemic that will ensure not all staff will need to be present on-site at any one time. A

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<sup>1</sup> For further details of the existing use, reference should be made to the supporting Planning Statement prepared by Frampton and associated Socio-Economic Report prepared by SQW.



letter confirming the policy, which will operate on the basis of 30% of office based staff working from home, is provided at **Appendix E**.

## Access and Movement Strategy

- 4.7 Paragraph 110 of the NPPF states that all new developments should provide safe and suitable access for all people. The following text has therefore been prepared to set out how access to the Proposed Development could be achieved by all modes of transport.

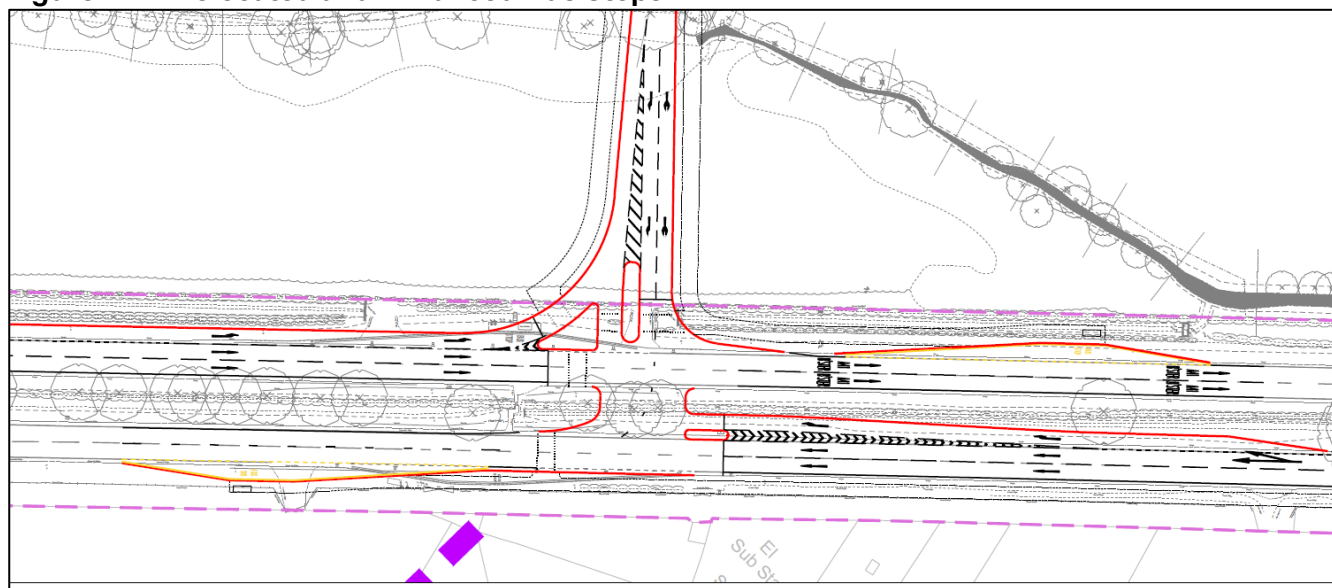
### Vehicular Access

- 4.8 As shown on Drawing 205223\_PD09.1 Rev A (see **Appendix F**), it is intended that access to the Site will be achieved via the creation of a new signalised junction on the A41. This junction will comprise two ahead lanes in each direction, together with dedicated left and right turning lanes on the north and southbound approaches respectively for vehicles wishing to access the site.
- 4.9 When considering the proposed access, it is important to note that it has been designed with reference to current best practice guidance. In this regard, it benefits from suitable visibility splays and radii that accommodate the largest vehicles that are anticipated to access the development on a regular basis. A summary of the swept path analyses that have been undertaken when designing the site access are provided below.
- 4.10 Notwithstanding this, it is understood through pre-application discussions with OCCH that it will seek a reduction in the current speed limit along the A41. In keeping with the recent speed reduction secured on the approaches to the Vendee Roundabout, this is likely to be 50 miles per hour.
- 4.11 A Stage One Road Safety Audit of the proposed access junction and shared pedestrian/cycleway has been undertaken by Gateway TSP. This assessment, which is included at **Appendix G**, made only relatively minor observations about the design of the site access that have either been addressed now or that can be addressed at the detailed design stage.
- 4.12 It should be noted that the site access is designed in such a way that it would not prejudice the delivery of a junction at the A41/Wendlebury Lane junction, which is intended to provide the south west start/termination point of the planned South East Perimeter Road.
- 4.13 Within the site itself, **Appendix D** shows an internal spine road. Along this, access is taken to different areas of the site. North to south, the following access / egresses are taken to the west of the spine road:
- Access to and egress from the staff/visitor car park;
  - Access and egress to the service yard, which includes a dedicated vehicle rejection loop; and,
  - Access to the service area of the proposed Energy Centre

## Sustainable Transport Access

- 4.14 In accordance with national and local transport planning policies, the Applicant is committed to encouraging the use of more sustainable modes of transport. In this regard, it is intended that the following sustainable transportation measures will be adopted:
- The inclusion of shared pedestrian/cycle routes within the site that will connect the site with the offsite infrastructure that will be provided adjacent to the A41. The indicative extent of works is shown at **Appendix H**.
  - The potential introduction of a shared pedestrian/cycle path that runs adjacent to the southbound carriageway of the A41, which will connect with the National Cycle Network at Wendlebury Lane. The final form of this link is subject to on-going discussions with OCCH.
  - The inclusion of dedicated pedestrian/cycle crossing points within the signalised access, which will not only provide effective links to bus stops but also provide significant safety benefits for people that currently use Footpaths 398/1/20 and 161/4/20.
  - Upgrading the bus stops that are currently located adjacent to Footpaths 398/1/20 and 161/4/20.
  - Car and cycle parking that is consistent with the agreements reached with OCCH through the course of pre-application discussions.
  - The provision of electric car charging car parking spaces in order to encourage the use of electric cars which are recognised in Annex 2 of the NPPF as being a sustainable transport mode.
  - Safe crossing points, lamp posts, direct routes, landscaping and tactile pavements will be provided to allow for the safe movement of pedestrians and cyclists throughout the site.
  - Operating a Travel Plan that will encourage employees to make use of more sustainable modes of transport when travelling to/from the Site. Further details of how this document will operate are provided in Section 8 of this report.
- 4.15 The proposed development will be fully accessible internally and externally for all users, with varying levels and types of disability. To be accessible for users with visual impairment, there will be step free access to the site and/or tactile paving and dropped kerbs within the vicinity of the site.
- 4.16 As part of the proposed access strategy, the existing bus stops on the A41 will be relocated and improved, with lighting, shelters and real time passenger information (RTPI) provided and as a result of the proposed signalised access junction on the A41, the bus stops will be served by high quality pedestrian crossing points. The bus stops are shown in **Figure 4.1** below.

**Figure 4.1 – Relocated and Enhanced Bus Stops**



### Summary

- 4.17 On the basis of the above information, it is evident that it is possible to provide a safe and suitable access strategy for all users that accords with the requirements set out in the NPPF.

### Parking Strategy

- 4.18 As noted in Section 3, there are currently no adopted parking standards that relate to commercial uses such as that which is proposed. In this regard, it was agreed with OCCH that the parking provision should be based on a first principles approach that takes into account the likely demands of the intended end user.
- 4.19 The proposed car, bicycle and motorcycle parking provision within the staff and visitor car park are detailed below.

### Car Parking Provision

- 4.20 The proposals for car parking are shown on the masterplan provided at **Appendix D**. The proposed layout makes provision for:
- Car parking spaces – 474
    - Standard spaces – 450
    - Blue badge spaces (located close to the main entrance) – 24 (5% of total provision)
  - EV spaces – 120 (25% of all spaces irrespective of type (i.e. staff, visitors, standard, blue badge).
- 4.21 As is set out in the Technical Note provided at **Appendix I**, the maximum demand for car parking at the site is expected to be in the order of 462 vehicles. This peak demand will be experienced

between 13:00 and 14:00 when the level of staff on-site reaches a peak (i.e. around the evening shift change over). Outside of these periods, parking utilisation rates are up to 87%.

- 4.22 It is therefore clear that the level of parking proposed is suitable to meet expected demands, and there will not be any overspill of parking onto surrounding roads to the detriment of the free flow of traffic and/or road safety. It should be noted that this has been accepted by OCCH through the course of pre-planning discussions, and that it has also been agreed that the level of parking proposed is entirely consistent with the emerging car parking standards outlined in Section 3.
- 4.23 Indeed, the level of parking is provided at a level that is equivalent to approximately 44% of the upper limits that OCCH would ordinarily accept (i.e. 1,099 spaces). This is an important distinction as it demonstrates that the site has included measures that ensure travel demand of the proposed development is managed down in accordance with the aspirations of Circular 02/2013.
- 4.24 In a similar vein, the inclusion of EV spaces that accords with the recently adopted EV Policy of OCCH ensures that the scheme will make an overall positive environment impact. Indeed, it should be noted that the level of EV parking that is being provided exceeds the levels that are usually required in order for a building to be meet BREAAAM requirements.

### **Car Park Access**

- 4.25 Access to the staff car park will be provided from the southern access junction to the site. It will be subject to a barrier control system that will restrict unauthorised use. It is intended that this will be controlled using Automatic Number Plate Recognition technology, with employees being required to provide details of their vehicles.
- 4.26 The southern access to the site will also provide access to the visitor spaces that are located adjacent to the main entrance to the building. Access to the visitor parking will be achieved via a sperate internal access route, which will be clearly signposted on arrival at the site access.

### **Cycle and Motorcycle Parking**

- 4.27 The proposals for cycle and motorcycle parking are shown on the masterplan provided at **Appendix D**. The proposed layout makes provision for:
- Cycle parking spaces – 40 stands or 80 spaces
  - Motorcycle parking spaces – 15 motorcycle bays.
- 4.28 As is set out in the Technical Note provided at **Appendix I**, the demand for cycle parking at the site is expected to be in the order of 10 to 75 cycles. It should be noted that the upper limit is predicated on the robust assumption that 10% of all trips to the site would be completed by cycle, which is cognisant of the aspiration of OCCH to increase current cycling levels by 200%.
- 4.29 Whilst the shift towards increased cycle use is advocated, and the intended end user is conscious of the need to provide employees with the ability to travel by a range of modes, the upper demands are considered to be unlikely to be realised in this instance. This is particularly evident when considering

where employees currently live and that cycling levels within Central London, which has some of the highest cycling uptake rates in the UK account for 8% of all journeys to work.

- 4.30 Notwithstanding this, it has been agreed with OCCH that the level of cycle parking provided should be consistent with the upper limit of demands. It has also been agreed with OCCH that the use of the on-site cycle parking spaces can be monitored through the Travel Plan to see if there is a need to increase the level of parking up to a maximum of 40 stands (80 spaces). This level of provision can be accommodated on-site as shown on the proposed site layout at **Appendix D**.
- 4.31 Having regard to the 2011 Census data provided in Table 4.1, it is evident that 1% of all trips to work in this area of Cherwell are completed by motorcycle. Applying this to the maximum number of employees that could be on-site at any one time (i.e. 976) would suggest that there is likely to be a demand for 10 motorcycle bays. As the layout makes provision for 15 bays it is clear that supply will exceed demand, this is particularly evident when considering the maximum number of employees would in fact be 886 once the 70:30 policy is taken into account.

**Table 4.1: Method of Travel to Work from Bicester**

Method of Travel to Work	E02005932: Cherwell 012	E02005933: Cherwell 013	E02005934: Cherwell 014	E02005935: Cherwell 015	Total	
Motorcycle, scooter or moped	23	29	45	27	124	1%
Total	3,832	3,896	4,521	3,839	16,088	100%

## Servicing Strategy

- 4.32 The masterplan provided at **Appendix D** indicates that 7 HGV dock access doors and 3 HGV LAD doors are proposed within the main servicing yard. An additional 14 HGV parking spaces are situated around the building. There are also 15 spaces provided for vans.
- 4.33 In addition to this, a further servicing area is located at the southern end of the building adjacent to the location where a staff restaurant will be provided. Access to this area will be achieved via the main site access and has been designed to accommodate the types of delivery vehicles that Siemens expects will be used to transport goods to the site on a regular basis, which is likely to be a 7.5t vehicle.
- 4.34 A review of the proposed site accesses has been undertaken through the use of AutoTRACK. The results of the AutoTRACK assessment are provided within **Appendix J**.
- 4.35 This assessment confirms that the site accesses have been designed to enable delivery and service vehicles, that are likely to enter and exit the Site on a regular basis, to do so in a forward gear. In this regard, it is evident that the access strategy will not cause disruption to the free flow of traffic or lead to an adverse effect upon the safety levels of the adjoining highway network.

## 5 Trip Attraction, Traffic Distribution and Committed Developments

### Overview

- 5.1 The following text outlines the vehicular activity that is likely to be generated by the proposed development during the peak travel periods, together with an overview of how this is anticipated to be distributed onto the local highway network.

### Trip Attraction

- 5.2 When considering the potential impact of a proposed development upon the local transport network it is considered best practice to consider the potential increases in trips by all modes of transport. These are typically established through reference to trip rates extracted from the industry standard TRICS database and the other recognised data sources, such as the National Travel Survey and Census.
- 5.3 However, following pre-application discussions with OCCH and NH it was agreed for the purposes of this application that it would be more appropriate to base this on a first principles approach that takes into account how Siemens Healthineers will operate from the site given their specific and specialist operation. This reflects the fact that there are no directly comparable sites within the TRICS database that provide a suitable proxy to base potential trip generation upon.
- 5.4 A copy of the Technical Note issued to OCCHH and NH setting out the approach taken when establishing the trip generating potential of the site is provided at **Appendix K**.
- 5.5 As is confirmed in the Technical Note provided at **Appendix K**, it is expected that the proposed development will attract the following vehicle movements in the traditional morning (i.e. 08:00-09:00) and evening (17:00-18:00) peak hours<sup>2</sup>.

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<sup>2</sup> These hours are assessed as they correlate to the peak hours that are included in the Bicester Traffic Model, which has been the basis of the detailed junction assessments provided at Sections 6 and 7.



**Table 5.1 – Proposed Development Traffic**

Time	Type	Arrivals	Departures	Two-way
08:00-09:00	Existing	40	9	49
	Proposed	20	5	25
	<b>Total</b>	<b>60</b>	<b>14</b>	<b>74</b>
17:00-18:00	Existing	4	40	44
	Proposed	2	20	22
	<b>Total</b>	<b>6</b>	<b>60</b>	<b>66</b>

- 5.6 The information provided at **Table 5.1** indicates that the Proposed Development has the potential to generate approximately 74 and 66 vehicle movements in the morning and evening peak periods respectively. This equates to an average of 1 vehicle per minute, which in the context of vehicle movements along the A41 is representative of a circa 3-4% increase.
- 5.7 By way of a comparison, it is widely accepted that traffic flows typically vary by +/- 10% on any given day. Whilst this shows the scheme will attract a level of traffic that is comfortably within this at peak commuting times, detailed junction modelling is provided at Sections 6 and 7 for completeness.
- 5.8 In order to establish trips by other modes, the vehicle trips outlined at **Table 5.1** have been factored using census data for this area of Cherwell. The results of this are presented at **Table 5.2**.

**Table 5.2 – Proposed Development Trips by Other Modes**

Method of Travel to Work	Cherwell 016	AM		PM	
		arr	dep	arr	dep
Train	1%	1	0	0	1
Bus, minibus or coach	4%	3	1	0	3
Taxi	0%	0	0	0	0
Motorcycle, scooter or moped	1%	1	0	0	1
Driving a car or van	80%	60	14	6	60
Passenger in a car or van	8%	6	1	1	6
Bicycle	2%	2	0	0	2
On foot	4%	3	1	0	3
<b>Total</b>	<b>100%</b>	<b>75</b>	<b>18</b>	<b>8</b>	<b>75</b>

5.9 **Table 5.2** indicates the proposed development is likely to attract:

- 5 to 6 movements by active modes in AM and PM peak periods (i.e. walking and cycling)
- 4 to 5 movements by public transport in AM and PM peak periods (i.e. bus and rail trips)

5.10 The use of these modes will be actively encouraged through the measures included in the Travel Plan that will be operated at this site, and facilitated by the infrastructure improvements that are outlined in Section 4. As such, it is considered that the above provides a conservative overview of trips by non-car modes.

### Traffic Distribution

5.11 When establishing the distribution of development traffic, reference can be made to analysis of Census data, gravity models or existing traffic flows. For the purposes of this assessment, it has been assumed that:

- Existing staff relocating from the existing facility in Eynsham would distribute onto the local highway network in accordance with the locations where current employees live.

- Proposed increases in staff over and above that currently employed at the existing facility in Eynsham would distribute onto the local highway network in accordance with Census data extracted from the *Nomis* website.

- 5.12 Full details of the calculations undertaken are provided in the Technical Note provided at **Appendix K**. As with the trip generation, discussions with both OCCH and NH confirms that the methodology followed provides an appropriate basis upon which to evaluate the impact of the proposed development.
- 5.13 For completeness, traffic flow diagrams showing the agreed distribution profiles are provided at **Figures 5.1 to 5.4** (existing and proposed distributions for AM and PM peaks). A summary of the increases in traffic at the junctions that comprise the study area (as agreed with OCCH and NH) is provided at the table below.

**Table 5.3 – Summary of Development Traffic Increases within the Study Area**

Junction	Morning Peak	Evening Peak
Proposed Signalised Access on A41	74	66
Vendee Drive Roundabout	12	10
M40 J9	62	55

#### Impact on Local Roads

- 5.14 As part of a detailed Public Consultation exercise<sup>3</sup> concerns have been raised by residents of Little Chesterton and Wendlebury that traffic associated with the proposed development will use the roads of these villages as an alternative to the A34 and A41. In light of these comments a review of journey times at peak times on a neutral weekday has been undertaken through reference to on-line journey planners. The outcome of this exercise, which considers a starting point at the Weston-on-the-Green interchange is provided at **Appendix L** and summarised in the table below.

<sup>3</sup> For full details see the Statement of Community Involvement report prepared by Frampton's.

**Table 5.4 – Journey Time Analysis**

Route	Distance (km)	Journey Time (mins)
To the site via J9 M40	3.2	3
To the site via Little Chesterton	10.9	12
To the site via Wendlebury	5.3	7
From the site via J9 M40	3.2	3
From the site via Little Chesterton	8.9	10
From the site via Wendlebury	7.7	9

- 5.15 On the basis of the evidence presented at **Appendix L** and taking into account the likely distribution of development traffic, there is expected to be very limited traffic routing on local roads including through Little Chesterton and Wendlebury.
- 5.16 Notwithstanding this, even if future staff were to travel on these local roads, given likely shift patterns and number of movements, the impact on local roads would not be material in highways terms.
- 5.17 Furthermore, a Delivery Servicing and Management Plan (DSMP) is to be submitted as part of the application, which will encourage users of the site to use the strategic highway network opposed to local roads such as that through Little Chesterton and Wendlebury.

### Committed Development

- 5.18 The highway impact assessments at Section 7 include an allowance for the cumulative effects of committed developments that are not yet operational. Further detail with regard to the highway impact assessment is provided in the next Sections.
- 5.19 In order to understand the current and expected level of build out of the identified committed developments in the area, Tritax Symmetry's planning consultant (Frampton's) has compared current build out rates against the Annual Monitoring Report (AMR) produced by CDC. They have then reviewed this predicted build out rate against current build out rates and advised the level that should be assessed.
- 5.20 For reference, the committed developments included are set out in the table below.

**Table 5.5 – Committed Developments**

Strategic Policy Location	Description	Planning Permission
BIC 1	North West Bicester Eco Town – 393 dwellings	10/01780/Hybrid
	Phase 2 – 150 dwellings	17/00455/Hybrid
	1,700 dwellings	14/02121/OUT
BIC 2	Graven Hill – 1,900 dwellings	11/01494/OUT
BIC3	South West Bicester Phase 1 (Kingsmere) – 1,585 dwellings	06/00967/OUT
	South West Bicester Phase 1 (Kingsmere) - 46 dwellings	14/010207/OUT
	South West Bicester Phase 2 – 727 dwellings	13/00847/OUT
Villages 5	RAF Upper Heyford – 1,075 dwellings	10/01642/OUT
-	Great Wolf Lodge – Waterpark, family entertainment centre, 498-bedroom hotel and restaurants	19/02550/F

- 5.21 In order to establish the traffic flows associated with the identified committed developments that go through M40 J9, Transport Assessments (TA's) associated with the relevant planning applications have been extracted. It should be noted that the majority of TA's were produced at a time before Covid-19. As such, they do not reflect that trip rates are decreasing (as supported by the TRICS 'Decide and Provide' guidance) or reflect changing working habits, (i.e. working from home). As such the vehicle flows included through these committed developments are robust.
- 5.22 Further details of the committed developments and the associated traffic flows that are expected to pass through J9 are included at **Appendix M**.
- 5.23 It is understood that recent applications have been submitted with respect to several commercial warehousing schemes at J10 of the M40. It is also noted that there is a Strategic Rail Freight facility proposal on land to the east of Heyford Park and west of the B430 road. The proposed site is situated immediately south and adjacent to the Chiltern Main Line and is subject to a Development Control Order (DCO) scoping opinion. As both of these schemes do not accord with the definition of a



committed development as set out in the PPG (i.e. one with a reasonable prospect of delivery within three years) they have not been included in this assessment.

- 5.24 Notwithstanding this, it is evident from the submitted Transport Assessments that support the J10 applications there will not be any cumulative impacts in the study area that has been agreed for the purposes of this assessment. Therefore, even if this was a committed development there would not be a need to consider the traffic attributed to these schemes.
- 5.25 It should also be noted that the Strategic Rail Freight facility is at a relatively early stage of the planning process and as such there is not anything in the public domain that outlines the likely traffic implications of this emerging scheme. As such, there is not any ability to predict the cumulative effects of this scheme. In any event, should this scheme come forward it is considered highly likely that it would need to provide major highway mitigation over and above anything identified in this assessment, as is usual with Development Control Order schemes.

## 6 Highway Impact Assessment – Local Network

### Overview

- 6.1 The following text summarises the impacts the traffic generation associated with the proposed development will have upon the local junctions that comprise the study area, which has been agreed with OCCH. The junctions assessed include:
- Proposed Signalised Access Junction; and
  - Vendee Drive Roundabout
- 6.2 It is important to note that the assessment presented below does not take account of existing movements to/from Bicester associated with the existing facility in Eynsham. As such, this assessment is considered to be robust as it in effect double counts elements of traffic that currently have an origin from within Bicester.

### Assessment Methodology

- 6.3 Through early pre-application discussions, it was advised that flows within the Bicester Transport Model (BTM) should be used to inform the highway impact assessment.
- 6.4 A variety of traffic data was provided by Tetra Tech and for the purposes of this assessment given the planned opening year is 2024 and the end of the local plan period is 2031, the following datasets have been used (both data sets are included at **Appendix N**):
- Bicester Model Junction Turning Movements (2024 Kingsmere Update with Heyford Park Scenario); and
  - Bicester Model Junction Turning Movements (2031 Kingsmere Update with Heyford Park Scenario).
- 6.5 It should be noted that the traffic data provided by Tetra Tech is predicated on a baseline situation that has been suitably validated through reference to observed turning counts at the Vendee Drive roundabout. Accordingly, the flows used extracted from the BTM have been used for the Local Network assessment. This is not the case for M40 J9 and as such an alternative approach has been adopted for the Strategic Road Network assessment presented in Section 7.
- 6.6 It is important to note that background growth and committed developments are included within the model flows and therefore no additional growth has been applied for the purposes of the local highway network assessment.
- 6.7 The 2024 and 2031 without development traffic flows are shown at **Figures 6.1 to Figure 6.4**.

### Highway Impact Assessment

- 6.8 The following text summarises the impacts that the traffic generation associated with the proposed development will have upon the junctions that comprise the study area. The total (existing +

proposed) development traffic as a result of the development are shown at **Figures 6.5** and **Figure 6.6**.

- 6.9 The development trips have been combined with the corresponding without development traffic flows to establish the with development traffic flows for 2024 and 2031. These are shown on **Figures 6.7** to **6.10**.

### Junction Modelling

- 6.10 When considering the below assessment, it is worthy to note that Junctions 9 expresses the relationship between traffic flow and the capacity of a priority-controlled junction as a ratio, referred to as the Ratio of Flow to Capacity (RFC). Based upon these results it also predicts the anticipated queue lengths and associated periods of delay.
- 6.11 It should be noted that guidelines prepared by the IHT indicates that RFC values of 0.85 to 0.90 have historically been considered to reflect uncongested design thresholds, whilst an RFC of 1 indicates that a junction is operating at capacity.
- 6.12 This is further exemplified by the Level of Service (LoS) values that have been predicted by Junctions 9 as they are all consistent with free flow conditions (i.e. 'A' and 'B'). For reference, the following summarises the definitions that are provided within Highway Traffic Analysis and Design (Salter & Hounsell, 1996) for the various LoS bandings that are predicted by Junctions 9:
- *LoS A: Free Flow – Primarily free-flow operation with vehicles having almost complete freedom to manoeuvre;*
  - *LoS B: Reasonably Free Flow – Reasonable free-flow conditions with vehicles having a slightly restricted freedom to manoeuvre;*
  - *LoS C: Stable Flow – Stable operation but freedom to manoeuvre is restricted;*
  - *LoS D: Approaching Unstable Flow – Borders on unstable flow with freedom to manoeuvre severely limited;*
  - *LoS E: Unstable Flow – Traffic flow is very unstable and approaching capacity; and*
  - *LoS F: Forced or Breakdown Flow – The point at which demand exceeds capacity*
- 6.13 In a similar vein to Junctions 9, LinSig shows the Practical Reserve Capacity (PRC) of the junction as a percentage, which indicates the amount of residual capacity that a junction has. LinSig assumes that a degree of saturation of 100% on a link indicates traffic flows are equal to its capacity. Notwithstanding this, it is generally accepted a negative PRC is considered to be representative of a junction operating over its practical capacity and may be subject to periods of congestion/delay.

### Future Traffic Conditions – Junction Modelling

- 6.14 The 'Without Development' scenario has been compared with the 'With Development' scenarios in order to establish the impact the Proposed Development will have on the assessed junctions.

### Vendee Drive Roundabout

- 6.15 The results of this assessment for the assumed 2024 opening year for the Vendee Drive roundabout are shown below, and the full junction modelling reports are attached at **Appendix O**.

**Table 6.1 – Vendee Drive Roundabout Modelling Summary (2024 AM Peak)**

Junction	Without Development			With Development		
	RFC	Delay	LoS	RFC	Delay	LoS
A41 (northern arm)	0.37	2.06	A	0.37	2.08	A
Unnamed Road	0.20	3.25	A	0.20	3.27	A
A41 (southern arm)	0.41	2.37	A	0.42	2.39	A
Park & Ride Access	0.01	3.90	A	0.01	3.91	A
Vendee Drive	0.56	6.35	A	0.56	6.37	A

**Table 6.2 – Vendee Drive Roundabout Modelling Summary (2024 PM Peak)**

Junction	Without Development			With Development		
	RFC	Delay	LoS	RFC	Delay	LoS
A41 (northern arm)	0.44	2.05	A	0.44	2.06	A
Unnamed Road	0.21	3.39	A	0.21	3.39	A
A41 (southern arm)	0.46	2.53	A	0.46	2.55	A
Park & Ride Access	0.01	4.40	A	0.01	4.43	A
Vendee Drive	0.35	3.82	A	0.36	3.84	A

- 6.16 The 2031 assessment, which reflects the end of the local plan period is shown at **Tables 6.3** and **6.4** below.

**Table 6.3 – Vendee Drive Roundabout Modelling Summary (2031 AM Peak)**

Junction	Without Development			With Development		
	RFC	Delay	LoS	RFC	Delay	LoS
A41 (northern arm)	0.37	2.15	A	0.37	2.15	A
Unnamed Road	0.25	3.49	A	0.25	3.49	A
A41 (southern arm)	0.46	2.67	A	0.46	2.69	A
Park & Ride Access	0.01	4.42	A	0.01	4.45	A
Vendee Drive	0.74	10.77	A	0.74	10.91	A

**Table 6.4 – Vendee Drive Roundabout Modelling Summary (2031 PM Peak)**

Junction	Without Development			With Development		
	RFC	Delay	LoS	RFC	Delay	LoS
<b>A41 (northern arm)</b>	0.50	2.36	A	0.50	2.36	A
<b>Unnamed Road</b>	0.31	4.18	A	0.31	4.18	A
<b>A41 (southern arm)</b>	0.53	3.17	A	0.54	3.19	A
<b>Park &amp; Ride Access</b>	0.01	4.75	A	0.01	4.78	A
<b>Vendee Drive</b>	0.47	4.56	A	0.47	4.59	A

- 6.17 As set out above, it is recognised that an RFC of below 0.90 represents uncongested conditions and as such the results of the modelling assessment in both the 2024 and 2031 scenarios show that the junction will operate within capacity. The level of delay will not materially change and the LoS of the junction does not change. As such, it is evident that the Proposed Development will not have a material impact at this junction.

#### **Proposed Signalised Access Junction**

- 6.18 The site access junction is a signal-controlled junction and therefore its capacity was modelled using LINSIG software. Summary results for the site access junction are presented in **Table 6.5**. The full LINSIG report is attached at **Appendix P**.
- 6.19 As the proposed site access will only be operational in the with development scenario, no without development scenario comparison is shown in the tables below.

**Table 6.5 – Proposed Site Access Junction Assessment (2024) based upon BTM flows**

BTM Based Flows	2024 With Development				2031 With Development			
	0800 – 0900		1700 – 1800		0800 – 0900		1700 – 1800	
	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)
A41 (N) Ahead	43.2	8.5	34.9	6.4	45.2	9.0	43.0	8.4
A41 (N) R/T	5.4%	0.3	0.5	0.0	5.4%	0.3	0.5	0.0
A41 (S)	48.5	8.3	51.2	9.4	51.9	9.1	53.9	10.1
Site Access	4.4	0.2	18.8	0.8	4.4	0.2	18.8	0.8
Junction PRC/Delay	+85.6%	6.99 pcu.hrs	+75.6%	7.30 pcu.hrs	+73.5%	7.63 pcu.hrs	+67.0%	8.41 pcu.hrs

- 6.20 Capacity modelling presented above demonstrates that the junction operates within design capacity in both scenarios. The Practical Reserve Capacity (PRC) of the junction shows there is ample spare



capacity in both scenarios. The average delay on the A34 and A41 approaches are around 10 seconds and queueing below 10 vehicles, whilst the access arm is expected to experience slightly longer vehicle delays, these are still not material.

- 6.21 As the vehicle queueing is expected to be immaterial, it is evident that no queueing back to M40 J9 will occur. If one assumes a PCU is 5 metres in length, then there would be circa 50 metres of queueing. M40 J9 is approximately 650 metres from the proposed signalised junction and therefore it would take a 130 vehicle queue to tailback to M40 J9, which is highly unlikely to occur as a result of the Proposed Development.

## Summary

- 6.22 The results of the junction capacity assessment demonstrate that the junctions that comprise the study area will operate within capacity. It has also been shown at the Vendee Roundabout that there will not be any material change in the performance of this junction, let alone the severe impact that is referred to in the NPPF. Accordingly, it is concluded that the proposed development is consistent with para. 111 of NPPF and CDC Policies SLE4 and INF1.

## 7 Highway Impact Assessment – Strategic Highway Network

### Overview

- 7.1 The following text summarises the impacts the traffic generation associated with the proposed development will have upon the strategic highway network that comprise the study area, which has been agreed with OCCH and NH and includes J9 of the M40 located to the west of the site.

### Assessment Methodology

- 7.2 A detailed Technical Note is attached at **Appendix Q**, which sets out the assessment methodology adopted for the assessment of J9. As a result of these detailed conversations with OCCH and NH, it was agreed that a number of scenarios would be tested at J9 of the M40.

- 2024 Opening Year Assessments:

**Scenario 1:** Classified Turning Count Base based on November 2021 surveys and including allowances for background growth and committed developments;

**Scenario 2:** The BTM data as provided by Tetra Tech; and,

**Scenario 3:** The BTM data as provided by Tetra Tech but with a manual adjustment to the A34 to M40 (S) turning movement for the AM peak.

- 2031 End of Local Plan Assessments:

**Scenario 4:** The BTM data as provided by Tetra Tech.

- 7.3 The relevant traffic flow diagrams for each scenario (excluding scenario 3) are provided at the traffic flow diagrams attached to this report.
- 7.4 As outlined in Section 6, J9 does not appear to have been validated against any empirical data. For example, the information provided at **Appendix Q** confirms J9 was not surveyed when the model was first developed in 2016 or when it was extended to cover the recent Upper Heyford planning application submitted in May 2018. As a result, it would appear that the BTM is not as accurate as other parts of the network that has been developed when evaluating the performance of the local highway network.
- 7.5 Indeed, it should be noted that it has been shown through reference to data extracted from the WebTris website that the increases in traffic predicted at J9 bear little resemblance to historic trends at J9. Similarly, there are some quite fundamental differences in the origin and destination of trips

when compared to the most recent survey data collated by OCC in 2018<sup>4</sup>. Finally, the BTM is predicated on counterintuitive changes in traffic flows, which appear to show traffic exiting Bicester reducing in the future when compared to the 2018 surveys.

- 7.6 For these reasons, which are set out in the Technical Note at **Appendix Q**, it is considered that the BTM is not the most appropriate tool to evaluate the impact of the development upon J9 in the year of opening, which is the point at which Circular 02/2013 requires any potential mitigation to be identified for. Accordingly, it is understood that it is agreed for the purposes of this application, any mitigation should be based on the results of Scenario 1. The subsequent Scenarios are provided for informative purposes only.
- 7.7 It should be noted that the Technical Note provided at **Appendix Q** makes reference to the 2018 OCC survey data of the junction and uses this information to establish a baseline scenario. However, as stated above this was not possible to be validated/calibrated against queue lengths. As such, it was agreed with NH that further surveys at the junction should be carried out in order to get a better calibrated/validated model.
- 7.8 Therefore, surveys were undertaken on November 9<sup>th</sup> and 11<sup>th</sup> 2021. Further information on the November 2021 surveys and calibrated LinSig model is provided within a Technical Note included at **Appendix R**.

### Highway Impact Assessment

- 7.9 As set out in **Table 5.3** above, it is evident that the Proposed Development is likely to result in circa 62 vehicle movements through the junction in the AM peak and 55 in the PM peak. When assessing this level of traffic through the junction, it is equivalent to a 0.9% and 0.7% increase from the baseline in the AM and PM peaks respectively and as such is not considered to be material.
- 7.10 Notwithstanding this and as set out above, NH and OCCH have requested that the impact at M40 J9 is interrogated. Therefore, the following text summarises the impacts that the traffic generation associated with the proposed development will have upon M40 J9. The total (existing + proposed) development traffic as a result of the development are shown at **Figures 6.5** and **Figure 6.6**.

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<sup>4</sup> Of particular note, is the level of movements that the BTM assumes will turn right from the A34 to the M40 Southbound carriageway in both the 2024 and 2031 assessment years, which are double that recorded in 2018 despite there not being any logical reason for this increase.

## Junction Modelling

### 2021 Observed

- 7.11 Full details of the 2021 classified turning counts used to produce a calibrated base model is set out in the Technical Note included at **Appendix R** of this report. The operation of the junction in the AM and PM peaks is summarised below. A detailed LinSig output is included within the annexes of **Appendix R**.

**Table 7.1 - Calibrated Capacity Assessment Summary for the Existing Junction**

2021 Observed	0800 – 0900		1700 – 1800	
	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)
M40(N)	86.0	14.3	70.3	9.4
A41	88.5	11.6	79.5	9.3
M40(S)	44.0	3.5	83.2	16.4
A34	78.3	14.3	56.8	4.7
North Circ	71.9	7.8	80.3	11.1
East Circ	67.6	3.4	65.9	0.2
South Circ	92.0	18.6	83.0	16.1
West Circ	44.5	2.8	63.3	4.2
Junction PRC/Delay	-2.3%	77.67 pcu.hrs	+8.2%	66.47 pcu.hrs

- 7.12 The above table shows that J9 is operating with a positive PRC value in the PM peak and a minor negative in the AM peak. This shows that the junction is not subject to any capacity constraints that affect its ability to safely accommodate existing demands in the PM peak and is operating close to its theoretical capacity in the AM peak.
- 7.13 Table 7.1 indicates that the LinSig model has returned a negative PRC value for J9 in the morning peak. This is ostensibly as a result of the southern circulatory carriageway operating with a DoS of 92%. It is noteworthy however, that the queues that are associated with this link do not block back and affect the operation of preceding approach (i.e. A41), and that equally queues on the off-slips do not extend back onto the running lanes of the M40.
- 7.14 To summarise, Junction 9 is busy in the assessed period of 8am - 9am, to the point of operating slightly over its practical limit. However, this does not result in any significant operational issues. Queues on the M40 slips never extend to a point where there would be any negative interactions with mainline traffic. The junction operates within capacity in the PM assessment period of 5pm to 6pm.

### Scenario 1 (2024 Classified Turning Count Base)

7.15 Model results based on the above and the information provided at **Appendix R** are summarised below for the junction entries. The modelling output report is included within the appendices of **Appendix R**.

**Table 7.2 – Capacity Assessment of CTC Based Forecast Flows**

2024 CTC Based	Reference Case				Development Case			
	0800 – 0900		1700 – 1800		0800 – 0900		1700 – 1800	
	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)
M40(N)	92.6	16.7	85.2	12.1	93.2	17.1	84.0	11.8
A41	93.9	15.0	87.9	11.9	94.4	15.4	90.0	13.0
M40(S)	46.4	3.7	61.3	5.2	46.5	3.7	61.5	5.2
A34	78.5	14.6	84.2	16.7	78.5	14.6	84.2	16.7
North Circ	74.0	8.0	76.1	11.1	74.7	8.0	76.0	11.1
East Circ	70.8	3.6	66.6	1.7	71.2	3.6	65.7	1.7
South Circ	96.0	25.5	87.3	18.1	96.4	26.1	88.5	18.8
West Circ	47.7	3.2	68.2	4.6	48.6	3.2	68.9	4.7
Junction PRC/Delay	-6.7%	103.55 pcu.hrs	+2.4%	78.73 pcu.hrs	-7.1%	107.00 pcu.hrs	+0.0%	82.64 pcu.hrs

7.16 Table 7.2 shows that once the effects of committed developments are taken into account, the overall performance of J9 deteriorates. This is as to be expected given that there will be further traffic on the network. It is noteworthy that neither OCC or Highways England (the predecessor of NH) sought any mitigation to offset this change.

7.17 Once development traffic is introduced, Table 7.2 demonstrates that

- There will be negligible changes to capacity, queue lengths and delays on all approaches in morning and evening peak periods.
- There will be small changes to the PRC of the junction in the morning and evening peaks.
- The expected queue lengths on the M40 slips are of a magnitude that will not extend back onto the M40 mainline carriageways.



- 7.18 On this basis, it is clear that the residual cumulative impact of the proposed development would not exceed the severe threshold that is referred to in the NPPF. Accordingly, there is not a need to provide any mitigation in order to make the proposed development acceptable in planning terms.

### Scenario 2 (2024 BTM Assessment)

- 7.19 The operation of the junction in the AM and PM using the BTM data is summarised below. A detailed LinSig output is included within the appendices of **Appendix R**.

**Table 7.3 – M40 J9 Capacity Assessment (Scenario 2)**

2024 BTM Based	Reference Case				Development Case			
	0800 – 0900		1700 – 1800		0700 – 0800		1700 – 1800	
	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)
M40(N)	100.1	36.1	92.9	18.4	100.1	36.1	93.2	18.5
A41	82.2	9.1	80.1	7.2	82.6	9.2	83.0	7.9
M40(S)	45.6	3.7	92.2	11.0	46.8	3.9	91.7	10.7
A34	86.4	18.7	94.4	26.8	86.4	18.7	94.4	26.8
North Circ	93.0	16.6	72.7	8.6	93	16.6	73.0	8.7
East Circ	101.3	27.0	81.4	3.1	101.3	27.0	81.3	3.1
South Circ	92.3	19.2	88.4	20.8	92.7	19.9	89.5	21.4
West Circ	29.9	1.7	66.6	3.2	38.4	2.3	69.3	3.3
Junction PRC/Delay	-12.6%	120 pcu.hrs	-4.9%	91 pcu.hrs	-12.6%	122.5 pcu.hrs	-4.9%	93.8 pcu.hrs

- 7.20 The results above show that the junction is forecast to operate over capacity in the morning and evening peaks of the 2024 without development scenario. When introducing development traffic, the overall PRC and delay does not materially increase and therefore the impact as a result of the development is not considered to be material. A fact further demonstrated through reference to queue lengths, which remain largely unchanged once development traffic is introduced and, as per Scenario 1, do not extend back onto the M40 mainline.
- 7.21 Table 7.3 also shows that the east circulating AM queue is 27 pcu and over 100% DoS. This is because the flow in the BTM far exceeds what can be reasonably accommodated at the junction. The adjusted BTM flows (presented later in this report) replace the A34 right turn with the values from survey data, suitably growthed for the opening year and future year assessments.

### Scenario 3 (2024 Adjusted BTM Assessment (AM peak))

- 7.22 As explained at **Appendix R** flows on the A34 approach have been manually adjusted and the results of this modelling output is included at **Appendix R** and summarised in the table below.

**Table 7.4 – Capacity assessment of 2024 BTM based forecast flows (adjusted A34 R/T)**

2024 BTM Based	Reference Case				Development Case			
	0800 – 0900		1700 – 1800		0800 – 0900		1700 – 1800	
	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)
M40(N)	88.1	15.0	-	-	87.1	15.1	-	-
A41	84.4	9.4	-	-	85.4	9.6	-	-
M40(S)	46.4	3.8	-	-	46.5	3.8	-	-
A34	86.4	18.7	-	-	86.4	18.7	-	-
North Circ	71.2	8.5	-	-	72.4	8.9	-	-
East Circ	78.5	3.8	-	-	77.6	3.6	-	-
South Circ	92.6	18.9	-	-	93.2	18.9	-	-
West Circ	36.7	2.2	-	-	36.3	2.2	-	-
Junction PRC/Delay	-2.9%	77.54 pcu.hrs	-	-	-3.5%	79.50 pcu.hrs	-	-

- 7.23 The results presented in Table 7.4 show a more representative analysis than with the unadjusted BTM AM data that gave somewhat skewed results. As detailed in Appendix R, this is due to the substitution of the likely flawed A34 – M40(S) flow data with figures derived from the classified turning count. With this data it is clear that the level of relative effect is negligible and will not constitute a severe impact.

### Scenario 4 (2031 BTM Assessment)

- 7.24 The modelling output report for the 2031 end of Local Plan sensitivity test is included within the LinSig output files as included within the appendices of **Appendix R**.

**Table 7.5 – M40 J9 Junction Assessment (Scenario 4)**

2031 BTM Based	Reference Case				Development Case			
	0800 – 0900		1700 – 1800		0800 – 0900		1700 – 1800	
	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)	DoS (%)	MMQ (pcu)
M40(N)	109.0	101.3	99.7	35.6	109.0	100.8	100.0	35.7
A41	85.9	9.7	95.2	12.8	86.3	9.9	99.1	16.1
M40(S)	54.0	4.6	98.0	16.6	54.4	4.6	98.0	16.6
A34	92.5	23.5	101.9	51.2	92.5	23.5	86.4	18.7
North Circ	96.7	20.6	77.8	9.6	96.7	20.6	78.0	9.6
East Circ	108.3	67.1	93.1	4.1	108.4	67.7	93.0	4.1
South Circ	91.2	18.6	98.7	33.4	91.7	19.2	99.8	36.7
West Circ	43.5	2.5	97.1	5	44.5	2.7	97.1	5.0
Junction PRC/Delay	-21.2%	238.6 pcu.hrs	-13.2%	210.2 pcu.hrs	-21.2%	241.3 pcu.hrs	-13.2%	229.7 pcu.hrs

- 7.25 The results above show that the junction is expected to operate over capacity in both peaks of the 2031 without development scenario. When introducing development traffic, the overall PRC does not change and therefore the impact as a result of the development is not considered to be material. As such, there would not be a need for the development to identify any mitigation to make the scheme acceptable in planning terms, particularly as the Circular 02/2013 is predicated on the premise that mitigation should be based on the impact of the scheme in the year of opening.

## Summary

- 7.26 The analyses presented above, which have considered scenarios that are based on empirical data and also the BTM, clearly demonstrate that the proposed development will result in negligible changes to capacity, queue lengths and delays on all approaches to J9 in morning and evening peak periods in the 2024 opening year. In this regard, and whilst it is accepted that J9 is arguably expected to operate over capacity in the morning peak of the BTM scenario, there can be no suggestion that the proposed development will exceed the severe threshold referenced in the NPPF. There is thus no need to deliver any mitigation in order to make the proposed development acceptable in planning terms.
- 7.27 Whilst the end of Local Plan period sensitivity test indicates J9 is expected to operate over capacity, it should be noted that the proposed development has no material difference on the performance of this junction. In this respect, it is considered that it is planned and committed growth that results in

J9 operating over capacity, and which should provide any necessary mitigation. Notwithstanding this, and even under a worst case scenario the overall impact of the proposed development falls well below the severe threshold of the NPPF.

## 8 Mitigation Measures

### Overview

- 8.1 Whilst it has been shown at Sections 6 and 7 that the Proposed Development will not lead to a severe impact on the local and strategic highway network, the Applicant recognises that there is a need to ensure measures are in place to reduce car demands. A summary of the Workplace Travel Plan that will be operated is provided below.
- 8.2 Similarly, there is also a need to make sure that there are measures in place to minimise any disruption during the construction period and ensure it is kept to a minimum. The following text sets out how this will be achieved through a Construction Traffic Management Plan.
- 8.3 The following text also outlines the heads of terms of a Delivery and Servicing Plan (DSP) that will be adopted during the operational phases to minimise any impact to the local transport networks.

### Workplace Travel Plan

- 8.4 The NPPF indicates that developments generating significant traffic movements should provide a travel plan. Travel Plans are intended to be used to encourage a change in travel patterns.
- 8.5 The main objective of a Travel Plan is to provide a reduction in private car mileage in favour of the more sustainable modes of travel, thus reflecting current Government policy in respect of transport and as such they contain details of a range of initiatives to encourage the use of sustainable travel modes.
- 8.6 In this regard, a Travel Plan (TP) has been prepared to inform the content of potential measures at the Site. This is provided at **Appendix S**. This includes reference to a range of measures that could be adopted to reduce car trips by 10% at peak times.

### Construction Traffic Management Plan

- 8.7 It is anticipated that works associated with the construction phase of the Proposed Development will commence in 2022 and conclude in 2024. To ensure that the impacts associated with the construction phase, such as increases in traffic, noise and dust, are minimised, a Construction Management Plan (CMP) will be operated.
- 8.8 The construction programme and phasing will depend on a number of factors including safety, environmental considerations, economics, access and practicalities. In this regard, the type and number of vehicle movements generated during the construction period will be dependent on the type and intensity of work being undertaken at any one stage.
- 8.9 Similarly, the phasing of the construction programme will be dependent upon how the contractor appointed to carry out the works decides to manage the construction period. A CMP will be secured by a suitably worded condition and is likely to include some of the following measures which will be in place to mitigate impacts:

- Haulage routes will be agreed with the highway's authorities;



- Provision will be made to ensure that vehicles can be loaded and unloaded off the public highway;
- The site labour force will be encouraged to use sustainable modes of transport;
- HGV wheels, and bodies as required, to be washed prior to vehicles leaving the site; and
- Traffic management plans will be implemented to minimise potential impact of the works.

### **Delivery and Servicing Management Plan**

- 8.10 A Delivery and Servicing Plan (DSP) is expected to be secured via a planning condition. The DSP will provide a framework for ensuring servicing freight activity is as effective and efficient as possible. It should be noted that the DSP is focused on matters that the Applicant can control, such as the routes that vehicles will be encouraged to follow when travelling to/from the site.
- 8.11 A Framework DSP is provided at **Appendix T**. This document is intended to inform the final DSP which we expect will be subject to a suitably worded planning condition.

## 9 Summary and Conclusions

- 9.1 This Transport Assessment has been prepared on behalf of Tritax Symmetry and Siemens Healthineers to provide transportation advice in relation to the proposed development on land to the north east of Junction 9 of the M40.
- 9.2 The site is currently in agricultural use and extends across open fields, with the Grange Farm Industrial Estate and Lower Grange Farm bordering the site to the east and the M40 to the west. The development proposals comprise the new development to accommodate the current and future requirements of Siemens Healthineers. The Application is seeking planning permission for a 53,830 sqm commercial building to facilitate this together with associated vehicular access and landscaping.
- 9.3 It has been shown that the site benefits from a good level of accessibility by sustainable modes with NCN Route 51 located to the south of the site as well as four bus services per hour between Oxford and Bicester accessible from the A41. The S5 bus service provides a link towards Bicester railway stations, making longer distance public transport journeys a viable option. In addition, it is noteworthy that the site is well located to take advantage of the strategic highway network being located adjacent to Junction 9 of the M40 as well as the A41 providing a connection to Oxford.
- 9.4 The development will incorporate measures that reduce reliance upon the private car in accordance with the aspirations of the NPPF. For example, the proposed access strategy includes connections to the existing pedestrian and cycle infrastructure. The development will also potentially deliver a shared pedestrian/cycleway on the southern side of the A41, which will provide a connection to the existing walking and cycling infrastructure in the vicinity of the site including NCN Route 51, which provides connections to the built up area of Bicester. The final form of this link is subject to on-going discussions with OCCH.
- 9.5 In addition, the Proposed Development will deliver a new signalised junction on the A41, which will not only facilitate access to the site, but also improve connections for existing residents and future staff to the wider area including to bus stops on the A41. This delivers a considerable betterment to the existing arrangement in terms of accessibility and safety.
- 9.6 It has also been shown that the quantum of development that is being applied for is unlikely to have a material impact upon the local transport networks. Indeed, the results of our various analyses indicate that the proposals would not lead to a material increase in trips during the peak travel periods. Moreover, it has been shown that the proposed development will not have a severe impact from a highway capacity perspective in isolation or cumulatively with the committed developments.
- 9.7 In summary, the report demonstrates the following:
- The location of the site accords with the relevant national and local transport planning policies;
  - The site benefits from access to a sustainable transport network that provides alternatives to the private car;
  - An analysis of personal injury accident data records has identified no significant issues associated with the local highway network that are detrimental to road safety levels and

that proposals as part of the development will significantly improve safety, particularly on the A41 in the vicinity of the site.

- Appropriate provision can be made for access, parking and servicing; and,
- There will not be a significant increase in vehicular activity as a result of the proposed development, which will not have a material impact on the operation of the local transport networks.

9.8 In this regard, it is clear that the proposals accord with the guiding principles of the National Planning Policy Framework. For example:

- Opportunities to promote sustainable transport have been identified and can be incorporated at this location (NPPF, para 102).
- The site is located in an area that is already sustainable, but can also be enhanced (NPPF, para. 103).
- Safe and suitable access can be achieved for all users (NPPF, para. 108).
- There will not be any significant capacity and/or road safety impacts that would need to be mitigated NPPF, para. 108).

9.9 On this basis, it is concluded that the respective proposals represent sustainable developments from a transportation perspective. As such, they are entirely acceptable from a highways and transportation perspective.