

Tritax Symmetry (Hinckley) Limited

# **HINCKLEY NATIONAL RAIL FREIGHT INTERCHANGE**

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## **The Hinckley National Rail Freight Interchange Development Consent Order**

Project reference TR050007

### **Environmental Statement Volume 1: Main Statement**

## **Chapter 8: Transport and Traffic**

Document reference: 6.1.8

Revision: 03

**November 2022**

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Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009  
Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017  
Regulation 14

**This document forms a part of the Environmental Statement for the Hinckley National Rail Freight Interchange project.**

Tritax Symmetry (Hinckley) Limited (TSH) has applied to the Secretary of State for Transport for a Development Consent Order (DCO) for the Hinckley National Rail Freight Interchange (HNRFI).

To help inform the determination of the DCO application, TSH has undertaken an environmental impact assessment (EIA) of its proposals. EIA is a process that aims to improve the environmental design of a development proposal, and to provide the decision maker with sufficient information about the environmental effects of the project to make a decision.

The findings of an EIA are described in a written report known as an Environmental Statement (ES). An ES provides environmental information about the scheme, including a description of the development, its predicted environmental effects and the measures proposed to ameliorate any adverse effects.

**Further details about the proposed Hinckley National Rail Freight Interchange are available on the project website:**



**The DCO application and documents relating to the examination of the proposed development can be viewed on the Planning Inspectorate’s National Infrastructure Planning website:**

**<https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/hinckley-national-rail-freight-interchange/>**

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## Chapter 8 ◆ Transport and Traffic

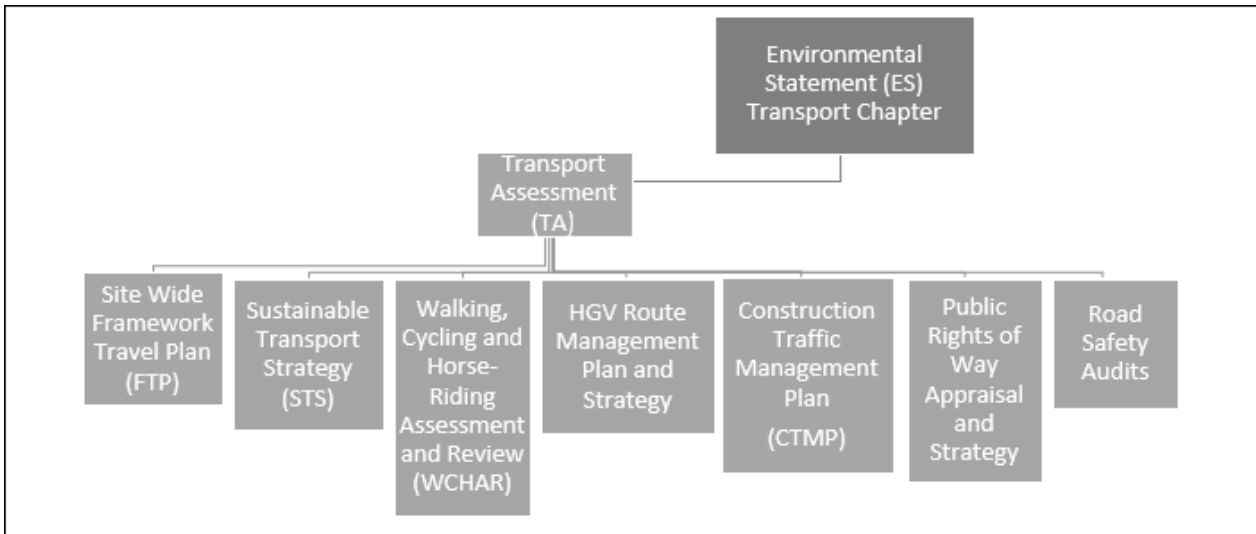
### INTRODUCTION

- 8.1. The purpose of the transport and traffic chapter of the Environmental Statement (ES) is to describe and, where possible, quantify the likely significant effects that the Proposed Development will have on the surrounding transport network and traffic and transport impacts on the environment.
- 8.2. This ES addresses the potential significant environmental effects of the Proposed Development in respect of Transport and Traffic. This Chapter describes the relevant legislation Transport policy and guidance, the data sources and the methods used for assessment.
- 8.3. The Chapter specifically considers the likely significant effects on severance, driver stress and delay, pedestrian and cyclist delay, amenity and accidents and safety. It sets out the criteria used to determine significance, the assessment of the present-day and future baseline conditions at opening; and the effects of operational and construction traffic (including maintenance) on the local road network as a result of the Proposed Development.
- 8.4. This chapter of the ES is based on the description of development of the HNRFI as set out at Chapter 2: *Site description (6.1.2)* and Chapter 3: *Project description (6.1.3)*. It is informed by extensive technical collaboration with a Transport Working Group made up of Highway and Planning authorities in the vicinity of the Proposed Development and LCC Network Data Intelligence modelling framework team prior to and following consultation. The Chapter includes a multi-modal<sup>1</sup> impact assessment that considers the impact of the Proposed Development on all transport infrastructure surrounding the HNRFI Site.
- 8.5. This chapter is supported by a suite of management plans and strategies found within the respective Appendices) which address the environmental and transport matters for which significant impacts have been identified in the ES and thus where mitigation measures are required.
- 8.6. Figure 8.1 shows the relationship between the Transport Chapter of the ES, the Transport Assessment and the suite of transport management plans and strategies.

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<sup>1</sup> 'Multi-modal' transport is the transportation of goods under a single contract but performed with at least two different modes of transport.

**Figure 8.1: Transport Documents Supporting the ES**



**METHODOLOGY AND DATA SOURCES**

**Consultation**

8.7. In accordance with guidance<sup>2</sup>, the ES submission forms an integral part of an iterative process for both the design of the Proposed Development and the EIA and therefore the information presented in this Chapter takes into consideration any comments received through the preliminary consultation.

**Transport Working Group**

8.8. A Transport Working Group (TWG) was established comprising representatives from National Highways (NH) (Formerly known as Highways England), AECOM (National Highways term consultant), Leicestershire County Council (LCC), Warwickshire County Council (WCC), Leicester City Council (LCiC), Coventry City Council (CCC), Blaby District Council (BDC) and Hinckley & Bosworth District Council with TSH and BWB Consulting Ltd as the applicant’s Transport and Highway consultants.

8.9. The objectives of the TWG were:

- to provide a forum for consultation with the regulatory stakeholders; and
- to allow agreement, in a phased and methodical process, of the key components of the transport works that are required to support the DCO submission and ES Chapter.

8.10. Through detailed consideration and consultation, the TWG have agreed the following:

<sup>2</sup> The Planning Inspectorate (May 2020): Advice Note Seven (Version 7); Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements on the local community and infrastructure

- Trip generation, distribution, planning and infrastructure uncertainty logs have been reviewed and signed off by the key highway authorities. Base modelling was subject to further analysis by the TWG and was approved in March 2022.
- Additional analysis of throughputs at Narborough Station and Level Crossing have been taken into consideration, based on discussions with the TWG. Further detail was provided by Network Rail.

8.11. The TWG group meets on a monthly basis. This provides a platform to inform the wider authorities of the modelling progress, share information and agree timescales for agreement/submissions that are key for the Transport Assessment (TA). Three sessions within the year have been used to review comments on the Base and Forecast modelling with the Leicestershire County Council Network Data Intelligence Framework Modelling team (September, October 2021 and April 2022). This enabled a clearer communication of amendments and outputs from the base and forecast model runs.

### Other Consultation

- 8.12. There have also been a series of consultation meetings with Highway Development Management team (LCC HDM) along with a representative from HBBC on a fortnightly basis.
- 8.13. Individual meetings with WCC/NH have been on an ad-hoc basis to discuss the assessment approach and agreements to the modelling both on the Strategic Road Network (SRN) and in Warwickshire.
- 8.14. Specific area-based discussions have happened with LCiC and the planning authorities in Blaby and Hinckley and Bosworth. See Table 8.2 for a summary of the consultation with the TWG and respective authorities
- 8.15. A meeting was held with representatives of LCC and the Public Transport and Cycling/Walking teams in August 2021 for the public and sustainable transport inputs to the strategy. This followed on from discussions with Arriva buses in 2021 and earlier engagement with Stagecoach buses in 2019 regarding services in the area and the potential ability to link the site to new and existing services. Further meetings have taken place with Arriva to discuss options specific to the X6 service alongside engagement with Vectare, the provider of demand responsive services in South Leicestershire. Both companies have fed information which has helped formulate the public transport approach for the Site.

### The 2020 scoping opinion

- 8.16. A request for a Scoping Opinion was submitted to PINS in November 2020. The new scoping covered amendments and updates since the project was reviewed in 2019. A Scoping Opinion document was Provided by the Planning Inspectorate on behalf of the Secretary of State in December 2020

- 8.17. Comments provided by the consultees varied in emphasis. Both NH and LCC, as key highway authorities, form part of the TWG set up to address the technical details of the TA and ES Traffic and Transport Chapter. Therefore, their views and guidance have been ongoing through the pre-planning period.
- 8.18. Comments specific to Transport and Traffic were provided in the 2020 Scoping Opinion, these are shown in Table 8.1 below. Each of the comments have been considered in the authoring of this ES Chapter and are included or qualified if excluded.

**Table 8.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Transport and Travel (December 2020)**

PINS ID	Reference	PINS Comments	Action Taken
4.2.1	Hazardous Loads	<p>The report states that any hazardous loads transported to/ from the distribution centre would be assessed and managed in line with the relevant environmental permits and associated legislation and they are not a matter for the Transport Assessment (TA) or the ES. There is no estimate of expected hazardous load movements provided. The Inspectorate considers that should hazardous loads be likely to be transported to and from the distribution centre, the impacts of these in terms of the increase in vehicle movements should be considered in the ES. The Applicant is referred to paragraph 3.3.17 of this Opinion regarding Risks of Major Accidents and Disasters</p>	<p>The number of hazardous loads cannot be quantified at this stage of the appraisal given that construction and operational requirements have not been confirmed. Should hazardous loads be required, the consultant has assumed in respect of traffic movements that any hazardous loads will be via HGVs and are therefore included within the overall HGV numbers modelled. Therefore, the vehicle movements have been captured within the assessment of HGV traffic generation.</p> <p>In respect of hazardous loads this is covered under separate legislation and the risks of Major Accidents and Disasters are appraised in Chapter 19 of this ES.</p>
4.2.2	Guidance	<p>Table 7.1 refers to Strategic Rail Freight Interchange Policy Guidance (November 2011). This document was withdrawn on 27 March 2018 and has been superseded by National Policy Statements for National Networks.</p> <p>Table 7.4 states that the ES will be carried out in accordance with Volume 11 of the DMRB. This guidance has been superseded by the new DMRB structure and coding system. The ES should apply the latest version, see LA 101 - Introduction to</p>	<p>Noted: The correct reference has been referred to in accordance with the comment.</p> <p>The Consultant acknowledges the comment and notes that references to LA101 and LA104 have been updated for the purposes of this appraisal.</p>

PINS ID	Reference	PINS Comments	Action Taken
		environmental assessment, and LA 104 - Environmental assessment and monitoring.	
4.2.3	Consultation	The report states that the Transport Working Group (TWG) is meeting regularly to discuss and agree key elements of the TA methodology. The ES should document and evidence the outcomes of these discussions when describing the traffic and transport aspect methodology.	Noted, the Consultation section of the ES chapter documents and evidence the outcomes of this.
4.2.4	Rail Freight	<p>In response to a comment in the previous 2018 Scoping Opinion, the Scoping Report stresses that rail freight movements have been factored into the Trip Generation, and this will be explicit in the TA and ES (para 7.23).</p> <p>Paragraph 7.44 confirms that rail freight has been forecast and that resultant Heavy Goods Vehicle (HGV) trips have been included within the strategic modelling process. However, the description of baseline conditions within the report does not mention rail freight, and the methodology refers to highway links and thresholds relating solely to changes in road vehicle flows. The ES should consider the impacts of the Proposed Development on the capacity and operation of the rail network, and the potential impacts of an increase in rail freight movements on environmental matters, for example, accidents and safety, and any potential indirect effects on passenger rail transport operations and the growth, where significant effects are likely.</p>	<p>Both WSP and Baker Rose, rail freight specialists, acted in support of the assessment and on behalf of the applicant to provide the information as requested. This has been utilised where appropriate in this Chapter.</p> <p>This information has been shared with LCC and allowance has been factored into the Pan Regional Transport Model (PRTM) 2.2 modelling.</p> <p>Network Rail has confirmed that the addition of new train paths for the Proposed Development will be required to fit around the existing services within the working timetable. Network Rail has both contractual and regulatory obligations to existing users of the network in terms of the timing of their trains in the working timetable.</p> <p>These paths are neither guaranteed nor reserved for the Proposed Development but demonstrate the availability of paths for trains in the working timetable on this route on the rail network. Further details of rail safety are included in Chapter 19: <i>Accidents and Disasters</i> and Network Rail have confirmed the capacity on the line for HNRFI</p>

PINS ID	Reference	PINS Comments	Action Taken
		<p>The Inspectorate highlights Solihull Metropolitan Borough Council’s proposal for mitigation in the form of a contribution towards wider industry initiatives (such as an east-west rail link at Nuneaton) for consideration.</p> <p>The impact of freight trains on the Narborough level crossing is also highlighted (see consultation response from Sharnford Parish Council).</p>	<p>See NR response above.</p> <p>Further feedback from Network Rail (NR) has been provided in terms of train paths and impacts on the local level crossing at Narborough. NR has confirmed that for the Highway AM and PM Peak Hours including shoulder periods before and after the peaks 7-10am and 4-7pm, there is only one additional train path available in the PM peak which would cause a maximum barrier downtime of 2.5mins. NR confirmed that barrier downtimes would be approximately 20 mins within the hour which is well within their desirable thresholds. This train path would be open to all operators to bid for and not safeguarded for the HNRFI. Barrier downtimes have also been added into the PRTM 2.2 base and forecast runs.</p>
4.2.5	Assessment Years	<p>The Scoping Report states that the following years will be assessed: base year (2014)- validated using 2018 observed flows; anticipated first year of occupation (2025); and ten years post-occupation (2036). The Inspectorate understands that the freight model does not have a 2025 assessment year, but every five years from 2021 instead. Assessment years will need to be clarified and agreed with the Transport Working Group, as well as methodologies for assessment years not coinciding with those available. Junction capacity assessments and merge/diverge assessments (where appropriate) must be carried out for the following scenarios:</p> <ul style="list-style-type: none"> <li>• Opening Year Reference Scenario (the year in which the development is expected to be opened);</li> </ul>	<p>Noted, the PRTM model contains 2014 (base year) validated using 2018 flows and 2026 assessment year.</p> <p>The opening year has recently been re confirmed as 2026 by the applicant.</p> <p>The reference scenarios are noted and have been agreed through the TWG. A future year of 2036 is planned.</p> <p>All scenarios have been subject to a model brief which has been ratified by the TWG prior to model commencement.</p>



PINS ID	Reference	PINS Comments	Action Taken
		<ul style="list-style-type: none"> <li>• Opening Year Reference plus Committed Development Scenario; and</li> <li>• Opening Year Development Scenario – Opening Year plus Committed Development plus the Proposed Development, which will determine whether any mitigation is required for the Strategic Road Network (SRN).</li> </ul> <p>The impact of the development should also be assessed for ten years after the year the application is registered or the end of the relevant Local Plan whichever is the greater.</p>	<p>This also allows for a scenario which includes the proposed access infrastructure without Proposed Development. This is to understand the changes in background traffic distribution brought about by the new infrastructure.</p>
4.2.6	Screening Process	<p>The report describes thresholds for determining which road links should be subject to a detailed assessment, referencing the IEMA (1993) Guidelines for the Environmental Assessment of Road Traffic.</p> <p>The guidance states in paragraph 3.19 that “where there are major changes in the composition of the traffic flow, say a much greater flow of HGV’s, a lower threshold may be appropriate”. The Scoping Report suggests a 30% increase in HGV movements as an alternative threshold. Any threshold should consider the local context and be agreed within the TWG (justified and evidenced within the ES).</p>	<p>In response, the consultant notes that 10% HGV impacts have been recorded in locations close to sensitive receptors as per IEMA suggested thresholds. This is considered a robust approach to the assessment.</p>
4.2.7	Receptor Sensitivity	<p>The sensitivity of receptors should also consider the needs of major road users such as Royal Mail, particularly for the analysis of delays to drivers</p>	<p>Noted, detailed driver delay assessment has been included with additional sensitive receptors.</p>
4.2.8	Committed Developments	<p>The Scoping Report states that known committed developments in the vicinity of the Site have been included in the assessment. Note the additional</p>	<p>The assessment considers new and committed developments as set out in Chapter 20 of this ES to appraise the in -combination effects. Further data has been shared with WCC in relation to</p>

PINS ID	Reference	PINS Comments	Action Taken
		development recommended for inclusion by Warwickshire County Council in their consultation response.	links and sites mentioned in their response and these have been included in addition to those referenced above.  As part of the PRTM Core Forecast Model a full review of Planning and Infrastructure logs have been undertaken for the Area of Influence with the Transport Working Group members. This log contains all allocated and consented planning applications and relevant access infrastructure and associated off-site improvement schemes. The modelling corresponds with guidance set out in DfT TAG Unit M4, 'Forecasting and Uncertainty October 2013'. This went through 8 iterations before sign-off by TWG inclusive of Warwickshire.
4.2.9	Road Safety	Given the Proposed Development will affect the SRN, the ES or the Transport Assessment must be accompanied by a Stage 1 Road Safety Audit.	Stage One Road Safety Audits will be undertaken for junctions where mitigation is proposed and is included in the Transport Assessment.

### Consultation Feedback

- 8.19. An initial informal public consultation on the HNRFI site took place between October and December 2018. During this consultation particular concern was raised by members of the public around highway impacts of the new development and the introduction of South Facing slips to Junction 2 of the M69. Further consultee comments focus on several key areas which have been considered within the ES or TA where appropriate. These include Heavy Goods Vehicle (HGV) routing, construction traffic management, public transport provision, sustainable modes, including footways and cycleways and off-site mitigation.
- 8.20. Prior to submitting the scoping report in November 2020 options for mitigation were investigated by the applicant team and a further highways specific informal public consultation exercise took place between the 9th of July and the 6th of September 2019. The consultations included six public exhibitions social media coverage and website access. Overall, 460 feedback forms were received along with 40 email enquiries, 84 online forms, 8 phone calls and two letters.
- 8.21. The results from the 2018 feedback highlighted significant local opposition to the

anticipated highway impacts of HNRFI. Over 36% of respondents cited local traffic increases as their number one priority.

- 8.22. In response to the 2018 consultation a review of traffic impacts suggested potential by-passes. These were presented in the informal 2019 consultation: a) to the east of Stoney Stanton and b) to the south of Sapcote. The feedback from the 2019 consultation, when the proposals were presented for both, was overwhelmingly negative. For a) 94% of respondents opposed the plan and for b) 78% of respondents rejected the plan. However, a better response was received for the A47 link road with 47% either responding positively or neutrally to the proposals.
- 8.23. Over 61% of respondents considered local public transport to be inadequate.
- 8.24. The feedback provided by the respondents helped shape the conversations with the relevant authorities in terms of appropriate highway and transport interventions needed for the 'Proposed Development'.
- 8.25. Table 8.2 indicates the key consultation and agreements with the TWG and separate authorities through the past twenty-four months.

Table 8.2 Consultation Log TWG and Authorities

Organisation or Group	Date of Meeting																								Key Agreements
	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	
Transport Working Group; LCC, NH, LCiC, HBBC, Blaby, WCC, CCC			19	17	21	18	18	15	20	-	15	19	16	21	18	21	20	17	17	21	19	16	21	18	Trip generation and Distribution Uncertainty Log- Planning and Infrastructure Inputs to Model Brief Base Model Initial review of HGV routing and STS
LCC HDM				21			17	14	12	9 23	21	4 18	1	6 20	11 17	1 15	12	9 23	9 23	6	4 18	1 15 29	13 27	10 24	Regular review of progress against TWG meetings
LCC NDI	29				22		2 16	16							10					21		29			Approach to addressing concerns with PRTM modelling
NH							24	14			7												15		Discussions on J2 Addressing the WCC buffer area within PRTM
WCC	14						24								17								15		Addressing the WCC buffer area within PRTM
LCiC				17		3																			Impacts on Narborough Road Public transport opportunities
LCC Growth				21																					Informative
HBBC					20		17	14	12	9	21	4 18			17	1 15	12	9 23	9 23						Regular review of progress against TWG meetings
Inception Modelling; TWG Members							5																		Base modelling inputs
LCC PROW, walking and cycling, Bus and Public Transport Members															25										Way forward STS Consideration of existing initiatives
Members Presentation Blaby																	5								Informative
Members Presentation HBBC																	6								Informative
Members Presentation LCC																	7								Informative
HNRFI Public Consultation Webinar																	25	2							Informative

### **Formal Public Consultation**

- 8.26. Statutory consultation took place from 12 January 2022 to 8 April 2022. The Preliminary Environmental Impact Report (PEIR) and the interim Transport Assessment were presented to the public and interested parties for the consultation. Feedback was received from a wide variety of stakeholders expressing concern around the Transport elements of the project. This included the validity of the modelling carried out, impacts on the local highway network, capacity constraints within the Strategic Road Network and requirements for sustainable and public transport linkages.
- 8.27. A substantial number of comments were received under Section 42 and 47 of the Planning Act 2008 (PA2008) relating to transport. Details of the transport comments received under S.42 and s.47 of the PA2008 are recorded within the Consultation Report (Document reference 5.1). Key headlines are that 1,400 general public responses (S47) were received with transport comments, of which many contained multiple points in relation to traffic transport or highways, hence the percentages below. Most comments related to general concerns over traffic increases. A breakdown of the comments is provided as follows:
- 83% traffic generation.
  - 29% HGV movements.
  - 27% raised concerns about the effects of traffic on the Eastern (Fosse) Villages.
  - 20% Strategic Road Network.
  - 10% referred to effects on or better of cycling and walking.
  - 6% raised access and infrastructure as concerns.
  - 4% were concerned about offsite highways.
  - 4% discussed parking.
  - 3% raised effects on public transport.
- 8.28. Traffic modelling and lack of agreement with LCC was cited on many of the S42 responses, where traffic was commented upon. These responses were fully understood prior to the release of the PEIR as work was ongoing regarding the agreements and sign-off. The modelling inputs were agreed at the end of 2021 with the Transport Working Group including base model traffic generation and planning inputs, the ES is based on outputs of the agreed model.
- 8.29. Commentary was received specific to sensitivity of receptors in Sapcote and Stoney Stanton. This highlighted concerns that sensitive locations and highway conditions had not been considered in enough detail. The latest assessment has incorporated a revised level of sensitivity around the rural villages.

## Data Sources

### *Progression and agreement of the methodological approach to assessing the Pan Regional Transport Model PRTM*

- 8.30. The TA examines the trip generation, distribution and assignment of trips associated with the Proposed Development. The Proposed Development trips on the existing transport infrastructure have been reviewed and assigned at a strategic level using the Pan-Regional Transport Model (PRTM) which is a SATURN (Simulation and Assignment of Traffic to Urban Road Network) model and is maintained by LCC, covering the county and the wider Midlands area. The outputs from the model have been used to assess the capacity and impacts on the highway network from the Proposed Development and are represented in the TA.
- 8.31. The PRTM is a further development of the original Leicester and Leicestershire Integrated Transport Model (LLITM) model. This high-level assessment identified junctions on the highway network which might be at risk of reaching or exceeding their capacity and these have been modelled within the TA in detail at a local level with use of industry standard software. A package of transport infrastructure improvements has been developed to mitigate adverse transport impacts associated with the Proposed Development.
- 8.32. The mitigation package represents an evolution of the proposals put forward at previous consultations. This is rooted in the evidential base provided by the outputs from the PRTM model and was also combined with feedback to the 2019 informal consultation and the 2022 formal consultation. The A47 link Road now forms part of the Access Infrastructure (see paragraph 8.80 for description) for the site, linking Junction 2 of the M69 with the B4668 to the north-west.
- 8.33. The TA and accompanying TP examine the accessibility of the HNRFI Site by public transport, cycling and walking, and identify the likely modal split of person trips associated with the Proposed Development. The TA evaluates the impact of the development trips on the surrounding transport facilities, including an appraisal of HGV movements. Where required, the TA identifies improvements, which, in combination with the TP, will cater for the increased travel demand.
- 8.34. The Leicester and Leicestershire Integrated Transport Model (LLITM) was developed by AECOM for LCC between 2009 and 2011. Subsequently as the strategic modelling demand increased, a more detailed variant of the model was produced. The assignment models contained within this suite, including the highway model, were developed to represent a typical weekday with a base year of 2014, with a neutral month of April/May/June.
- 8.35. The Pan-Regional Transport Model (PRTM), referred to is explained further within the Local Model Validation Report (LMVR) which is provided in the TA Appendix 5 (6.2.8.1.5). The PRTM was initially developed as a variant of the LLITM fixed-speed buffer network. Since then, a large area of the Midlands surrounding Leicestershire has been updated with more detailed network and zoning with congestion represented by speed-flow curves. New calibration data was also added to the PRTM area to calibrate the external areas of

the matrix. This calibrated model has subsequently been used for several applications.

- 8.36. LCC Network Data Intelligence (NDI) Framework Modelling team were commissioned to undertake the strategic highway assignment modelling for the core network around the HNRFI using the PRTMv2.2 (referenced in the TA Appendix 6, 6.2.8.1.6) for AM and PM Peak Hours. As part of this work, a review of the base year highway model in the vicinity of the HNRFI has been undertaken to set out the performance of the model in this area.
- 8.37. A technical note was previously produced in 2018 to review the base year, PRTMv1.0, which focused on three areas of the PRTM highway model:
- a review of the model zoning in the vicinity of the Proposed Development;
  - a review of the base year coded highway network in the vicinity of the Proposed Development (focussing on M69 Junction 2 and its approaches); and
  - a review of the performance of the base year model against observed counts and journey times collected for use in the calibration and validation of the model.
- 8.38. The PRTM has been enhanced and updated since the previous HNRFI base year model review undertaken in 2018. Most recently v2.1 was used for the PEIR outputs. As part of this enhancement, the PRTMv2.2 has been recalibrated and validated using observed count data and journey times, potentially affecting modelled flows and journey times. The network and zoning around the HNRFI are unchanged materially; therefore, a review of the updated model calibration and validation performance within the PRTMv2.2 in the vicinity of the Proposed Development has been undertaken. The Base Year Model Review report and subsequent addendums describing the work undertaken is appended to the TA in Appendix 6.
- 8.39. The Planning and Infrastructure Data presented in the model uncertainty log included within PRTM 2.2 Hinckley core forecast model was reviewed by each of the TWG members for their specific authority areas and by NH in Autumn 2021. Comments received were reviewed and clarifications provided. The changes and updates related to recent consented developments to be included, updated planning trajectories, the removal of M1 J19 to J23 smart motorway scheme alongside off-site highway works associated with consented schemes that were still subject to Section 106 (s.106) and/or s.278 agreements in April 2022. The Planning and Infrastructure data uncertainty log follows the DfT Transport Analysis Guidance (TAG) M4.0<sup>3</sup> modelling certainty criteria.
- 8.40. Following the removal of the A5 Dodwells to Longshoot widening scheme from the Road Investment Strategy 2 (RIS2) in July 2021, NH requested that the core model be updated, and forecasting be reviewed and updated for HNRFI. The Planning and Infrastructure

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<sup>3</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/938878/tag-m4-forecasting-and-uncertainty.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938878/tag-m4-forecasting-and-uncertainty.pdf)

uncertainty log has been further revisited and updated in November 2021 and agreed with the TWG, to reflect changes in local planning information (including housing trajectories), updates to certainty levels of some highway network changes and the removal of the RIS2 scheme. A new run of the core forecast model for HNRFI was undertaken and results updated for the ES submission.

- 8.41. Validation of the PRTM model required a number of observed surveys on the surrounding network. Surveys were undertaken in 2018 using video and automatic traffic counts (ATC). The data obtained from these surveys was used in the validation process of the core modelling.

### ***Collision Data***

- 8.42. Collision data has been obtained from LCC and open-source Government data to understand collision patterns.

### ***Public Rights of Way***

- 8.43. PRoW surveys were undertaken in 2019 and again in 2021 to understand the effects of the pandemic on non-motorised users in the vicinity of the Main HNRFI Site.

### ***Determining the Spatial Scope***

#### ***Determining the Boundary of Study***

- 8.44. The spatial scope of the ES has been defined using the PRTM model. As set out in the PRTM LMVR (appended to the TA as Appendix 5) the PRTM highway network covers all of Great Britain and can be broken down into three distinct areas in-line with TAG Unit M3.1. These are the Area of Detailed Modelling (AoDM) where the level of detail within the network and demand matrices is at its greatest, the rest of the Fully Modelled Area (FMA) where the level of detail is not as great, but capacity restraint is still modelled, and the External Area where the level of detail is at its lowest. The AoDM, where the network and zone detail are at its greatest, was broadly defined as the Leicestershire County boundary but given the expected areas of focus for development in and around the county, further simulation network was included outside Leicestershire to the north, south and west of the county.
- 8.45. The FMA is defined as Leicestershire and the additional network, where capacity restraint is modelled, to the north, south and west of the county. The PRTM network and zoning across the Midlands are less detailed than in the AoDM but, other than for some town centres, use SATURN buffer speed-flow modelling to provide a feedback process between traffic flows and speeds in the network. Outside the Midlands, buffer links are coded with fixed speeds rather than speed-flow relationships. These fixed speeds vary by time period and modelled year (derived from the DfT's Road Traffic Forecasts).
- 8.46. To limit the scale and extent of an environmental assessment, the Institute of Environmental Management and Assessment (IEMA), (1993) Guidelines for the



Environmental Assessment of Road Traffic (GEART) (GN1)<sup>4</sup> recommend a screening process. The screening process includes an assessment of sensitive receptors to inform the selection of the links for assessment. Locations deemed to be sensitive receptors include:

- schools;
- health facilities;
- community facilities; and
- areas with significant pedestrian movements.

8.47. The guidelines recommend two thresholds that would normally apply before the environmental effects of increases in traffic need to be looked at in more detail on a specific link.

- **Rule 1:** Include highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%).
- **Rule 2:** Include any other specifically sensitive areas where traffic flows will increase by 10% or more.

8.48. On this basis the following 101 links listed in Table 8.3 below have been identified to be assessed in more detail when applying either rule 1 or 2.

**Table 8.3: Links to be Assessed**

No.	Road	No.	Road	No.	Road
1	M69, SB entry slip road	35	Main Rd	69	Grove Rd
2	M69 NB exit slip road	36	Main Street	70	Grove Rd
3	M69 South of M69 J2	37	Ashby Rd	71	Westfield Rd
4	Aston Lane near Sharnford	38	Main Street	72	Warwick Way
5	Aston Lane near Sharnford	39	Hinckley Rd East of M69 J2	73	Swarkestone Rd
6	Main Street	40	Devitt Way	74	Burton Lane
7	Dunton Rd	41	B4669 Hinckley Rd	75	Sheepy Rd
8	M69 J1 Exit Slip NB	42	Stanton Lane	76	Equity Rd East
9	M69 South of M69 J1	43	B4669 Leicester Rd	77	Local Rd
10	Stapleton Lane	44	Long Street	78	M6 J2 Slip Rd
11	A5 Watling Street East of M69 J1	45	B4114 Coventry Rd	79	Stoneygate Drive

<sup>4</sup> [REDACTED]

No.	Road	No.	Road	No.	Road
12	A5 Watling Street adjacent to Magna Park	46	B4669 Leicester Rd	80	A5 Watling Street
13	A5 Near Houlton	47	B4114 Coventry Rd	81	Frolesworth Rd
14	Crick Interchange NB slip entry	48	Forest Rd	82	Main Street
15	Crick Interchange SB slip Exit	49	Stanton Lane	83	A5 Watling Street
16	Sharnford Rd	50	Stapleton Lane	84	Main Street
17	A5 Near Tamworth Interchange	51	Station Rd	85	A5 Watling Street
18	A5 west of Glasgote Interchange	52	Upton Lane	86	A5 Watling Street
19	Nottingham Rd	53	A47 Normandy Way	87	Hinckley Rd
20	Melbourne Rd	54	Leicester Rd	88	A5 Watling Street
21	Hobinson Hill	55	The Common	89	A5 Watling Street
22	The Common	56	Hinckley Rd	90	Hinckley Rd
23	A447 Ashby Rd	57	Belle Vue Rd	91	Huncote Rd
24	A447 Ibstock Rd	58	Queens Way	92	B4669 Leicester Rd
25	A447 Wash Lane	59	Charnwood Rd	93	A447 Main Street
26	Braunstone Close	60	The Leecrofts	94	A447 Ashby Rd
27	B4114 Narborough Rd South	61	Cedar Rd	95	Chapel Street
28	Park Rd	62	Tudor Rd	96	A447 Main Street
29	Stoneygate Drive	63	Newstead Avenue	97	A447 Ashby Rd
30	Hardwicke Rd	64	Welbeck Avenue	98	A5 Watling Street
31	A563 Asquith Way	65	Twycross Rd	99	Oxford Street
32	Rotherby Lane	66	Barwell Lane	100	Belle Vue Rd
33	Little Dalby Rd	67	Deveron Way	101	Equity Rd East
34	Ullesthorne Rd	68	Grove Rd		

- 8.49. The Study Area has been taken from the PRTM Area of Detailed Modelling for this review. Data was collected for all key junctions and links in the area around the DCO Site encompassing routes into Hinckley, towards Leicester, Nuneaton, Coventry and Birmingham area and to / from the M69 motorway, M1 motorway and the A5 corridor.
- 8.50. The TA also utilises data from the Area of Detailed Modelling, however the assessment is based on forecast flow changes between the 'without development' and 'with development' with access infrastructure' scenarios, for which an Area of Influence is defined. This has been defined by identifying links which are forecast to change by at least 5%, or more than 30 vehicles between the two scenarios or junctions where the Volume over capacity (VoC) is over 85% for 2026 and 2036 AM Peak and PM Peak hour scenarios.
- 8.51. To assess the transport environmental effects of the Proposed Development, the Design Manual for Roads and Bridges (DMRB) has been consulted. Volume 11 of DMRB, the

Manual for Environmental Assessment (MEA)<sup>2</sup>, details specific assessment areas and methodologies which have been applied to the assessment.

8.52. *Criteria for assessing the magnitude of effect*

- 8.53. The key parameters for the Assessment are to quantify the additional traffic from the Proposed Development on the surrounding highway network and assess the effect of the increases in accordance with the IEMA GEART (GN1)<sup>5</sup>. The IEMA guidelines identified that: *'Previous research has identified that the most discernible environmental impacts of traffic are noise, severance, pedestrian delay and intimidation'*.
- 8.54. The environmental impact of the Proposed Development generated traffic has been assessed with reference to GN1. In accordance with the guidance, issues including severance, driver delay, pedestrian amenity and delay, accidents and safety associated with the Proposed Development have been investigated and are reported below.
- 8.55. Any likely significant environmental effects relating to noise and vibration and air pollution, generated by traffic from the Proposed Development are considered in the relevant technical chapters in this ES.
- 8.56. The assessment methodology adopted in this Chapter, is recognised as the industry standard methodology for the assessment of traffic and highway impacts. The guidelines outline the issues and the respective changes in volume and composition of traffic regarded as necessary before each issue results in traffic and transport impacts.
- 8.57. At this stage of the ES the construction programme for the DCO Site have been set out in indicative programme in Chapter 3. A review of likely movements has been carried out to understand the impact ahead of the completion of the Access Infrastructure. This is described further in paragraph 8.78. The construction assessment is therefore based on a worst-case year. Further detail on this information is included in the Construction Traffic Management Plan (CTMP). The operational assessment assumptions are based on the scenarios modelled within the PRTM and are described in 8.80. As such this assessment for ES is based on the following assessments scenario: Operational year 2036 With Development.
- 8.58. The following environmental effects are susceptible to changes because of the Proposed Development.
- **Severance:** Severance occurs in a community when a major road artery separates people from places and other people. Severance occurs from difficulty of crossing a road or where the road itself creates a physical barrier. Severance can be caused to pedestrians or motorists. GN1 suggests that changes in total traffic flow of 30%, 60% and 90% result in slight, moderate and substantial changes in severance respectively.

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<sup>5</sup> [REDACTED]

- **Pedestrian Delay and Amenity:** Pedestrian delay and amenity is broadly defined as the ease and relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition, pavement width and separation between vehicles and pedestrians. The impact manifests itself in fear and intimidation, exposure to noise and vehicle emissions. GN1 suggests that a doubling or halving of total traffic flow or the HGV composition could lead to perceptible negative or positive impacts upon pedestrian amenity.
- **Cyclist Delay and Amenity:** Cyclist delay and amenity is broadly defined as the relative ease and pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition, pavement width and separation between vehicles and pedestrians. The impact manifests itself in fear and intimidation, exposure to noise and vehicle emissions. GN1 suggests that a doubling or halving of total traffic flow or the HGV composition could lead to perceptible negative or positive impacts upon pedestrian amenity.
- **Fear and Intimidation:** The volume of traffic and its HGV composition are the factors that contribute to fear and intimidation. In the absence of thresholds set out in the IEA this ES considers that changes in total traffic flow of 30%, 60% and 90% are considered to result in slight, moderate or substantial impacts.
- **Accidents and Safety:** Highway safety is assessed by the frequency and severity of injury accidents that are attended by the police and recorded in official accident statistics. Intensification of use or changes in the composition of traffic has the potential to have an effect on collision rates. The examination of recent collision statistics on routes within the Study Area will highlight any hotspots that need further examination.
- **Driver Delay:** The use of industry standard junction capacity modelling programs provides a methodology to quantify junction delay. Driver delay is only likely to be significant where the existing Study Area highway network is at or close to capacity.

### Significance Criteria

- 8.59. The following tables set out the criteria for determining the magnitude of change, the sensitivity of receptors and the significance of effects, with these being based on IEMA Guidance.
- 8.60. Table 8.4 sets out the criteria for determining the magnitude of change based on IEMA Guidance and Table 8.5 sets out the criteria of sensitivity for the location/receptor based on IEMA Guidance.

**Table 8.4: Criteria to Determine the Magnitude of Change**

Type of Impact	Criteria of Magnitude			
	Negligible	Minor	Moderate	Major
<b>Severance</b>	Change in total traffic flow of <30%, 10% in sensitive areas	Change in total traffic 30% to 60%, between 10 % and 30% in sensitive areas	Change in total traffic 60% to 90% between 30 % and 60% in sensitive areas	Change in total traffic 90%+, 60%+ in sensitive areas
<b>Pedestrian and Cycle Amenity</b>	Change in Traffic Flow or HGVs <50%	Change in Traffic Flow or HGVs 50%> to 100%	Change in Traffic Flow or HGVs 100%> to 150%	Change in Traffic Flow or HGVs >150%
<b>Fear and Intimidation</b>	Change in total traffic flow of <30%, 10% in sensitive areas	Change in total traffic 30% to 60%, between 10 % and 30% in sensitive areas	Change in total traffic 60% to 90% between 30 % and 60% in sensitive areas	Change in total traffic 90%+ ,60%+ in sensitive areas
<b>Accidents and Safety</b>	Magnitude of impact derived using professional judgment informed by the frequency and severity of collisions within the Study Area and the forecast increase in traffic.			
<b>Driver Delay</b>	Magnitude of impact derived using professional judgment informed by the increase in vehicle delay and whether a junction is at, or close to capacity			

**Table 8.5: Sensitivity Criteria**

Sensitivity	Criteria
<b>High</b>	Where the Proposed Development could be expected to have a very significant effect (either adverse or beneficial) on severance, driver stress and delay, pedestrian and cycle amenity, fear and intimidation, and accidents and safety during the construction and operational phases.
<b>Medium</b>	Where the Proposed Development could be expected to have a noticeable environmental effect (either adverse or beneficial) on severance, driver stress and delay, pedestrian and cycle amenity, fear and intimidation, and accidents and safety during the construction and operational phases.
<b>Low</b>	Where the Proposed Development could be expected to have a barely noticeable environmental effect (either adverse or beneficial) on severance, driver stress and delay, pedestrian and cycle amenity, fear and intimidation, and accidents and safety during the construction and operational phases.
<b>Negligible</b>	Where no discernible environmental effect is expected as a result of the Proposed Development on severance, driver stress and delay, pedestrian and cycle amenity, fear and intimidation, and accidents and safety during the construction and operational phases.

8.61. Potential overall significance of traffic effects is a function of both magnitude of the traffic flow increase and the sensitivity of the receptor as shown in Table 8.5. In addition to this, the following parameters need to be considered:

- Duration - for example, whether the impact occurs during a temporary construction period or across the operational period.
- Highway characteristics including road classification, observations of existing traffic and pedestrian flows, road geometries of the highway chapters and existing infrastructure.

8.62. By combining the receptor sensitivity with the magnitude of impact using the assessment matrix shown in Table 8.6 where traffic effects are classified as negligible, minor, moderate, or major (adverse or beneficial).

**Table 8.6: Classification/Significance of Effect Matrix**

Magnitude of Impact	Sensitivity of Receptor/Location			
	High	Medium	Low	Negligible
Major	Major	Major	Moderate	Minor
Moderate	Major	Moderate	Minor	Negligible
Minor	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

8.63. Only moderate and major effects are significant for the purposes of the EIA Regulations; minor and negligible effects are considered ‘not significant’.

**Duration of effects**

8.64. Effects for transport and traffic are typically dependant on whether they are present through construction or operation of the Main HNRFI Site.

- Construction: Short/Medium Term, temporary.
- Operation and Construction: Medium Term, temporary.
- Operation: Long Term, permanent.

### Use of the Rochdale Envelope

- 8.65. The use of the Rochdale Envelope has been adopted to assess the potential environmental impacts of the maximum parameters of the Proposed Development that cannot yet be fixed. The parameters are described in more detail in Chapter 1: *Introduction*, with other references in Chapter 3: *Project description* and Chapter 6: *EIA methodology*.
- 8.66. A worst-case has been assessed for each parameter of the traffic generation including HGVs and light vehicles. This also assists in providing the reference point for the final highway infrastructure design.

### Assumptions and Limitations

#### Highway Impact

- 8.67. Construction traffic figures have been reviewed against the phasing plan and likely activity on site during the first two years of construction from Q4 2024. These are determined as the worst-case during earthworks and construction of roads within the site in tandem with the construction of the J2 slip roads on to the M69.
- 8.68. However, operational traffic levels, being permanent, long-term and connected with distribution represents the worst-case impacts as these will be operational on 24 hours, seven days per week basis. Construction phase impacts have been reviewed but material excavation and removal from the Main HNRFI Site is predicted to be low, therefore there are substantial savings in off-site construction traffic. Construction trips for comparable sites at East Midlands Gateway and Northampton Gateway indicate likely construction vehicle numbers at around 10-15% of the total forecast daily operational traffic flows predicted for the Main HNRFI Site. The trip rates from these sites have been used to forecast initial construction traffic movements for the earliest phases when impacts will be most keenly felt on local roads.
- 8.69. Indicative distribution figures from contractors have been provided to understand likely routing of vehicles ahead of the completion of the south facing slip roads and the A47 Link Road. This estimates around 60% of construction traffic will route from the M69 southbound on the existing slips. The remaining 40% from the B4669 to the west and east of the site access split equally. These vehicles have then been assigned routes based on linkage to strategic roads.
- 8.70. The estimated impacts indicate most affected links through Hinckley and the Eastern Villages fall within the 30% Rule 1 threshold for analysis, with absolute HGV numbers below 100 two-way trips per day. Where traffic is above the 30% level; primarily on the B4669 and routes through Hinckley there is likely to be no significant effects on Traffic and Transport due to their short-term temporary nature (2 years). However, appropriate management measures in place through the CTMP (document ref 17.7), for impacts to be minimised will be followed.



- 8.71. Once the slips are in operation after the first year of construction, followed by the completion of the A47 Link Road, then construction traffic will be focused on the strategic road network to avoid unnecessary impacts on local roads.
- 8.72. Trip generation data for the site during the operational phase are highly robust and have been ratified by the TWG. These have been forecast from existing distribution sites in the Midlands for HGVs. Car/Van trips have been based on a worst case from Swan Valley which has limited public transport access and is heavily car dependent.
- 8.73. The traffic outputs for the future years are based on data produced by the PRTM. This model has been constructed using SATURN strategic modelling package and validated against observed survey information. The package is an assignment model and as such traffic is assigned to different routes across the modelled area based on an algorithm of cost and journey time. As with any large-scale traffic model, limitations exist in the ability to reproduce future year flows.
- 8.74. Wherever possible, checks and balances have been put in place to ensure the most accurate and up-to-date planning and infrastructure information is used in the model. This has been shared, checked, and agreed with the TWG throughout the commissioning process. The model is fully validated and calibrated to DfT TAG 6 Unit M3.1 Highway Assignment Modelling requirements.
- 8.75. Data outputs from the PRTM model have been mapped into GIS software to show visually the magnitude and location of the change. This has enabled a proficient level of accuracy in mapping of sensitive receptors. However, there remains a reliance on interpretation and judgement on the extents of the sensitivity.
- 8.76. Accident statistics have been collated across the Study Area. Given the extents of the area an assessment through COBALT has been used to measure the impact of the development traffic flows over and above the baseline for the strategic and sensitive routes around the Main HNRFI. This provides an estimate of accident risk both with and without the development in place.
- 8.77. For this ES Chapter, it should be noted that the 2036 'Without Development' model provides traffic flows which include committed developments as recorded within the PRTM Uncertainty Log, together with consented transport improvement schemes. This committed development traffic is also included within the 2036 'With Development' scenario as well as the Proposed Development (which includes the access infrastructure). The assessment of the effects of the Proposed Development has been carried out by way of a comparison of the changes in traffic between these two scenarios. Therefore, all assessment in this ES Chapter includes the cumulative effects.

### *Development scenarios and terminology*

- 8.78. Where the 'Proposed Development' refers to the HNRFI application, 'Access Infrastructure' is defined as follows:



- **M69 Junction 2:** New two lane south facing slips (off and on slips) serving Junction 2 are proposed to give direct and all movement access to the Strategic Road Network. The Junction 2 circulatory carriageway is to be widened and existing arms amended. A new roundabout arm will be added for access to the development site. New arms will be provided for the south facing slips onto the M69. All arms of the roundabout are to be signalised.
- **A47 Link Road:** A distributor road will link Junction 2 of the M69 through the site, crossing the railway and connecting to the B4668 and ultimately the A47. The road is designed as a dual carriageway between the M69 Junction 2 and the site access roundabout 3 (approximately 990 metres) and as a single carriageway between the site access roundabout 3 and the B4668 Leicester Road to the north of the site (approximately 1,500 metres).
- **B4668:** Provision for a new, three arm, roundabout access to the B4668 Leicester Road, including a segregated left turn lane southbound from the A47.

8.79. The following years have been assessed:

- 2026 (anticipated first year of occupation);
- 2036 (ten years post-occupation).

8.80. The methodology used to forecast the traffic impact of the Proposed Development is based on the surveyed flows and outputs from the PRTM model. As agreed through the TWG meetings three scenarios have been assessed and used as sensitivity tests of impact of possible highway mitigation schemes. The scenarios were as follows for both 2026 and 2036:

- Do Nothing - Without Development (WoD) inclusive of committed development.
- Do Minimum - Without Development With Access Infrastructure (WoDWS).
- Do Something - With Development (WD): including the Access Infrastructure.
- The Do Minimum scenario has been tested to understand what flow changes are associated with the redistribution of the existing traffic on the local highway improvements including the M69 Junction 2 and the Link Road.

## RELEVANT LAW, POLICY, AND GUIDANCE

### National Transport Policy

#### *National Policy Statement for National Networks NPS (2014)*<sup>6</sup>

- 8.81. The DfT 2014 National Networks National Policy Statement (NN NPS), hereafter referred to as 'NPS', sets out the need for, and Government's policies to deliver, development of nationally significant infrastructure projects (NSIPs) on the national road and rail networks in England. It provides planning guidance for promoters of nationally significant infrastructure projects on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.
- 8.82. The principal aims of the NPS are to deliver (Chapter 2 Summary):
- networks with the capacity, connectivity and resilience to support national and local economic activity and to facilitate growth and create jobs;
  - networks which support and improve journey quality, reliability and safety;
  - networks which support the delivery of environmental goals and the move to a low carbon economy; and
  - networks which join up our communities and link effectively to each other.
- 8.83. The NPS (paragraphs 2.42-2.49) also identifies the specific economic and environmental benefits of rail freight Interchanges.
- 8.84. Specific to HNRFI the NPS directs that a TA should be included and produced according to DfT TAG methodology.

#### *National Planning Policy Framework (NPPF) (July 2021)*<sup>7</sup>

- 8.85. NPPF (Chapter 9) advocates that planning policies and decisions should consider whether:
- the opportunities for sustainable transport modes have been taken up depending upon the nature and location of the Development to reduce the need for major transport infrastructure (paragraph 110a);
  - safe and suitable access to the HNRFI Site can be achieved for all people (paragraph 110b); and
  - improvements can be undertaken within the transport network that cost-effectively

<sup>6</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/387222/nps-nn-print.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/387222/nps-nn-print.pdf)

<sup>7</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/387222/nps-nn-print.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/387222/nps-nn-print.pdf)

limits the significant impacts of the Proposed Development. Development should only be prevented or refused on transport grounds where the residual impacts of development are severe (paragraph 111).

- 8.86. The NPPF stresses the importance of providing a travel plan for all developments that generate significant amounts of movement (paragraph 113). It also gives priority to provision for low emission vehicles, including in particular the provision of electric car charging facilities (paragraph 112e).

### ***Guidelines for the Environmental Assessment of Road Traffic (GEART), Institute of Environment Assessment<sup>8</sup>***

- 8.87. This document provides the framework for the transport and traffic inputs to an EIA document. A standardised list of key effects to be considered is provided in the IEA (now IEMA) documents. This includes the measurement of significance from a matrix of magnitude and sensitivity.

### **National Planning Legislation**

#### ***Infrastructure Planning (Environmental Impact Assessment) Regulations 2017<sup>9</sup>***

- 8.88. The process of environmental assessments in the context of town and country planning in England is governed by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
- 8.89. These regulations set out the procedures to be followed in relation to EIAs linked to NSIP in England and Wales.
- 8.90. The objective is to provide a high level of protection of the environment and to help integrate environmental considerations into the preparation of proposals for development to reduce their impact on the environment.
- 8.91. It has been agreed that a detailed EIA will be required in this instance. The DCO application has been formally scoped under the EIA Regulations and this ES engages with the points raised.

### **County Transport Planning Policy**

#### ***Leicestershire Local Transport Plan (2011-2026)<sup>10</sup>***

- 8.92. The Leicestershire Local Transport Plan 3 (LTP3) seeks to give some certainty to transport planning and policy in developing a strategic framework.
- 8.93. The LTP recognises that planning policies will be grounded in the reality that most people

<sup>8</sup>

<sup>9</sup> <https://www.legislation.gov.uk/ukxi/2017/572/regulation/4>

<sup>10</sup> <https://www.leicestershire.gov.uk/roads-and-travel/road-maintenance/local-transport-plan>

will wish to own and use cars, but as far as possible, new development will be planned to avoid increasing traffic pressure by ensuring that a choice of attractive alternatives is available.

**Leicester & Leicestershire 2050: Our Vision for growth (2018)<sup>11</sup>**

- 8.94. The document prioritises taking advantage of proposals to improve national and regional networks. It recognises Hinckley as a key area for growth.
- 8.95. The vision for growth includes road and rail improvements within the surrounding area of Leicestershire. This includes key improvements to the M42 motorway, A5, A42 and A46 to expressway standard, which are likely to be fully built out by the early 2030s with increased capacity on the railways proposed within the same timeframes.

**Midlands Connect Strategic Transport Plan (2022) <sup>12</sup>**

- 8.96. The Midlands Connect Strategic Transport Plan sets out proposals for achieving the untapped economic potential of the Midlands.
- 8.97. It also recognises an economic growth corridor between Coventry and Leicester, and a chance to facilitate agglomeration in these areas.
- 8.98. In addition, it also states that it supports the development of new SRFI proposals, particularly where rail and road access is good.

**Enabling progress and facilitating growth – A Rail Strategy for the Midlands 2017 (Network Rail and Midlands Connect)<sup>13</sup>**

- 8.99. Network Rail and Midlands Connect set out the A Rail Strategy for the Midlands in this document:

*‘The railways across the Midlands are vital to the region, connecting people to jobs, leisure and goods. This network brings together key locations across the nation for passengers, whilst enabling freight to travel to and from all corners of the country.’*

*‘By bringing people to jobs and businesses to markets, the Midlands’ railways play a key role in supporting economic growth. This document outlines an industry developed strategy to both facilitate and accommodate growth for the next 10 to 30 years, which has been supported and endorsed by Midlands Connect.’*

*‘More Freight: Key flows for the Midlands include intermodal container traffic from Felixstowe ports to the West Midlands and transfer of construction materials from Peak District quarries to London. This positive demand is projected to continue in the future’ and then states that ‘The Midlands forms a critical hub for the national freight*

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<sup>11</sup> [REDACTED]

<sup>12</sup> [REDACTED]

<sup>13</sup> [REDACTED]

network.’

### **Local Transport Planning Policy**

#### **Blaby Development Plan (including Blaby District Local Plan (Core Strategy) 2013 <sup>14</sup> and Blaby District Local Plan (Delivery) DPD 2019)<sup>15</sup>**

8.100. The Core Strategy sets out the overarching strategy and core policies to guide future development in the district up to 2029.

8.101. It recognises that ‘One of the key obstacles affecting the economic success of the District is its transport network.’ (Paragraph 4.18).

8.102. A key policy aim is to ‘deliver the transport needs of the District and to encourage and develop the use of more sustainable forms of transport’ (Chapter 5).

8.103. With regard to rail freight enhancements Policy CS10 of the Core Strategy states:

*‘Within strategic (including national and regional) and financial constraints, BDC will support the exploration of realistic opportunities for improving rail-based movement of goods and people’*

8.104. Development Management Policy (DM7) Road Related Facilities for HGVs states:

*‘Major development proposals that include mainly B8 uses will include provision, of an appropriate scale, for road related facilities for HGV drivers, including toilets and secure parking, within the development site.’*

#### **Hinckley and Bosworth Local Development Framework 2009 Core Strategy<sup>16</sup>**

8.105. Whilst the main HNRFI Site is situated within the BDC administrative boundary, with a small area within HBBC boundary, the traffic impacts have potential to occur off-site and across neighbouring authorities. For this reason, it is considered pertinent to consider the Hinckley and Bosworth Development Plan.

8.106. The Core Strategy sets out the overarching strategy and core policies to guide the future development of the borough up to 2026.

8.107. The local plan is gradually being replaced by Development Plan Documents (DPDs) which form part of the Local Development Framework (LDF). The majority of the Local Plan Policies from the 2006 local plan have been saved until they are replaced by policies in the DPDs.

<sup>14</sup> <https://www.blaby.gov.uk/planning-and-building/local-plan/local-plan-core-strategy/>

<sup>15</sup> <https://www.blaby.gov.uk/planning-and-building/local-plan/local-plan-delivery-dpd/>

<sup>16</sup> [https://www.hinckley-bosworth.gov.uk/download/downloads/id/487/core\\_strategy\\_adopted\\_document.pdf](https://www.hinckley-bosworth.gov.uk/download/downloads/id/487/core_strategy_adopted_document.pdf)

8.108. The primary spatial objective for transportation and the need to travel reads:

*'To reduce the high reliance on car travel in the borough and to increase the opportunities for other forms of transport by focusing the majority of development in the Hinckley urban area where there is a range of transport options available and through securing improvement to public transport infrastructure and facilities that promote walking and cycling and through the use of travel plans.'*

### **Harborough Local Development Framework 2011 Core Strategy<sup>17</sup>**

8.109. Off-site mitigation works are proposed at the Cross-in-Hand Roundabout and therefore consideration of the Harborough and Rugby Local Plans has been taken.

8.110. Policy CS5 highlights that; all significant development proposals should provide for coordinated delivery of transport improvements as outlined in the place-based policies (Policies CS13-CS17) of this Strategy as further informed by detailed application of the Leicester and Leicestershire Integrated Transport Model.

### **Rugby Local Plan 2011<sup>18</sup>**

8.111. As for Harborough, Rugby orders the off-site improvements at the Cross-in-Hand key policy chapters are identified below.

8.112. Policy DC5, Comprehensive Development of Strategic sites states, 'Further on-site and off-site measures to mitigate transport impact as detailed in the Infrastructure Delivery Plan, including access to the local road network as deemed necessary through the Transport Assessment and agreed by Warwickshire County Council and the Highways Agency'.

### **Additional Transport Planning Guidance**

#### **Design Manual for Roads and Bridges<sup>19</sup> (DMRB)**

8.113. The DMRB provides guidance as to the requirements to the environmental assessment (LA 101) for larger development schemes.

#### **Manual for Streets 2<sup>20</sup>**

8.114. Manual for Streets 2 (MfS2) - Wider Application of the Principles, is a companion guide to MfS and builds on the philosophies set out in MfS and demonstrates how they can be extended beyond residential streets.

#### **Leicestershire Highway Design Guide<sup>21</sup>**

8.115. Part 3 of the Leicestershire Highway Design Guide is intended to help design development

<sup>17</sup> [https://www.harborough.gov.uk/downloads/file/17/core\\_strategy](https://www.harborough.gov.uk/downloads/file/17/core_strategy)

<sup>18</sup> [https://www.rugby.gov.uk/downloads/file/2319/local\\_plan\\_2011-31](https://www.rugby.gov.uk/downloads/file/2319/local_plan_2011-31)

<sup>19</sup>

<sup>20</sup>

<sup>21</sup> <https://resources.leicestershire.gov.uk/environment-and-planning/planning/leicestershire-highway-design-guide>

layouts that provide safe and free movement for all road users, including cars, lorries, pedestrians, cyclists, and public transport.

8.116. It provides guidance on ‘the overall development concept in terms of site access and highways and transportation impacts’ and sets out the car parking and servicing requirements for new developments.

8.117. This guidance as well as operational requirements will be considered in developing the highways and transportation strategy for the proposal.

### Relevant Transport Related National Decarbonisation Plans

#### *Decarbonising Transport: A Better, Greener Britain, Department for Transport, July 2021<sup>22</sup>*

8.118. This plan sets out the government’s commitments and the actions needed to decarbonise the entire transport system in the UK. It includes:

- a pathway to net zero transport in the UK;
- the wider benefits net zero transport can deliver; and
- the principles that underpin the approach to delivering net zero transport.

8.119. The plan follows on from ‘Decarbonising transport: setting the challenge’, published in March 2020 (now withdrawn), which laid out the scale of additional reductions needed to deliver transport’s contribution to legally binding carbon budgets and delivering net zero by 2050.

#### *Net zero highways: our 2030/ 2040 / 2050 plan – National Highways, July 2021<sup>23</sup>*

8.120. NH has announced its ambitious new carbon plan that will see it rapidly cut carbon from road construction, maintenance, and operations, and support the transition to zero emission vehicles.

8.121. NH plans to achieve this by putting roads at the heart of Britain’s net zero future through three key commitments; achieving net zero for its own operations by 2030, delivering net zero road maintenance and construction by 2040; and supporting net zero carbon travel on our roads by 2050.

8.122. Contractors and suppliers will also be required to act, including commitments to reduce carbon year-on-year by using the latest technologies, so that by 2040 our road maintenance and construction is near zero emissions.

<sup>22</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf)

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## BASELINE CONDITIONS

### Highway Network

8.123. The following section describes the strategic and local highway network within the vicinity of the Main HNRFI Site and the accessibility of the Main HNRFI Site for road-based movements.

8.124. The highway network can be broadly categorised as the ‘Strategic Road Network’ (SRN) (which consists of motorways and trunk roads) and the ‘local highway network’. It is the responsibility of NH to operate, maintain and improve the SRN, and likewise LCC, LCiC and WCC in respect of the local highway network. A summary of the pertinent roads/highways and their respective categorisation is summarised below.

#### *Strategic Road Network: Motorways and Trunk Roads*

8.125. The HNRFI Site is currently well served by road as well as rail, with direct access onto the M69 motorway via Junction 2 and thereafter the wider SRN as set-out below:

#### *M69 Motorway*

8.126. The M69 motorway affords the HNRFI Site with an immediate connection to the strategic road network, which runs directly adjacent to the southeast of the HNRFI Site. A new access serving the HNRFI Site directly onto Junction 2 is to be created.

8.127. To the south the M69 motorway connects with the A5 at Junction 1, the M6 at the on the outskirts of Coventry and to the north it connects with Junction 21 of the M1 on the outskirts of Leicester.

8.128. M69 Junction 2 currently only has northern facing slip roads (northbound on-slip, and southbound off-slip). As part of the Proposed Development access strategy, it is proposed to deliver a strategic improvement by delivering the southern facing slip roads (southbound on-slip, and northbound off-slip). It is therefore considered that the sensitivity of the M69 motorway is negligible.

#### *M1 Motorway*

8.129. The M1 is another key arterial route which runs up the central spine of England. To the south it provides a link to London (96 miles/154km) and to the north it links with Leeds (98 miles/158km).

8.130. The M1 continues onto the key regional conurbations of Nottingham (35 miles/56km) to the north and Northampton (33 miles/52km) to the south. It is a national route with significant capacity. It is therefore considered that the sensitivity of the M1 is negligible.

#### *M6 Motorway*

8.131. The M6 motorway is a major arterial route in the western sides of England. To the east it



provides a link to the M1 and Kettering (via the A14) and to the north with the A74 (M) at Carlisle (196 miles/316km).

8.132. The M6 continues onto the key regional conurbations of Birmingham (26 miles/42km) and Manchester (84 miles/135km). It is a national route with significant capacity. It is therefore considered that the sensitivity of the M6 is negligible.

### **A5 Watling Street**

8.133. The A5 trunk road acts as a key north – south link between the M42/Tamworth and the M1/M45/Milton Keynes.

8.134. The A5 is a single carriageway road within the vicinity of Hinckley. To the north of the M69 motorway the road is subject to a speed limit of 40mph/64kph and to the south it is subject to a speed limit of 60mph/96kph (national speed limit).

8.135. Around 2 miles/3.2km to the south of the M69 motorway the A5 turns into a dual carriageway.

8.136. To the north the A5 provides access from the M69 motorway to the recently developed Hinckley Commercial Park.

8.137. NH have a committed RIS2 (Road Investment Strategy)<sup>24</sup> with funding available during the RP2 (Second Road Period, covering 2020/21 to 2014/25), from which the Longshoot/Dodwell widening scheme has now been cancelled in the July 2021 Delivery Plan update<sup>25</sup>. The A5 Partnership are continuing to progress the development of the A5 corridor study<sup>26</sup> and the update to the Delivery Plan acknowledged that NH are looking at the A5 Hinckley to Tamworth RIS 3 pipeline proposals in which Longshoot/Dodwell will be considered. It is therefore considered that the sensitivity of the A5 is expected to be minor, until any definitive proposals come forward for the A5 around Hinckley.

### **A5 Watling Street Railway Bridge**

8.138. The bridge is located on the A5 Watling Street, between the M69 junction 1 and the A47 Dodwell roundabout near Hinckley. The bridge is owned and maintained by Network Rail and is located on the Felixstowe to Nuneaton line which links Birmingham, Leicester, Peterborough via Nuneaton, and Oakham. Network Rail, as owners of the bridge, facilitated the installation of traffic signs on the structure itself.

8.139. NH are responsible for the provision of traffic signs on the A5 in advance of the bridge. Bridges with headroom of less than 16'6" (5.03m) are classed as 'low bridges' which must

<sup>24</sup> <https://www.gov.uk/government/publications/road-investment-strategy-2-ris2-2020-to-2025>

<sup>25</sup> [REDACTED]

<sup>26</sup> [REDACTED]

be signed to identify the maximum height of a vehicle that can safely pass on the carriageway under the bridge. With a headroom clearance of 15' (4.6metres) the A5 Watling Street bridge is classed as a 'low bridge'. The A5 serves as a major Freight Corridor for Logistics developments along its length and a number of high sided vehicles strike the bridge each year therefore the sensitivity of the bridge is moderate.

### Local Highway Network

8.140. Access to the HNRFI Site is to be derived directly from M69 Junction 2, and the introduction of southern slip roads ensures that the SRN can be fully utilised for travel to and from the HNRFI Site. Nonetheless, a comprehensive assessment of the local highway network has been undertaken, and this chapter describes the local highway network within the vicinity of the HNRFI Site.

#### *B4669 Sapcote Road/Hinckley Road*

8.141. The B4669 runs in an east-west alignment immediately south of the HNRFI Site and forms a grade-separated junction with the M69 Junction 2.

8.142. To the west the B4669 Sapcote Road provides a connection into Hinckley and to the east the B4669 Hinckley Road provides connections to the villages of Sapcote and Stoney Stanton.

8.143. The B4669 is a single carriageway road and within the vicinity of the HNRFI Site is subject to the national speed limit (60mph/96kph). On entry to the urban area of Hinckley this reduces to 40mph/64kph and then 30mph/48kph.

8.144. In the urban area of Hinckley there is generally footway provision on both sides of the road, and in the vicinity of the HNRFI Site a Footway on the northern sides of the carriageway links Hinckley with M69 Junction 2. The carriageway is generally well lit in the urban area of Hinckley and at key junctions but is generally unlit in the rural environment between Hinckley and M69 Junction 2. Access to Smithy Lane is taken from the B4669, providing access to Burbage Common and the traveller site to the north.

8.145. To the east of M69 Junction 2 the B4669 provides a connection with the village of Sapcote and the B4114 Coventry Road to the south.

8.146. In this location the road is generally rural in nature and is subject to a 50mph speed limit. When the road enters the village of Sapcote the speed limit reduces to 30mph. Footway provision is generally provided on both sides of the carriageway within the urban area of Sapcote, though these are limited in width at certain locations. In Sapcote, and at key junctions, the carriageway is lit. However, in the rural settings the carriageway is generally unlit. It is therefore considered that the sensitivity of the B4669 is moderate to major-upgraded from minor due to public feedback.

#### *B581 Station Road*

8.147. The B581 runs from the A47 and the village of Barwell to the village of Stoney Stanton

passing over the M69 motorway.

- 8.148. The road is primarily rural in nature with some intermittent residential frontage. It is subject to a 40mph speed limit to the north of the M69 motorway, the national speed limit (60mph) to the south of the M69 motorway and 30mph within the village of Stoney Stanton.
- 8.149. It is proposed to provide emergency vehicle access to the HNRFI Site via Burbage Common Road or via a connection with Hinckley Road/B4669 to the south of the HNRFI Site. It is therefore considered that the sensitivity of the B581 is minor.

### **A47**

- 8.150. The A47 is a major road which runs along the northern boundary of Hinckley. This is likely to act as a local route for vehicular movements accessing the HNRFI Site from the surrounding area which are not as well connected to the SRN. This would include villages such as Barwell and Kirkby Mallory and industrial sites such as the Caterpillar UK Ltd plant in the village of Peckleton.
- 8.151. To the west the A47 connects with the A5 and Nuneaton, with Leicester City Centre to the east.
- 8.152. Within the area of Hinckley, the A47 is a 9-metre-wide single carriageway road with no direct frontage. It has a segregated walking and cycling route on its southern boundary.
- 8.153. The A47 connects with amongst others the B4666, Stoke Road, B4667, B4668 and B581 via either roundabout or signalised junctions. It is therefore considered that the sensitivity of the A47 is minor.

### **B4668 Leicester Road**

- 8.154. The B4668 links the A47 with Hinckley Town Centre and passes Burbage Common. The road then continues into Hinckley where it is directly fronted by residential properties.
- 8.155. The B4668 is a single carriageway road with a minimum width of around 8 metres. It is generally well lit and has footway provision on both sides of the carriageway within the urban area.
- 8.156. Within Hinckley the road is subject to a 30mph speed limit. Outside the urban area the speed limit increases to 40mph and then 60mph. No weight or height restrictions are in place along the road. It is therefore considered that the sensitivity of the B4668 is minor.

### **Burbage Common Road**

- 8.157. Burbage Common Road is a rural lane which links the B4668 and the B581 passing through the northern part of the HNRFI Site.

- 8.158. Most of the carriageway consists of a single-track lane (3m wide) with intermittent passing places. It is primarily fronted by open fields with the occasional residential property and Woodhouse Farm butchery. It is unlit and pedestrians/vehicles share the space.
- 8.159. On the northern boundary of the HNRFI Site it passes over the Felixstowe to Nuneaton railway via a railway bridge.
- 8.160. It is proposed that as part of the Proposed Development Burbage Common Road will be stopped-up for vehicular access within the HNRFI Site boundary, except for emergency vehicles as well as pedestrians, cyclists and equestrians.
- 8.161. Access will be retained for existing properties along Burbage Common Road outside the limits of the DCO. Through movements, and those to and from the HNRFI Site, will be restricted. It is therefore considered that the sensitivity of Burbage Common Road is moderate.

### **B4114 Coventry Road**

- 8.162. The B4114 is an arterial road to the south of the HNRFI Site. It connects with the A5 to the west via a complex priority junction and to the east with the outskirts of Leicester and M1 Junction 21.
- 8.163. The B4114 provides access to a number of villages along the route including Sharnford, Croft, Cosby, Littlethorpe, Sapcote, Stoney Stanton, Broughton Astley and Narborough.
- 8.164. The road is generally a single carriageway road except for a small chapter within the vicinity of the village of Croft which widens to a dual carriageway with a central reservation.
- 8.165. Where there is no direct frontage to the carriageway it is generally unlit with no footway provision. Where the road passes through the villages of Sharnford and Narborough the road is generally well lit with footway provision in place.
- 8.166. The speed limit along the road varies from 30mph/48kph to 70mph/112kph national speed limit. There are no weight limit restrictions on the road with various lay-bys along the sides of the carriageway. It is therefore considered that the sensitivity of the B4114 is minor.

### **Vehicular Access**

- 8.167. The Proposed Development is situated in a highly accessible location and is extremely well served by the road as well as rail, with direct access onto the M69 motorway via Junction 2 and thereafter the wider SRN.
- 8.168. M69 Junction 2 is a grade separated roundabout connecting the M69 motorway and the B4669 Hinckley Road. The capacity of the junction is high. With flows through the junction being relatively low, there is residual capacity to accommodate a significant increase in movements.

- 8.169. The junction currently only has northern slip roads (northbound-on, southbound-off) and the Proposed Development will deliver the southern slip roads (southbound-on, northbound-off) and make the junction an 'all-movements' junction.
- 8.170. The introduction of southern slip roads enables development traffic to travel along its desire line and acts to distribute traffic more effectively across the junction and the wider SRN – minimising the potential impact the HNRFI Site may otherwise have on the local highway network.
- 8.171. The HNRFI Site access would be created directly onto the north-western sides of Junction 2 via a dual-carriageway connection to the junction and extending into the HNRFI Site.
- 8.172. The A47 Link Road will link M69 Junction 2 of the M69 motorway through the HNRFI Site, crossing the railway and connecting to the B4668 and ultimately the A47 to the north-west.

## Rail

- 8.173. The baseline operations on the rail network have been reviewed for the HNRFI operations and data has been taken from the real time train website to provide a baseline condition for the purposes of this ES Chapter. The average number of two-way daily trains through Hinckley Rail Station as a proxy for the HNRFI site:
- 41 Freight Trains during the day and 21 at night; and
  - 64 timetabled day-time passenger trains and 5 night-time passenger trains.
- 8.174. The use of rail freight will depend on several key variables, with success related to ease of access to the mainline and economic viability, which is not purely distance related. Rail equipment utilisation is a crucial part of the economics of operating viable rail freight services. Intensive use over relatively short distance works, as does long haul freight.
- 8.175. The HNRFI is exceptionally well located in this context, being on the relatively recently upgraded Felixstowe to Nuneaton mainline designed particularly to serve the deep-sea port of Felixstowe, also benefitting London Gateway, Liverpool and Southampton, saving them from having to use the North London line and the more congested pathways of the West Coast Mainline, south of Nuneaton. It is gauge cleared to carry the highest 9'6" containers.
- 8.176. The HNRFI is near the manufacturing core of the West Midlands. From the outset DIRFT was seen as prime for Fast Moving Consumer Goods, and Hams Hall for heavier engineering. HNRFI is uniquely positioned to serve both, as expressed in the Leicester & Leicestershire Local Economic Partnership plan for the area.
- 8.177. The onward distribution from Hinckley occupiers is anticipated for modelling purposes to be via road to national, regional, and local destinations, either to manufacturers, retailers or end users. Some products may have their secondary movement out undertaken by rail

to other regions, including Scotland. These products may be processed through a regional distribution centre (RDC) elsewhere or to other major manufacturing centres, particularly in the Northwest and the Northeast. This would save lorry movements, but for forecasting purposes has not been assumed at this juncture.

### Non-Motorised User Access

#### *Public Rights of Way (PROW)*

8.178. There is an extensive network of public rights of way ('PROW') routes running through the HNRFI Site as detailed in Chapter 11, Appendix 11.2 Public Rights of Way, Appraisal and Strategy and shown in Figure 11.3.

8.179. There are five footpaths (U50, U52, U53, V23 and V35) and two bridleways (U52 and V29) within the site. Bridleway U51 is also present along the south-western site boundary.

8.180. On-site PROWs facilitate access in most directions. Six of these paths extend or have connections beyond the boundary of the site and include:

- To the north – T89/1, T89/2, U50/3 and U50/4;
- To the south – U50/1, V35/1, V29/8 and V30/4;
- To the east – V29/6, V29/4, V29/9, U53/2 and V29/3; and
- To the west – U52/8 and U52/6.

#### *Pedestrian Access*

8.181. The B581 and the B4668, which are located at either end of Burbage Common Road, both have footways running alongside their carriageways.

8.182. Both the B4469 Hinckley Road and M69 Junction 2 have Footways on the northern sides of the carriageway. The M69 motorway entry and exit slip roads are crossed via uncontrolled crossings.

8.183. The existing railway in the vicinity of the site features a series of uncontrolled gated pedestrian level crossings serving local PROW routes. These include level crossings at the following locations, shown in Figure 3.1 of the Site Description and listed below.

- Thorney Fields Farm No 2 Footpath No. U17/2, 1 km NW of Sapcote
- Elmesthorpe: Footpath No. T89/1 between Bostock Close and the B581 Station Road, opposite the Wentworth Arms public house
- Earl Shilton: Footpath No: U50/3 connecting Elmesthorpe to the north with Burbage Common Road
- Barwell: Footpath No. V23/1, connecting the Elmesthorpe-Burbage Common

Bridleway (U52/9) with Burbage Common Road to the east of the railway.

- The Outwoods: Footpath no. U8/1 - U52/3, connecting Burbage and the Hinckley Academy and John Cleveland Sixth Form Centre in Hinckley.

### **Cycling Access**

- 8.184. Although there is some cycle infrastructure in place in the area, the access to the HNRFI Site is currently limited with no dedicated cycle facilities in the immediate vicinity of the HNRFI Site. The existing network and potential route corridors can be seen in Figure 5-3 of the TA.
- 8.185. However, the A47 benefits from cycle infrastructure. From the A5 through to the roundabout with Leicester Road (north of Earl Shilton), there is a shared footway/cycleway adjacent to the road. To the north of that roundabout there are on-road cycle lanes. Cycling on-road is considered a genuine option given the travel distances from nearby residential areas.
- 8.186. A cycle route to Hinckley is provided along the A47 on the northern edge of town to the roundabout with the B4668.
- 8.187. Cycle routes from Leicester are of high quality but terminate in Narborough. Leicester city centre can be accessed either via off-road National Cycle Network (NCN) route 6 or via a local cycle route 3 along Narborough Road. Additionally, as the local cycle route 4 runs adjacent to the city ring road, other parts of the city can be also easily accessed by bike. To get to the city from the site cyclists can utilise the A47 and go via Enderby to Narborough and or the B4114 to the south or go via local cycle routes to the northwest.

## **FUTURE BASELINE**

### **Construction Phasing, Traffic and PROW**

- 8.188. The current estimated construction programme start is for Quarter 4 2024 subject to consents and investment decisions. First occupation on a phased approach is anticipated for 2026.
- 8.189. The pace of development will broadly reflect occupier demand. Subject to the demands of the property market it is anticipated that the above works would be phased over a total period of 10 years. The construction phasing is based upon the commitment to deliver significant highway infrastructure development early in the process prior to the first occupation of the warehousing units.
- 8.190. The indicative construction programme is set out in Chapter 3, Table 3.4. It is proposed that development would take place in phases with floorspace thresholds or triggers specified for the completion of off-site highways works and elements of the Railport.



8.191. As set out in the Public Rights of Way Appraisal and Strategy Appendix 11.2 Table 5.1, the greatest disruption to the PRow network will occur during construction phase when, particularly for routes within the centre of the site, routes would be closed to allow for site clearance and construction works to proceed safely.

### Baseline Traffic Flows

8.192. The baseline traffic flows on the road network are projected to increase year on year. The operational scenario post full completion will represent a worst-case in terms of traffic generation. A horizon year of 2036 has been applied to the PRTM modelling outputs, this is ten years post first projected occupation and two years prior to the end of the Blaby Local Plan Period.

8.193. Growth applied is based on National Trip End Model (NTEM) forecasts which have been adjusted to include planning allocations with high degrees of certainty as defined by TAG guidance. The following section lists the largest allocated and committed developments.

8.194. Baseline traffic flows are included within Table 8.19 under 2036 Without Development.

### Committed Developments

8.195. Known committed developments in the vicinity of the HNRFI Site have been included in the PRTM Core Forecast model for the HNRFI assessments undertaken within this Chapter. This captures the anticipated traffic growth in the area from planning and infrastructure information agreed with the TWG in the form of an Uncertainty Log (UL).

8.196. The Planning and Infrastructure Data presented in the model UL included within PRTM 2.2 Hinckley core forecast model was reviewed by each of the TWG members for their specific authority areas and by NH in spring 2021. Comments received were reviewed and clarifications provided. The changes and updates related to recent consented developments to be included, planning trajectories, the removal of M1 J19 to J23 smart motorway scheme alongside off-site highway works associated with consented schemes that were still subject to chapter 106 (s.106) agreements in April 2021. The Planning and Infrastructure data uncertainty log follows the DfT TAG M4.0<sup>27</sup> modelling certainty criteria.

8.197. Following the removal of the Longshoot/Dodwells widening scheme from the Road Investment Strategy 2 (RIS2) in July 2021, NH requested that the core model be updated, and forecasting be reviewed and updated for HNRFI. The Planning and Infrastructure uncertainty log has been further revisited and updated in November 2021 and agreed with the TWG, to reflect changes in local planning information (including housing trajectories), updates to certainty levels of some highway network changes and the removal of the RIS2 scheme. A new run of the core forecast model for HNRFI was undertaken and results updated for the final ES submission.

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<sup>27</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/938878/tag-m4-forecasting-and-uncertainty.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938878/tag-m4-forecasting-and-uncertainty.pdf)



8.198. The detailed Uncertainty Log is confidential, however a summary of strategic sites and schemes that were included in the July model are provided within Appendix A and B of the Forecast Modelling Report in TA Appendix 8.1.

8.199. Highway Infrastructure developments include the following:

- A new roundabout on A5 and M69 Junction 1 improvements associated with Land East of J1 of the M69 motorway.
- Frank Whittle Roundabout/A4303 and A5 Gibbet Lane Roundabout localised widening and enhancements associated with Magna Park and Lutterworth East.
- Hinckley, Rugby Road Corridor Improvements – Phase 4 Hinckley Town Centre Improvements.

8.200. Previous highway infrastructure included within the PRTM which is now removed:

- The SMART motorways scheme for M1 Junction 19-23A was removed from the PRTM 2.1/2.2 model runs at the request of NH.
- The A5 Dodwells to Longshoot widening scheme (Formerly RIS2) removed from the model run of PRTM 2.2 HNRFI Core at the request of NH.

### Rail Terminal

8.201. The onward distribution from Hinckley warehousing occupiers is anticipated for modelling purposes to be via road to regional and local destinations, either to manufacturers, retailers, or end users. Some products may have their secondary movement out undertaken by rail to other regions, including Scotland. This maybe to go through a regional distribution centre (RDC) elsewhere or to other major manufacturing centres, particularly in the Northwest and the Northeast. This would save lorry movements, but for forecasting purposes has not been assumed at this juncture.

8.202. The HNRFI has been designed such that when fully developed out, the terminal will be able to accommodate up to 16 trains per day. It is proposed to have the ability to deliver mainline access at both the eastern and western end of the HNRFI Site, with crossovers, allowing rail services to enter and depart from the HNRFI Site in either direction.

8.203. The total HGV movements off-site have been calculated based on the container numbers and the maximum 32 train paths per weekday and 8 train paths per weekend day. A train path is the infrastructure capacity needed to run a train between two places over a given time-period.

8.204. This level of service is already contained within Network Rail's rail freight growth forecast through this route. As such HNRFI is designed to provide the terminal capacity needed to help achieve this anticipated growth.

- 8.205. As forecast growth, these rail freight services are already built into the long-term forecast used to plan additional passenger and freight services to and from the West Midlands to and through Leicester. As such it is understood that the rail freight traffic will not conflict with the planned development of additional passenger services on this line or existing timetabled passenger services.
- 8.206. Consultation with Network Rail has confirmed that adequate capacity is available on the network. However, limitations do exist around busy periods. The AM peak hour has no capacity between 8-9 AM and the PM peak hour has 1 spare path for use. These paths are not guaranteed, but it means that the impact on the immediate highway network above the baseline is minimal. This has been accounted for within the PRTM modelling, which included for the ‘shoulder peak hours’ between 7am to 10am and 4pm to 7pm respectively. For the DCO application a full rail capacity assessment by WSP/Baker Rose has been submitted (Document Ref: 18.1).

**Baseline Assessment**

**Severance**

- 8.207. Severance is defined in the Design Manual for Roads and Bridges (DMRB) as “the separation of residents from facilities and services they use within their community caused by new or improved roads or by changes in traffic flows”.
- 8.208. Several factors are considered in determining the existing level of severance. These include road width, traffic flow and composition, traffic speeds and the availability of pedestrian crossing facilities.
- 8.209. The thresholds of community severance levels as prescribed by the DMRB are set out in Table 8.7.

**Table 8.7: Threshold of Severance Levels**

Severance Level	Traffic Flow (Annual Average Daily Traffic (AADT))	Length of Diversion
Slight/Minor	<8,000	<250m
Moderate	8-16,000	250-500m
Significant/Major	>16,000	>500m

Source: Design Manual for Roads and Bridges (DMRB)

- 8.210. Baseline severance levels have been calculated using the methodology discussed in the Assessment Methodology and the thresholds provided in Table 8.7 above.

**Table 8.8: 2036 Baseline Severance Levels**

Link No.	Road	Sensitive Location	AADT	Facilities (crossings)	Severance Level
4	Aston Lane near Sharnford	No	2063	No Facilities	Minor
5	Aston Lane near Sharnford	No	2021	No Facilities	Minor
6	Main Street	No	4870	No Facilities	Minor
7	Dunton Rd	No	1144	No Facilities	Minor
10	Stapleton Lane	No	4373	No Facilities	Minor
11	A5 Watling Street East of M69 J1	No	21022	Uncontrolled Crossings	Major
12	A5 Watling Street adjacent to Magna Park	No	24506	No Facilities	Major
13	A5 Near Houlton	No	8906	No Facilities	Moderate
14	Crick Interchange NB slip entry	No	13210	Uncontrolled Crossings	Moderate
15	Crick Interchange SB slip Exit	No	10607	Uncontrolled Crossings	Moderate
16	Sharnford Rd	No	3073	No Facilities	Minor
17	A5 Near Tamworth Interchange	No	19763	No Facilities	Major
18	A5 West of Glascote Interchange	No	19746	No Facilities	Major
19	Nottingham Rd	No	8435	Uncontrolled Crossings	Moderate
20	Melbourne Rd	No	8919	Uncontrolled Crossings	Moderate
21	Hobinson Hill	No	10983	No Facilities	Moderate
22	The Common	No	5824	No Facilities	Minor
23	A447 Ashby Rd	No	10015	Uncontrolled Crossings	Moderate
24	A447 Ibstock Rd	No	8494	Uncontrolled Crossings	Moderate
25	A447 Wash Lane	No	10326	Uncontrolled Crossings	Moderate
26	Braunstone Close	Yes	3025	No Facilities	Minor
27	B4114 Narborough Rd South	Yes	1304	No Facilities	Minor
28	Park Rd	Yes	4295	Uncontrolled Crossings	Minor
29	Stoneygate Drive	No	5988	Uncontrolled Crossings	Minor
30	Hardwicke Rd	Yes	1586	Uncontrolled Crossings	Minor
31	A563 Asquith Way	No	8333	No Facilities	Moderate
32	Rotherby Lane	No	86	No Facilities	Minor
33	Little Dalby Rd	No	164	No Facilities	Minor
34	Ullesthorpe Rd	Yes	3065	No Facilities	Minor
35	Main Rd	Yes	603	Uncontrolled Crossings	Minor
36	Main Street	Yes	4556	Uncontrolled Crossings	Minor
37	Ashby Rd	Yes	1534	Uncontrolled Crossings	Minor
38	Main Street	Yes	4996	Uncontrolled Crossings	Minor
39	Hinckley Rd East of M69 J2	No	10241	No Facilities	Moderate

Link No.	Road	Sensitive Location	AADT	Facilities (crossings)	Severance Level
40	Devitt Way	No	167	Uncontrolled Crossings	Minor
41	B4669 Hinckley Rd	Yes	8017	Uncontrolled Crossings	Moderate
42	Stanton Lane	No	1850	No Facilities	Minor
43	B4669 Leicester Rd	Yes	9017	Uncontrolled Crossings	Moderate
44	Long Street	No	5723	Uncontrolled Crossings	Minor
45	B4114 Coventry Rd	No	14371	Uncontrolled Crossings	Moderate
46	B4669 Leicester Rd	No	5712	Uncontrolled Crossings	Minor
47	B4114 Coventry Rd	No	20249	Uncontrolled Crossings	Major
48	Forest Rd	Yes	3937	No Facilities	Minor
49	Stanton Lane	No	4626	No Facilities	Minor
50	Stapleton Lane	Yes	6540	No Facilities	Minor
51	Station Rd	Yes	3093	Uncontrolled Crossings	Minor
52	Upton Lane	No	151	No Facilities	Minor
53	A47 Normandy Way	Yes	16179	Uncontrolled Crossings	Major
54	Leicester Rd	Yes	19290	Zebra Crossing	Major
55	The Common	Yes	10147	Uncontrolled Crossings	Moderate
56	Hinckley Rd	Yes	12775	Uncontrolled Crossings	Moderate
57	Belle Vue Rd	Yes	4106	No Facilities	Minor
58	Queens Way	Yes	2176	No Facilities	Minor
59	Charnwood Rd	Yes	876	No Facilities	Minor
60	The Leecrofts	No	629	No Facilities	Minor
61	Cedar Rd	Yes	381	No Facilities	Minor
62	Tudor Rd	Yes	4553	No Facilities	Minor
63	Newstead Avenue	Yes	961	No Facilities	Minor
64	Welbeck Avenue	Yes	2965	No Facilities	Minor
65	Twycross Rd	Yes	1219	No Facilities	Minor
66	Barwell Lane	No	6751	Uncontrolled Crossings	Minor
67	Deveron Way	Yes	1017	No Facilities	Minor
68	Grove Rd	Yes	1453	No Facilities	Minor
69	Grove Rd	Yes	370	No Facilities	Minor
70	Grove Rd	Yes	701	No Facilities	Minor
71	Westfield Rd	Yes	2913	Uncontrolled Crossings	Minor
72	Warwick Way	Yes	8587	Uncontrolled Crossings	Moderate
73	Swarkestone Rd	No	29398	Uncontrolled Crossings	Major
74	Burton Lane	No	3772	Uncontrolled Crossings	Minor
75	Sheepy Rd	Yes	1519	Uncontrolled Crossings	Minor
76	Equity Rd East	Yes	3955	Uncontrolled Crossings	Minor
77	Local Rd	No	257	Uncontrolled Crossings	Minor
79	Stoneygate Drive	No	6139	Uncontrolled Crossings	Minor

Link No.	Road	Sensitive Location	AADT	Facilities (crossings)	Severance Level
80	A5 Watling Street	No	22048	No Formal Facilities	Major
81	Frolesworth Rd	No	1496	Uncontrolled Crossings	Minor
82	Main Street	No	5331	No Formal Facilities	Minor
83	A5 Watling Street	No	30467	Uncontrolled Crossings	Major
84	Main Street	Yes	5405	No Formal Facilities	Minor
85	A5 Watling Street	No	24231	No Formal Facilities	Major
86	A5 Watling Street	No	27005	No Formal Facilities	Major
87	Hinckley Rd	Yes	2242	Uncontrolled Crossings	Minor
88	A5 Watling Street	No	26781	No Formal Facilities	Major
89	A5 Watling Street	No	31655	No Formal Facilities	Major
90	Hinckley Rd	No	1667	No Formal Facilities	Minor
91	Huncote Rd	No	5315	No Formal Facilities	Minor
92	B4669 Leicester Rd	No	11688	Uncontrolled Crossings	Moderate
93	A447 Main Street	No	15193	Uncontrolled Crossings	Moderate
94	A447 Ashby Rd	No	13174	No Formal Facilities	Moderate
95	Chapel Street	Yes	2707	Uncontrolled Crossings	Minor
96	A447 Main Street	No	13758	No Formal Facilities	Moderate
97	A447 Ashby Rd	No	10527	No Formal Facilities	Moderate
98	A5 Watling Street	No	28043	Uncontrolled Crossings	Major
99	Oxford Street	Yes	530	Uncontrolled Crossings	Minor
100	Belle Vue Rd	Yes	4571	Uncontrolled Crossings	Minor
101	Equity Rd East	Yes	3955	No Formal Facilities	Minor

8.211. Table 8.8 shows that the amount of traffic along each link results in varying levels of severance with 58 links displaying an existing minor level of severance, 22 links displaying a moderate level of severance and 15 links displaying a major level of severance. Motorway links are excluded as pedestrians are not permitted to walk along or cross the motorways.

**Driver Stress and Delay**

8.212. Driver stress, as outlined in the DMRB has three principal elements: frustration, fear of potential accidents and uncertainty relating to the route being followed. The weight of these factors varies depending on the driver. For example, those who drive for commuting purposes will often have a higher stress threshold due to their experience and knowledge of a route compared to those who may only drive occasionally for leisure or personal purposes.

8.213. The DMRB outlines the thresholds of traffic flow and average journey speeds at which driver stress is perceived to change. These thresholds are summarised for single and dual

carriageway roads in Tables 8.9 and 8.10 respectively.

**Table 8.9: Threshold of Driver Stress for Single Carriageway Roads**

Average Peak Hourly Flow Per Lane (Units)	Average Journey Speed (KM/H)		
	<50	50 - 70	>70
<1200	High	Moderate	Low
1200– 1600	High	Moderate	Moderate
>1600	High	High	High

Source: Design Manual for Roads and Bridges (DMRB)

**Table 8.10: Threshold of Driver Stress for Dual Carriageway Roads**

Average Peak Hourly Flow Per Lane (Units)	Average Journey Speed (KM/H)		
	<60	60 - 80	>80
<1200	High	Moderate	Low
1200– 1600	High	Moderate	Moderate
>1600	High	High	High

Source: Design Manual for Roads and Bridges (DMRB)

8.214. Table 8.11 details the existing driver stress levels on the highway network subject to detailed assessment as set out above and the vehicle speeds extracted from the model.

**Table 8.11: 2036 Baseline Driver Stress and Delay Levels**

Link No.	Road	Sensitive Location	AADT	Peak Hours Flow Per Lane	Ave Speed (Kph)	Driver Delay & Stress Level
1	M69 SB entry slip road	No	4310	207	72	Low
2	M69 NB exit slip road	No	2795	142	72	Low
3	M69 South of M69 J2	No	64863	957	112	Low
4	Aston Lane near Sharnford	No	2063	108	48	High
5	Aston Lane near Sharnford	No	2021	90	55	Moderate
6	Main Street	No	4870	232	64	Moderate
7	Dunton Rd	No	1144	67	64	Moderate
8	M69 J1 Exit Slip NB	No	6397	300	72	Low
9	M69 South of M69 J1	Yes	82692	1823	112	Moderate
10	Stapleton Lane	No	4373	212	64	Moderate
11	A5 Watling Street East of M69 J1	No	21022	910	76	High
12	A5 Watling Street adjacent to Magna Park	No	24506	1057	88	High
13	A5 Near Houlton	No	8906	386	104	Low
14	Crick Interchange NB slip entry	No	13210	1194	72	High

Link No.	Road	Sensitive Location	AADT	Peak Hours Flow Per Lane	Ave Speed (Kph)	Driver Delay & Stress Level
15	Crick Interchange SB slip Exit	No	10607	961	72	High
16	Sharnford Rd	No	3073	152	64	Moderate
17	A5 near Tamworth Interchange	No	19763	445	76	Low
18	A5 west of Glascote Interchange	No	19746	444	76	Low
19	Nottingham Rd	No	8435	380	48	Moderate
20	Melbourne Rd	No	8919	401	48	Moderate
21	Hobinson Hill	No	10983	494	48	Moderate
22	The Common	No	5824	262	48	Moderate
23	A447 Ashby Rd	No	10015	433	73	Low
24	A447 Ibstock Rd	No	8494	370	73	Low
25	A447 Wash Lane	No	10326	465	48	Moderate
26	Braunstone Close	Yes	3025	133	32	High
27	B4114 Narborough Rd South Segregated Left Turn	Yes	1304	115	40	High
28	Park Rd	Yes	4295	211	48	High
29	Stoneygate Drive	No	5988	265	40	High
30	Hardwicke Rd	Yes	1586	89	48	High
32	Rotherby Lane	No	86	4	48	Moderate
33	Little Dalby Rd	No	164	7	48	Moderate
34	Ullesthorpe Rd	Yes	3065	151	64	Moderate
35	Main Rd	Yes	603	44	48	High
36	Main Street	Yes	4556	219	48	High
37	Ashby Rd	Yes	1534	83	48	High
38	Main Street	Yes	4996	237	48	High
39	Hinckley Rd East of M69 J2	No	10241	469	64	Moderate
40	Devitt Way	No	167	24	48	High
41	B4669 Hinckley Rd	Yes	8017	371	48	High
42	Stanton Lane	No	1850	99	64	Moderate
43	B4669 Leicester Rd	Yes	9017	416	48	High
44	Long Street	No	5723	252	24	High
45	B4114 Coventry Rd	No	14371	649	88	Moderate
46	B4669 Leicester Rd	No	5712	268	88	Low
47	B4114 Coventry Rd	No	20249	908	88	High
48	Forest Rd	Yes	3937	172	40	High
49	Stanton Lane	No	4626	222	64	Moderate
50	Stapleton Lane	Yes	6540	294	40	High
51	Station Rd	Yes	3093	153	48	High
52	Upton Lane	No	151	23	32	Moderate
53	A47 Normandy Way	Yes	16179	696	64	Moderate
54	Leicester Rd	Yes	19290	873	73	High
55	The Common	Yes	10147	467	76	Low

Link No.	Road	Sensitive Location	AADT	Peak Hours Flow Per Lane	Ave Speed (Kph)	Driver Delay & Stress Level
56	Hinckley Rd	Yes	12775	562	48	High
57	Belle Vue Rd	Yes	4106	181	32	High
58	Queens Way	Yes	2176	98	32	High
59	Charnwood Rd	Yes	876	40	32	High
60	The Leecrofts	No	629	28	40	High
61	Cedar Rd	Yes	381	19	32	High
62	Tudor Rd	Yes	4553	200	32	High
63	Newstead Avenue	Yes	961	42	32	High
64	Welbeck Avenue	Yes	2965	131	40	High
65	Twycross Rd	Yes	1219	55	32	High
66	Barwell Lane	No	6751	299	40	High
67	Deveron Way	Yes	1017	45	32	High
68	Grove Rd	Yes	1453	65	24	High
70	Grove Rd	Yes	701	32	24	High
71	Westfield Rd	Yes	2913	128	32	High
72	Warwick Way	Yes	8587	386	32	High
73	Swarkestone Rd	No	29398	1323	76	High
74	Burton Lane	No	3772	182	76	Low
75	Sheepy Rd	Yes	1519	85	64	Moderate
76	Equity Rd East	Yes	3955	175	32	High
77	Desborough Rd	No	257	12	32	High
78	M6 J2 Slip Rd	No	15806	1421	72	Moderate
79	Stoneygate Drive	No	6139	272	40	High
80	A5 Watling Street	No	22048	954	76	Low
81	Frolesworth Rd	No	1496	84	48	High
82	Main Street	No	5331	232	55	Moderate
83	A5 Watling Street	No	30467	1318	112	Moderate
84	Main Street	Yes	5405	237	40	High
85	A5 Watling Street	No	24231	1046	104	High
86	A5 Watling Street	No	27005	1168	112	High
87	Hinckley Rd	Yes	2242	99	24	High
88	A5 Watling Street	No	26781	1159	96	High
89	A5 Watling Street	No	31655	1367	76	Moderate
90	Hinckley Rd	No	1667	90	48	High
91	Huncote Rd	No	5315	252	64	High
92	B4669 Leicester Rd	No	11688	534	48	High
93	A447 Main Street	No	15193	655	48	High
94	A447 Ashby Rd	No	13174	572	64	High
95	Chapel Street	Yes	2707	240	24	High
96	A447 Main Street	No	13758	597	48	High
97	A447 Ashby Rd	No	10527	456	64	Moderate
98	A5 Watling Street	No	28043	1214	76	High



Link No.	Road	Sensitive Location	AADT	Peak Hours Flow Per Lane	Ave Speed (Kph)	Driver Delay & Stress Level
99	Oxford Street	Yes	530	25	32	High
100	Belle Vue Rd	Yes	4571	203	32	High
101	Equity Rd East	Yes	3955	175	32	High

8.215. Table 8.11 shows that the amount of traffic along each link results in varying levels of driver stress and delay with 13 links displaying an existing low level of driver stress and delay, 26 links exhibit moderate levels, and 60 links exhibit a high level of driver stress and delay.

**Pedestrian Delay and Amenity**

8.216. As noted in the IEMA guidelines, in general, increases in traffic levels are likely to lead to greater increases in delay experienced by pedestrians and cyclists. Delays will also depend upon the general level of pedestrian and cycle activity, visibility, and general physical conditions. Amenity is defined in this document as “the relative pleasantness of a journey”.

8.217. Pedestrian amenity has been rated on a five-point scale, ranging from very poor to excellent. It should be noted that the level of amenity is based on the nature of the link. For example, pedestrian amenity along a rural lane without footways could be rated as average, whereas along a residential road this would be classed as poor or very poor.

8.218. Few quantitative methods for assessing pedestrian delay exist. IEMA ‘Guidance for the Environmental Assessment of Road Traffic’ suggest a range of pedestrian crossing times of 10 seconds (lower threshold) to 40 seconds (higher threshold) which equates to a link with no crossing facilities with a two-way peak hour flow of approximately 1,400 vehicles. However, the guidance also recommends that assessments should be based on judgement rather than specific thresholds to determine whether there is significant pedestrian delay. Nonetheless, the thresholds described in the IEMA guidance have been used as a starting point.

**Table 8.12: Pedestrian Delay and Amenity Level Thresholds**

Delay Level	Traffic Flow (Peak hour average flow)
Low	<1,400
Moderate	1,400 – 2,800
High	>2,800

8.219. The sensitivity of pedestrian and cyclist delay and amenity along each link has been based on the nature of the links and the likely pedestrian and cyclist demand.

8.220. The existing pedestrian facilities in the vicinity of the Proposed Development are identified in the TA (Technical Appendix 8.1) and summarised above. The existing facilities such as crossings and footways, along the links assessed in this chapter, are set out in Table 8.14 below.

8.221. Pedestrian delay has been categorised based on the thresholds set out in Table 8.13. An attempt has been made to assess the pedestrian amenity along the links, where pedestrian amenity has been classified as ‘very poor’, ‘poor’, ‘average’, ‘good’ or ‘excellent’. This assessment is based on professional judgement and experience rather than fixed thresholds.

8.222. Table 8.13 shows the average peak hour traffic flows along with existing pedestrian facilities along the links which have been assessed in this chapter.

**Table 8.13: 2036 Baseline Pedestrian Delay and Amenity Levels**

Link No.	Road	AADT	Average Peak Hourly Flow	Pedestrian Delay	Pedestrian Facilities	Pedestrian Amenity
11	A5 Watling Street	21022	1820	Moderate	Footway/Cycleway on the northern sides of the carriageway	Average
29	Stoneygate Drive	5988	530	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Stoneygate Drive	Good
35	Main Road	603	88	Low	Footway on the western sides of the carriageway	Poor
40	Devitt Way	167	47	Low	Footway on the eastern sides of the carriageway that is separated by a grass verge	Good
41	B4669 Hinckley Road	8017	741	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Hinckley Road	Good
42	Stanton Lane	1850	197	Low	Narrow Footway, uncontrolled crossings	Poor
43	B4669 Leicester Rd	9017	832	Low	Narrow Footways, Zebra crossing east of the Church Street Junction	Poor

Link No.	Road	AADT	Average Peak Hourly Flow	Pedestrian Delay	Pedestrian Facilities	Pedestrian Amenity
44	Long Street	5723	504	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Long Street	Good
46	B4669 Leicester Rd	5712	535	Low	Footway on the northern sides of the carriageway	Average
50	Stapleton Lane	6540	587	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Stapleton Lane	Good
53	A47 Normandy Way	16179	1391	Low	Footway/cycleway on the southern sides of the carriageway	Good
55	The Common	10147	934	Low	Footway on the western sides of the carriageway	Average
56	Hinckley Road	12775	1124	Low	Footway on the western sides of the carriageway	Average
57	Belle Vue Road	4106	362	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Belle Vue Road	Good
58	Queens Way	2176	195	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Queens Way	Good
59	Charnwood Road	876	79	Low	Footways presented on both sides of the carriageway, dropped kerb crossing present over the roads joining Charnwood Road	Good
60	The Leecrofts	629	55	Low	Footways presented on both sides of the carriageway	Good
61	Cedar Road	381	38	Low	Footway on both sides of the carriageway that is separated by a grass verge	Excellent
62	Tudor Road	4553	400	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Tudor Road	Good

Link No.	Road	AADT	Average Peak Hourly Flow	Pedestrian Delay	Pedestrian Facilities	Pedestrian Amenity
63	Newstead Avenue	961	84	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Newstead Avenue	Good
64	Welbeck Avenue	2965	261	Low	Footways presented on both sides of the carriageway	Good
65	Twycross Road	1219	110	Low	Footway on the eastern sides of the carriageway that is separated by a grass verge	Average
66	Barwell Lane	6751	597	Low	Footways presented on both sides of the carriageway, with a footway/cycleway beginning/ending close to the junction with Ashby Road	Good
67	Deveron Way	1017	90	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Deveron Way	Good
68	Grove Road	1453	130	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Grove Road	Good
69	Grove Road	370	32	Low		Good
70	Grove Road	701	64	Low		Good
71	Westfield Road	2913	255	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Westfield Road	Good
76	Equity Road East	3955	350	Low	Footways presented on both sides of the carriageway	Good
79	Stoneygate Drive	6139	543	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Stoneygate Drive	Good
81	Folesworth Road	1496	168	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Folesworth Road	Good
83	A5 Watling Street	30467	2635	Moderate	Dropped Kerb Crossings present at Watling Street/High Cross Road	Good
84	Main Street	5405	474	Low	Footway on the southern sides of the carriageway	Average

Link No.	Road	AADT	Average Peak Hourly Flow	Pedestrian Delay	Pedestrian Facilities	Pedestrian Amenity
87	Hinckley Road	2242	197	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Hinckley Road	Good
90	Hinckley Road	1667	180	Low	Footway on the Northern sides of the carriageway	Average
92	B4669 Leicester Road	11688	1067	Low	Footways on both sides of the carriageway that are separated by a grass verge, there are also a zebra crossing	Good
93	A447 Main Street	15193	1310	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Main Street	Good
95	Chapel Street	2707	240	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Long Street	Good
96	A447 Main Street	13758	1193	Low	Footway on the eastern sides of the carriageway	Average
98	A5 Watling Street	28043	2427	Moderate	Watling Street has a Footway on the southern sides of the carriageway from Smockington Lane, as the footway extends west a dropped kerb crossing is provided to allow pedestrians onto the northern footway.	Average
99	Oxford Street	530	49	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Oxford Street	Good
100	Belle Vue Road	4571	405	Low	Footways presented on both sides of the carriageway, dropped kerb crossing are present over the roads joining Belle Vue Road	Good

8.223. Table 8.13 shows that there are 56 links of the original 101 with pedestrian facilities.

8.224. Traffic flow along the links results in mainly low levels of pedestrian delay, with only 3 links exhibiting moderate delay. The links demonstrate an existing average to good level of

pedestrian amenity with three links being considered poor.

**Cyclist Delay and Amenity**

8.225. The existing cycle facilities in the vicinity of the Site are identified in the TA (Technical Appendix 8.1) and summarised above, whilst the existing facilities such as crossings, cycleways and lighting along the links assessed in this chapter are set out in Table 8.14.

8.226. Cyclist delay, as with pedestrian delay, is difficult to quantify and for the purpose of this assessment, the same thresholds of traffic flows have been applied to cyclist delay as for pedestrian delay. This is justified by the fact that usually cyclists use toucan crossings (pedestrian and cycle crossings combined) or pedestrian crossings where they must push their bikes across the road.

8.227. Therefore, the assessment of existing cyclist delay along the links considered is the same as pedestrian delay, as set out previously.

8.228. Cyclist amenity can be measured through the provision of facilities such as crossings, cycle ways and street lighting. A review of these facilities is included in Table 8.14 along with levels of cyclist amenity.

**Table 8.14: 2036 Baseline Cyclist Delay and Amenity Levels**

Link No.	Road	AADT	Ave Peak Hourly Flow	Cyclist Delay	Cycling Facilities	Cyclist Amenity
11	A5 Watling Street	21022	1820	Moderate	Footway/Cycleway on the northern sides of the carriageway	Good
47	B4114 Coventry Road	20249	1815	Moderate	No Formal Facilities	Poor
53	A47 Normandy Way	16179	1391	Low	Footway/cycleway on the southern sides of the carriageway	Good
66	Barwell Lane	6751	597	Low	A footway/cycleway beginning/ending close to the junction with Ashby Road	Good

8.229. Table 8.14 shows that there are only 3 links of the original 101 with cycle facilities in the form of a shared footway/cycleway.

8.230. The B4114 is included in this baseline assessment as there are proposals to add cycling facilities which are apparent in the future assessment.

8.231. Traffic flow along the links results in mainly low to moderate levels of cyclist delay. The links demonstrate an existing average to good level of cyclist amenity with link 45 currently being classified as poor.

**Fear and Intimidation**

8.232. As set out in Table 8.4 above, there is neither formal guidance nor a consensus of thresholds for the assessment of the level of fear and intimidation experienced by pedestrians, However, the degree of fear and intimidation experienced is generally dependent on traffic volumes, composition and the presence of protection such as wide footways or guardrails. Therefore, the assessment of the level of fear and intimidation has been made based on professional judgement considering the combination of these factors.

8.233. The level of fear and intimidation along the links has been assessed on an individual basis, using a scale of negligible, minor, moderate, or major, as shown in Table 8.15. It should be noted that the level of fear and intimidation assessed in this Chapter relates to traffic rather than personal security in general.

**Table 8.15: 2036 Baseline Fear and Intimidation Levels**

Link No.	Road	AADT	Ave Peak Hourly Flow	Existing Facilities and Conditions	Level of Fear and Intimidation
4	Aston Lane near Sharnford	2063	215	No Facilities	Minor
5	Aston Lane near Sharnford	2021	180	Footway on the Eastern sides of the carriageway, No Crossing Facilities and Street Lighting	Minor
6	Main Street	4870	464	No Facilities	Minor
7	Dunton Rd	1144	134	Footway on the Northern sides of the carriageway, No Crossing Facilities	Minor
10	Stapleton Lane	4373	424	No Facilities	Minor
11	A5 Watling Street East of M69 J1	21022	1820	Footway/Cycleway on the northern sides of the carriageway, Uncontrolled Crossings	Major
12	A5 Watling Street adjacent to Magna Park	24506	2113	No Facilities	Major
13	A5 Near Houlton	8906	771	No Facilities	Moderate
14	Crick Interchange NB slip entry	13210	1194	Footways, Uncontrolled Crossings, Street Lighting	Moderate
15	Crick Interchange SB slip Exit	10607	961	Footways, Uncontrolled Crossings, Street Lighting	Moderate
16	Sharnford Rd	3073	304	No Facilities	Minor

Link No.	Road	AADT	Ave Peak Hourly Flow	Existing Facilities and Conditions	Level of Fear and Intimidation
17	A5 Near Tamworth Interchange	19763	1779	No Facilities, dual carriageway, street lighting	Major
18	A5 West of Glascote Interchange	19746	1777	No Facilities, dual carriageway, street lighting	Major
19	Nottingham Rd	8435	759	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
20	Melbourne Rd	8919	803	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
21	Hobinson Hill	10983	988	No Facilities	Moderate
22	The Common	5824	524	No Facilities	Minor
23	A447 Ashby Rd	10015	866	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
24	A447 Ibstock Rd	8494	740	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
25	A447 Wash Lane	10326	929	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
26	Braunstone Close	3025	265	No Facilities	Minor
27	B4114 Narborough Road South	1304	115	No Facilities	Minor
28	Park Road	4295	421	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
29	Stoneygate Drive	5988	530	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
30	Hardwicke Road	1586	178	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
31	A563 Asquith Way	8333	732	No Facilities	Moderate
32	Rotherby Lane	86	8	No Facilities	Minor
33	Little Dalby Rd	164	15	No Facilities	Minor
34	Ullesthorne Road	3065	302	No Facilities	Minor



Link No.	Road	AADT	Ave Peak Hourly Flow	Existing Facilities and Conditions	Level of Fear and Intimidation
35	Main Road	603	88	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
36	Main Street	4556	438	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
37	Ashby Road	1534	166	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
38	Main Street	4996	473	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
39	Hinckley Rd East of M69 J2	10241	938	No Facilities	Moderate
40	Devitt Way	167	47	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
41	B4669 Hinckley Road	8017	741	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
42	Stanton Lane	1850	197	No Facilities	Minor
43	B4669 Leicester Road	9017	832	Footway on the Northern sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
44	Long Street	5723	504	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
45	B4114 Coventry Road	14371	1298	No Facilities	Moderate
46	B4669 Leicester Road	5712	535	Footway on the Northern sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
47	B4114 Coventry Road	20249	1815	No Facilities	Major
48	Forest Road	3937	344	No Facilities	Minor
49	Stanton Lane	4626	443	No Facilities	Minor
50	Stapleton Lane	6540	587	No Facilities	Minor
51	Station Road	3093	305	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor

Link No.	Road	AADT	Ave Peak Hourly Flow	Existing Facilities and Conditions	Level of Fear and Intimidation
52	Upton Lane	151	46	No Facilities	Minor
53	A47 Normandy Way	16179	1391	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Major
54	Leicester Rd	19290	1746	Footway on both sides of the carriageway, Zebra Crossings, Street Lighting	Major
55	The Common	10147	934	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
56	Hinckley Road	12775	1124	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
57	Belle Vue Road	4106	362	No Facilities	Minor
58	Queens Way	2176	195	No Facilities	Minor
59	Charnwood Road	876	79	No Facilities	Minor
60	The Leecrofts	629	55	No Facilities	Minor
61	Cedar Road	381	38	No Facilities	Minor
62	Tudor Road	4553	400	No Facilities	Minor
63	Newstead Avenue	961	84	No Facilities	Minor
64	Welbeck Avenue	2965	261	No Facilities	Minor
65	Twycross Road	1219	110	No Facilities	Minor
66	Barwell Lane	6751	597	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
67	Deveron Way	1017	90	No Facilities	Minor
68	Grove Road	1453	130	No Facilities	Minor
69	Grove Road	370	64	No Facilities	Minor
70	Grove Road	701	64	No Facilities	Minor
71	Westfield Road	2913	255	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
72	Warwick Way	8587	773	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
73	Swarkestone Rd	29398	2646	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Major

Link No.	Road	AADT	Ave Peak Hourly Flow	Existing Facilities and Conditions	Level of Fear and Intimidation
74	Burton Lane	3772	363	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
75	Sheepy Road	1519	170	Footway on both sides of the carriageway, Uncontrolled Crossings	Minor
76	Equity Road East	3955	350	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
77	Local Road	257	23	Footway on both sides of the carriageway, Uncontrolled Crossings	Minor
79	Stoneygate Drive	6139	543	Footway on both sides of the carriageway, Uncontrolled Crossings	Minor
80	A5 Watling Street	22048	1908	No Formal Facilities	Major
81	Frolesworth Road	1496	168	Footway on the Northern sides of the carriageway, Uncontrolled Crossings	Minor
82	Main Street	5331	464	No Formal Facilities	Minor
83	A5 Watling Street	30467	2635	Footway on the Northern sides of the carriageway, Uncontrolled Crossings	Major
84	Main Street	5405	474	No Formal Facilities	Minor
85	A5 Watling Street	24231	2092	No Formal Facilities	Major
86	A5 Watling Street	27005	2336	No Formal Facilities	Major
87	Hinckley Road	2242	197	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
88	A5 Watling Street	26781	2317	No Formal Facilities	Major
89	A5 Watling Street	31655	2734	No Formal Facilities	Major
90	Hinckley Road	1667	180	No Formal Facilities	Minor
91	Huncote Road	5315	504	No Formal Facilities	Minor
92	B4669 Leicester Road	11688	1067	Footway on the Northern sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate

Link No.	Road	AADT	Ave Peak Hourly Flow	Existing Facilities and Conditions	Level of Fear and Intimidation
93	A447 Main Street	15193	1310	Footway on the Southern sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate
94	A447 Ashby Road	13174	1143	No Formal Facilities	Moderate
95	Chapel Street	2707	240	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
96	A447 Main Street	13758	1193	No Formal Facilities	Moderate
97	A447 Ashby Road	10527	912	No Formal Facilities	Moderate
98	A5 Watling Street	28043	2427	Footway on both sides of the carriageway, Uncontrolled Crossings	Major
99	Oxford Street	530	49	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
100	Belle Vue Road	4571	405	Footway on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor
101	Equity Road East	3955	350	No Formal Facilities	Minor

8.234. Table 8.15 shows that the amount of traffic along each link results in varying levels of fear and intimidation with 61 links displaying an existing low level, 23 links exhibit moderate levels, and 17 links exhibit a high level of fear and intimidation.

**Accidents and Safety**

8.235. Personal injury Collisions (PIC) occurring on the local highway network are considered in general to be attributable to traffic flows, such that an increase in traffic flows will result in a corresponding increase in PICs. Tables 8.16 and 8.17 summarise the baseline annual average accident rates and the corresponding typical annual accident rates along the links and junctions considered within this chapter for 2019, the most recent pre-covid data available.

**Table 8.16: Links 2019 Baseline Accident and Safety Levels**

Link No.	Road	2019 Typical Annual Accidents (as calculated by Cobalt)	Actual Observed Annual Accidents
1	A5 (Link 1)	1.0	1.6
2	A5 (Link 2)	2.8	2.4

Link No.	Road	2019 Typical Annual Accidents (as calculated by Cobalt)	Actual Observed Annual Accidents
3	A5 (Link 3)	1.3	1.8
4	A5 (Link 4)	2.4	1.2
5	A5 (Link 5)	2.2	1.6
6	A5 (Link 6)	0.8	1.2
7	A5 (Link 7)	1.5	0.8
8	A5 (Link 8)	1.5	0.8
9	A5 (Link 9)	2.2	2.6
10	A5 (Link 10)	4.3	4.4
11	A47 (Link 1)	0.9	0.8
12	A47 (Link 2)	1.0	0.8
13	A47 (Link 3)	1.2	1.0
14	A47 (Link 4)	1.2	0.6
15	A47 (Link 5)	0.4	0.4
16	Sapcote (Link 1)	0.3	0.4
17	Sapcote (Link 2)	0.5	0.4
18	Stoney Stanton (Link 1)	0.1	0.2

**Table 8.17: Junctions 2019 Baseline Accident and Safety Levels**

Junction No.	Roads	2019 Typical Annual Accidents (as calculated by Cobalt)	Actual Observed Annual Accidents
1	A563 Lubbethorpe Way/Soar Valley Way/B4114 Narborough Road South	8.9	7.0
2	M42 Junction 10 Roundabout	5.2	7.4
3	A5 Watling Street/Woodford Lane	1.6	2.2
4	M6 Junction 2 Roundabout	4.1	4.0
5	M1 Junction 21 Roundabout	5.9	5.8

8.236. Table 8.16 shows that compared to actual accident rates the predicted rates are higher on 10 links and lower on 7 links with one predicted outcome matching the observed rate.

8.237. Links where the COBALT predicted rate is notably higher than the observed annual rate are links 4, 7, 8 and 14 where the rate is approximately double the actual observed annual accidents.

8.238. Links where the COBALT predicted rate is notably lower than the observed accidents are links 1,3 and 6 where the rate is approximately one third lower than the actual observed annual accidents.

- 8.239. Table 8.17 shows that compared to actual accident rates the predicted rates are higher for three junctions and lower for the remaining two.
- 8.240. The COBALT assessment does not consider link or junction geometry, road surface material to manage vehicle speed, signage or lighting, all factors which can influence the occurrence of accidents. It does consider the type of junction arrangement and the number of arms, although not the specific geometric layout.

## ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

### Introduction

- 8.241. The following sections provide an assessment of the likely potential significant environmental effects of the proposals specific to Transport. This takes the Operational phase as a worst-case assessment for all criteria.
- 8.242. As discussed in the Assumptions and Limitations chapter. A review of the trips generated in the preliminary phases of the construction has been carried out. This is prior to the construction of the access infrastructure to the site and therefore places most pressure on the local road network.
- 8.243. The figures indicate absolute HGV numbers on local road networks as below 100 two-way movements which in percentage terms is generally below the Rule 1 30% threshold on most routes. There are some links which will be above this, where baseline HGV traffic is low, these routes include roads in the centre of Hinckley and the B4669 immediately east of Junction 2 M69. However, there will be no likely significant effects on traffic and transport due to their temporary short-term nature. Operational impacts have been assessed and are forecast to be significantly higher than construction traffic flows.

### Public Transport

- 8.244. The overall provision of public transport will be improved to serve the Proposed Development and secured through the DCO and / or Section 106 Agreement. A public transport strategy has been submitted as part of the Sustainable Transport Strategy (STS), is included as an appendix to the TA.
- 8.245. It is proposed to enhance existing services to key employee locations such as Coventry, Leicester, Hinckley, and Nuneaton as well as develop demand responsive bus transport to local villages to the east of the M69 motorway.
- 8.246. This enhanced public transport provision and the proposals set out in the STS and the Framework Travel Plan have not been accounted for in the operational assessment and are considered further in the Mitigation and Residual Effects section of this Chapter. The review of the proposals will be influenced by responses to the statutory consultation exercise.

## Walking and Cycling

8.247. Impacts on walking and cycling routes will include some level of severance where road traffic levels increase though this will be offset with the new infrastructure provided. Paragraph 8.220 provides further detail on pedestrian and cycling amenity. Offsite additional infrastructure is proposed on the surrounding highway network, and this has been considered in the operational assessment of amenity for pedestrians, cyclists, and equestrians.

8.248. As set out in the Public Rights of Way Appraisal and Strategy Appendix 6.2.11.2, routes within the site would be subject to closure, particularly bridleways, these include:

- U52/6 and U52/7 as permanent closure, and
- V35/2, V29/6-8 and U52/8 temporarily closed during construction.

8.249. However, where possible footpaths will be accommodated within the development and where this is done, although the character of these routes would change considerably, the access provision across the site would remain. For bridleways, as there is no opportunity for access across the railway line beyond the existing crossing point on Burbage Common Road, a new route is to be created around the eastern and southern boundaries, being located within a new, and generous, green corridor.

8.250. Two level crossings within the site boundary will be closed; the first on Footpath No: U50/3 connecting Elmesthorpe to the north with Burbage Common Road and second on Footpath No. V23/1, connecting the Elmesthorpe-Burbage Common Bridleway (U52/9) with Burbage Common Road to the east of the railway.

8.251. From an operational perspective, the PRow network within the Project Site will benefit from a series of upgrades, re-routing, resurfacing, and access review improving the user experience and additional provision for cyclists extending the range of users and off-site connections. Again, this is set out in the Public Rights of Way Appraisal and Strategy Appendix 6.2.11.2.

## Construction Traffic Impact

8.252. For the future year construction impact assessment, as outlined under assumptions, takes account of the worst-case scenario, prior to the construction of the slip roads and A47 link road.

8.253. The pattern of construction flows has been estimated on the basis of likely destinations for materials, waste and workforce. The majority of these trips are estimated to use strategic routes to the site, namely the M69. Lower levels of traffic are also predicted on the B4669 and the A5.

8.254. Table 8.18 indicates the temporary construction traffic effects, which are lower than the Operational Phase assessments. For this reason, the Operational effects, which will be

permanent and long-term, have been taken as for the criteria assessments.

**Table 8.18: Construction Traffic Impact**

Link No.	Road	Near to Sensitive Receptors	AADT Total Vehicles			AADT HGVs			Magnitude of Change Criteria	Significance of Traffic Effects
			2026 Without Development	Construction Traffic	% Change	2026 Without Development	Construction Traffic	% Change		
1	M69, SB slip rd entry	No	4519	277	6.1	74	102	138.6	Major	Minor
2	M69 NB slip Rd Exit	No	2986	277	9.3	372	102	27.4	Negligible	Negligible
41	B4669 Hinckley Road	Yes	8020	184	2.3	196	68	34.8	Minor	Negligible
43	B4669 Leicester Road	Yes	9027	184	2.0	137	68	49.7	Minor	Negligible
45	B4114 Coventry Road	No	14347	92	0.6	456	34	7.5	Negligible	Negligible
46	B4669 Leicester Road	No	5789	184	3.2	42	68	161.4	Major	Minor
47	B4114 Coventry Road	No	20178	92	0.5	614	34	5.5	Negligible	Negligible
83	A5 Watling Street	No	26161	92	0.4	2343	34	1.5	Negligible	Negligible
85	A5 Watling Street	No	21835	92	0.4	2344	34	1.5	Negligible	Negligible
86	A5 Watling Street	No	23917	92	0.4	2372	34	1.4	Negligible	Negligible
88	A5 Watling Street	No	23688	92	0.4	2138	34	1.6	Negligible	Negligible
92	B4669 Leicester Road	No	10219	184	1.8	188	68	36.1	Minor	Negligible

**Operational Highway Impact 2036**

8.255. With the Proposed Development (M69 Junction 2 A47 Link Road) in 2036 in place but with no mitigation (i.e., WD scenario) increase in flow of 30% or more (or 10% or more in sensitive locations) will occur at the links listed in Table 8.19.



8.256. Receptors with increased sensitivity have been identified in line with the conditions set out in Table 8.4. The area of influence and affected links are shown in Figure 8.2 which highlights the level of change.

8.257. Table 8.19 provides an overview of links that are required to be assessed in line with Rule 1 and Rule 2 as set out in Paragraph 8.46.

8.258. All operational effects reported are long-term, permanent.

**Table 8.19: Highway Impact**

Link No	Road	Near to Sensitive Receptors	AADT Total Vehicles			AADT HGVs		
			2036 Without Development	2036 With Development	Percentage Change (%)	2036 Without Development	2036 With Development	Percentage Change (%)
1	M69, SB slip road entry	No	4310	6398	48.5	66	635	857.1
2	M69 NB slip road exit	No	2795	4907	75.6	375	1018	171.5
3	M69 South of M69 J2	No	64863	89875	38.6	5503	8904	61.8
4	Aston Lane near Sharnford	No	2063	4273	107.1	0	0	8.3
5	Aston Lane near Sharnford	No	2021	4310	113.2	54	63	15.7
6	Main Street	No	4870	6403	31.5	57	58	1.6
7	Dunton Rd	No	1144	1922	68.1	0	0	0.0
8	M69 J1 Exit Slip NB	No	6397	9932	55.3	1276	1962	53.7
9	M69 South of M69 J1	Yes	82692	90102	9.0	3811	5282	38.6
10	Stapleton Lane	No	4373	5839	33.5	57	59	3.6
11	A5 Watling Street East of M69 J1	No	21022	19879	-5.4	2165	3334	54.0
12	A5 Watling Street adjacent to Magna Park	No	24506	24553	0.2	2162	3371	55.9
13	A5 Near Houlton	No	8906	9201	3.3	1546	2168	40.2
14	Crick Interchange NB slip entry	No	13210	13278	0.5	935	1271	35.9
15	Crick Interchange SB slip Exit	No	10607	10397	-2.0	612	855	39.7
16	Sharnford Rd	No	3073	5199	69.2	47	58	23.6
17	A5 Near Tamworth Interchange	No	19763	19558	-1.0	655	973	48.5
18	A5 west of Glascote Interchange	No	19746	19527	-1.1	637	940	47.6
19	Nottingham Rd	No	8435	8549	1.4	187	313	67.4
20	Melbourne Rd	No	8919	8935	0.2	187	312	67.3
21	Hobinson Hill	No	10983	10979	0.0	200	329	64.0

Link No	Road	Near to Sensitive Receptors	AADT Total Vehicles			AADT HGVs		
			2036 Without Development	2036 With Development	Percentage Change (%)	2036 Without Development	2036 With Development	Percentage Change (%)
22	The Common	No	5824	5863	0.7	221	346	56.9
23	A447 Ashby Rd	No	10015	10713	7.0	630	931	47.7
24	A447 Ibstock Rd	No	8494	8910	4.9	556	854	53.5
25	A447 Wash Lane	No	10326	10454	1.2	771	1065	38.2
26	Braunstone Close	Yes	3025	3359	11.0	0	0	0.0
27	B4114 Narborough Rd South	Yes	1304	1640	25.8	80	81	0.7
28	Park Rd	Yes	4295	4821	12.2	0	0	0.0
29	Stoneygate Drive	No	5988	8044	34.3	4	2	-44.6
30	Hardwicke Rd	Yes	1586	1862	17.3	0	0	0.0
31	A563 Asquith Way	No	8333	18222	118.7	305	766	151.3
32	Rotherby Lane	No	86	265	209.0	0	0	0.0
33	Little Dalby Rd	No	164	342	108.1	0	0	0.0
34	Ullesthorne Rd	Yes	3065	3381	10.3	7	7	4.0
35	Main Rd	Yes	603	1190	97.4	0	0	0.0
36	Main Street	Yes	4556	5038	10.6	0	0	0.0
37	Ashby Rd	Yes	1534	1788	16.6	0	0	0.0
38	Main Street	Yes	4996	5535	10.8	0	0	0.0
39	Hinckley Rd East of M69 J2	No	10241	18143	77.2	304	589	93.6
40	Devitt Way	No	167	313	87.7	0	0	0.0
41	B4669 Hinckley Rd	Yes	8017	12961	61.7	197	472	139.6
42	Stanton Lane	No	1850	4808	159.8	86	107	24.2
43	B4669 Leicester Rd	Yes	9017	12817	42.1	142	404	184.6
44	Long Street	No	5723	8720	52.4	20	20	0.1
45	B4114 Coventry Rd	No	14371	15255	6.2	552	824	49.2
46	B4669 Leicester Rd	No	5712	9119	59.7	52	349	573.7
47	B4114 Coventry Rd	No	20249	19474	-3.8	732	966	32.1
48	Forest Rd	Yes	3937	4577	16.3	79	79	0.6
49	Stanton Lane	No	4626	7622	64.8	0	0	0.0
50	Stapleton Lane	Yes	6540	7838	19.9	43	44	1.4
51	Station Rd	Yes	3093	3477	12.4	0	0	0.0
52	Upton Lane	No	151	362	139.8	0	0	0.0
53	A47 Normandy Way	Yes	16179	18105	11.9	705	1501	112.9
54	Leicester Rd	Yes	19290	26769	38.8	6	1079	17727.1

Link No	Road	Near to Sensitive Receptors	AADT Total Vehicles			AADT HGVs		
			2036 Without Development	2036 With Development	Percentage Change (%)	2036 Without Development	2036 With Development	Percentage Change (%)
55	The Common	Yes	10147	12774	25.9	11	11	3.3
56	Hinckley Rd	Yes	12775	14233	11.4	31	31	1.5
57	Belle Vue Rd	Yes	4106	4722	15.0	7	7	-1.1
58	Queens Way	Yes	2176	2402	10.4	17	17	1.3
59	Charnwood Rd	Yes	876	1052	20.1	0	0	0.0
60	The Leecrofts	No	629	822	30.8	0	0	0.0
61	Cedar Rd	Yes	381	494	29.8	0	0	0.0
62	Tudor Rd	Yes	4553	5039	10.7	0	0	0.0
63	Newstead Avenue	Yes	961	1221	27.1	25	31	20.8
64	Welbeck Avenue	Yes	2965	3388	14.3	73	88	19.7
65	Twycross Rd	Yes	1219	1402	15.0	11	8	-30.2
66	Barwell Lane	No	6751	8934	32.3	17	16	-8.5
67	Deveron Way	Yes	1017	1121	10.2	0	0	0.0
68	Grove Rd	Yes	1453	1628	12.0	12	8	-29.5
69	Grove Rd	Yes	370	497	34.5	7	4	-48.0
70	Grove Rd	Yes	701	922	31.5	11	8	-31.4
71	Westfield Rd	Yes	2913	3254	11.7	83	84	1.4
72	Warwick Way	Yes	8587	9624	12.1	164	171	4.0
73	Swarkestone Rd	No	29398	29623	0.8	457	601	31.6
74	Burton Lane	No	3772	5005	32.7	262	301	15.1
75	Sheepy Rd	Yes	1519	1704	12.2	308	407	32.2
76	Equity Rd East	Yes	3955	4364	10.3	0	0	0.0
77	Local Rd	No	257	358	39.1	0	0	0.0
78	M6 J2 Slip Rd	No	15806	17822	12.8	1054	1416	34.4
79	Stoneygate Drive	No	6139	8324	35.6	4	2	-43.4
80	A5 Watling Street	No	22048	20976	-4.9	2447	3612	47.6
81	Frolesworth Rd	No	1496	2261	51.1	0	0	0.0
82	Main Street	No	5331	6930	30.0	62	63	0.2
83	A5 Watling Street	No	30467	30114	-1.2	2768	3991	44.2
84	Main Street	Yes	5405	6950	28.6	0	0	0.0

Link No	Road	Near to Sensitive Receptors	AADT Total Vehicles			AADT HGVs		
			2036 Without Development	2036 With Development	Percentage Change (%)	2036 Without Development	2036 With Development	Percentage Change (%)
85	A5 Watling Street	No	24231	24934	2.9	2773	3996	44.1
86	A5 Watling Street	No	27005	27419	1.5	2780	4005	44.1
87	Hinckley Rd	Yes	2242	5239	133.7	110	117	6.6
88	A5 Watling Street	No	26781	27186	1.5	2559	3766	47.2
89	A5 Watling Street	No	31655	29492	-6.8	2606	3753	44.0
90	Hinckley Rd	No	1667	3844	130.6	42	57	35.7
91	Huncote Rd	No	5315	8257	55.3	19	19	2.0
92	B4669 Leicester Rd	No	11688	13897	18.9	198	426	114.8
93	A447 Main Street	No	15193	16616	9.4	810	1143	41.1
94	A447 Ashby Rd	No	13174	13790	4.7	881	1217	38.2
95	Chapel Street	Yes	2707	3641	34.5	0	0	0.0
96	A447 Main Street	No	13758	15366	11.7	843	1172	39.1
97	A447 Ashby Rd	No	10527	10941	3.9	750	1085	44.6
98	A5 Watling Street	No	28043	25675	-8.4	2206	3376	53.0
99	Oxford Street	Yes	530	650	22.7	16	17	1.8
100	Belle Vue Rd	Yes	4571	5087	11.3	23	23	0.7
101	Equity Rd East	Yes	3955	4364	10.3	0	0	0.0

8.259. A combination of magnitude of traffic flow change and the receptor sensitivity determines the overall significance of traffic effects as described in paragraph 8.46 and illustrated in Figure 8.2. The resulting significance of traffic effects are shown below in Figure 8.3.

Figure 8.2: Defining the Area of Influence; Level of Change

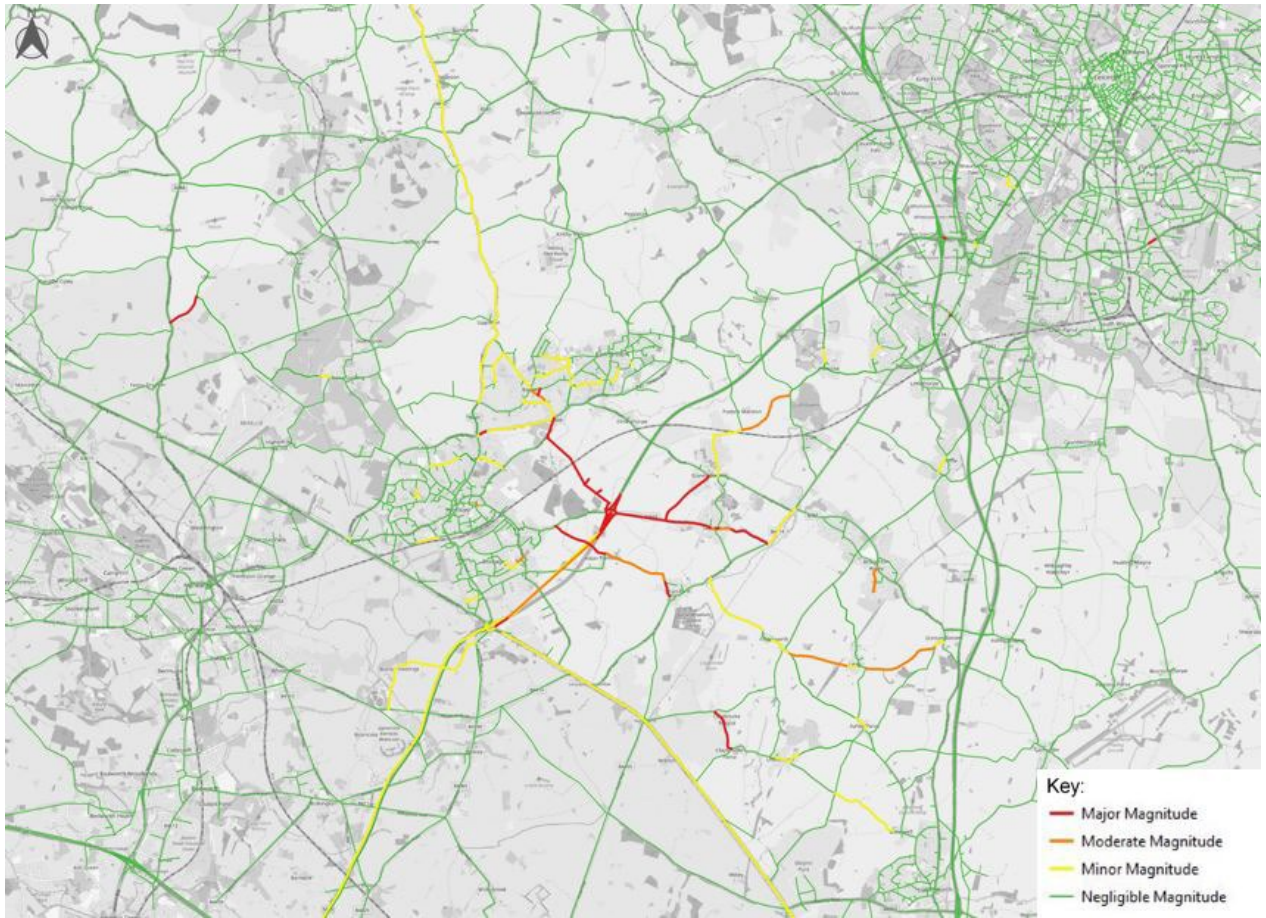
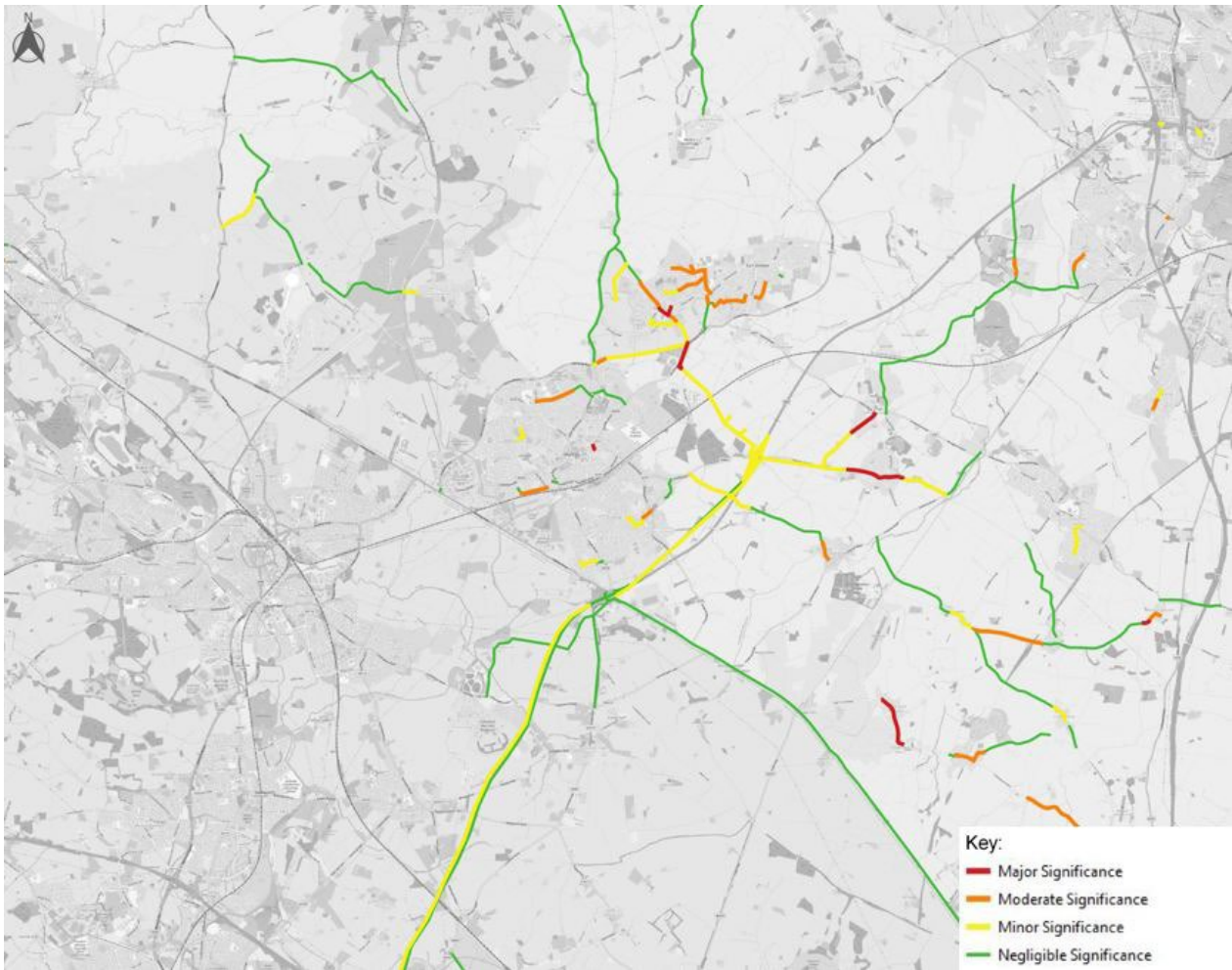




Figure 8.3: Significance of traffic effects



**Severance**

8.260. Table 8.20 details the predicted severance levels with the Proposed Development on the assessed highway network. Severance levels have been calculated using the methodology set out above in Table 8.6.

**Table 8.20: 2036 With Development Severance Levels**

Link No.	Road	Sensitive Location	AADT	Facilities (crossings)	2036 Without Dev Severance Level	2036 With Dev Severance Level	Sensitivity of Effect
4	Aston Lane near Sharnford	No	4273	No Facilities	Minor	Minor	Negligible
5	Aston Lane near Sharnford	No	4310	No Facilities	Minor	Minor	Negligible
6	Main Street	No	6403	No Facilities	Minor	Minor	Negligible
7	Dunton Rd	No	1922	No Facilities	Minor	Minor	Negligible
10	Stapleton Lane	No	5839	No Facilities	Minor	Minor	Negligible
11	A5 Watling Street East of M69 J1	No	19879	Uncontrolled Crossings	Major	Major	Negligible
12	A5 Watling Street adjacent to Magna	No	24553	No Facilities	Major	Major	Negligible
13	A5 Near Houlton	No	9201	No Facilities	Moderate	Moderate	Negligible
14	Crick Interchange NB slip entry	No	13278	Uncontrolled Crossings	Moderate	Moderate	Negligible
15	Crick Interchange SB slip Exit	No	10397	Uncontrolled Crossings	Moderate	Moderate	Negligible
16	Sharnford Rd	No	5199	No Facilities	Minor	Minor	Negligible
17	A5 Near Tamworth Interchange	No	19558	Uncontrolled Crossings	Major	Major	Negligible
18	A5 West of Glascote Interchange	No	19527	Uncontrolled Crossings	Major	Major	Negligible
19	Nottingham Rd	No	8549	Uncontrolled Crossings	Moderate	Moderate	Negligible
20	Melbourne Rd	No	8935	Uncontrolled Crossings	Moderate	Moderate	Negligible
21	Hobinson Hill	No	10979	No Facilities	Moderate	Moderate	Negligible
22	The Common	No	5863	No Facilities	Minor	Minor	Negligible
23	A447 Ashby Rd	No	10713	Signal Crossing	Moderate	Moderate	Negligible
24	A447 Ibstock Rd	No	8910	Uncontrolled Crossings	Moderate	Moderate	Negligible
25	A447 Wash Lane	No	10454	Uncontrolled Crossings	Moderate	Moderate	Negligible
26	Braunstone Close	Yes	3359	No Facilities	Minor	Minor	Negligible

Link No.	Road	Sensitive Location	AADT	Facilities (crossings)	2036 Without Dev Severance Level	2036 With Dev Severance Level	Sensitivity of Effect
27	B4114 Narborough Road South	Yes	1640	No Facilities	Minor	Minor	Negligible
28	Park Road	Yes	4821	Uncontrolled Crossings	Minor	Minor	Negligible
29	Stoneygate Drive	No	8044	Uncontrolled Crossings	Minor	Moderate	Minor Adverse
30	Hardwicke Road	Yes	1862	Uncontrolled Crossings	Minor	Minor	Negligible
31	A563 Asquith Way	No	18222	No Facilities	Moderate	Major	Minor Adverse
32	Rotherby Lane	No	265	No Facilities	Minor	Minor	Negligible
33	Little Dalby Rd	No	342	No Facilities	Minor	Minor	Negligible
34	Ullesthorpe Road	Yes	3381	No Facilities	Minor	Minor	Negligible
35	Main Road	Yes	1190	Uncontrolled Crossings	Minor	Minor	Negligible
36	Main Street	Yes	5038	Uncontrolled Crossings	Minor	Minor	Negligible
37	Ashby Road	Yes	1788	Uncontrolled Crossings	Minor	Minor	Negligible
38	Main Street	Yes	5535	Uncontrolled Crossings	Minor	Minor	Negligible
39	Hinckley Rd East of M69 J2	No	18143	No Facilities	Moderate	Major	Minor Adverse
40	Devitt Way	No	313	Uncontrolled Crossings	Minor	Minor	Negligible
41	B4669 Hinckley Road	Yes	12961	Uncontrolled Crossings	Moderate	Moderate	Negligible
42	Stanton Lane	No	4808	No Facilities	Minor	Minor	Negligible
43	B4669 Leicester Road	Yes	12817	Uncontrolled Crossings	Moderate	Moderate	Negligible
44	Long Street	No	8720	Uncontrolled Crossings	Minor	Moderate	Minor Adverse
45	B4114 Coventry Road	No	15255	Uncontrolled Crossings	Moderate	Moderate	Negligible
46	B4669 Leicester Road	No	9119	Uncontrolled Crossings	Minor	Moderate	Minor Adverse
47	B4114 Coventry Road	No	19474	Uncontrolled Crossings	Major	Major	Negligible
48	Forest Road	Yes	4577	No Facilities	Minor	Minor	Negligible
49	Stanton Lane	No	7622	No Facilities	Minor	Minor	Negligible
50	Stapleton Lane	Yes	7838	No Facilities	Minor	Minor	Negligible
51	Station Road	Yes	3477	Uncontrolled Crossings	Minor	Minor	Negligible



Link No.	Road	Sensitive Location	AADT	Facilities (crossings)	2036 Without Dev Severance Level	2036 With Dev Severance Level	Sensitivity of Effect
52	Upton Lane	No	362	No Facilities	Minor	Minor	Negligible
53	A47 Normandy Way	Yes	18105	Uncontrolled Crossings	Major	Major	Negligible
54	Leicester Rd	Yes	26769	Zebra Crossing	Major	Major	Negligible
55	The Common	Yes	12774	Uncontrolled Crossings	Moderate	Moderate	Negligible
56	Hinckley Road	Yes	14233	Uncontrolled Crossings	Moderate	Moderate	Negligible
57	Belle Vue Road	Yes	4722	No Facilities	Minor	Minor	Negligible
58	Queens Way	Yes	2402	No Facilities	Minor	Minor	Negligible
59	Charnwood Road	Yes	1052	No Facilities	Minor	Minor	Negligible
60	The Leecrofts	No	822	No Facilities	Minor	Minor	Negligible
61	Cedar Road	Yes	494	No Facilities	Minor	Minor	Negligible
62	Tudor Road	Yes	5039	No Facilities	Minor	Minor	Negligible
63	Newstead Avenue	Yes	1221	No Facilities	Minor	Minor	Negligible
64	Welbeck Avenue	Yes	3388	No Facilities	Minor	Minor	Negligible
65	Twycross Road	Yes	1402	No Facilities	Minor	Minor	Negligible
66	Barwell Lane	No	8934	Uncontrolled Crossings	Minor	Moderate	Minor Adverse
67	Deveron Way	Yes	1121	No Facilities	Minor	Minor	Negligible
68	Grove Road	Yes	1628	No Facilities	Minor	Minor	Negligible
69	Grove Road	Yes	497	No Facilities	Minor	Minor	Negligible
70	Grove Road	Yes	922	No Facilities	Minor	Minor	Negligible
71	Westfield Road	Yes	3254	Uncontrolled Crossings	Minor	Minor	Negligible
72	Warwick Way	Yes	9624	Uncontrolled Crossings	Moderate	Moderate	Negligible
73	Swarkestone Rd	No	29623	Uncontrolled Crossings	Major	Major	Negligible
74	Burton Lane	No	5005	Uncontrolled Crossings	Minor	Minor	Negligible
75	Sheepy Road	Yes	1704	No Facilities	Minor	Minor	Negligible
76	Equity Road East	Yes	4364	No Facilities	Minor	Minor	Negligible
77	Desborough Rd	No	358	No Facilities	Minor	Minor	Negligible
79	Stoneygate Drive	No	6139	Uncontrolled Crossings	Minor	Minor	Negligible
80	A5 Watling Street	No	22048	No Formal Facilities	Major	Major	Negligible
81	Frolesworth Road	No	1496	Uncontrolled Crossings	Minor	Minor	Negligible

Link No.	Road	Sensitive Location	AADT	Facilities (crossings)	2036 Without Dev Severance Level	2036 With Dev Severance Level	Sensitivity of Effect
82	Main Street	No	5331	No Facilities	Minor	Minor	Negligible
83	A5 Watling Street	No	30467	Uncontrolled Crossings	Major	Major	Negligible
84	Main Street	Yes	5405	No Facilities	Minor	Minor	Negligible
85	A5 Watling Street	No	24231	No Facilities	Major	Major	Negligible
86	A5 Watling Street	No	27005	No Facilities	Major	Major	Negligible
87	Hinckley Road	Yes	2242	Uncontrolled Crossings	Minor	Minor	Negligible
88	A5 Watling Street	No	26781	No Facilities	Major	Major	Negligible
89	A5 Watling Street	No	31655	No Facilities	Major	Major	Negligible
90	Hinckley Road	No	1667	No Facilities	Minor	Minor	Negligible
91	Huncote Road	No	5315	No Facilities	Minor	Minor	Negligible
92	B4669 Leicester Road	No	11688	Uncontrolled Crossings	Moderate	Moderate	Negligible
93	A447 Main Street	No	15193	Uncontrolled Crossings	Moderate	Moderate	Negligible
94	A447 Ashby Road	No	13174	No Facilities	Moderate	Moderate	Negligible
95	Chapel Street	Yes	2707	Uncontrolled Crossings	Minor	Minor	Negligible
96	A447 Main Street	No	13758	No Facilities	Moderate	Moderate	Negligible
97	A447 Ashby Road	No	10527	No Facilities	Moderate	Moderate	Negligible
98	A5 Watling Street	No	28043	Uncontrolled Crossings	Major	Major	Negligible
99	Oxford Street	Yes	530	Uncontrolled Crossings	Minor	Minor	Negligible
100	Belle Vue Road	Yes	4571	Uncontrolled Crossings	Minor	Minor	Negligible
101	Equity Road East	Yes	3955	No Facilities	Minor	Minor	Negligible

8.261. With respect to links with changes in levels of significance once sensitivity and magnitude are mapped, severance applies to six links though these do not reach the magnitude required for likely significant effects.

8.262. Links, 29,31,39,44,46 and 66 will experience long term permanent minor adverse impacts due to future forecast increased traffic flow (AADT).

8.263. The impact will be mitigated through the implementation of the FTP, the STS and the HGV Route Management Plan and Strategy to control HGV movements and promote active and sustainable travel thereby encouraging modal shift from single occupancy vehicle trips and minimise the forecast traffic impact of the HNRFI development.

## Driver Delay

8.264. Table 8.21 details the predicted driver stress levels on the assessed highway network and the estimated vehicle speeds which have been obtained from either the VISSIM or SATURN models.

**Table 8.21: 2036 With Development Driver Stress and Delay Levels**

Link No.	Road	Sensitive Location	2036 With Dev AADT	2036 With Dev Peak Hours Flow Per Lane	Ave Speed (Kph)	2036 Without Dev	2036 With Dev	Development Adverse Significance of Effect
1	M69 SB entry slip rd	No	6398	299	72	Low	Low	Negligible
2	M69 NB exit slip rd	No	4907	233	72	Low	Low	Negligible
3	M69 South of M69 J2	No	89875	635	112	Low	High	Major Adverse
4	Aston Lane near Sharnford	No	4273	207	48	High	Moderate	Minor Beneficial
5	Aston Lane near Sharnford	No	4310	188	55	Moderate	Moderate	Negligible
6	Main Street	No	6403	301	64	Moderate	Moderate	Negligible
7	Dunton Rd	No	1922	102	64	Moderate	Low	Minor Beneficial
8	M69 J1 Exit Slip NB	No	9932	454	72	Low	Moderate	Minor Adverse
9	M69 South of M69 J1	Yes	90102	971	112	Moderate	Moderate	Negligible
10	Stapleton Lane	No	5839	276	64	Moderate	High	Minor Adverse
11	A5 Watling Street east of M69 J1	No	19879	861	76	High	High	Negligible
12	A5 Watling Street adjacent to Magna Park	No	24553	1057	88	High	Low	Major Beneficial
13	A5 Near Houlton	No	9201	398	104	Low	High	Major Adverse
14	Crick Interchange NB slip entry	No	13278	1200	72	High	High	Negligible
15	Crick Interchange SB slip Exit	No	10397	942	72	High	Moderate	Minor Beneficial
16	Sharnford Rd	No	5199	248	76	Moderate	Low	Minor Beneficial
17	A5 Near Tamworth Interchange	No	19558	440	76	Low	Low	Negligible

Link No.	Road	Sensitive Location	2036 With Dev AADT	2036 With Dev Peak Hours Flow Per Lane	Ave Speed (Kph)	2036 Without Dev	2036 With Dev	Development Adverse Significance of Effect
18	A5 West of Glascote Interchange	No	19527	439	48	Low	Moderate	Minor Adverse
19	Nottingham Rd	No	8549	385	48	Moderate	Moderate	Negligible
20	Melbourne Rd	No	8935	402	48	Moderate	Moderate	Negligible
21	Hobinson Hill	No	10979	494	48	Moderate	Moderate	Negligible
22	The Common	No	5863	264	48	Moderate	Low	Minor Beneficial
23	A447 Ashby Rd	No	10713	464	73	Low	Low	Negligible
24	A447 Ibstock Rd	No	8910	389	48	Low	Moderate	Minor Adverse
25	A447 Wash Lane	No	10454	470	48	Moderate	High	Minor Adverse
26	Braunstone Close	Yes	3359	147	32	High	High	Negligible
27	B4114 Narborough Rd South Seg Left Turn	Yes	1640	145	40	High	High	Negligible
28	Park Rd	Yes	4821	233	48	High	High	Negligible
29	Stoneygate Drive	No	8044	354	40	High	High	Negligible
30	Hardwicke Rd	Yes	1862	102	48	High	Moderate	Minor Beneficial
32	Rotherby Lane	No	265	12	48	Moderate	Moderate	Negligible
33	Little Dalby Rd	No	342	15	32	Moderate	Moderate	Negligible
34	Ullesthorpe Rd	Yes	3381	166	64	Moderate	High	Minor Adverse
35	Main Rd	Yes	1190	69	48	High	High	Negligible
36	Main Street	Yes	5038	241	48	High	High	Negligible
37	Ashby Rd	Yes	1788	94	48	High	High	Negligible
38	Main Street	Yes	5535	261	48	High	Moderate	Minor Beneficial
39	Hinckley Rd East of M69 J2	No	18143	816	64	Moderate	High	Minor Adverse
40	Devitt Way	No	313	22	48	High	High	Negligible
41	B4669 Hinckley Rd	Yes	12961	585	48	High	Moderate	Minor Beneficial
42	Stanton Lane	No	4808	231	64	Moderate	High	Minor Adverse
43	B4669 Leicester Rd	Yes	12817	581	48	High	High	Negligible
44	Long Street	No	8720	385	24	High	Moderate	Minor Beneficial
45	B4114 Coventry Rd	No	15255	685	88	Moderate	Low	Minor Beneficial
46	B4669 Leicester Rd	No	9119	415	88	Low	High	Major Adverse

Link No.	Road	Sensitive Location	2036 With Dev AADT	2036 With Dev Peak Hours Flow Per Lane	Ave Speed (Kph)	2036 Without Dev	2036 With Dev	Development Adverse Significance of Effect
47	B4114 Coventry Rd	No	19474	870	88	High	High	Negligible
48	Forest Rd	Yes	4577	201	40	High	Moderate	Minor Beneficial
49	Stanton Lane	No	7622	357	64	Moderate	High	Minor Adverse
50	Stapleton Lane	Yes	7838	350	40	High	High	Negligible
51	Station Rd	Yes	3477	170	32	High	Moderate	Minor Beneficial
52	Upton Lane	No	362	33	32	Moderate	Moderate	Negligible
53	A47 Normandy Way	Yes	18105	781	64	Moderate	High	Minor Adverse
54	Leicester Rd	Yes	26769	1203	73	High	Low	Major Beneficial
55	The Common	Yes	12774	582	76	Low	High	Major Adverse
56	Hinckley Rd	Yes	14233	626	48	High	High	Negligible
57	Belle Vue Rd	Yes	4722	208	32	High	High	Negligible
58	Queens Way	Yes	2402	107	32	High	High	Negligible
59	Charnwood Rd	Yes	1052	48	32	High	High	Negligible
60	The Leecrofts	No	822	36	40	High	High	Negligible
61	Cedar Rd	Yes	494	24	32	High	High	Negligible
62	Tudor Rd	Yes	5039	222	32	High	High	Negligible
63	Newstead Avenue	Yes	1221	54	32	High	High	Negligible
64	Welbeck Avenue	Yes	3388	149	40	High	High	Negligible
65	Twycross Rd	Yes	1402	63	32	High	High	Negligible
66	Barwell Lane	No	8934	393	40	High	High	Negligible
67	Deveron Way	Yes	1121	50	32	High	High	Negligible
68	Grove Rd	Yes	1628	73	24	High	High	Negligible
70	Grove Rd	Yes	922	42	24	High	High	Negligible
71	Westfield Rd	Yes	3254	143	32	High	High	Negligible
72	Warwick Way	Yes	9624	433	76	High	High	Negligible
73	Swarkestone Rd	No	29623	1333	32	High	Low	Major Beneficial
74	Burton Lane	No	5005	236	76	Low	Moderate	Minor Adverse
75	Sheepy Rd	Yes	1704	93	64	Moderate	High	Minor Adverse
76	Equity Rd East	Yes	4364	193	32	High	High	Negligible
77	Desborough Rd	No	358	16	32	High	High	Negligible
78	M6 J2 Slip Rd	No	17822	1598	72	Moderate	High	Minor Adverse
79	Stoneygate Drive	No	6139	366	40	High	High	Negligible

Link No.	Road	Sensitive Location	2036 With Dev AADT	2036 With Dev Peak Hours Flow Per Lane	Ave Speed (Kph)	2036 Without Dev	2036 With Dev	Development Adverse Significance of Effect
80	A5 Watling Street	No	22048	907	76	Low	High	Major Adverse
81	Frolesworth Rd	No	1496	118	48	High	High	Negligible
82	Main Street	No	5331	301	55	Moderate	High	Minor Adverse
83	A5 Watling Street	No	30467	1300	112	Moderate	High	Minor Adverse
84	Main Street	Yes	5405	306	40	High	High	Negligible
85	A5 Watling Street	No	24231	1074	104	High	High	Negligible
86	A5 Watling Street	No	27005	1184	112	High	High	Negligible
87	Hinckley Rd	Yes	2242	231	24	High	High	Negligible
88	A5 Watling Street	No	26781	1173	96	High	High	Negligible
89	A5 Watling Street	No	31655	1274	76	Moderate	High	Minor Adverse
90	Hinckley Rd	No	1667	188	48	High	High	Negligible
91	Huncote Rd	No	5315	385	64	High	High	Negligible
92	B4669 Leicester Rd	No	11688	629	48	High	High	Negligible
93	A447 Main Street	No	15193	719	48	High	High	Negligible
94	A447 Ashby Rd	No	13174	597	64	High	High	Negligible
95	Chapel Street	Yes	2707	323	24	High	High	Negligible
96	A447 Main Street	No	13758	668	48	High	High	Negligible
97	A447 Ashby Rd	No	10527	474	64	Moderate	High	Minor Adverse
98	A5 Watling Street	No	28043	1111	76	High	High	Negligible
99	Oxford Street	Yes	530	30	32	High	High	Negligible
100	Belle Vue Rd	Yes	4571	225	32	High	High	Negligible
101	Equity Rd East	Yes	3955	193	32	High	High	Negligible

8.265. 101 links have been reviewed in detail and based on the outputs from the PRTM model and observed flows for driver stress and delay as outlined in paragraphs 8.215 and 8.216.

8.266. Of these links the sixty-three have a negligible change. The following categories make up the remainder of the assessed links. Though the majority of these do not reach the magnitude required for likely significant effects:

- Minor Beneficial; 12 links
- Major Beneficial; 3 links
- Minor Adverse; 17 links

- Major Adverse; 5 links

8.267. Of the major adverse links these are focused on the increases in traffic experienced around the M69 Southbound, the B4669 and the A47/The Common.

### Pedestrian Delay and Amenity

8.268. Pedestrian delay and amenity have been calculated using the methodology described earlier in this chapter.

**Table 8.22: 2036 With Development Pedestrian Delay and Amenity Levels**

Link No.	Road	Ave Peak Hourly Flow	Without Dev Ped Delay	With Dev Ped Delay	Pedestrian Facilities	Without Dev Ped Amenity	With Dev Ped Amenity	Significance of Effect
11	A5 Watling Street	1722	Low	Moderate	Footway/ Cycleway on the northern sides of the carriageway	Excellent	Excellent	Negligible
29	Stoneygate Drive	708	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
35	Main Road	138	Low	Low	Footway on the western side of the carriageway	Poor	Poor	Negligible
40	Devitt Way	44	Low	Low	Footway on the eastern sides of the carriageway that is separated by a grass verge	Good	Good	Negligible
41	B4669 Hinckley Road	1170	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
42	Stanton Lane	462	Low	Low	Widening footway and providing a formalised crossing on Stanton Lane	Poor	Good	Moderate Beneficial
43	B4669 Leicester	1161	Moderate	Low	Widening of existing footways where	Poor	Good	Moderate Beneficial

Link No.	Road	Ave Peak Hourly Flow	Without Dev Ped Delay	With Dev Ped Delay	Pedestrian Facilities	Without Dev Ped Amenity	With Dev Ped Amenity	Significance of Effect
44	Long Street	770	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
46	B4669 Leicester Road	830	Low	Low	Footway on the northern sides of the carriageway	Good	Good	Negligible
50	Stapleton Lane	700	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
53	A47 Normandy Way	1561	Low	Moderate	Footway/cycleway on the southern sides of the carriageway	Excellent	Excellent	Negligible
55	The Common	1164	Low	Low	Footway on the western side of the carriageway	Good	Good	Negligible
56	Hinckley Road	1251	Low	Low	Footway on the western side of the carriageway	Good	Good	Negligible
57	Belle Vue Road	415	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
58	Queens Way	214	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
59	Charnwood Road	95	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
60	The Leecrofts	72	Low	Low	Footways on both sides of the carriageway	Good	Good	Negligible
61	Cedar Road	47	Low	Low	Footways on both sides of the carriageway that is separated by a grass verge	Excellent	Excellent	Negligible



Link No.	Road	Ave Peak Hourly Flow	Without Dev Ped Delay	With Dev Ped Delay	Pedestrian Facilities	Without Dev Ped Amenity	With Dev Ped Amenity	Significance of Effect
62	Tudor Road	443	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
63	Newstead Avenue	107	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
64	Welbeck Avenue	298	Low	Low	Footways presented on both sides of the carriageway	Good	Good	Negligible
65	Twycross Road	126	Low	Low	Footway on the eastern sides of the carriageway that is separated by a grass verge	Good	Good	Negligible
66	Barwell Lane	785	Low	Low	Footways on both sides of the carriageway, with a shared footway/cycleway beginning/ending close to the junction with Ashby Road	Good	Good	Negligible
67	Deveron Way	99	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
68	Grove Road	145	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
69	Grove Road	43	Low	Low		Good	Good	Negligible
70	Grove Road	83	Low	Low		Good	Good	Negligible
71	Westfield Road	285	Moderate	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
76	Equity Road East	386	Low	Low	Footways presented on both sides of the carriageway	Good	Good	Negligible

Link No.	Road	Ave Peak Hourly Flow	Without Dev Ped Delay	With Dev Ped Delay	Pedestrian Facilities	Without Dev Ped Amenity	With Dev Ped Amenity	Significance of Effect
79	Stoneygate Drive	732	Moderate	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
81	Frolesworth Road	236	Moderate	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
83	A5 Watling Street	2600	Low	Moderate	Dropped Kerb Crossings present at the Watling Street/High Cross Road	Good	Good	Negligible
84	Main Street	611	Moderate	Low	Footway on the southern sides of the carriageway	Good	Good	Negligible
87	Hinckley Road	462	Low	Low	New Crossing being provided at New Road/Hinckley Road junction.	Good	Good	Negligible
90	Hinckley Road	376	Low	Low	Footway on the Northern sides of the carriageway	Good	Good	Negligible
92	B4669 Leicester Road	1257	Low	Low	Footways, separated by a grass verge, on both sides of the carriageway plus a zebra crossing	Good	Good	Negligible
93	A447 Main Street	1438	Low	Moderate	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
95	Chapel Street	323	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
96	A447 Main Street	1336	Low	Low	Footway on the eastern sides of the carriageway	Good	Good	Negligible
97	A447 Ashby Road	947	Low	Low	Formal footways and signalised crossings	Poor	Good	Moderate Beneficial

Link No.	Road	Ave Peak Hourly Flow	Without Dev Ped Delay	With Dev Ped Delay	Pedestrian Facilities	Without Dev Ped Amenity	With Dev Ped Amenity	Significance of Effect
98	A5 Watling Street	2221	Moderate	Moderate	Footway on the southern side of the carriageway from Smockington Lane, as the footway extends west an uncontrolled crossing to/from a northern footway.	Good	Good	Negligible
99	Oxford Street	60	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible
100	Belle Vue Road	450	Low	Low	Footways on both sides of the carriageway, uncontrolled crossings at the junctions.	Good	Good	Negligible

8.269. Pedestrian delay and amenity have been reviewed for routes within 10km of the Development Site, filtered and displayed in Table 8.21.

8.270. Of these, the following routes have the following significant impacts:

- B4669 Leicester Road Sapcote- Moderate beneficial, localised improvements within the village to improve crossings.
- Stanton Lane- Moderate beneficial. Signal controlled junction added, with crossing and footway widening.
- A447 Ashby Road– Moderate beneficial. Signalised crossings added to existing junction.

### Cyclist Delay and Amenity

8.271. Cyclist delay and amenity have been calculated using the methodology described earlier in this chapter and set out in Tables 8.4 to 8.6. The resultant 2036 development impacts are shown in Table 8.23.

**Table 8.23: 2036 With Development Cyclist Delay and Amenity Levels**

Link No.	Road	AADT	Ave Peak Hourly Flow	Cyclist Delay	Cycling Facilities	Without Dev Cyclist Amenity	With Dev Cyclist Amenity	Significance of Effect
11	A5 Watling Street	21022	1722	Moderate	Footway/Cycleway on the northern sides of the carriageway	Good	Good	Negligible
47	B4114 Coventry Road	20249	1739	Moderate	Install advance Stop Lines for Cyclists at traffic signals	Poor	Good	Minor Beneficial
53	A47 Normandy Way	16179	1561	Moderate	Footway/cycleway on the southern sides of the carriageway	Good	Good	Negligible
66	Barwell Lane	6751	785	Low	A shared footway/cycleway beginning/ending close to the junction with Ashby Road	Good	Good	Negligible

8.272. Cyclist delay and amenity have been reviewed for routes, filtered, and displayed in Table 8.23. Of these, the change:

- B4114 Leicester Road- A47 Link Road- Minor beneficial. The new junction allows for advanced stop lines for cyclists.

**Fear and Intimidation**

8.273. As with the baseline conditions, an attempt has been made to assess the level of fear and intimidation along the links for the 2036 with Proposed Development scenario on an individual basis, using a scale of low, moderate, or high levels of fear and intimidation (see Table 8.12). It should be noted that the level of fear and intimidation assessed in this section relates to traffic volumes as a quantitative assessment.

8.274. Table 8.24 shows the average peak hour flows in 2036 with the Proposed Development, along with pedestrian facilities along the links which have been assessed.

**Table 8.24: 2036 With Development Fear and Intimidation Levels**

Link No.	Road	AADT	Ave Peak Hourly Flow	Facilities and Conditions	2036 Without Dev	2036 With Dev	Development Impact Significance of Effect
4	Aston Lane near Sharnford	4273	414	No Facilities	Minor	Minor	Negligible
5	Aston Lane near Sharnford	4310	376	Footways on the eastern sides of the carriageway, or crossing facilities and street lighting	Minor	Minor	Negligible
6	Main Street	6403	601	No Facilities	Minor	Minor	Negligible
7	Dunton Rd	1922	203	Footways on the Northern sides of the carriageway, No Crossing Facilities	Minor	Minor	Negligible
10	Stapleton Lane	5839	551	No Facilities	Minor	Minor	Negligible
11	A5 Watling Street east of M69 J1	19879	1722	Footway/Cycleway on the northern sides of the carriageway, Uncontrolled Crossings	Major	Major	Negligible
12	A5 Watling Street adjacent to Magna Park	24553	2113	No Facilities	Major	Major	Negligible
13	A5 near Houlton	9201	796	No Facilities	Moderate	Moderate	Negligible
14	Crick Interchange NB slip entry	13278	1200	Footways, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
15	Crick Interchange SB slip exit	10397	942	Footways, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
16	Sharnford Rd	5199	496	No Facilities	Minor	Minor	Negligible
17	A5 near Tamworth Interchange	19558	1760	No Facilities	Major	Major	Negligible
18	A5 west of Glascote Interchange	19527	1757	No Facilities	Major	Major	Negligible
19	Nottingham Rd	8549	769	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible

Link No.	Road	AADT	Ave Peak Hourly Flow	Facilities and Conditions	2036 Without Dev	2036 With Dev	Development Impact Significance of Effect
20	Melbourne Rd	8935	804	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
21	Hobinson Hill	10979	988	No Facilities	Moderate	Moderate	Negligible
22	The Common	5863	528	No Facilities	Minor	Minor	Negligible
23	A447 Ashby Rd	10713	927	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
24	A447 Ibstock Rd	8910	777	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
25	A447 Wash Lane	10454	941	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
26	Braunstone Close	3359	294	No Facilities	Minor	Minor	Negligible
27	B4114 Narborough Road South	1640	145	No Facilities	Minor	Minor	Negligible
28	Park Road	4821	465	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
29	Stoneygate Drive	8044	708	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Moderate	Minor Impact
30	Hardwicke Road	1862	203	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
31	A563 Asquith Way	18222	1640	No Facilities	Moderate	Major	Minor Impact
32	Rotherby Lane	265	24	No Facilities	Minor	Minor	Negligible
33	Little Dalby Rd	342	31	No Facilities	Minor	Minor	Negligible
34	Ullesthorpe Road	3381	331	No Facilities	Minor	Minor	Negligible
35	Main Road	1190	138	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible

Link No.	Road	AADT	Ave Peak Hourly Flow	Facilities and Conditions	2036 Without Dev	2036 With Dev	Development Impact Significance of Effect
36	Main Street	5038	481	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
37	Ashby Road	1788	188	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
38	Main Street	5535	521	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
39	Hinckley Rd East of M69 J2	18143	1632	No Facilities	Moderate	Major	Minor Impact
40	Devitt Way	313	44	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
41	B4669 Hinckley Road	12961	1170	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
42	Stanton Lane	4808	462	No Facilities	Minor	Minor	Negligible
43	B4669 Leicester Road	12817	1161	Footways on the Northern sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
44	Long Street	8720	770	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Moderate	Minor Impact
45	B4114 Coventry Road	15255	1369	No Facilities	Moderate	Moderate	Negligible
46	B4669 Leicester Road	9119	830	Footway on the northern side of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Moderate	Minor Impact

Link No.	Road	AADT	Ave Peak Hourly Flow	Facilities and Conditions	2036 Without Dev	2036 With Dev	Development Impact Significance of Effect
47	B4114 Coventry Road	19474	1739	No Facilities	Major	Major	Negligible
48	Forest Road	4577	401	No Facilities	Minor	Minor	Negligible
49	Stanton Lane	7622	713	No Facilities	Minor	Minor	Negligible
50	Stapleton Lane	7838	700	No Facilities	Minor	Minor	Negligible
51	Station Road	3477	340	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
52	Upton Lane	362	65	No Facilities	Minor	Minor	Negligible
53	A47 Normandy Way	18105	1561	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Major	Major	Negligible
54	Leicester Rd	26769	2405	Footways on both sides of the carriageway, Zebra Crossings, Street Lighting	Major	Major	Negligible
55	The Common	12774	1164	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
56	Hinckley Road	14233	1251	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
57	Belle Vue Road	4722	415	No Facilities	Minor	Minor	Negligible
58	Queens Way	2402	214	No Facilities	Minor	Minor	Negligible
59	Charnwood Road	1052	95	No Facilities	Minor	Minor	Negligible
60	The Leecrofts	822	72	No Facilities	Minor	Minor	Negligible
61	Cedar Road	494	47	No Facilities	Minor	Minor	Negligible
62	Tudor Road	5039	443	No Facilities	Minor	Minor	Negligible
63	Newstead Avenue	1221	107	No Facilities	Minor	Minor	Negligible
64	Welbeck Avenue	3388	298	No Facilities	Minor	Minor	Negligible
65	Twycross Road	1402	126	No Facilities	Minor	Minor	Negligible
66	Barwell Lane	8934	785	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Moderate	Minor Impact
67	Deveron Way	1121	99	No Facilities	Minor	Minor	Negligible
68	Grove Road	1628	145	No Facilities	Minor	Minor	Negligible
69	Grove Road	497	43	No Facilities	Minor	Minor	Negligible



Link No.	Road	AADT	Ave Peak Hourly Flow	Facilities and Conditions	2036 Without Dev	2036 With Dev	Development Impact Significance of Effect
70	Grove Road	922	83	No Facilities	Minor	Minor	Negligible
71	Westfield Road	3254	285	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
72	Warwick Way	9624	#N/A	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
73	Swarkestone Rd	29623	#N/A	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Major	Major	Negligible
74	Burton Lane	5005	471	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
75	Sheepy Road	1704	186	Footways on both sides of the carriageway, Uncontrolled Crossings	Minor	Minor	Negligible
76	Equity Road East	4364	386	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
77	Local Road	358	#N/A	Footways on both sides of the carriageway, Uncontrolled Crossings	Minor	Minor	Negligible
79	Stoneygate Drive	8324	732	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
80	A5 Watling Street	20976	1814	No Formal Facilities	Major	Major	Negligible
81	Frolesworth Road	2261	236	Footways on the Northern sides of the carriageway, Uncontrolled Crossings	Minor	Minor	Negligible
82	Main Street	6930	601	No Formal Facilities	Minor	Minor	Negligible

Link No.	Road	AADT	Ave Peak Hourly Flow	Facilities and Conditions	2036 Without Dev	2036 With Dev	Development Impact Significance of Effect
83	A5 Watling Street	30114	2600	Footways on the Northern sides of the carriageway, Uncontrolled Crossings	Major	Major	Negligible
84	Main Street	6950	611	No Formal Facilities	Minor	Minor	Negligible
85	A5 Watling Street	24934	2148	No Formal Facilities	Major	Major	Negligible
86	A5 Watling Street	27419	2367	No Formal Facilities	Major	Major	Negligible
87	Hinckley Road	5239	462	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
88	A5 Watling Street	27186	2346	No Formal Facilities	Major	Major	Negligible
89	A5 Watling Street	29492	2548	No Formal Facilities	Major	Major	Negligible
90	Hinckley Road	3844	376	No Formal Facilities	Minor	Minor	Negligible
91	Huncote Road	8257	770	No Formal Facilities	Minor	Minor	Negligible
92	B4669 Leicester Road	13897	1257	Footways on the northern side of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
93	A447 Main Street	16616	1438	Footway on the southern side of the carriageway, Uncontrolled Crossings, Street Lighting	Moderate	Moderate	Negligible
94	A447 Ashby Road	13790	1194	No Formal Facilities	Moderate	Moderate	Negligible
95	Chapel Street	3641	323	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
96	A447 Main Street	15366	1336	No Formal Facilities	Moderate	Moderate	Negligible
97	A447 Ashby Road	10941	947	No Formal Facilities	Moderate	Moderate	Negligible
98	A5 Watling Street	25675	2221	Footways on both sides of the carriageway, Uncontrolled Crossings	Major	Major	Negligible
99	Oxford Street	650	60	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible

Link No.	Road	AADT	Ave Peak Hourly Flow	Facilities and Conditions	2036 Without Dev	2036 With Dev	Development Impact Significance of Effect
100	Belle Vue Road	5087	450	Footways on both sides of the carriageway, Uncontrolled Crossings, Street Lighting	Minor	Minor	Negligible
101	Equity Road East	4364	386	No Formal Facilities	Minor	Minor	Negligible

8.275. Fear and intimidation have been assessed using the outputs from Table 8.23. The thresholds for fear and intimidation are set out in Table 8.5.

8.276. The development impacts above the baseline are generally minimal with no likely adverse effects, with minor adverse recorded at:

- B4669 Hinckley Road East of Junction 2 M69
- B4669 Hinckley Road East of Stanton Lane
- Long Street
- A563 Asquith Way

**Accidents and Safety**

8.277. Table 8.24 summarises the forecast annual average accident rates in 2036 with and without the Proposed Development along the links considered within this chapter.

**Table 8.25: 2036 With Development Accidents and Safety Levels**

Link		2036 Baseline Typical Annual Accidents	2036 Typical Annual Accidents with Proposed Development	Proposed Development Impact (2036)
1	A5 (Link 1)	0.9	0.9	Negligible
2	A5 (Link 2)	2.3	2.3	Negligible
3	A5 (Link 3)	1.2	1.2	Negligible
4	A5 (Link 4)	2.2	2.1	Minor Beneficial
5	A5 (Link 5)	2.0	1.9	Minor Beneficial
6	A5 (Link 6)	0.8	0.9	Minor Adverse
7	A5 (Link 7)	1.2	1.2	Negligible
8	A5 (Link 8)	1.5	1.5	Negligible
9	A5 (Link 9)	1.9	1.8	Minor Beneficial
10	A5 (Link 10)	3.6	3.6	Negligible
11	A47 (Link 1)	0.7	0.7	Negligible
12	A47 (Link 2)	0.9	0.9	Negligible
13	A47 (Link 3)	0.9	0.9	Negligible
14	A47 (Link 4)	0.8	0.9	Minor Adverse
15	A47 (Link 5)	0.3	0.3	Negligible
16	Sapcote (Link 1)	0.2	0.4	Minor Adverse
17	Sapcote (Link 2)	0.4	0.7	Minor Adverse
18	Stoney Stanton (Link 1)	0.1	0.1	Negligible
19	A563 Lubbesthorpe Way/Soar Valley Way/B4114 Narborough Road South	9.0	9.1	Minor Adverse
20	M42 Junction 10 Roundabout	5.3	5.3	Negligible
21	A5 Watling Street/Woodford Lane	1.8	1.8	Negligible
22	M6 Junction 2 Roundabout	5.4	5.5	Minor Adverse
23	M1 Junction 21 Roundabout	6.2	6.2	Negligible

8.278. The IEMA guidance state that an assessment of road safety on the highway network should be undertaken based on recent collision data. Personal Injury Collision (PIC) records have been obtained from the DfT's road safety data for the latest available 5-year period. Typical annual average collision rates along links are calculated in accordance with guidance provided by the DfT making use of its COBALT software to carry out the forecast collision calculations.

8.279. For the purposes of determining the magnitude of change, relating highway safety, the same level of significance as set out in Table 8.5 was applied to the change in predicted collisions.

8.280. The sensitivity of highway safety along each link is based on the actual average annual collision rate in comparison to the typical average annual accident rate. Where the actual rates are lower than the typical, sensitivity will be classed as low. Where the rates are approximately equal, sensitivity would be classed as medium and where the actual rate is higher than the typical sensitivity would be classed as high.

8.281. Road Safety is also reviewed in detail in the TA which forms Appendix 8.1 of this ES.

8.282. Road Safety Audits will be undertaken at each stage of the works development process with Stage 1 Road Safety Audits being undertaken on the mitigation schemes for the final submission.

8.283. Removing HGVs from the national networks reduces the occurrence of collisions on the network by reducing distances travelled. This is due to the net HGV mileage saved by using rail infrastructure for the primary movement of freight from the ports.

**Railway Capacity**

8.284. Network Rail has confirmed that the addition of new train movements for the Proposed Development will be required to fit around the existing services within the working timetable. Network Rail has both contractual and regulatory obligations to existing users of the network in terms of the timing of their trains in the working timetable.

8.285. These additional train movements are neither guaranteed nor reserved for the Proposed Development, but merely demonstrates the availability for trains in the working timetable on this route on the rail network. Which services will run, and their timings will all depend on applications by individual Freight Operating Companies as needed, once the terminal is operational. It should be noted that this position is consistent with Network Rail and the wider rail industry’s established approach to the identification of potential paths at this point in the development cycle. Further detail is included in the Rail Operations Report (Document Ref: 18.1)

**Level Crossings**

8.286. Table 8.26 below indicates works to level crossings and associated access and limitations. Where crossings are maintained, they are either enhanced (footbridge) or diverted to improve safety for all users.

**Table 8.26: Level crossing modifications proposed in connection with the HNRFI development**

Level Crossing	Works proposed	Access and limitations proposed in the draft DCO
Thorney Fields Farm No 2:	Public right of way diversion with pedestrian traffic rerouted to an	No change

Level Crossing	Works proposed	Access and limitations proposed in the draft DCO
Grid Ref: SP480959 Footpath No. U17/1, 1 km NW of Sapcote	existing bridge over the railway south of Thorney Fields Farm.	
Elmesthorpe: Grid Ref: SP471958 Elmesthorpe: Footpath No. T89/1  between Bostock Close and the B581 Station Road, opposite the Wentworth Arms public house	Public right of way diversion with pedestrian traffic rerouted to an existing bridge over the railway at Station Road	No change
Earl Shilton: Grid Ref: SP460954  Earl Shilton: Footpath No: U50/3 connecting Elmesthorpe to the north with Burbage Common Road	Permanent closure. The footpath to the east of this level crossing is proposed to be stopped up, meaning that the level crossing would have no future purpose.	Permanent closure
Barwell: Grid Ref: SP457952  Barwell: Footpath No. V23/1, connecting the Elmesthorpe-Burbage Common Bridleway (U52/9) with Burbage Common Road to the east of the railway.	Permanent closure. The footpath to the east of this level crossing is proposed to be stopped up, meaning that the level crossing would have no future purpose.	Permanent closure
The Outwoods: Grid Ref: SP442941  Footpath no. U8/1, connecting Burbage and the Hinckley Academy and John Cleveland Sixth Form Centre in Hinckley.	Replacement of the level crossing with a pedestrian footbridge, with associated public rights of way diversions.	No change

### Beneficial Effects

8.287. It should be noted that the with Development including access infrastructure (2036) scenario will also result in reduction of traffic on a number of links.

8.288. Links benefiting from lower traffic flows are summarised below in Table 8.27 and illustrated in Figure 8.4.

**Figure 8.4: Beneficial Effects; Traffic reduction**

8.289. It should be noted that there are major positive effects shown within Figure 8.4 are on short stretches on minor residential road. They are based on large percentage changes on low background figures. For example, a reduction of 2 cars on a street with 10 movements would register as a 20% reduction. Therefore, they are not included Table 8.27.

**Table 8.27: Beneficial Effects**

Road	Near to Sensitive Receptors	AADT Total Vehicles			AADT HGVs			Magnitude of Change Criteria	Significance of Traffic Effects
		2036 Without Development	2036 With Development	Percentage Change (%)	2036 Without Development	2036 With Development	Percentage Change (%)		
Arbor Rd	Yes	2184	1749	-19.9	0	0	0.0	Negligible	Minor
Azalea Drive	No	5000	5014	0.3	85	69	-19.7	Negligible	Negligible
B4114 Coventry Rd	No	4816	2388	-50.4	486	395	-18.8	Negligible	Negligible
B4428 Broad Street	Yes	9964	8921	-10.5	441	436	-1.2	Negligible	Negligible
B4667 Upper Bond Street	Yes	9963	9014	-9.5	4	4	4.5	Negligible	Minor
B4668 Leicester Rd	No	19798	14440	-27.1	6	10	60.7	Moderate	Minor
B4669 Burbage Rd	Yes	26558	22744	-14.4	133	135	1.3	Negligible	Negligible
B4669 London Rd	Yes	26202	22383	-14.6	127	126	-0.6	Negligible	Negligible
B578 Church Street	Yes	13961	11533	-17.4	102	90	-11.6	Negligible	Negligible
B578 Hinckley Rd	No	14807	11561	-21.9	117	101	-14.3	Negligible	Negligible
B578 Lutterworth Rd	No	11640	9007	-22.6	93	88	-5.3	Negligible	Negligible
B581 Broughton Rd	No	5649	4645	-17.8	174	166	-4.7	Negligible	Negligible
B581 Station Rd	Yes	13731	11704	-14.8	368	257	-30.1	Negligible	Minor
B590 Council Rd	Yes	5382	4573	-15.0	2	2	4.7	Negligible	Minor
B590 Holliers Walk	Yes	4529	3846	-15.1	28	28	0.9	Negligible	Minor
B590 Leicester Rd	Yes	5544	3878	-30.0	3	3	2.7	Negligible	Minor
B590 London Rd	Yes	22172	18505	-16.5	8	6	-19.6	Negligible	Minor
B590 Southfield Rd	No	10374	9471	-8.7	124	119	-3.7	Negligible	Negligible
B590 Spa Lane	Yes	15002	12625	-15.8	6	4	-32.9	Negligible	Minor
B6540 Tamworth Rd	No	25726	25631	-0.4	689	715	3.9	Negligible	Negligible
Billesdon Rd	Yes	1432	1264	-11.8	0	0	0.0	Negligible	Minor
Boyslade Rd	Yes	10464	7807	-25.4	39	27	-30.7	Negligible	Negligible
Brookside	Yes	6954	5563	-20.0	28	42	47.7	Negligible	Negligible
Broughton Rd	No	11812	12213	3.4	0	0	0.0	Negligible	Negligible
Buckminster Rd	Yes	7973	7921	-0.6	31	32	1.6	Negligible	Negligible
Burnham Drive	Yes	12575	12552	-0.2	0	0	0.0	Negligible	Negligible
Castle Street	Yes	13805	11897	-13.8	17	17	1.8	Negligible	Minor
Church Street	Yes	7368	6622	-10.1	0	0	0.0	Negligible	Minor
Crownhill Rd	Yes	1618	1256	-22.4	16	2	-89.3	Negligible	Negligible



Road	Near to Sensitive Receptors	AADT Total Vehicles			AADT HGVs			Magnitude of Change Criteria	Significance of Traffic Effects
		2036 Without Development	2036 With Development	Percentage Change (%)	2036 Without Development	2036 With Development	Percentage Change (%)		
Far Lash	No	5146	3382	-34.3	5	5	3.4	Negligible	Negligible
Gaulby Rd	Yes	1432	1264	-11.8	0	0	0.0	Negligible	Minor
Gynsill Lane	No	11961	11794	-1.4	14	15	1.2	Negligible	Negligible
Herald Way	No	3332	2809	-15.7	24	10	-58.8	Negligible	Negligible
Higham Lane	Yes	15838	15447	-2.5	205	203	-1.3	Negligible	Minor
Hill Street	Yes	6096	6036	-1.0	14	14	1.3	Negligible	Minor
Hillrise	No	2299	1888	-17.9	25	12	-51.3	Negligible	Negligible
Kings Drive	No	5473	5338	-2.5	47	43	-8.8	Negligible	Negligible
Lancaster Rd	Yes	19050	19012	-0.2	15	15	-0.3	Negligible	Negligible
Langton Rd	Yes	7339	6941	-5.4	51	51	-0.3	Negligible	Minor
Little Lunnon	Yes	1075	967	-10.0	0	0	0.0	Negligible	Minor
Masefield Drive	Yes	892	762	-14.6	61	62	1.4	Negligible	Minor
Merevale Ave	Yes	1973	1597	-19.1	10	10	-2.1	Negligible	Minor
New Buildings	Yes	14905	13288	-10.8	6	6	-1.3	Negligible	Minor
Orton Hill	No	339	163	-52.0	0	0	0.0	Negligible	Negligible
Park View	Yes	1056	928	-12.1	54	62	15.3	Negligible	Minor
Polwell Rd	Yes	553	410	-25.8	12	12	0.2	Negligible	Negligible
Priesthills Rd	Yes	4800	4638	-3.4	0	0	0.0	Negligible	Negligible
Pyeharps Rd	No	5965	4170	-30.1	11	14	30.5	Minor	Negligible
Queens Rd	Yes	6420	6392	-0.4	0	0	0.0	Negligible	Negligible
Rowley Fields Ave	Yes	79	70	-11.1	0	0	0.0	Negligible	Minor
Rushmere Walk	Yes	304	223	-26.5	0	0	0.0	Negligible	Minor
Rycroft Rd	Yes	3394	3000	-11.6	0	0	0.0	Negligible	Minor
Sapcote Rd	No	4663	3386	-27.4	98	56	-42.4	Negligible	Negligible
Shenton Lane	No	4017	3737	-7.0	0	0	0.0	Negligible	Negligible
Shilton Rd	Yes	5918	5758	-2.7	25	26	2.1	Negligible	Minor
South Drive	No	3096	3075	-0.7	30	62	104.0	Major	Moderate
Station Rd	No	25583	25735	0.6	1265	1268	0.3	Negligible	Negligible
Stoneycroft Rd	No	1961	1807	-7.9	32	33	1.6	Negligible	Negligible
Sysonby Street	Yes	437	387	-11.4	0	0	0.0	Negligible	Negligible

Road	Near to Sensitive Receptors	AADT Total Vehicles			AADT HGVs			Magnitude of Change Criteria	Significance of Traffic Effects
		2036 Without Development	2036 With Development	Percentage Change (%)	2036 Without Development	2036 With Development	Percentage Change (%)		
Thurlaston Lane	No	8511	7721	-9.3	0	0	0.0	Negligible	Negligible
Uppingham Rd	Yes	1480	1322	-10.7	0	0	0.0	Negligible	Negligible
Weston Lane	Yes	12192	12010	-1.5	170	164	-3.5	Negligible	Minor
Windsor Street	No	6639	4750	-28.5	38	26	-30.5	Negligible	Negligible
Wolvey Rd	Yes	5034	4499	-10.6	68	69	1.7	Negligible	Negligible
Woodland Ave	Yes	1274	966	-24.1	7	6	-13.5	Negligible	Negligible
Wychwood Rd	Yes	1928	1657	-14.1	32	31	-2.5	Negligible	Negligible

**A5 Watling Street Railway Bridge - Beneficial Rerouting Effects**

8.290. It is worth noting that if the A5 is closed and traffic rerouted due to a bridge strike as part of a NH diversion strategy, the inclusion of the south facing slip roads at M69 J2 and the A47 Link Road will help provide another suitable alternative route to remove traffic from other local routes.

**Commentary on Traffic Flow and Capacity Impact**

8.291. Link analysis using the IEMA thresholds indicates circa forty links affected during the operational phase of the Proposed Development. Of these the majority are within 2km of the HNRFI Site, with other outliers as a result in change in percentage flow above the baseline. Most of the links fall within the negligible to minor magnitude category (being either below 30% or between 30% and 60% change when compared with the baseline position for non-sensitive sites) or below 10% or between 10 and 30% for those sites close to sensitive receptors.

8.292. Adverse effects for the ‘with Proposed Development 2036’ scenario are predominately on roads located in the Eastern Village areas, such as Sapcote, Stoney Stanton or adjacent to the HNRFI Site, such as the B4669 and B4668. These roads are listed below, and the impacts correspond closely with the junction capacity constraints and identified through the SATURN filtering process.

- B4668 Leicester Road
- A47 (At its junction with B4668)
- B4669 East of M69 J2
- Stanton Lane/Hinckley Road- Stoney Stanton
- B4669 Leicester Road
- Hinckley Road-Stoney Stanton.

## PROPOSED MITIGATION

### Construction

#### *Construction Traffic Management Plan (CTMP)*

- 8.293. It is proposed that a Construction Traffic Management Plan (CTMP) will be implemented by the contractor to address the potential adverse effects of the construction on the local surrounding highway network in advance of construction.
- 8.294. During the construction of the access infrastructure, the south facing slips and the A47 Link Road, there will be short term temporary impacts associated with construction traffic on roads routing from the south of the site. These have been reviewed and based on phasing estimates and distribution from potential contractors. Rule 1 thresholds for HGVs are generally below 30% for most routes, with absolute numbers well below 100 daily two-way HGV trips.
- 8.295. There will be some routes closer to the site on the B4669 and on routes through Hinckley which will experience percentage impacts above the 30% threshold. However, there will be no likely significant effects on traffic and transport due to their temporary short-term nature. These will be managed as far as possible through the CTMP.
- 8.296. The CTMP encompasses all the necessary measures required to ensure that works potentially affecting the highway are adequately addressed. It will provide a framework to help ensure that all necessary mitigation and remedial measures are in place to deal with these during the construction. In addition to the adoption of standard best practice approaches, several specific mitigation measures will be included in the CTMP for example:
- Highways to be kept clear of mud and debris.
  - A construction phase delivery strategy to control the timing and routing of delivery vehicles.

- Group transport to the HNRFI Site for construction workers to reduce the number of private car trips.

### Operation

- 8.297. The determination of the significance of the effects is a judgement as to whether the magnitude and duration of impacts, when combined with the characteristics of the road network and the sensitivity of receptors cumulatively lead to an overall increase in the effects of traffic.
- 8.298. If this is the case, then the effects are significant as defined in Table 8.5 and Table 8.6. If the effect is likely to be beneath levels of perception, it is insignificant. Where the effect on a road link has been identified to be significant, mitigation has been proposed to reduce the effect to a not significant level.
- 8.299. A comprehensive package of on and off-site transport improvements are proposed as part of the Proposed Development. Besides local improvements for walking, cycling and public transport, there will be some improvements which will benefit general traffic. These are outlined in the following paragraphs.

### Walking, Cycling and Horse Riding

- 8.300. New and improved walking and cycling routes proposed both on and off the HNRFI Site – a summary is provided below:
- Shared pedestrian and cycleway on the new A47 Link Road through the HNRFI Site.
  - New and diverted PRow through the site connecting with existing network.
- 8.301. As set out in the Public Rights of Way Appraisal and Strategy (Appendix 6.2.11.2) the following improvements are to be provided.
- 8.302. The PRow assessment has identified that most footpaths within the site are only lightly used, confirmed by the latest usage surveys, and there is considered to be significant capacity to support new users on the existing network. Whilst some re-routing will be required as part of the development, access to the existing network would be enhanced through the creation of new linkages, improved marking of routes, removal of obstructions, appropriate vegetation management and the removal of gates/stiles as part of an overall enhancement programme.
- 8.303. Shared paths will be provided adjacent to all roads through the site, allowing continued pedestrian access north, east, south, and west through the site, whilst new bridleway provision will also provide access for walkers.
- 8.304. Two footpath routes (Footpaths V23/1 and U50/3) cross the Hinckley to Leicester railway line via unprotected crossings. These are footpath, bridleway and user worked crossings where the onus is on the crossing user to check for an approaching train before they cross the railway. It is proposed to close these two crossings and instead provide a link

southward from Footpath U50/4 along the northern edge of the railway, passing Footpath V23/1 and linking with Bridleway U52/9 and Footpath U52/8 which provide a safer route via a new bridge over the railway.

- 8.305. There are opportunities to improve cycle provision on-site via alternative, traffic-free or improved routes. These include a cycle path adjacent to all traffic routes within the site, thereby providing a north-east to west and south connectivity and a valuable link between Burbage Common, Hinckley and Burbage to Elmesthorpe.
- 8.306. Provision for Horse-riders - Whilst part of Burbage Common Road will be stopped up through the HNFRI Site the proposals present a traffic free, dedicated bridleway route around the perimeter of the HNFRI Site.
- 8.307. The new route starts at the northern end of the site, travelling east, then south down the eastern edge of the site through a wide landscaped corridor, linking up with Bridleway V29 which provides an onward connection to the east. The new route then continues south along the eastern edge towards the M69 junction 2, turning west and crossing the road via a suitable crossing. The route then meanders around the edge of the ancient woodland of Freeholt Wood through an attractive, naturalistic corridor separated from the commercial development to the north before heading west through a wide-open landscaped area designed to complement the Burbage Common and Woods Country Park. The new route then exits the site connecting with Bridleway U51 and the Leicester Round promoted route, both of which pass through the Country Park. See EDP Figure 11.14 for plan of the PRoW Strategy.

### Public Transport

- 8.308. The nearest bus stops to the HNFRI Site are located approximately 200m west of the M69 Junction 2. These stops are served by the X6 bus, operated by Arriva Midlands.
- 8.309. The X6 runs between Coventry and Leicester, operating a two hourly service between 07.25 and 19.10. Travel time to Coventry is approximately 45 minutes, with Leicester approximately 40 minutes away.
- 8.310. The cumulative effects on bus services during the operational period are therefore considered within the standard assessment scenarios and are not identified separately.
- 8.311. Current proposals for HNFRI are to improve bus accessibility to the HNFRI Site from both Leicester and Coventry by enhancing the X6 services. This is with the aim to provide a more regular (hourly) service which coincides with major shift changes on site (6am/2pm/10pm). The coverage of Coventry and Leicester will help improve accessibility from those areas where employees are most likely to be drawn. This will be subject to agreement with the operators and TSH.
- 8.312. Vectare, a new public transport and technology provider, are also running on-demand bus services in the South Leicester area after successful implementation at Lubbesthorpe.

These types of services will form part of the HNFRI bus strategy as they are demand responsive and adaptable to the needs of potential employees that do not live on direct routes to the HNFRI Site. This is proposed to cover rural areas around the site as well as connections to Hinckley Rail Station. Vectare would consider fixed routes as demand rises with the increased employee numbers at the HNFRI Site.

- 8.313. Local services are also available from Hinckley and through to Nuneaton. These include higher frequency services 158 and 48 which pass close to the site from the A47. Diversion is unlikely into the HNFRI site for these routes, due to an established timetable and customer base. However, extension of the service by 1-2 hours either side of the day could help improve accessibility for shift workers. Again, this is subject to further discussion and agreement with operators and the applicant.
- 8.314. Hinckley has a railway station, served by Cross Country trains. This is situated on the Birmingham to Peterborough line. Services run between Hinckley and Birmingham/Leicester depending on direction of travel, with usually one train per hour in either direction.

### Framework Travel Plan and Smarter Travel Measures

8.315. A Draft Framework Site Wide Travel Plan- Appendix 8.2 is being developed alongside the TA and in accordance with the guidelines in the DfT documents – ‘Good Practice Guidelines: Delivering Travel Plans through the Travel Plan Process’. The Travel Plan includes complementary measures to encourage walking, cycling, bus and car sharing as modes of transport. These are focused into key measures for consideration, several of which are included below:

- Cycle to Work Scheme: Investigate implementing a cycle to work scheme where employees will be able to enter a salary sacrifice scheme for employees to purchase a bike at a discount.
- Personalised Travel Planning: All employers will offer personalised travel planning to all staff, to be undertaken by the associated travel plan coordinator.
- Car Sharing and Car Club Participation: The Travel Plan Co-ordinator will promote existing car sharing services such as [www.shareacar.com](http://www.shareacar.com). This type of site does not require members to necessarily have a car as some existing members will offer lifts in exchange for a contribution towards fuel costs.
- Car Parking Management System.
- Reducing the need to travel: Where possible technology will be used to enable staff to work from home with potential for telephone and video conferencing facilities to aid the reduction of travel to customers, suppliers, and partners.
- Subsidised bus transport for employees to encourage greater bus use.

8.316. The Travel Plan will be monitored against Travel Plan Targets and managed to ensure

measures are effective.

### Highway Improvements

8.317. Given the nature of the Proposed Development with a high proportion of HGVs carrying goods to/from the rail freight terminal, several highway improvements, management, monitoring and enforcement are proposed to keep HGVs away from local roads and on to the SRN to minimise the impact on local residents.

8.318. In addition to providing for access to and from the Proposed Development and distributing traffic onto the network appropriately, the proposed improvements will provide benefits for the town by facilitating redistribution of existing traffic away from sensitive area in Hinckley.

8.319. The following highway improvements have been proposed to mitigate the traffic impact of the Proposed HNRFI Development, this includes the first two items as Access Infrastructure, but also serves to mitigate wider impacts around Hinckley and the eastern villages:

- M69 Junction 2 south-facing slip roads to allow all movements.
- New A47 Link-road between B4668 Leicester Road, the HNRFI Site and the M69 Junction 2 with access for all general traffic.
- Junction capacity improvements, including enhanced pedestrian facilities as described in Table 8.28.

**Table 8.28: Proposed Off-site Highway Mitigation**

No.	Location	Works Proposed	Highway Authority
<b>Blaby District Council</b>			
B1	Junction of B581 Station Road / New Road and Hinckley Road, Stoney Stanton	The existing mini roundabout would be replaced by traffic lights with signalised crossings for pedestrians.	Leicester County Council
B2	Junction of B4669 Hinckley Road and Stanton Lane, west of Sapcote	Traffic lights would be introduced with a phase to allow pedestrians and cyclists to cross.	Leicester County Council
B3	Stanton Lane / Hinckley Road, south-west of Stoney Stanton	Reduction of the speed limit to 40mph from the national speed limit; traffic calming features.	Leicester County Council

No.	Location	Works Proposed	Highway Authority
B4	B4669 Hinckley Road/ Leicester Road, Sapcote	Traffic calming features and creation of public realm with junction improvements, bus stop relocation and inclusion of a pedestrian crossing at junction of Church Street with the B4669. Introduction of a gateway feature to the east of the	Leicester County Council
B5	Junction of B4114 Coventry Road and B581 Broughton Road at Soar Mill, south-east of Stoney Stanton	New traffic lights are already scheduled to be introduced as part of the Broughton Astley S278 works (Planning Ref: 19/00856/OUT).  Should the above committed scheme not come forward in advance of the opening of the HNRFI access infrastructure, the applicant proposes to undertake a mitigation scheme. This would include signalisation of the ghost island junction with the Broughton Road with separate right and left turn lanes and connecting to the existing signalled junction at Coventry Road on the B4114. This layout differs from the S278 proposals by removing the Coventry Road widening,	Leicester County Council
B6	Junction of B4114 Coventry Road and Croft Road, south-west of Narborough	Lane widening on junction approaches	Leicester County Council
<b>Hinckley and Bosworth District Council</b>			
HB1	Junction of A47 Normandy Way and A447 Ashby Road, Hinckley	The approach roads to this junction would all be widened to accommodate additional traffic. Indicative right turn and two lanes would be provided through the junction in a westbound direction.  Formal signal-controlled pedestrian crossing points would be introduced.	Leicester County Council
HB2	Junction of A47 Normandy Way / Leicester Road, the B4668 Leicester Road and The Common, south-east of Barwell	Widening of the entry arm on the B4668 Leicester Road	Leicester County Council
HB3	Junction of B4668 and New A47 Link Road, northeast of the site access (Access Infrastructure)	Provision of a three-arm new roundabout access to the B4668 Leicester Road, including a segregated left turn lane southbound from the A47.	Leicester County Council
<b>Harborough District Council</b>			
H1	Cross in Hand roundabout at the junction of the A5 Watling Street, A4303 Coventry Road, B4428 Lutterworth Road and Coal Pit Lane, west of Lutterworth	Increased roundabout radius and widened lane entries, with two lanes marked for longer distances for traffic approaching the junction on the A5 Watling Street southbound, the B4228 and on Coal Pit Lane.	National Highways



**HNRFI HGV Route Management Strategy**

- 8.320. An HNRFI HGV Route Management Plan & Strategy report (doc ref 17.5) is part of the submission following and has been developed following information shared with LCC and NH.
- 8.321. The HGV Route Management Plan & Strategy identifies preferred and undesirable routes to and from HNRFI before and after the delivery of new highway infrastructure associated with the site.
- 8.322. For any end occupiers who operate high sided vehicles a mechanism will be put in place for checking heights of vehicles leaving and travelling to the B8 units with route management to avoid low bridges in the area including the A5 Nutts Lane railway bridge.
- 8.323. The proposed enforcement mechanisms and monitoring of the HGV Route Management will include ANPR monitoring and on-site measures including vehicle booking systems and variable messaging signing.
- 8.324. Current weight restrictions within the area have been reviewed to develop an appropriate HGV route strategy. The strategy indicates existing restrictions around the HNRFI Site, on the whole these are advisory, though 7.5 tonne weight limits are present in the following locations:
  - Huncote Roads (to the north of Stoney Stanton).
  - Local roads in Stoney Stanton.
  - Local roads in Barwell and Earl Shilton including Leicester Road and Station Road.
- 8.325. Current Height Restrictions at two railway bridges in the local area that could affect the routing of any high sided vehicles are as follows:
  - A5 Hinckley (Nutts Lane); and
  - Rugby Road, Hinckley
- 8.326. Subsequently, “permitted routes” for HGVs associated with the proposed development are set out in Table 8.29.

**Table 8.29: Proposed HGV Permitted Routes**

Direction (to/from)	Route
North	M69 north (J2), M1 north (J21)
East	M69 south (J2), A5 east (M69 J1), A4303, M1 south (J20), A14 (M1 J19)

Direction (to/from)	Route
South-East	M69 south (J2), A5 east (M69 J1), A4303, M1 south (J20)
South	M69 south (J2), A46 south, M40 south (J15)

- 8.327. HNRFI HGV Site traffic will be encouraged to use key strategic roads which surround the site and will be discouraged from using local roads which route through sensitive settings such as local villages. However, HGVs are permitted to use any classification of roads for access and local deliveries even if there is a weight restriction in place, unless it is a structural weight limit. As a main through route, HGVs are directed to use the most appropriate route via motorways, dual carriageways, and main roads.
- 8.328. An off-site ANPR system will be provided for highly sensitive routes to monitor and enforce the strategy, including B4669 Sapcote, B581 Stoney Stanton in Leicestershire and Pailton in Warwickshire.
- 8.329. The system will compare all number plates of vehicles from the off-site ANPR cameras with those at each HGV entrance to HNRFI. One at either roundabout connecting the internal loop road to the A47 link road. When a number plate has been identified at both a HNRFI HGV entrance and any off-site camera ANPR location, the corresponding context images will be compared, and the system will classify the vehicle. Should the vehicle be classified as an HGV, a notifiable match will have been made and an HGV associated with a tenant’s operations will have been deemed to have used a Prohibited HGV Route. This has been effectively deployed in Redditch as part of the Redditch Gateway scheme.
- 8.330. Compliance with the HGV Route Management Plan will also be managed through a private management framework secured through tenancy agreements. For the avoidance of doubt, all reference to tenants in this document relate to corporate bodies and not individuals.
- 8.331. The Site Wide Travel Plan Co-ordinator will receive all automatic notifications from the ANPR system and investigate any potential routing breaches on behalf of the Site Management Company. The notifications will include photographic evidence of the vehicle, along with the time and location of the triggered camera.
- 8.332. In case of an incident on the Strategic Road Network, there will be a site access emergency plan in place which will include alternative routes to/from the Site.
- 8.333. As outlined above, the site benefits from a direct access onto the Strategic Road Network via M69 Junction 2. Routes will be signed on M69, M6, A5, A47 and A4303.
- 8.334. The HGV Route Management Plan & Strategy includes measures for the B8 unit occupiers and the Terminal operator to consider and sets out their responsibilities as well as measures to monitor, report and enforce the Route Management Strategy further details set out in the HGV Management Strategy.

### Hazardous Loads

8.335. Any hazardous loads transported to / from the distribution centre would be assessed and managed in line with the relevant environmental permits (EPs). This is covered under separate legislation and the risks of Major Accidents and Disasters are appraised in Chapter 19 of this ES.

## RESIDUAL ENVIRONMENTAL EFFECTS

### Construction Phase

8.336. Assessment of the construction phase is based on more detailed phasing information. However, construction is phased over the period to 2036. It is considered that the number of construction vehicles accessing the HNRFI relative to the volume and character of vehicle traffic on the surrounding highway network will be minor. The heights and shapes of the plateaus have been determined having regard to a desire to achieve a cut and fill balance across the site obviating the need to import or export soil. These are unlikely to present significant effects from the purposes of environmental assessment.

8.337. There will be some temporary impacts on the local roads prior to the completion of the South facing slip roads at junction two of the M69. This is within the first phase of works but is estimated to last for approximately 52 weeks. The CTMP will help to provide a framework for routing and access to the site during this sensitive early period of the project. However, the residual effects are not predicted to be significant.

### Operational Phase

8.338. To mitigate the traffic generated by the Proposed Development a comprehensive package of sustainable transport measures is to be provided as set out in the previous section. In line with the guidelines, the operational phase of HNRFI with these improvements in place is described below.

### Severance

8.339. Potential severance effects for pedestrians is difficult to measure, and by its subjective nature, is likely to vary between different groups within a single community. In addition to the volume, composition and speed of traffic, severance is also likely to be influenced by the geometric characteristics of a road, the demand for movement across a road, and the variety of land uses, and the extent of community located on either side of a road. All these factors are considered when determining the likely severance effect.

8.340. In general terms, according to the IEMA guidelines, up to a 30% change in traffic flow is likely to produce a 'slight', up to a 60% change in traffic flow is likely to produce a 'moderate' and up to a 90% change in traffic flow is likely to produce a 'substantial' change in severance. These have been identified in Table 8.5.

- 8.341. HNRFI, with the proposed mitigation improvements in place is considered to have an overall direct impact of long-term minor adverse effect. This is because traffic from the HNRFI Site be distributed along major roads which already accommodate heavy traffic, such as the M69 motorway, and therefore any severance issues will already exist. Enhancements to pedestrian facilities and upgraded links to existing and proposed non-motorised routes will improve connectivity around the HNRFI Site notably around Sapcote and Stoney Stanton.
- 8.342. Burbage Common Road is to be stopped up through the Site though access will be retained to local facilities. The realignment of the PRoW around the site will be less direct but will not prevent access to non-motorised users. The impact will be of long term minor adverse significance.

### Driver Delay

- 8.343. Delay to drivers generally occurs at junctions where vehicle manoeuvres are undertaken, and which result in vehicles having to give-way. Driver delay could also occur on narrow rural roads if flows are increased (particularly those where it is difficult for vehicles to pass). Several roads and junctions surrounding the HNRFI Site could be affected by changes in vehicle demand resulting from the Proposed Development. As such, traffic modelling has been undertaken as part of the TA to understand the impact on delay, queuing and capacity at key junctions and links on the surrounding highway network.
- 8.344. The modelling forecasts an increase in traffic on SRN. To mitigate this, highway improvements are proposed to ensure that no junctions will be operating over their theoretical capacity because of traffic associated with the Proposed Development. Furthermore, highway improvements such as the south-facing slip roads at the M69 Junction 2 and a new distributor road between connecting the B4668 to the M69 motorway will provide network wide benefits. It is therefore concluded that the Proposed Development is considered to have a direct impact of long-term minor adverse significance on driver delay, but not a likely significant effect in EIA terms.

### Pedestrian Delay

- 8.345. The delay incurred by pedestrians is generally a direct consequence of their ability to cross the roads. Thus, the provision of crossing facilities, the geometric characteristics of the road, and the traffic volume, composition and speed are all factors that can affect pedestrian delay. These factors have been considered when assessing this effect. It should be noted that the IEA guidelines advise that in assessing levels of, and changes in, pedestrian delay, assessors do not attempt to use quantitative thresholds. This is due to the range of local factors and conditions which can influence pedestrian delay. Instead, the Guidelines recommend the use of professional judgement to determine whether pedestrian delay is a significant effect. Pedestrian delay has been considered in the context of the change in travel demand generated by the Proposed Development, the existing pedestrian facilities on the network and any potential increase in traffic flows.
- 8.346. Studies, quoted within the IEMA guidance (HFA et al, Assessment Methodology Report,

The West London Assessment Studies, 1990) have shown that pedestrian delay is considered perceptible / significant if it exceeds 10 seconds for a link with no crossing facilities. These studies identify that a 10 second pedestrian delay broadly equates to a two-way link flow of 1,400 vehicles per hour.

- 8.347. The forecast increased traffic on the road network without mitigation would likely increase pedestrian delay at some locations, although this is offset by the proposed improved opportunities to cross the major roads around the HNRFI Site as part of the cycling and walking measures. It is therefore concluded that the Proposed Development is considered to have a direct impact of long term minor adverse significance on pedestrian delay and no likely significant effects.

### Pedestrian/Cycle Amenity

- 8.348. The term pedestrian amenity is broadly defined as the relative pleasantness of a journey. It is considered to be affected by traffic flow, speed and composition, as well as footway width, lighting and quality and the separation/protection from traffic. It encompasses the overall relationship between pedestrians and traffic, including fear and intimidation which is the most emotive and difficult effect to quantify and assess. The IEA guidance references the DfT Manual of Environmental Appraisal (1983) which suggests that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or its HGV component) is halved or doubled. In addition to the pedestrian amenity, a consideration of non-motorised users, including cyclists and equestrian users, has been included based on a similar methodology.
- 8.349. With the pedestrian and cycling facilities proposed as part of the Proposed Development, it is concluded that HNRFI is considered to have a direct impact of long term negligible to minor adverse significance on non-motorised users' amenity and no likely significant effects.

### Fear and Intimidation

- 8.350. Potential effects on pedestrians associated with fear and intimidation are caused by an increase in volume of traffic and its HGV composition, and the lack of protection caused by factors such as narrow footway widths. There are no commonly agreed thresholds for estimating levels of danger or fear and intimidation, however the IEMA guidelines suggest the adoption of values from Pedestrian Delay, Annoyance and Risk - Imperial College, Crompton (1981) when considering any effect on pedestrian fear and intimidation.
- 8.351. Given the location at the edge of town and with the package of pedestrian cycling and equestrian mitigation measures HNRFI is considered to have a direct impact of long term negligible to minor adverse significance on fear and intimidation issues and no likely significant effects.

## Highway Safety

- 8.352. The potential effects on road safety of links within the Study Area considered in detail using DfT COBALT software to understand the existing and projected collision risks on main links impacted by the development.
- 8.353. Consideration will also be given to the local circumstances close to the HNRFI Site, including Sapcote and Stoney Stanton. However, results indicate minor adverse to negligible impacts on assessed links with no likely significant effects and no likely significant effects.

## CUMULATIVE AND IN-COMBINATION EFFECTS

- 8.354. All noteworthy, committed developments within the area have been captured within the PRTM under the current local plan period. An Uncertainty Log was produced as part of the inputs to the forecast assessment and was reviewed by the individual authorities' party to the TWG and signed off by the core highway authorities. The log went through eight iterations prior to final agreement. Further, Chapter 20: *Cumulative and in combination effects* provides a detailed review of the cumulative impacts, and therefore explicitly considered within the assessment scenarios. This includes allocated sites which will be built out during the plan period and associated changes to highway and transport infrastructure.
- 8.355. The cumulative effects are therefore considered within the standard assessment scenarios and are not identified separately.

## CLIMATE CHANGE

- 8.356. Climate change is the change in the general weather conditions prevailing over a long period of time, caused by the emissions of greenhouse gases. The impacts of the Proposed Development on climate change can therefore be considered in terms of the volume of greenhouse gas emitted by the Proposed Development. In transportation terms, greenhouse gases are emitted by combustion engine vehicle trips. Further detail is included in the Energy and Climate Change Chapter (document ref: 6.1.18)
- 8.357. HNRFI will provide a positive major shift from road transport to rail. Specialist inputs from Baker Rose Ltd has appraised The HGV mileage saving per annum. This is included in Table 8.28: Total HGV miles saved per annum.
- 8.358. This appraisal has included all potential routes to ports predicted to supply the HNRFI Site. General HGV movements based on existing rail freight efficiencies, including Twenty Foot Equivalent Units (TEU) per train, loading efficiencies and distances to and from ports/destinations.

8.359. Table 8.30: Total HGV mileage saved per annum highlights the annual road miles saving and demonstrate substantial savings of greenhouse gas emissions, which will only be further improved as cleaner freight train technologies develop.

**Table 8.30: Total HGV mileage saved per annum**

HGV Traffic	HGV Miles Saved (millions)
Occupiers	25.5
Off-site	57.5
Total	83

## SUMMARY AND CONCLUSIONS

### Overview

- 8.360. The Transport and Traffic effects of the HNRFI development have been reviewed in accordance with the IEMA recommended thresholds for assessment. A suite of documents including a Transport Assessment, Framework Travel Plan and management plans accompanies this ES Chapter.
- 8.361. A transport working group TWG have been established with the principle local highway authorities with an interest in the development's area of influence. This includes NH as custodians of the strategic road network (SRN). The TWG purpose is to review, advise and agree on the modelling appraisal, transport strategy and to agree an acceptable approach to understanding the impacts of the HNRFI development on the local and strategic transport networks.
- 8.362. Revised runs of the Leicestershire pan regional transport model have taken place at the request of TWG. This was to make use of the latest update to the model (2.2) which contained a greater level of refinement above previous versions. These amendments include specific trip rates for strategic sites and adjustments to the planning data inputs (cumulative impact) and trajectories for both development and infrastructure in the Area of Influence. This approach also enabled the TWG to agree the scope and scenarios of the modelling ahead of its production.
- 8.363. Scenarios tested with the PRTM 2.2 model reviewed the Access Infrastructure both with and without the HNRFI site. This was to understand the influence of background traffic redistribution because of the new access road creating more convenient and direct links to established areas from the SRN. It is evident from the outputs that the redistribution of background traffic contributes more to the overall effect of the proposed development than the generation of vehicles from the HNRFI site itself. The effects of the proposed development and the access infrastructure together has been with assessed within this



document.

### Development Impact

- 8.364. Data outputs from the PRTM 2.2 model have been used to establish 24-hour Annual Average Daily Traffic flows (AADT) and the respective flow changes in traffic per link. This data has then been used to understand the change in flow above the future baseline in percentage terms. The recommended thresholds for EA established by IEMA for transport impacts were then applied across the Study Area. Sensitive receptors were plotted using GIS mapping systems and magnitude thresholds adjusted accordingly.
- 8.365. The resulting analysis produced a list of links for which the magnitude of change in traffic required further review to test significance of effect. The majority of the hundred links identified were deemed to fall within minor or negligible thresholds as the uplift in either general vehicles or HGVs was below 60% (non-sensitive) or between 10% and 30% for sensitive areas.
- 8.366. Those links experiencing moderate or major change through the assessment criteria because of the Proposed Development traffic were identified to be predominantly closer to the HNRFI Site and away from the SRN. These areas are subject to mitigation proposals to improve junction capacity or enhance footways and cycleways.
- 8.367. The construction of the Proposed Development is programmed across a finite period, and it is therefore considered that there will be minimal residual traffic impact on the highway network following completion of the construction phase.
- 8.368. A summary of the effects on highway specific conditions; namely severance, driver stress and delay, pedestrian and cyclist amenity, fear and intimidation and safety has been included within the report. All the conditions are a function of the two rule criteria relating to traffic and HGV percentage changes as well as judgement-based views detailed in the chapter.

### Mitigation

- 8.369. Once HNRFI is fully operational a significant number of on and off-site mitigation measures will have been installed to encourage sustainable transport modes and reduce the number of single occupant car journeys. This includes new and enhanced bus provision, improved pedestrian crossing facilities, new cycle lanes and footways to access the Site.

### Residual Environmental Impact

- 8.370. It is considered that the Proposed Development coupled with these proposals listed above will have the long-term negligible to minor adverse significance impact upon severance, driver delay, pedestrian delay, pedestrian/cycle amenity, fear and intimidation, and accidents and safety. The residual environmental impact of the Proposed Development and associated mitigation package is insignificant. There are no likely significant effects in EIA terms.



**Table 8.31: Summary of effects**

Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
<b>Construction – Temporary Impacts (Short and Medium Term)</b>									
<ul style="list-style-type: none"> <li>• Severance</li> <li>• Driver Delay</li> <li>• Pedestrian Delay and Amenity</li> <li>• Cyclist Delay and Amenity</li> <li>• Fear and Intimidation</li> <li>• Accidents and Safety</li> </ul>	1	M69, SB entry slip road	New southbound slip road onto the M69 motorway at junction 2	Major Adverse	Low	Minor Adverse	CTMP	N/A	N/A
	46	B4669 Leicester Road	New southbound slip road onto the M69 motorway at junction 2 and new access link road towards the A47	Major Adverse	Low	Minor Adverse	CTMP	N/A	N/A
<b>Operation – Permanent Long Term</b>									
Severance- increase AADT traffic flow	29	Stoneygate Drive	N/A	Major Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	FTP Monitoring and Management
	31	A563 Asquith Way	N/A	Major Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	FTP Monitoring and Management
	39	Hinckley Rd East of M69 J2	N/A	Major Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	FTP Monitoring and Management
	44	Long Street	N/A	Major Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	FTP Monitoring and Management

Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
	46	B4669 Leicester Road	New southbound slip road onto the M69 motorway at junction 2 and new access link road towards the A47	Moderate Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	FTP Monitoring and Management
	66	Barwell Lane	N/A	Moderate Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	FTP Monitoring and Management
Driver Stress and Delay – Increased Traffic Flow (AADT) and reduced speed	3	M69 South of M69 J2	New southbound slip road onto the M69 motorway at junction 2 and new access link road towards the A47	Major Adverse	Low	Moderate Adverse	FTP, STS and HGV Route Management Plan and Strategy	Minor Adverse	FTP Monitoring and Management
	13	A5 Near Houlton	New southbound slip road onto the M69 motorway at junction 2 and new access link road towards the A47	Major Adverse	Low	Moderate Adverse	FTP, STS and HGV Route Management Plan and Strategy	Minor Adverse	FTP Monitoring and Management
	46	B4669 Leicester Rd	New southbound slip road onto the M69 motorway at junction 2 and new access link road towards the A47	Major Adverse	Low	Moderate Adverse	Physical calming, public realm improvements and enhanced junction controls at Stanton Lane. FTP, STS and HGV Route	Minor Adverse	FTP Monitoring and Management

Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
							Management Plan and Strategy		
	55	The Common	A47 Link Road	Major Adverse	Medium	Major Adverse	Physical mitigation at A47 junction, FTP and STS	Moderate Adverse	FTP Monitoring and Management
	80	A5 Watling Street	A47 Link Road	Major Adverse	Low	Moderate Adverse	FTP, STS and HGV Route Management Plan and Strategy	Minor Adverse	FTP Monitoring and Management
Driver Stress and Delay – Increased Traffic Flow (AADT) and reduced speed	8	M69 J1 Exit Slip NB	N/A	Moderate Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	10	Stapleton Lane	N/A	Major Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	18	A5 West of Glascote Interchange	N/A	Moderate	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	24	A447 Ibstock Rd	N/A	Moderate	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	25	A447 Wash Lane	N/A	Major	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A

Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
	34	Ullesthorpe Rd	N/A	Major	Medium	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	39	Hinckley Rd East of M69 J2	N/A	Major	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	42	Stanton Lane	N/A	Major	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	49	Stanton Lane	N/A	Major Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	53	A47 Lowrmandy Way	N/A	Major Adverse	Medium	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	74	Burton Lane	N/A	Moderate Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	75	Sheepy Rd	N/A	Major Adverse	Medium	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	78	M6 J2 Slip Rd	N/A	Major Adverse	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A

Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
	82	Main Street	N/A	High	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	83	A5 Watling Street	N/A	High	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	89	A5 Watling Street	N/A	High	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	97	A447 Ashby Rd	N/A	High	Low	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
Driver Stress and Delay – Reduced Traffic Flow (AADT) leading to reduced journey times	4	Aston Lane near Sharnford	N/A	Moderate Beneficial	Low	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	7	Dunton Rd	N/A	Minor Beneficial	Low	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	44	Long Street	N/A	Moderate	Low	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	45	B4114 Coventry Rd	N/A	Minor	Low	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A

Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
	15	Crick Interchange SB slip Exit	N/A	Moderate Beneficial	Low	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	16	Sharnford Rd	N/A	Minor Beneficial	Low	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	22	The Common	N/A	Minor	Low	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	30	Hardwicke Rd	N/A	Moderate	Medium	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	38	Main Street	N/A	Moderate	Medium	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	41	B4669 Hinckley Rd	N/A	Moderate	Medium	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	48	Forest Rd	N/A	Moderate Beneficial	Medium	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	51	Station Rd	N/A	Moderate Beneficial	Medium	Minor Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A

Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
Driver Stress and Delay – Reduced Traffic Flow (AADT) leading to reduced journey times	54	Leicester Rd	N/A	Minor Beneficial	Medium	Major Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	12	A5 Watling Street adjacent to Magna Park	N/A	Minor Beneficial	Low	Major Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
	73	Swarkestone Rd		Minor Beneficial	Low	Major Beneficial	FTP, STS and HGV Route Management Plan and Strategy	N/A	N/A
Pedestrian Delay and Amenity	11	A5 Watling Street	N/A	Moderate Adverse	Low	Minor Adverse	N/A	Minor Adverse	N/A
	42	Stanton Lane	N/A	Moderate Adverse	High	Major Adverse	Widening footway and providing a formalised crossing on Stanton Lane	Minor Adverse	N/A
	43	B4669 Leicester Road	N/A	Moderate Adverse	High	Major Adverse	Widening of existing footways where possible and addition of zebra crossing and relocation of bus stop	Moderate Adverse	N/A
	97	A447 Ashby Road	N/A	Moderate Adverse	High	Major Adverse	Formal footways and signalised crossings	Moderate Adverse	N/A



Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
Cyclist Delay and Amenity	11	A5 Watling Street	N/A	Moderate Adverse	Low	Minor Adverse	N/A	N/A	N/A
	47	B4114 Coventry Road	N/A	Moderate Adverse	Low	Minor Adverse	N/A	N/A	N/A
	53	A47 Normandy Way	N/A	Moderate Adverse	Med	Moderate Adverse	A47 Link Road Footway/Cycleway Provision	Minor Adverse	N/A
	66	Barwell Lane	N/A	Minor Adverse	Low	Negligible	N/A	N/A	N/A
Fear and Intimidation	39	B4669 East of Junction 2	N/A	Moderate Adverse	Low	Minor Adverse	Crossing improvements to Junction of Stanton Lane	Negligible	N/A
	46	B4669 Hinckley Road	N/A	Moderate Adverse	High	Major Adverse	New public realm enhancements, traffic calming measures, improved crossings and signal junction at Stanton Lane	Moderate Adverse	N/A
	66	Barwell Lane	N/A	Moderate Adverse	Low	Minor Adverse	N/A	Minor Adverse	N/A
Accidents and Safety	4	A5 (Link 4)	Access Infrastructure	Minor Beneficial	Low	Negligible	FTP, STS and HGV Route Management Plan and Strategy	Negligible	



Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
	5	A5 (Link 5)	Access Infrastructure	Minor Beneficial	Low	Negligible	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	6	A5 (Link 6)	Access Infrastructure	Minor Adverse	Low	Negligible	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	9	A5 (Link 9)	Access Infrastructure	Minor Beneficial	Low	Negligible	FTP, STS and HGV Route Management Plan and Strategy	Negligible	N/A
	16	Sapcote (Link 1)	Access Infrastructure	Minor Adverse	High	Moderate Adverse	New public realm enhancements, traffic calming measures, improved crossings and signal junction at Stanton Lane	Minor Adverse	N/A
	17	Sapcote (Link 2)	Access Infrastructure	Minor Adverse	High	Moderate Adverse	New public realm enhancements, traffic calming measures, improved crossings and signal junction at Stanton Lane	Minor Adverse	N/A
	18	Stoney Stanton (Link 1)	Access Infrastructure	Negligible	High	Minor Adverse	New public realm enhancements,	Minor Adverse	N/A

Description of impact	Road		Inherent mitigation measures adopted as part of the project	Magnitude of impact [e.g. negligible, moderate]	Sensitivity of receptor [e.g. medium, high]	Significance of effect [e.g. Minor Adverse]	Additional mitigation measures	Residual effect	Proposed monitoring
	Link No.	Name							
							traffic calming measures, improved crossings and signal junction at Stanton Lane		
	19	A563 Lubbesthorpe Way/Soar Valley Way/B4114 Narborough Road South	Access Infrastructure	Minor Adverse	Low	Negligible	N/A	Negligible	N/A
	22	M6 Junction 2 Roundabout	Access Infrastructure	Minor Adverse	Low	Negligible	N/A	Negligible	N/A

Table 8.32: Summary of mitigation

Description of impact	Effect	Mitigation measures adopted as part of the project	Secured by	Responsible party
<b>Temporary</b>				
<ul style="list-style-type: none"> <li>• Severance</li> <li>• Driver Delay</li> <li>• Pedestrian Delay/Amenity</li> <li>• Cyclist Delay and Amenity</li> <li>• Fear and Intimidation</li> <li>• Accidents and safety</li> </ul>	Moderate and Minor Adverse across most receptors	Construction Traffic Management Plan	Requirement within DCO	Contractor
<b>Permanent</b>				
Severance	Moderate, Minor to Negligible Adverse	FTP, STS and HGV Route Management Plan and Strategy. Off-site highway works.	Requirement within DCO	Contractor/Occupier
Driver Delay	Minor to Negligible Adverse	FTP, STS and HGV Route Management Plan and Strategy. Off-site highway works.	Requirement within DCO	Contractor/Occupier
Pedestrian Delay/Amenity	Moderate, Minor Adverse	Off-site highway works- including calming measures through Sapcote.	Requirement within DCO	Contractor
Cyclist Delay and Amenity	Moderate, Minor to Negligible Adverse	FTP and A47 Link Road Footway/Cycleway	Requirement within DCO	Contractor/Occupier
Fear and Intimidation	Moderate to Minor Adverse	Crossing improvements to Junction of Stanton Lane New public realm enhancements, traffic calming measures, improved crossings	Requirement within DCO	Contractor

		and signal junction at Stanton Lane		
Accidents and Safety	Minor Adverse	FTP, STS and HGV Route Management Plan and Strategy. Off-site highway works.	Requirement within DCO	Contractor/Occupier