



Bloor Homes Jelson Homes Barwood Land

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# **EARL SHILTON SUE**

Transport Assessment Addendum



Bloor Homes Jelson Homes Barwood Land

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## EARL SHILTON SUE

Transport Assessment Addendum

TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 42523

OUR REF. NO. 42523-WSPE-XX-XX-RP-OT-00001\_S2\_P01

DATE: MARCH 2024

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# QUALITY CONTROL

| Issue/revision | First issue                                                                                                                                                                                                                                                        | Revision 1 | Revision 2 | Revision 3 |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|
| Remarks        |                                                                                                                                                                                                                                                                    |            |            |            |
| Date           | 20/03/24                                                                                                                                                                                                                                                           |            |            |            |
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| Project number | 42523                                                                                                                                                                                                                                                              |            |            |            |
| Report number  | 42523-WSPE-XX-XX-RP-OT-00001_S2_P01                                                                                                                                                                                                                                |            |            |            |
| File reference | \\corp.pbwan.net\glb-e&i\UK\GBWWK300-WAR\shared\Projects\42523 Earl Shilton\Post Submission\Transport\2023_TA_Addendum                                                                                                                                             |            |            |            |

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# 1 INTRODUCTION

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## 1.1 BACKGROUND

- 1.1.1. WSP UK Limited (WSP), formerly Wood E&IS UK Limited, has been commissioned by Bloor Homes Ltd, Jelson Limited and Barwood Strategic Land II LLP (the ‘Applicants’) to submit two outline planning applications (OPA) for a comprehensive residential led mixed-use development known as the Earl Shilton Sustainable Urban Extension (SUE). The Earl Shilton SUE is an allocated site within the Hinckley and Bosworth Borough Council (HBBC) Local Plan for up to 1,600 dwellings, employment, primary school, local centre and associated infrastructure. The two separate, but aligned, OPAs are referred to as Application A and Application B. Application B for Bloor Homes and Jelson was submitted in December 2021 and Application A for Barwood Strategic Land was submitted in March 2023.
- 1.1.2. Both applications have been prepared to work in combination to deliver the majority of the overall SUE allocation requirements, providing up to 1,500 new dwellings, up to 5.3 hectares of employment land, a new community hub that will comprise a two-form entry primary school and local retail facilities as well as improved sports provision, new play areas, public open space, landscaping, access and drainage. This is referred to herein as ‘the Proposed Development’.
- 1.1.3. One overarching Transport Assessment (TA) and Framework Travel Plan (FTP) was produced in December 2021 to support both Applications, referred to herein as the ‘submitted TA and the ‘submitted FTP’. Comments from the Leicestershire County Council (LCC) Highways Development Management (HDM) team and National Highways included the need for agreements on the approach to the traffic modelling and therefore re-testing of the Pan Regional Traffic Model (PRTM).
- 1.1.4. The PRTM modelling has been undertaken in consultation with officers from LCC HDM, National Highways and the neighbouring authority to the south, Warwickshire County Council (WCC), collectively referred to herein as the ‘highway authorities’. The Applicants commissioned AECOM to carry out the PRTM modelling. The PRTM modelling is based on the full allocation for the Earl Shilton SUE of 1,600 dwellings.
- 1.1.5. This TA Addendum reports on the methodology and findings of the additional traffic modelling work, as well as updates to the policy context, baseline situation and changes to the transport strategy.

## 1.2 THE SCOPE OF THE TRANSPORT ASSESSMENT ADDENDUM

- 1.2.1. The scope of this TA Addendum is to provide an update to the information presented in the submitted TA where relevant. The main body of the TA Addendum is structured similarly to the submitted TA, as follows:
- Section 2 Policy Context – sets out the relevant national and local transport policy context.
  - Section 3 – outlines the existing baseline transport network.
  - Section 4 – describes the development proposals.
  - Section 5 - sets out the anticipated development traffic generation and distribution onto the local highway network.
  - Section 6 – presents the traffic impact assessment.
  - Section 7 – summarises the updates presented within the TA Addendum and the transport proposals and provides the conclusion of the assessment of traffic impact.

## 2 POLICY CONTEXT

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### 2.1 NATIONAL GUIDANCE

2.1.1. The submitted TA summarised relevant national transport policy and guidance. Since the submission, the following have been updated and summaries of the updates are provided in the following sections.

- the Department for Levelling Up, Housing and Communities (DLUHC) *National Planning Policy Framework* (NPPF) – last update in December 2023<sup>1</sup>.
- The Department for Transport (DfT) Circular 02/2013 The Strategic Road Network and the delivery of sustainable development has been superseded by Circular 01/2022 which was published on 23rd December 2022. No updates are required to the summaries of the other national guidance documents provided in the TA.

#### NATIONAL PLANNING POLICY FRAMEWORK

- 2.1.2. The submitted TA included a summary of Section 9 of the July 2021 NPPF which sets out the approach for promoting sustainable transport, from plan making, planning policy and parking standards setting, to considering development proposals.
- 2.1.3. The NPPF has since been updated on 5<sup>th</sup> September and 19<sup>th</sup> December 2023. The updates have not changed the content of Section 9, 'Promoting sustainable transport', just the paragraph numbering which is now paragraphs 108 to 117.
- 2.1.4. With specific regards to decision making for development proposals, the NPPF continues to state:  
*'115. Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.'*

#### CIRCULAR 01/2022 STRATEGIC ROAD NETWORK AND THE DELIVERY OF SUSTAINABLE DEVELOPMENT (DFT, 2022)

- 2.1.5. The Circular sets out the policy for National Highways engagement with the planning system and how it will deliver sustainable economic growth (whilst maintaining, managing and operating a safe and efficient strategic road network) and it sets out requirements for roadside facilities including for zero emission vehicles.

The Circular includes expectations on early engagement between developers and National Highways on impacts on the Strategic Road Network (Paragraph 42) and that National Highways will as required engage at pre-application state for Transport Assessment/Statement and Travel

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<sup>1</sup> [National Planning Policy Framework - Guidance - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/national-planning-policy-framework-guidance)

<sup>2</sup> <https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development/strategic-road-network-and-the-delivery-of-sustainable-development#fn:21> Accessed 29/11/2023

Plan (Paragraph 47). It, also, highlights the effectiveness of travel plans for encouraging sustainable travel (Paragraph 44).

Relating to Transport Assessments the Circular, particularly Paragraphs 47- 54, outlines that Transport Assessments should:

- *'start with a vision of what the development is seeking to achieve and then test a set of scenarios to determine the optimum design and transport infrastructure to realise this vision' (Paragraph 48).*
- *'consider existing and forecast levels of traffic on the SRN, alongside any additional trips from committed developments that would impact on the same sections (link or junction) as the proposed development. Assumptions underpinning projected levels of traffic should be clearly stated to avoid the default factoring up of baseline traffic.'* and *'Planned improvements to the SRN or local road network should also be considered in any assessment where there is a high degree of certainty that this will be delivered' (Paragraph 49).*
- *For committed development assumption 'Where development proposals are consistent with an up-to-date plan or strategy (or where there is no up-to-date plan or strategy), this should include all relevant development that is consented or allocated where there is a reasonable degree of certainty will proceed within the next 3 years and include the full amount of development to be built. Where development proposals are not consistent with an up-to-date plan or strategy, this should include all relevant development that is consented or allocated over the entirety of the plan period.'* (Footnote 21)
- *Include 'An opening year assessment to include trips generated by the proposed development, forecasted growth and committed development shall be carried out to establish the residual transport impacts of a proposed development. For multi-phase developments, additional assessments shall be provided based on the opening of each phase. (Paragraph 50).*

Additionally, the Circular, Paragraph 51, outlines that:

*'Where a transport assessment indicates that a development would have an unacceptable safety impact or the residual cumulative impacts on the SRN would be severe, the developer must identify when, in relation to the occupation of the development, transport improvements become necessary.'*

## 2.2 LOCAL POLICY

The submitted TA summarised relevant local planning and transport policy. Since the TA was submitted, the LCC Strategic Plan 2018-2022 has been superseded and the emerging Local Plan Review for Hinckley and Bosworth has progressed. A summary of the current LCC Strategic Plan along with additional details on the HBBC draft Local Plan Review are provided within this section of the TA Addendum. There are no updates to the summaries within the submitted TA for the following:

- Leicestershire Local Transport Plan 3 (2011-2026);
- HBBC Core Strategy 2009; and
- Earl Shilton and Barwell Area Action Plan 2014 (Local Plan 2006-2026).

## HINCKLEY AND BOSWORTH DRAFT LOCAL PLAN (2021)

- 2.2.1. The submitted TA summarised the emerging Hinckley and Bosworth Draft Local Plan 2020-2039. The Local Plan is still in process and has been expanded to cover the period 2020-2041<sup>3</sup>.

## LEICESTERSHIRE COUNTY COUNCIL STRATEGIC PLAN 2022 - 2026<sup>4</sup>

- 2.2.2. The LCC Strategic Plan 2022-2026 was adopted in March 2022. It outlines LCC's five desired strategic outcomes to be achieved in its administrative area which are: Clean and Green; Great Communities; Improved Opportunities; Strong Economy, Transport and Infrastructure and Safe and Well. Each strategic outcome is has identified aims, actions and measures of success.
- 2.2.3. Transport plays a key role in three of the strategic outcome areas (Clean and Green, Strong Economy, Transport and Infrastructure and Safe and Well).
- 2.2.4. Key actions include:
- Working with bus operators to deliver the LCC Bus Service Improvement Plan (BSIP) which will promote affordable, frequent, and high-quality passenger transport services.
  - Working with the region's transport body, Midlands Connect, to improve passenger rail services.
  - Working with partners to enable and encourage electrical vehicle usage, such as by expanding charging points.
  - Enhancing the infrastructure that supports cycling and walking to create healthy streets and spaces, such as segregated infrastructure, cycle parking, crossings, traffic reduction measures
  - Providing cycle training and work with schools and workplaces to provide people with the required skills and information to cycle and walk.
- 2.2.5. Indicators of measurement of success identified within the document include: levels of electric vehicle uptake, proportion of adults walking and cycling three days a week, public transport use and satisfaction of use, proportion of roads where structural maintenance should be considered and numbers of road fatalities and serious injuries.

## 2.3 LOCAL TRANSPORT STRATEGIES

- 2.3.1. The submitted TA summarised relevant local transport strategies, there are no updates to the summaries within the submitted TA for the included strategies which were as follows:
- Leicester and Leicestershire Working Together Strategic Transport Priorities 2020-2050 (2020);
  - Leicestershire County Council Cycling and Walking Strategy (2021);
  - Leicestershire County Council Passenger Transport Policy and Leicestershire County Council Passenger Transport Strategy (2019);
  - Strategic Growth Plan Leicester & Leicestershire 2050: Our Vision for Growth (2018);
  - Green Infrastructure Strategy (2020); and
  - Review of Other Relevant Documents- Earl Shilton and Barwell AAP

<sup>3</sup> <https://www.hinckley-bosworth.gov.uk/localplanreview> Accessed 24/11/2023

<sup>4</sup> <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2022/7/13/LCC-Strategic-Plan-2022-26.pdf> Accessed 27/11/2023

It is noted that there has been publication of Local Cycling and Walking Infrastructure Plans (LCWIPs) for a number of areas in the county, but this doesn't include Earl Shilton.

- 2.3.2. Since the production of the submitted TA, a Net Zero Leicestershire Strategy has been published along with a Net Zero Leicestershire Action Plan which are summarised below as relevant documents.

#### **NET ZERO LEICESTERSHIRE STRATEGY 2023-2045 (2022)<sup>5</sup>**

- 2.3.3. The LCC Net Zero Strategy has the aim to achieve net zero carbon from Leicestershire by or before 2045. It, also, outlines the council's goal for council operations to become net zero by 2030. The strategy focuses on several categories of emissions including road and rail transport.

#### **NET ZERO LEICESTERSHIRE ACTION PLAN 2023-2027 (2022)<sup>6</sup>**

- 2.3.4. The Net Zero Action Plan identifies the delivery of the Net Zero Leicestershire Strategy for the five-year period 2023-2027. The plan outlines: actions for six areas (one of which is transport) along with actions that are cross-cutting of these areas; a methodology for action prioritisation; governance and monitoring and reporting.
- 2.3.5. The Action Plan identifies the hierarchy for mitigation measures to cut carbon emissions as follows: eliminate, reduce, substitute and compensate/neutralise. Regarding transport, the Action Plan's aim is '*to deliver low-carbon, affordable transport choices for all*'. This aim is supported by six objectives:
- *'Encourage and enable more cycling, walking and other active travel*
  - *Reduce the need to travel by car*
  - *Encourage changes to travel behaviours, including fuel efficient driving*
  - *Support people to choose public transport*
  - *Support the transition to ultra-low emission vehicles for example, electric and hydrogen fuelled*
  - *Reduce the impact of freight movement within and across the county'*
- 2.3.6. Each of the six objectives has associated actions for delivery. Those of key relevance to the Proposed Development include, but are not limited to, the following:
- Supporting planning policies for development that reduces the need to travel and promotes active and public transport.
  - Deliver sustainable travel advice through the Choose How you Move campaign
  - Encourage employers to promote remote and flexible working and sustainable travel choices

## **2.4 SUMMARY**

- 2.4.1. The updates to the national and local policy of relevance to the Site and Proposed Development relating to transport do not have a significant impact on the conclusion of the TA. The Proposed Development has been designed to comply with relevant local and national policy and standards as outlined within the submitted TA and within this TA Addendum.

<sup>5</sup> <https://www.leicestershire.gov.uk/sites/default/files/2022-12/net-zero-leicestershire-strategy.pdf> Accessed 27/11/23

<sup>6</sup> <https://www.leicestershire.gov.uk/sites/default/files/2022-12/net-zero-leicestershire-action-plan.pdf> Accessed 27/11/23

## 3 BASELINE SITUATION

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3.1.1. This section sets out updates to the baseline situation presented in the submitted TA.

### 3.2 DESCRIPTION OF THE SITE

3.2.1. There are no updates required to the Site context and description presented in the submitted TA.

### 3.3 LOCAL ROAD NETWORK

3.3.1. There are no updates required to the description of the outline of the local road network presented in the submitted TA Section 3.3.

3.3.2. For the purpose of the TA Addendum, new traffic counts have been undertaken in order to provide a more up-to-date baseline, and one that is during normal traffic conditions. Traffic count surveys were undertaken by MHC on Wednesday 28<sup>th</sup> June 2023 between the hours of 0630 and 1000 in the morning and between 1600 and 1930 in the evening. Junction capacity assessments set out in **Chapter 6** includes assessment of the existing baseline based on the 2023 counts. The observed count data has also been used to 'furness' the PRTM output traffic flows, as set out in **Section 5.6** of this TA Addendum.

### 3.4 THE STRATEGIC ROAD NETWORK

3.4.1. There are no updates required to the description of the outline of the Strategic Road Network (SRN) presented in the submitted TA Section 3.4.

### 3.5 PUBLIC TRANSPORT NETWORK

3.5.1. The submitted TA outlined three bus services serving the local road network near the Site, services: 1, 48L and 158. Bus service 1 was withdrawn at the end of August 2023 and bus service 48L has been replaced with Service 148.

3.5.2. The current<sup>7</sup> bus service provision consists of:

- Stagecoach Service 148 (between Leicester and Coventry): which has approximately two services per hour per direction Monday to Saturday and 1 per hour per direction on Sunday.
- Arriva Service 158 (between Nuneaton/Hinkley and Coventry): which has approximately two services per hour per direction Monday to Saturday and 1 per hour per direction on Sunday.

3.5.3. These bus services serve bus stops on High Street (nearest to the Mill Lane and the Astley Road Site access points approximately 15- minute walking time and 1.1km walking distance and 6-minute walking time and 440m walking distance respectively) and Wood Street (nearest to the Breach Lane access at approximately 14 minutes walking time and 1 km walking distance). An updated revision of **Figure 3.2** in **Appendix A** illustrates these bus routes and nearest bus stops.

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<sup>7</sup> <https://www.stagecoachbus.com/timetables> and [www.arrivabus.co.uk/find-a-service](http://www.arrivabus.co.uk/find-a-service) accessed 20/10/23

- 3.5.4. The LCC publication *Leicestershire Highway Design Guide* (2022)<sup>8</sup> identifies that:
- "...normally walking distances to bus stops in urban areas should be a maximum of 400m and desirably no more than 250m."*
- 3.5.5. It is noted that the Stagecoach Group publication *Bus Services and New Residential Developments* (2017)<sup>9</sup> and the Chartered Institute of Highways and Transportation (CIHT) publication *Buses in Urban Developments* (2018)<sup>10</sup> advise that there will be circumstances where achieving a 400-metre walking catchment:
- 3.5.6. *"...results in an inefficient and contrived layout, greatly undermining the potential effectiveness of the proposed bus route. Stagecoach will always prefer an efficient bus routing strategy, serving the great majority of dwellings well, than one that serves all homes poorly with a low-frequency or indirect service. Thus we support policy approaches offering some degree of flexibility on walking distances to bus stops where this is appropriate."*
- 3.5.7. The bus stops on High Street and Wood Street are not within an appropriate walking distance for most of the Site to be very attractive as a mode of transport choice. The bus strategy for the Site has therefore needed to consider a bespoke bus service.
- 3.5.8. The Arriva bus service 1 that was withdrawn at the end of August 2023 served bus stops nearer to the Site, located on Mill Lane, Alexander Avenue, Astley Road and Meadow Court Road, which would have been accessible for new residents in northern parts of the Site. The bus service took 33 minutes from Earl Shilton Sandringham Avenue to Hinckley Bus Station and 17 minutes from Hinckley Bus Station and Sandringham Avenue (50 minutes total). Therefore, one bus was sufficient for an hourly bus service. However, the service ran every two hours as it also looped to Barwell as bus service 2. It is understood that the service was not subsidised by LCC. Arriva announced that the withdrawal of the bus service was because customer demand had reduced. This could have been a result of the Covid-19 pandemic impact on bus patronage, and because of its low frequency. A service with a higher frequency than two hourly is likely to be a more attractive travel choice option and will attract better patronage levels.

## 3.6 RAIL SERVICES AND STATIONS

- 3.6.1. Hinckley Railway Station is the nearest station to the Site (approximately 7.5km away (by road) from the Site. Railway Station provides rail connection to major destinations such as Leicester and Birmingham.
- 3.6.2. Bus services 148 and 158 route through Earl Shilton and, also, stop in Hinckley Town centre which is approximately 700 m away from Hinckley Railway Station.

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<sup>8</sup> Leicestershire County Council (2022) *Leicestershire Highway Design Guide* (Online.) Available at: <https://resources.leicestershire.gov.uk/environment-and-planning/planning/leicestershire-highway-design-guide>

<sup>9</sup> Stagecoach (2017) *Bus Services and New Residential Developments* (online) available at <https://www.stagecoachgroup.com/~media/Files/S/Stagecoach-Group/Attachments/pdf/bus-services-and-new-residential-dev.pdf>

<sup>10</sup> CIHT (2018) *Buses in Urban Developments* (online) available at: [www.ciht.org.uk/media/4459/buses\\_ua\\_tp\\_full\\_version\\_v5.pdf](http://www.ciht.org.uk/media/4459/buses_ua_tp_full_version_v5.pdf)

3.6.3. The station benefits from the following facilities:

- 63 car park spaces at the rate of £6.50 per day with weekly, monthly and annual options available<sup>11</sup>; and
- sheltered cycle storage<sup>12</sup>.

3.6.4. The service frequency between Hinckley and Leicester and Birmingham are set out in **Table 3-1**, including direct services and those requiring a change. The station is generally provided with at least an hourly service to each of these destinations.

**Table 3-1 – Hinckley Railway Station Service Summary**

| Route                             | Day             | Approximate Service Times | Max. Frequency/Service Level |
|-----------------------------------|-----------------|---------------------------|------------------------------|
| Hinckley to Leicester             | Monday – Friday | 05:55-22:58               | Approximately 1 per hour     |
|                                   | Saturday        | 06:30-22:58               | approximately 1-2 per hour   |
|                                   | Sunday          | 10:28-22:28               | approximately 1 per hour     |
| Leicester to Hinckley             | Monday – Friday | 06:18-22:26               | Approximately 1 per hour     |
|                                   | Saturday        | 06:30-22:20               | approximately 1-2 per hour   |
|                                   | Sunday          | 10:20-22:20               | approximately 1-2 per hour   |
| Birmingham New Street to Hinckley | Monday – Friday | 05:19-22:22               | Approximately 1-2 per hour   |
|                                   | Saturday        | 05:52-22:22               | approximately 1 per hour     |
|                                   | Sunday          | 09:52-21:52               | Approximately 1 per hour     |
| Hinckley to Birmingham New Street | Monday – Friday | 07:08-22:46               | Approximately 1-2 per hour   |
|                                   | Saturday        | 06:08-22:40               | approximately 1 per hour     |
|                                   | Sunday          | 14:40-22:40               | approximately 1 per hour     |

Source: Trainline

## 3.7 PUBLIC RIGHTS OF WAY, CYCLE AND PEDESTRIAN FACILITIES

There are no updates required to the outline of the Public Right of Way (PRoW), cycle and pedestrian networks presented in the submitted TA Section 3.7.

## 3.8 ACCESS TO LOCAL SERVICES AND FACILITIES

3.8.1. Section 3.8 of the submitted TA set out metrics for assessing the accessibility of the Site with regard to local services and facilities by walking and cycling. It notes that the Proposed Development would include retail and a primary school internal to the Site which would be highly accessible to the

<sup>11</sup> <https://www.eastmidlandsrailway.co.uk/trains-stations/at-the-station/car-parking> Accessed: 29/11/23

<sup>12</sup> <https://www.nationalrail.co.uk/stations/hinckley-leics/> Accessed 29/11/23

occupants of the Proposed Development. The submitted TA Table 3.4 set out a selection of key services and facilities in Earl Shilton and their accessibility to the Site. The information within the submitted TA Table 3.4 remains relevant apart from:

- The nearest bus stops are now located on High Street (nearest to the Mill Lane and the Astley Road Site access points approximately 15 and 6 minute walking time respectively) and Wood Street (nearest to the Breach Lane access at approximately 14 minutes walking time), as outlined in **Section 3.5**.
- Two opticians were listed within Table 3.4 of the submitted TA. The current information for the nearest opticians to the Site is as follows and supersedes that presented within the submitted TA:
  - Wood Street Opticians approximately:
    - 830m straight line distance;
    - 994m walking/cycling journey distance;
    - 12 minutes walking journey time; and
    - 4 minutes cycling journey time.

3.8.2. Overall, with the exclusion of accessibility to bus stops, the conclusion of the TA regarding the accessibility of the Site to local services and facilities by active transport remain unchanged: the Site has good accessibility to the Earl Shilton town centre area, primary and early years facilities and a variety of local services and facilities and only just exceeds the preferred maximum for access to the secondary school. An updated revision of **Figure 3.5** in **Appendix A** illustrates the local services and facilities plan submitted as part of the TA updated where required.

3.8.3. It is noted that the Site, in its baseline state, has limited access to bus services and this is considered within **Section 4** of this TA Addendum which provides an updated bus strategy for the Proposed Development.

## 3.9 JOURNEY TO WORK TRAVEL PATTERNS

3.9.1. In the submitted TA 2011 National Census Data for 'method of travel to work' was used to derive modal split of travel to work for residents of the Super Output Lower Layer Areas in Hinckley and Bosworth: 006A, 006B, 006C, 006D, 006E and 006F (presented in submitted TA Table 3.5).

3.9.2. The 2021 National Census Data for 'method of travel to work' has since been published (data published in December 2022). The 2021 Census was undertaken during the period of the Covid-19 pandemic when there were travel restrictions. The Office for National Statistics (ONS) released information<sup>13</sup> regarding the 'method of travel to work' 2021 data set.

3.9.3. **Table 3-2** is an updated version of Table 3.5 in the submitted TA with the addition of the 2021 journey to work data to compare the change in modal split values.

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<sup>13</sup>

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/travelto-workqualityinformationforcensus2021>

**Table 3-2 - Updated TA Table 3.5 Baseline Modal Share (2011 and 2021 Census)**

| Mode                                 | Census 2011  |                                    |                | Census 2021  |                                    |                |
|--------------------------------------|--------------|------------------------------------|----------------|--------------|------------------------------------|----------------|
|                                      | Count        | Mode Share (%) Excl Work from Home | Mode Share (%) | Count        | Mode Share (%) Excl Work from Home | Mode Share (%) |
| Driving a car or van                 | 3,695        | 78.20                              | 75.59          | 3,095        | 80.54                              | 60.33          |
| On foot                              | 331          | 7.01                               | 6.77           | 279          | 7.26                               | 5.44           |
| Passenger in a car or van            | 294          | 6.22                               | 6.01           | 191          | 4.97                               | 3.72           |
| Bus, minibus or coach                | 207          | 4.38                               | 4.23           | 145          | 3.77                               | 2.83           |
| Bicycle                              | 90           | 1.90                               | 1.84           | 51           | 1.33                               | 0.99           |
| Motorcycle, scooter or moped         | 52           | 1.10                               | 1.06           | 20           | 0.52                               | 0.39           |
| Train                                | 20           | 0.42                               | 0.41           | 7            | 0.18                               | 0.14           |
| Taxi                                 | 16           | 0.34                               | 0.33           | 11           | 0.29                               | 0.21           |
| Underground, metro, light rail, tram | 3            | 0.06                               | 0.06           | 3            | 0.08                               | 0.06           |
| Other method of travel to work       | 17           | 0.36                               | 0.35           | 41           | 1.07                               | 0.80           |
| Works at or mainly from home         | 163          | n/a                                | 3.33           | 1,287        | n/a                                | 25.09          |
| Total                                | <b>4,888</b> | <b>100%</b>                        | <b>100%</b>    | <b>5,130</b> | <b>100%</b>                        | <b>100%</b>    |

\*Excluding those not in employment

Data source: ONS (nomis) [www.nomisweb.co.uk](http://www.nomisweb.co.uk)

- 3.9.4. Due to the unique situation of the pandemic on journeys to work, with extensive working from home, workers on furlough, closed businesses and avoidance of public transport encouraged, this data from 2021 is not representative of 'normal' conditions. Consequently, it is not considered a robust, complete or appropriate data source for determining the modal split to inform assessment of the Proposed Development trip generation and traffic impact contained within this TA Addendum and the 2011 Census data has been retained.
- 3.9.5. It is noted that there were reductions in public transport use during the Covid-19 pandemic which would have impacted on local bus provision such as Arriva service 1.

### 3.10 LOCAL ROAD SAFETY CONSIDERATIONS AND ASSESSMENT

- 3.10.1. The submitted TA Tables 14.7 and 14.8 presented Personal Injury Accident (PIA) data sourced from Crashmap Pro and Crashmap for the local road network roads and junction between 2016 and 2020. Since submission of the TA Crashmap has published 2022 PIA data. Therefore, this addendum **Table 3-3** and **Table 3-4** update the PIA assessment to the new most recent available five year period of data 2018-2022 for the study area. An updated revision of **Figure 3.7** in **Appendix A** shows the accident assessment area and accident locations. A summary of the accident data for the study area is given in **Appendix B**.
- 3.10.2. **Table 3-3** provides a summary of the data from Crashmap and Crashmap Pro for the junctions in the study where accidents were recorded along Clickers Way A27 and the A47 north of Earl Shilton to Desford Road (B582). Accidents at these junctions were categorised as being within 20m of the junction or in a position where the junction is assumed to be a factor.

**Table 3-3 - PIA summary 2018-2022: Junctions**

| Junctions                                                         | Slight | Serious | Fatal | Total | Accident Rate p.a. | No. of Accidents Involving Vulnerable Road Users* |
|-------------------------------------------------------------------|--------|---------|-------|-------|--------------------|---------------------------------------------------|
| A47 Clickers Way/ Station Road B581                               | 1      | 0       | 0     | 1     | 0.2                | -                                                 |
| A47 Clickers Way/Wilkinson Lane                                   | 1      | 0       | 0     | 1     | 0.2                | -                                                 |
| A47 Clickers Way/Masefield Drive                                  | 2      | 0       | 0     | 2     | 0.4                | -                                                 |
| A47 Clickers Way/ Breach Lane                                     | 0      | 0       | 0     | 0     | 0                  | -                                                 |
| A47 Clickers Way/Mill Lane                                        | 0      | 1       | 0     | 1     | 0.2                | Child: 1                                          |
| A47 Clickers Way/A47 Leicester Road (W)/Leicester Road Carrs Hill | 2      | 1       | 0     | 3     | 0.6                | -                                                 |
| A47 Clickers Way/Leicester Road (W)/ A47 (N)                      | 1      | 0       | 0     | 1     | 0.2                | Pedestrian: 1                                     |
| A47/Dans Lane Junction                                            | 3      | 2       | 0     | 5     | 1                  | -                                                 |
| A47/Peckleton Lane Junction                                       | 2      | 1       | 1     | 4     | 0.8                | -                                                 |
| Leicester Lane B582/Desford Road B582/A47 junction                | 2      | 1       | 0     | 3     | 0.6                | -                                                 |
| Total                                                             | 14     | 6       | 1     | 21    | -                  | -                                                 |

\*Vulnerable road users are defined as cyclists and pedestrians. Accidents involving child casualties are also noted.  
Base Data Source: Department for Transport data published by [www.crashmap.co.uk](http://www.crashmap.co.uk)

- 3.10.3. **Table 3-4** summarises the data for the roads in the study area, where accidents have occurred within the study period, and excluding accidents recorded at the junctions in **Table 3-3**. This is reported for the roads, and in some case for sub-sections of road, for accident rate per annum. Where traffic turning count data, surveyed by NDC in July 2021, for peak times is available at a location of relevance it has been used to give an estimate of the average annual daily traffic (AADT) for roads/sections of road which has been used to calculate an estimated annual accident rate per million vehicle km which is, also, reported in **Table 3-4**.

**Table 3-4 - PIA summary 2018-2022: Links (excluding accidents recorded at the junctions in Table 3-3)**

| Link Section                                                               | Slight    | Serious   | Fatal    | Total     | Accident Rate p.a. | No. of Accidents Involving Vulnerable Road Users*  | Estimated AADT for Link | Approximate Link Length (km) | PIA per Annum per million vehicle km |
|----------------------------------------------------------------------------|-----------|-----------|----------|-----------|--------------------|----------------------------------------------------|-------------------------|------------------------------|--------------------------------------|
| Astley Road and Meadow Court Road                                          | 2         | 0         | 0        | 2         | 0.4                | Pedestrian (including child): 1 and Pedestrian: 1  |                         | 0.73                         |                                      |
| Alexander Avenue                                                           | 1         | 1         | 0        | 2         | 0.4                | -                                                  |                         | 0.82                         |                                      |
| Station Road and Wilkinson Lane                                            | 2         | 2         | 0        | 4         | 0.8                | Pedestrian: 1 and Child: 1                         | 6,956                   | 1.06                         | 0.31                                 |
| A47 Clickers Way: Between Leicester Road Carrs Hill and Leicester Road (W) | 1         | 1         | 0        | 2         | 0.4                | -                                                  | 10,390                  | 4.35                         | 0.03                                 |
| Station Road (B581) between: A47 Clickers Way and Leighton Crescent        | 3         | 3         | 0        | 6         | 1.2                | Pedestrian: 1 and Pedal Cycle (including child): 1 | 10,805                  | 1.07                         | 0.30                                 |
| <b>A47: Between Leicester Road (W) and Desford Road B582 Total</b>         | <b>9</b>  | <b>2</b>  | <b>0</b> | <b>11</b> | <b>2.2</b>         | <b>-</b>                                           |                         | <b>4.19</b>                  |                                      |
| Between Dan's Lane and Desford Road B582                                   | 4         | 2         | 0        | 6         | 1.2                | -                                                  | 16,230                  | 1.83                         | 0.12                                 |
| Between Dan's Lane and Leicester Road (W)                                  | 5         | 0         | 0        | 5         | 1                  | -                                                  | 15,499                  | 2.36                         | 0.08                                 |
| <b>'Old A47' Total:</b>                                                    | <b>4</b>  | <b>4</b>  | <b>1</b> | <b>9</b>  | <b>1.8</b>         | <b>-</b>                                           |                         | <b>3.96</b>                  |                                      |
| Leicester Road (S)                                                         | 0         | 0         | 0        | 0         | 0                  | -                                                  | 11,593                  | 0.61                         | 0                                    |
| Hinckley Road                                                              | 0         | 0         | 0        | 0         | 0                  | -                                                  |                         | 0.87                         |                                      |
| Wood Street                                                                | 1         | 1         | 1        | 3         | 0.6                | Pedal Cycle: 1                                     |                         | 0.41                         |                                      |
| The Hollow                                                                 | 0         | 0         | 0        | 0         | 0                  | -                                                  |                         | 0.25                         |                                      |
| High Street (inc. Hilltop)                                                 | 0         | 2         | 0        | 2         | 0.4                | -                                                  |                         | 0.53                         |                                      |
| Leicester Road (N)                                                         | 3         | 1         | 0        | 4         | 0.8                | Pedestrian: 1                                      | 6,603                   | 1.29                         | 0.27                                 |
| <b>Total</b>                                                               | <b>22</b> | <b>13</b> | <b>1</b> | <b>36</b> | <b>-</b>           | <b>-</b>                                           | <b>-</b>                | <b>-</b>                     | <b>-</b>                             |

\*Vulnerable road users are defined as cyclists and pedestrians. Accidents involving child casualties are also noted.

Base Data Source: Department for Transport data published by [www.crashmap.co.uk](http://www.crashmap.co.uk)

- 3.10.4. Additionally, on the outlined local road network: Montgomery Road, Mill Lane, Equity Road (East), Breach Lane, Church Street, Elmesthorpe Lane and Avenue South all recorded zero accidents in the study time frame.
- 3.10.1. Overall, **Table 3-3** and **Table 3-4** show 57 accidents were recorded in this study area over the five-year period of which 36 were slight, 19 serious and two fatal. Some of these accidents involved vulnerable road users: Six accidents were recorded as involving pedestrian casualties and two involving pedal cyclist casualties. Four accidents involved child casualties. The accident rate per annum is generally low at these junctions and roads, with the exception of Station Road (B581) between the A47 Clickers Way and Leighton Crescent where the average annual accident rate per annum is 1.2.
- 3.10.2. Only clusters or links which exhibit an annual accident rate of greater than one accident per annum are considered to be significant. Though there are clusters of accidents at junction within the study area, no junctions have an annual accident rate >1.
- 3.10.3. Three roads record an annual accident rate in excess of 1 which are: the A47 between Leicester Road (W), Station Road (B581) between: A47 Clickers Way and Leighton Crescent and Desford Road B582 and 'Old A47'. The A47 between Dan's Lane and Desford Road B582 has an average annual accident rate above 1 while the section between Leicester Road (W) and Dan's Lane has an average annual accident rate below 1. The A47 north of Earl Shilton is a long road section and there was available traffic count data allowing investigation into the accident rate taking into account a distance metric. The 'old A47' in total which is made up of various roads which taken individually have low accident rates per annum – though within this Wood Street recorded one fatal accident.
- 3.10.4. The DfT (2023) reported road casualties for Great Britain 2022 presented in RAS0302<sup>14</sup> for 2013 to 2022 and includes the national accident numbers per billion vehicle kms by road classification. **Table 3-5** summarises the national accident rate per million vehicle kms by road classification for 2018 to 2022.

**Table 3-5 - Average accident rate per million vehicle kilometres by road type**

| Road Type        | 2018 | 2019 | 2020 | 2021 | 2022 | Average |
|------------------|------|------|------|------|------|---------|
| Urban A-Road     | 0.43 | 0.42 | 0.42 | 0.42 | 0.30 | 0.40    |
| Rural A-Road     | 0.12 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11    |
| Urban Other Road | 0.43 | 0.40 | 0.36 | 0.37 | 0.37 | 0.39    |
| Rural Other Road | 0.21 | 0.20 | 0.19 | 0.19 | 0.19 | 0.19    |

Source: Department for Transport statistics (2023) RAS0302

<sup>14</sup> Department for Transport statistics (2023) RAS0302. Available at: <https://www.gov.uk/government/statistical-data-sets/reported-road-accidents-vehicles-and-casualties-tables-for-great-britain#road-type-ras03> Accessed 08/11/23

- 3.10.5. Within the study area the A47 is to be considered an urban A road on Clicker's Way and north of Earl Shilton it is considered a rural A road. All other roads in the study area are considered to be urban other roads.
- 3.10.1. Comparing the links in **Table 3-4**, where there was some count data available, from that surveyed by NDC in July 2021, it can be seen that all roads have an PIA per annum per million vehicle km at or below the 2018 to 2022 average PIA per annum per million vehicle km for their road type, excluding the section of the A47 between Dan's Lane and Desford Road B582. The section of the A47 Between Dan's Lane and Desford Road B582, however is only 0.01 above the national average accident rate per annum per million vehicle kilometres for a rural A-road.

### **Conclusion**

- 3.10.2. The accident levels are generally low and where links exhibit an annual average accident rate greater than 1 their average annual accident rate per million vehicle km is not in excess of the national average for their road type excluding the section of the A47 between Dan's Lane and Desford Road B582 however this section of the A47 is only 0.01 above the national average accident rate per annum per million vehicle kilometres for a rural A-road. It is concluded that the study area does not exhibit any severe accident hot spots which need to be targeted with specific casualty reduction measures as part of the development proposals.

## 4 THE PROPOSED DEVELOPMENT

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### 4.1 OVERVIEW OF DEVELOPMENT PROPOSALS

- 4.1.1. The description of the Proposed Development is unchanged from that presented in the submitted TA Section 4.1. There have been revisions to the illustrative masterplan to account for changes to the access junctions and internal highway connections. The updated proposed land-use parameters plan and access and movement strategy figures are included in **Appendix A**.

### 4.2 ACCESS AND MOVEMENT STRATEGY

#### VEHICULAR ACCESS

- 4.2.1. The submitted TA proposed five vehicular access points to the Proposed Development. The number and locations of the access points remain unchanged however there are updates to the junction proposals. Access designs are in accordance with the LCC Highways Design Guide. The junction designs have since been revised following consultation with LCC HDM and Road Safety Audits (RSAs) for each have been undertaken. A description of the approved access junction designs is set out in the following sections.

#### A47 Northern Access Roundabout

- 4.2.2. There is no change in the design principle of the access junction, however, the roundabout design has been refined and a Stage 1 RSA undertaken. The RSA 1 with Designer's Response and a Departure from Standards (DfS) form was submitted to LCC HDM and their approval has been given.
- 4.2.3. The approved access design is presented in **Appendix C** along with swept path analysis (SPA) plans.

#### A47 Southern Access Junction

- 4.2.4. There is no change in the design principle of the access junction, however, the roundabout design has been refined and a Stage 1 RSA undertaken. The RSA 1 with Designer's Response was submitted to LCC HDM and their approval has been given.
- 4.2.5. The approved access design is presented in **Appendix D** along with SPA plans.
- 4.2.6. There has been discussion with LCC HDM regarding bridleway U105 which runs along the northern side of the A47 at the top of the embankment that was created as part of the road construction. The new roundabout will cut across the bridleway and it is proposed to divert it along the access road within the Site for a short section – along both sides with a Pegasus crossing. The principle for this will be set out in a planning condition, with the detailed design being part of Reserved Matters.

#### Astley Road Access

- 4.2.7. The design of the proposed Astley Road access has been developed from that presented within the submitted TA. There is no change in the design principle of the access junction as a three-arm priority junction with dropped kerb and informal pedestrian crossing on the Site access which will link both sides of the existing pedestrian footway on the east side of Astley Road.
- 4.2.8. A Stage 1 RSA of the access design and Designer's Response was submitted to LCC HDM for their approval.

- 4.2.9. A revised junction design was developed to address LCC HDM comments proposing a short right turn lane on Astley Road (LCC have commented that the dimensions for the right turn lane are acceptable and in keeping with the urban nature of the location). The agreed access design has had a further Stage 1 RSA which was submitted to LCC HDM along with the Designer's Response and their approval has been given.
- 4.2.10. The approved access design is presented in **Appendix E** along with SPA plans.

### **Mill Lane Access**

- 4.2.11. In the submitted FTP and TA, the access proposal did not include a junction design as the SUE masterplan is illustrative but showed the principle of the link between the existing road carriageway and the Site, comprising widening on Mill Lane, a footway connection and traffic management measures to deter through traffic.
- 4.2.12. LCC HDM has required a junction design to be submitted for permission at OPA stage. Through post submission discussion with LCC HDM, and further the development of the access strategy, a junction design has been developed, consisting of the following aspects.
- A three-arm mini roundabout to connect Mill Lane with the internal road to the south and residential road to the north. The junction and lane widths (as described below) will encourage low speeds and will accommodate an 12m bus service from Mill Lane. It is proposed that the remaining eastern section of Mill Lane would be stopped up to vehicular traffic and be available for use by pedestrians and cyclists.
  - Provision of 2m footways on the northern and southern side of the carriageway which tie into the existing provision on both sides of Mill Lane.
  - A short section of shared used footway/cycleway on the southern side at the eastern end as a continuation of the proposed provision on the section of access road to the south of Mill Lane. Signage for cyclists to join the carriageway is provided in advance of the 3m reducing to the 2m footway.
  - Carriageway width of 5.5m along the majority of the Mill Lane vehicular access section which is sufficient for two-way vehicles, including one-way 12m buses and RCVs. The exception to this is at the western end where it ties into the existing Mill Lane. At this section it is proposed to widen the carriageway from 2.8m to 4.3m and inclusion of a 2m footway on the northern side and retention of the Union Mill Close junction arrangement. This lane width restriction will act as a horizontal traffic management feature to keep traffic speeds low and to deter general traffic. Priority will be given to traffic from the west of Mill Lane with a give way within the Site for westbound traffic. The swept path drawings in **Appendix F** illustrate that there is sufficient width to accommodate the bus and a car.
  - The northern arm off the proposed Mill Lane mini roundabout is based on the illustrative masterplan and the detailed design will be subject to a Reserved Matters application. The illustrative design shows a 5.5m wide carriageway with 2m wide footways on either side.
  - The internal road to the south of Mill Lane mini roundabout is also based on the illustrative masterplan. The detailed design will be subject to a Reserved Matters application. The illustrative design shows a 6m wide carriageway with a 2m footway on the eastern side to connect through to the residential parcel to the north and a 3m shared cycleway/footway on the western side which extends onto Mill Lane from where cyclists would join the carriageway. The

preliminary and detailed design of the access junction will set out the signage and road markings for this. A pedestrian crossing point would be provided south of the bus stop that will be located on the southern arm.

- It is proposed that the section of internal road that serves the employment land parcels to the south of the Mill Lane mini-roundabout and north of the internal roundabout will be widened to 7.3m, as illustrated in the illustrative masterplan.
- HGVs will not be permitted north of the employment park. A road sign will indicate that this is prohibited and a TRO will be created to extend the 7.5 tonne HGV restriction to this section of the southern arm.

4.2.13. A Stage 1 RSA of the access design and Designer's Response was submitted to LCC HDM and their approval has been given. The approved access design is presented in **Appendix F** along with SPA plans.

### **Breach Lane Access**

4.2.14. In the submitted FTP and TA, the access proposal did not include a junction design as the SUE masterplan is illustrative but showed the principle of the link between the existing Breach Lane road carriageway and the Site, comprising widening on Breach Lane and a footway connection.

4.2.15. LCC HDM has required a junction design to be submitted. Through post submission discussion with LCC HDM, and the development of an access strategy, a proposed access design comprises:

- 4.8m wide carriageway on the access road within the Site and on Breach Lane, requiring widening of the existing lane.
- 2m wide footway on the western side of the access road within the Site and the northern side of Breach Lane with dropped kerbs and tactile paving at the access junction.
- Continuance of 2m wide footway to the east of the access junction alongside tapering of the Breach Lane width to tie in with the existing carriageway to the east.
- Informal crossing with dropped kerbs and tactile paving where the existing footway/cycleway route from Oaklands Avenue meets Breach Lane.
- 'No through road' signage east of the junction to discourage vehicle movements along Breach Lane.

4.2.16. A turning head has not been included as this manoeuvre can be undertaken within the development itself and this also helps retain the rural feel of the lane.

4.2.17. A Stage 1 RSA of the access design and Designer's Response was submitted to LCC HDM and their approval has been given. The approved access design is presented in **Appendix G** along with SPA plans.

### **INTERNAL HIGHWAYS ARRANGEMENTS**

4.2.18. There is no change in the design principle of the internal highway arrangements, however, there have been changes to the alignment of the spine road through the Site to avoid a tree. An updated access and movement strategy plan is included in **Appendix A**.

### **BUS STRATEGY**

4.2.19. Comments from the LCC HDM identified the need for more information on the proposed Site access strategy, including proposals for bus provision.

- 4.2.20. The Bus Strategy has been updated to account for the withdrawal of Arriva Service 1. The *Bus Strategy Technical Note* within **Appendix H** outlines in detail the Proposed Development Bus Strategy.
- 4.2.21. This section of the TA Addendum summarises the proposed Bus Strategy.
- 4.2.22. As outlined in **Section 3.5** two existing bus services serve Earl Shilton (148 and 158). Discussion with the bus operators, Arriva and Stagecoach, established that diversion of either of these services nearer to or within the Site is not a feasible option as these are direct, fast routes and it would lengthen journey times which would be to the detriment of existing passengers. Therefore, the Site Bus Strategy incorporates a bespoke service.
- 4.2.23. The proposed bus infrastructure on Site remains as outlined in Section 3.5 of the submitted TA consisting of high-quality bus stops on Site to enable the majority of the Proposed Development residential dwellings to be within 400m of a bus stop.
- 4.2.24. The proposed Bus Strategy is phased as follows:
- Short and medium term: proposed Hinckley to Earl Shilton bus service (developed with reference to the withdrawn bus service 1 route) routing into the Site's proposed A47 southern roundabout and performing a loop (in the vicinity of the community hub) and exiting the Site via the proposed A47 southern roundabout. One bus would be sufficient to provide an hourly service.
  - Long term: proposed Hinckley to Earl Shilton bus service as per short and medium term but with service routing through the Site via the proposed A47 southern roundabout and either the Proposed Mill Lane access or proposed A47 northern roundabout. One bus would be sufficient to provide an hourly service.
- 4.2.25. The bus strategy is dependent on developer contributions to pump prime the bus service. A phased bus service strategy will be required that fits with the staged delivery of each of the application sites. Commencement of a bus service to serve a new development is a balance between providing travel choice in the early stages of occupation and optimum use of developer contribution funding. Whilst it would be ideal for a bus service to be in place from day 1 of occupation in order to influence travel choice at the outset, this would be poor use of funding as revenue earned from patronage from occupants from the site would be minimal. A pragmatic approach is to identify a threshold of development that would trigger the commencement of the service.
- 4.2.26. The bus service would benefit from the patronage produced by the Proposed Development and patronage from the existing households along the re-instated bus service 1 route.
- 4.2.27. Developer contributions for a bus service and the commercial viability of the proposed bus service is investigated within the Technical Note within Appendix B. It is noted that bus operating cost per annum per bus is anticipated to be £180,000 for a 12-hour bus service operating Monday to Saturday (based on indicative advice on standard annual bus cost from Arriva), though this would depend on bus service level and operator.

## PARKING STANDARDS

- 4.2.28. Section 4.2 of the submitted TA set out LCC's requirements for minimum vehicle and cycle parking provision based on land-uses as set out in the Leicestershire Highway Design Guide (2018): Part 3 and the Highway Requirements for Developments (2017): Part 4. The interim LCC Leicestershire Highway Design Guide (2022) contains the same requirements for vehicle and cycle parking set out

within the submitted TA Table 4.2. Therefore, no updates are required to the proposals for parking, the Proposed Development parking provision will be provided per LCC standards.

- 4.2.29. It is of note that the 2021 Part S of The Building Regulation *Infrastructure for the Charging of Electric Vehicles*<sup>15</sup> took effect from June 2022. This document sets out the requirements for quantum of provision of electric vehicle charge points for residential and non-residential new development and where a charge point is required the specifications of its provision including, but not limited to, having a minimum nominal rated output of 7kW.
- 4.2.30. Electric vehicle charging points will be provided on Site in alignment with the relevant national and local requirements.

### 4.3 SUSTAINABLE TRAVEL PLAN INITIATIVES

- 4.3.1. The Sustainable Transport Strategy for the Site is set out in the submitted FTP and accompanying FTP Addendum. The FTP Addendum provides updates as required to the information within the FTP resulting from changes to the existing transport context of the Site and changes to the Development Proposals.
- 4.3.2. Together the submitted FTP and FTP Addendum provide the structure for the development of a full TP and outline an implementation plan for a set out a package of measures appropriate to the Site and an associated monitoring and review strategy. The TP will include Travel Plans for key land-uses: residential, workplace and primary school.
- 4.3.3. Section 4.3 of the submitted TA summarised the Sustainable Transport Strategy which was detailed in the submitted FTP. This section of the TA Addendum identifies the key updates to the Sustainable Transport Strategy which are presented in further detail within the accompanying FTP addendum.
- 4.3.4. Key updates to the Sustainable Transport Strategy are as follows:
- Bus Strategy – the proposed Bus Strategy has been updated in light of the withdrawal of the Arriva bus service 1 which routed from Hinckley to Earl Shilton (as outlined in **Section 3.5**). The amended bus strategy proposes a bespoke bus service to serve the Site, with its routing informed by the withdrawn bus service 1 route (as outlined in further detail within **Section 4.2** of this TA Addendum). The related TP targets (Objective 1) have been updated to align with the new Bus Strategy. Additionally, the Public Transport Strategy information (FTP Addendum Section 7.3) highlights the understanding that LCC's expectation for the provision of bus passes is two adult bus passes valid for six months be provided per residential plot.
  - The submitted FTP Section 7.3 outlined Electric Vehicle (EV) charge points would be provided if possible. The FTP Addendum, Section 7.3, expands this to commit to the provision of EV charging infrastructure in line with relevant guidance including Part S of The Building Regulation *Infrastructure for the Charging of Electric Vehicles* (2021)<sup>15</sup>.

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<sup>15</sup> Department for Levelling Up, Housing and Communities (2021) The Building Regulations 2010 Infrastructure for the charging of electrical vehicles approved document 2021 edition (online.) available at: <https://www.gov.uk/government/publications/infrastructure-for-charging-electric-vehicles-approved-document-s> accessed 21/02/24

- Further detail on the Travel Information Packs has been included within the FTP Addendum Section 7.3 including acknowledgement of the inclusion of the Choose How You Move BetterPoints active travel incentives scheme. Section 8.2 of the FTP Addendum outlines that it is understood that there are two options for the production of the Travel Information Pack:
  - Applicant produced pack which would need to be approved by LCC at a cost of £500.
  - LCC provide a pack for the Site at a cost of £52.85 per pack, with one pack provided per residential plot.
- Section 7.4 of the FTP Addendum provides an updated implementation programme incorporating the proposed Sustainable Transport Strategy updated.
- Section 9.1 of the FTP Addendum sets out understanding of the cost of LCC Travel Plan Monitoring Fee for a five-year duration monitoring of a full Travel Plan is £6,000 and a Framework Travel Plan £11,337.
- Section 4.2 of the FTP Addendum identifies there has been discussion with LCC HDM regarding bridleway U105 which runs along the northern side of the A47 at the top of the embankment that was created as part of the road construction. The new roundabout will cut across the bridleway and it is proposed to divert it along the access road within the Site for a short section – along both sides with a Pegasus crossing. The principle for this will be set out in a planning condition, with the detailed design being part of Reserved Matters.

4.3.5. The FTP Addendum (Section 10.2) concludes that the changes to the Sustainable Transport Strategy captured within the FTP Addendum do not present a detriment to the position presented within the submitted FTP. The proposed aim, objectives, targets and supporting measures and monitoring are considered appropriate to the development and to align with LCC guidance.

## 5 TRAFFIC IMPACT ASSESSMENT OVERVIEW

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- 5.1.1. This section sets out an overview of the updates to the traffic impact assessment section that was presented in the submitted TA.

### 5.2 DEVELOPMENT TRAFFIC FLOWS

- 5.2.1. The trip rates are unchanged from the submitted TA.
- 5.2.2. The traffic generation set out in the AECOM forecasting report incorporates the internalisation of the traffic generation.
- 5.2.3. As per the submitted TA, the Proposed Development traffic distribution is derived from the PRTM and is based on 'parent zones'.

### 5.3 ASSESSMENT SCENARIOS

- 5.3.1. The baseline in the submitted TA was based on traffic counts undertaken in July 2021 with adjustments provided by LCC to account for the impact of the Covid pandemic on traffic flows.
- 5.3.2. For the purpose of the TA Addendum, new traffic counts have been undertaken in order to provide a more up-to-date baseline, and one that is during normal traffic conditions. Traffic count surveys were undertaken by MHC on Wednesday 28<sup>th</sup> June 2023 between the hours of 0630 and 1000 in the morning and between 1600 and 1930 in the evening.
- 5.3.3. The future years assessment scenarios are unchanged from the submitted TA.
- 5.3.4. The assessment scenarios are as follows:
- 2023 Current Baseline;
  - 2026 Future Baseline for the purpose of SRN assessment impact in line with Circular 01/22:
    - 2026 Reference Case; and
    - 2026 Reference Case + Proposed Development.
  - 2036 Future Baseline for the year of completion of the Proposed Development:
    - 2036 Reference Case; and
    - 2036 Reference Case + Proposed Development.
- 5.3.5. The weekday peak periods in the modelling are the same as in the submitted TA:
- 0800-0900 in the AM; and
  - 1700-1800 in the PM.

### 5.4 PRTM MODELLING

#### OVERVIEW

- 5.4.1. Further PRTM modelling has been undertaken in consultation with the highway authorities and the Applicants have commissioned AECOM to carry out the work. As before, the PRTM modelling is based on the full allocation of 1,600 dwellings.

- 5.4.2. PRTM v2.3 has been used to assess the impact of the Proposed Development on the local and strategic road network. The 'unconstrained' version of the model has been used, as is required by the highway authorities.
- 5.4.3. The following has been produced by AECOM:
- PRTM Base Year Model Review Report;
  - Uncertainty Log;
  - PRTM Forecasting Report; and
  - Junction turning flows at junctions identified within the model specification note produced by WSP.

## **DEVELOPMENT ASSUMPTIONS**

- 5.4.4. The PRTM has been based on the following access junctions:
1. Access 1 – Southern A47 roundabout;
  2. Access 2 - Northern A47 roundabout;
  3. Access 3 – Mill Lane; and
  4. Access 4 – Astley Road.
- 5.4.5. Breach Lane has not been included as a separate access within the PRTM on the basis that is considered as a standalone junction.
- 5.4.6. The internal road network to and from Access 3 and Access 4 will include traffic management features to discourage through-traffic which has been included in the PRTM modelling.
- 5.4.7. Seven development zones have been used to represent the proposed Earl Shilton SUE development with four development zones representing housing and three development zones to represent employment, retail (the urban centre) and education.

## **ASSESSMENT SCENARIOS**

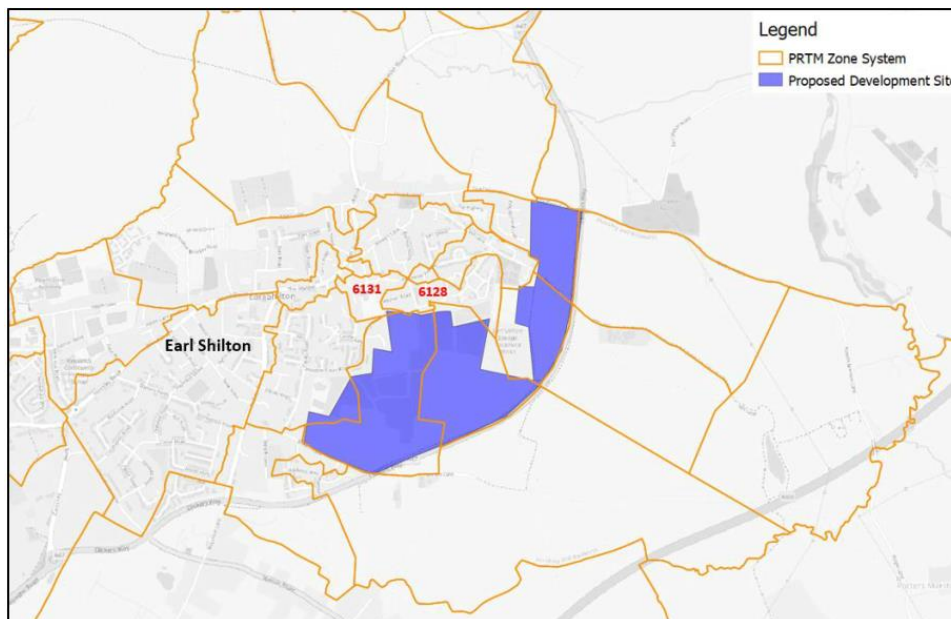
- 5.4.8. PRTM runs of without and with Proposed Development scenarios have been run for the following forecast years:
- 2026 Opening Year assessment of the Proposed Development at full occupation for National Highways – in accordance with DfT circular 01/2022; and
  - 2036 Completion Year and also the end of HBBC's local plan period.
- 5.4.9. A second PRTM run has been undertaken of a 'without Padge Hall Farm' scenario, referred to herein as 'without PHF'. PHF is a recently approved and therefore committed major development off the A5 comprising 1.4 million sqft of B2/B8 floorspace and is included within the Uncertainty Log v1.2. The proposals include a new access onto the A5, a scheme of mitigation works to the A5/A47/B4666 roundabout, referred to as 'the Dodwells Roundabout', pedestrian and cycle provision measures along the A5, and enhancements to the local bus service. As the mitigation works for the Dodwells Roundabout are within the boundary of the PHF site, National Highways required a PRTM run without PHF to test the situation in the event that the development, and therefore the mitigation scheme at Dodwells Roundabout, was not delivered, or delivery was delayed.

## **AGREEMENT WITH HIGHWAY AUTHORITIES**

- 5.4.10. The following have been agreed with the highway authorities with regards to the PRTM modelling.

- Highway-only run of PRTM using SATURN congested highway assignment software.
- **Base Year Model Review Report** produced by AECOM – this shows that the PRTM validated well to TAG criteria as being suitable for forecasting purposes for the assessment.
- **Uncertainty Log v1.2** produced initially by AECOM with additions from the highway authorities – this is used for forecasting the future years Reference Flows to take account of planning growth and highway infrastructure assumptions in Leicestershire and neighbouring Warwickshire.
- Trip rates and traffic generation which were agreed as part of the original PRTM modelling work and align with the nearby Barwell SUE. The full allocation of 1,600 dwellings has been assumed, and therefore allows for the Persimmon site which is south of Thurlaston Lane.
- Traffic distribution of the Proposed Development based on appropriate 'Parent Zones' near to the Site. Zone 6128 has been selected as the parent zone for housing as it contains a large proportion of residential trips, and zone 6131 was selected for education trips as it contains a significant proportion of primary school trips. **Figure 5-1** shows the location of the two parent zones selected for the development trip distribution.
- It was also agreed with LCC HDM and NH that the in-built PRTM gravity model would be used to provide development trip distributions for the two development zones containing employment and retail.
- The **Forecasting Report** produced by AECOM.

**Figure 5-1 – Parent Zones Used for Traffic Distribution**



Contains Ordnance Survey data ©Crown copyright and database right 2023

## 5.5 AREA OF INFLUENCE/STUDY AREA

### OVERVIEW

- 5.5.1. The *Proposed Study Area for Junction Assessment Technical Note* (doc ref: 42523-WSPE-XX-XX-TN-OT-00001\_S0\_P03) in **Appendix I** sets out the methodology for identifying the Area of Influence (AoI) and study area for junction assessment, which is summarised below.
- 5.5.2. The *Forecasting Report* produced by AECOM identifies an Area of Influence (AoI) which has been defined by considering the links which are forecast to change by more than  $\pm 5\%$  and  $\pm 30$  PCUs

between the 2026 and 2036 'With Development' and 'Without Development' scenarios in either the AM Peak or PM Peak hours.

- 5.5.3. The methodology for identifying the Aol, or Study Area, for further assessment has been agreed with the highway authorities and is set out below.
1. Links which are forecast to change by at least 5%, or more than 30 vehicles between the without and with scenarios (as illustrated in Figure 6.2 – the Area of Influence from the PRTM testing). Junctions outside this Aol have not been included.
  2. Junctions where the VCR is over 85% in any scenario, indicating that the junction is under stress resulting in an increase in delay – these are report on in the Forecasting Report.
  3. The development causes a change in VCR % band width - the Forecasting Report does not provide the detail of VCR change, but reports on the % band width - 'no change' in VCR % band width will not reflect % changes in VCR.
  4. Consideration of appropriate routeing and strategic corridors in a holistic manner - the modelling output indicates capacity constraints along the A47 corridor as a result of the addition of the Proposed Development trips, a consequence of which is re-routeing of background traffic onto less appropriate, non-strategic, routes. These roads can be considered as 'rat-run' routes, used by drivers to avoid heavy traffic and delays on strategic corridors. Mitigation on these routes is not desirable as it may result in higher traffic flows and environmental concerns for rural communities. Mitigation at key junctions on strategic corridors such as the A47 may lead to additional demand routeing through intermediary junctions along the A47 corridor and therefore a holistic assessment of junctions should be considered.
- 5.5.4. For the purpose of traffic impact assessment of the local road network, the 'with PHF' and 2036 AM and PM peak hour scenarios have been considered.
- 5.5.5. A separate assessment of the without and with PHF scenarios at the A5 junctions, Dodwells Roundabout and A5/The Long Shoot signal junction has been undertaken using the National Highways VISSIM model which has been provided to WSP. This is set out in in **Section 6.6.1** in the next chapter.

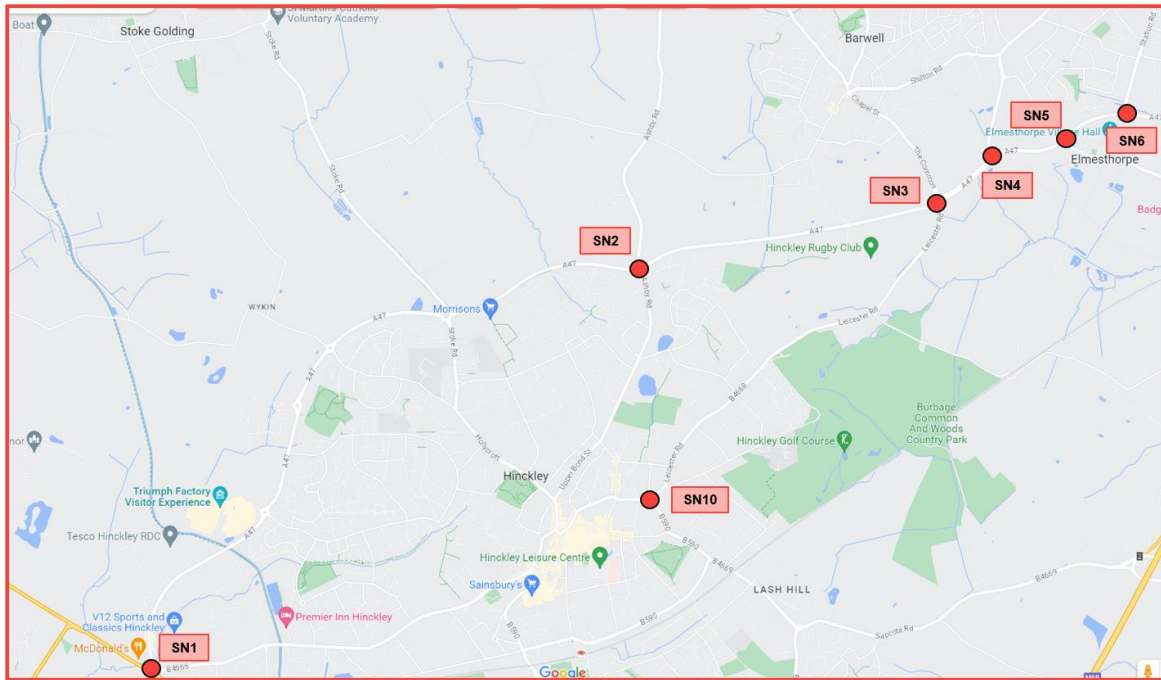
## STUDY AREA FOR JUNCTION ASSESSMENT

- 5.5.6. A study area for the assessment of junctions within this TA Addendum is set out in detail within the *Proposed Study Area for Junction Assessment Technical Note* in **Appendix I**.
- 5.5.7. The methodology has been reviewed by the highway authorities and the following was agreed:
- The exclusion of the Desford Crossroads from the assessment, due to LCC delivering an improvement scheme for this junction with developers being required to provide a proportionate contribution.
  - The inclusion of the Spa Lane (B590)/Leicester Road (B590)/Leicester Road (B4668) junction.
  - The separate assessment of Dodwells Roundabout using the National Highways' A5 VISSIM. This is set out in **Section 6.6.1**.
- 5.5.8. **Table 5-1** shows the list of off-site junctions within the off-Site study area that have been assessed. The locations of the junctions are shown in **Figure 5-2**, **Figure 5-3** and **Figure 5-4**, which also shows the access junction locations.

**Table 5-1 – Off-Site Junctions for Capacity Assessment**

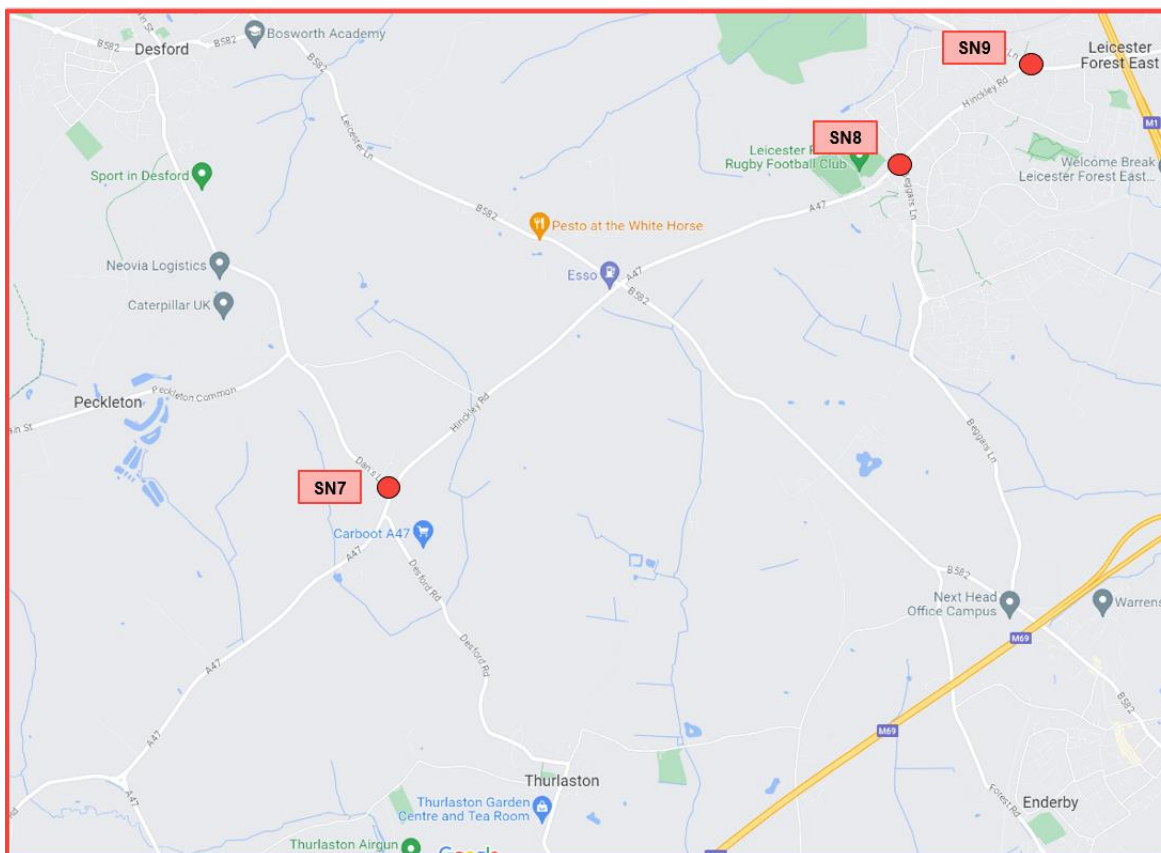
| ID                      | Junction                                                      | Type                | Comments                                                                                                      |
|-------------------------|---------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Strategic Routes</b> |                                                               |                     |                                                                                                               |
| SN1                     | A5/A47 - Dodwells Roundabout <sup>1</sup>                     | Roundabout          | Capacity assessment based on National Highways A5 VISSIM                                                      |
| SN2                     | A47/A447 Ashby Road                                           | Signalised          | Capacity assessment based on LCC LinSig model                                                                 |
| SN3                     | A47/The Common/B4688                                          | Roundabout          | Capacity assessment based on WSP Junctions 10 model                                                           |
| SN4                     | A47/Leicester Road                                            | Roundabout          | Capacity assessment based on WSP Junctions 10 model                                                           |
| SN5                     | A47/Station Road B581                                         | Signalised          | Capacity assessment based on LCC LinSig model                                                                 |
| SN6                     | A47/Wilkinson Road                                            | Signalised          | Capacity assessment based on LCC LinSig model                                                                 |
| SN7                     | A47/Dans Lane                                                 | Priority            | Committed mitigation scheme comprises signalisation of junction. Capacity assessment based on WSP LinSig mode |
| SN8                     | A47/Beggars Lane                                              | Signalised          | Committed mitigation scheme comprises widening. Capacity assessment based on WSP LinSig mode                  |
| SN9                     | A47/Kirby Lane                                                | Signalised          | Committed mitigation scheme comprises widening. Capacity assessment based on WSP LinSig mode                  |
| SN10                    | Spa Lane (B590)/ Leicester Road (B590)/Leicester Road (B4668) | Signalised          | Capacity assessment based on LCC LinSig model                                                                 |
| <b>Local Routes</b>     |                                                               |                     |                                                                                                               |
| LN1                     | Astley Road/Alexander Avenue                                  | Priority T-junction | Capacity assessment based on WSP Junctions 10 model                                                           |
| LN2                     | Alexander Avenue/High Street                                  | Mini Roundabout     | Capacity assessment based on WSP Junctions 10 model                                                           |
| LN3                     | Station Road/Wood Street/High Street                          | Signal T-junction   | Capacity assessment based on LCC LinSig model                                                                 |
| LN4                     | Mill Lane/Alexander Avenue                                    | Priority T-junction | Capacity assessment based on WSP Junctions 10 model                                                           |
| LN5                     | Mill Lane/Almey's Lane/Chapel Street                          | Priority T-junction | Capacity assessment based on WSP Junctions 10 model                                                           |
| LN6                     | Chapel Street/Church Street                                   | Priority T-junction | Capacity assessment based on WSP Junctions 10 model                                                           |
| LN7                     | Church Street/Leicester Road                                  | Priority T-junction | Capacity assessment based on WSP Junctions 10 model                                                           |

**Figure 5-2 - - Strategic Route Junctions South of Earl Shilton SUE**



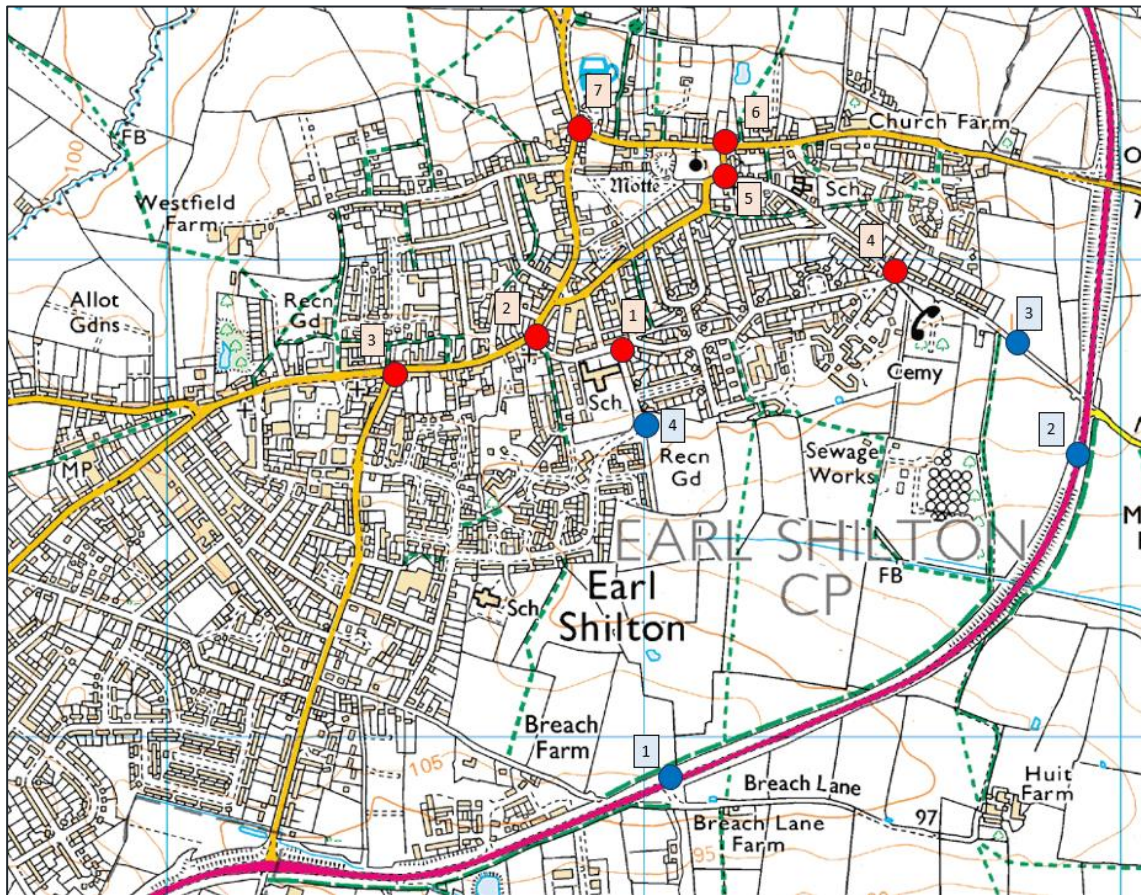
Background map source: [www.google.co.uk](http://www.google.co.uk)

**Figure 5-3 - - Strategic Route Junctions North of Earl Shilton SUE-**



Background map source: [www.google.co.uk](http://www.google.co.uk)

**Figure 5-4 - Local Junctions Study Area and Access Junctions**



5.5.9. As shown in **Table 5-1**, three of the study area junctions have mitigation schemes that will be delivered by committed developments. It has been agreed with LCC HDM that these should be considered as committed schemes and that the junction capacity assessment for the future scenarios should be based on the proposed improvements. The junctions are listed below.

- A47/Dans Lane;
- A47/Beggars Lane; and
- A47/Kirby Lane.

## 5.6 TRAFFIC FLOW FURNESSING

- 5.6.1. LCC HDM requested that furnessing of the PRTM outputs against observed counts be undertaken to derive future forecast traffic flow matrices for the junctions to be assessed. The *Furness Flows Technical Note* in **Appendix J** (doc ref: 42523-WSPE-XX-XX-TN-OT-00008\_S2\_P01) sets out the approach, which is summarised below.
- 5.6.2. The approach taken is a linear interpolation to obtain 2023 flows from PRTM to compare with the 2023 observed counts and to calculate the absolute differences between the 2023 PRTM and the 2036 forecast link flows for the DM and DS scenarios.
- 5.6.3. The methodology uses a '3 step approach' for growthing observed counts using PRTM outputs that has been accepted by LCC HDM on other projects.

5.6.4. The approach is based on:

- observed counts undertaken on Wednesday 28th June 2023,
- PRTM modelling output, which includes:
  - 2014 base flows,
  - 2026 DM Reference and 2026 DS Reference + Earl Shilton Flows
  - 2036 DM Reference and 2036 DS Reference + Earl Shilton Flows
- Area of Influence (Aol)/study area identified in the WSP Proposed Study Area for Junction Assessment Technical Note (doc ref: 42523-WSPE-XX-XX-TN-OT-00001\_S0\_P03).

5.6.5. The approach comprises the following with regards to existing junctions:

- Step 1. Use linear interpolation to obtain 2023 PRTM base to compare with 2023 observed counts. Linear interpolation is based on 2014 traffic flows from PRTM base model and 2026 DM PRTM scenario (from Earl Shilton SUE PRTM runs).
- Step 2. Calculate absolute differences in link flows between calculated 2023 PRTM and the 2036 forecast link flows for the DM and DS scenarios.
- Step 3. The base 2023 observed turning counts are then used to furnish the future forecast matrices. With regards to the access junctions, a different approach has been undertaken as these are new links for which there are no observed flow counts.

5.6.6. For the access junctions, the PRTM turning flows from the 2036 DS output have been used.

## 6 JUNCTION CAPACITY MODELLING

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### 6.1 OVERVIEW

- 6.1.1. This section sets out the results of junction capacity modelling of the proposed access junctions and the off-Site junctions identified through the Aol analysis.
- 6.1.2. Junction capacity modelling of the access junctions has been undertaken for the following scenario:
  - 2036 Reference Case + Proposed Development.
- 6.1.3. Junction modelling of the off-Site junctions identified in the study area has been undertaken for the following scenarios:
  - 2023 Current Baseline;
  - 2036 Reference Case; and
  - 2036 Reference Case + Proposed Development.
- 6.1.4. As set out in the previous chapter, Desford Crossroads has been excluded from the assessment as there is an existing capacity issue and LCC is in the process of producing detail designs and costings for an improvement scheme to which developers will be expected to contribute.
- 6.1.5. A separate assessment of Dodwells Roundabout using the National Highways' A5 VISSIM has been undertaken which is set out in **Section 6.6.1**.

### 6.2 JUNCTION MODELLING THRESHOLDS

- 6.2.1. Junction capacity thresholds have been used to understand the requirement for mitigation as a result of the Proposed Development, identified as where it is judged the impact of the Proposed Development traffic causes a junction to be over capacity as opposed to having spare capacity. If this is the case, then mitigation may be required.
- 6.2.2. The modelling thresholds for the different junction types are set out below.

#### PRIORITY JUNCTIONS AND ROUNDABOUTS

- 6.2.3. Priority junctions and roundabouts have been modelled in Junctions 10 software (PICADY / ARCADY) and are defined to have reached their theoretical capacity when the ratio of flow to capacity (RFC) exceeds 0.85. Above this threshold queues and delays begin to build and grow exponentially.
- 6.2.4. The impact of development traffic and need for mitigation has been based upon the following conditions.
  - Does the impact of the development traffic result in the RFC exceeding the standard threshold of 0.85 at roundabouts and priority junctions, and if so to what extent; and
  - If the RFC is in excess of 0.85 at priority junctions or roundabouts, does the development make the situation significantly worse.
- 6.2.5. In addition to RFC, consideration is given to vehicle queues and delay in seconds.

#### SIGNAL JUNCTIONS

- 6.2.6. Signal junctions have been modelled in LinSig software and have been based on Ling models purchased from LCC where available.

- 6.2.7. Arms forming part of the junction are defined to have reached their theoretical capacity when the Degree of Saturation (DoS) exceeds the standard threshold of 90%.
- 6.2.8. The impact of development traffic and need for mitigation has been based upon the following conditions.
- Does the impact of the development traffic result in the DoS exceeding the standard threshold of 90%, and if so to what extent; and
  - If the DoS is in excess of 90%, does the development make the situation significantly worse.
- 6.2.9. In addition to DoS, consideration is given to Delay in seconds per PCU (Passenger Car Unit) and the Mean Maximum Queue (MMQ) which represents the average value, over the peak hour, of the maximum queues occurring each cycle. Queues less than  $\frac{3}{4}$  of the available storage area are considered to contain the queue every cycle, i.e., the queue is cleared during the green signal time for the arm/lane. Any MMQ exceeding the lane length will be highlighted red by LinSig, i.e. there is insufficient storage for the vehicle demand. When an arm has an oversaturated DoS, a residual queue remains at the end of the cycle and is carried over to the next cycle.

### 6.3 ACCESS JUNCTIONS: CAPACITY ASSESSMENT

- 6.3.1. This section summarises the capacity assessments of the proposed Site access junctions. Junction modelling outputs are provided in **Appendix K**.

#### Access Junction 1 - A47/Southern Roundabout

- 6.3.2. The summary of results for this junction are provided in **Table 6-1**.

**Table 6-1 – A47/Southern Roundabout 2036 Future Year with Development**

| Movement             | AM   |             |             | PM   |             |             |
|----------------------|------|-------------|-------------|------|-------------|-------------|
|                      | RFC  | Delay (min) | Queue (PCU) | RFC  | Delay (min) | Queue (PCU) |
| A47 Clickers Way (E) | 0.32 | 0.05        | 0.5         | 0.31 | 0.05        | 0.5         |
| Breach Lane          | 0.03 | 0.09        | 0.0         | 0.02 | 0.08        | 0.0         |
| A47 Clickers Way (W) | 0.34 | 0.05        | 0.5         | 0.41 | 0.06        | 0.7         |
| Site Access          | 0.44 | 0.11        | 0.8         | 0.18 | 0.07        | 0.2         |

- 6.3.3. The results indicate that the junction has ample capacity in the 2036 with development scenario.

#### Access Junction - A47/Northern Roundabout

- 6.3.4. The summary of results for this junction are provided in **Table 6-2**

**Table 6-2 – A47/Northern Roundabout 2036 Future Year with Development**

| Movement             | AM   |           |             | PM   |           |             |
|----------------------|------|-----------|-------------|------|-----------|-------------|
|                      | RFC  | Delay (s) | Queue (Veh) | RFC  | Delay (s) | Queue (Veh) |
| A47 Clickers Way (E) | 0.19 | 4.86      | 0.2         | 0.17 | 4.32      | 0.2         |
| A47 Clickers Way (W) | 0.28 | 2.60      | 0.4         | 0.31 | 2.68      | 0.4         |
| Site Access          | 0.50 | 6.13      | 1.0         | 0.39 | 5.28      | 0.6         |

- 6.3.5. The results indicate that the junction has ample capacity in the 2036 with development scenario.

### Access Junction 3 - Mill Lane Mini Roundabout

6.3.6. The summary of results for this junction are provided in **Table 6-3**.

**Table 6-3 – Mill Lane Mini Roundabout – 2036 Future Year with Development**

| Movement          | AM   |           |             | PM   |           |             |
|-------------------|------|-----------|-------------|------|-----------|-------------|
|                   | RFC  | Delay (s) | Queue (PCU) | RFC  | Delay (s) | Queue (PCU) |
| Site Access North | 0.13 | 4.64      | 0.1         | 0.05 | 4.21      | 0.1         |
| Site Access South | 0.05 | 4.72      | 0.1         | 0.16 | 5.16      | 0.2         |
| Mill Lane         | 0.07 | 4.34      | 0.1         | 0.08 | 4.54      | 0.1         |

6.3.7. The results indicate that the junction has ample capacity in the 2036 with development scenario.

### Access Junction 4 - Astley Road Priority Junction

6.3.8. The summary of results for this junction are provided **Table 6-4**.

**Table 6-4 – Astley Road Priority Junction – 2036 Future Year with Development**

| Movement                            | AM   |           |             | PM   |           |             |
|-------------------------------------|------|-----------|-------------|------|-----------|-------------|
|                                     | RFC  | Delay (s) | Queue (PCU) | RFC  | Delay (s) | Queue (PCU) |
| Access to Astley Rd S               | 0.05 | 8.87      | 0.1         | 0.03 | 8.04      | 0           |
| Access to Astley Rd N B to A        | 0.42 | 12.22     | 0.42        | 0.29 | 9.85      | 0.4         |
| Astley Rd S to Astley Rd N & Access | 0.03 | 9.56      | 0.03        | 0.02 | 5.96      | 0           |

6.3.9. The results indicate that the junction has ample capacity in the 2036 with development scenario.

### Access Junction 5 – Breach Lane Priority Junction (not included in PRTM)

6.3.10. As previously identified, Application B includes an access off Breach Lane into a small parcel of land that is proposed to deliver up to 46 dwellings. This access arrangement will assist the deliverability of the overall scheme by enabling some development to come forward early on. It is expected that planning condition will be imposed to ensure that the number of dwellings having access from Breach Lane is restricted.

6.3.1. The potential traffic generation from the residential parcel has been calculated based on the agreed trip rates that are set out in the submitted TA. **Table 6-5** sets out the trip rates and resultant traffic generation which is low.

**Table 6-5 - – Estimated Trip Rates and Traffic Generation from 46 Dwellings**

| Scenario                          | AM Peak  |            |       | PM Peak  |            |       |
|-----------------------------------|----------|------------|-------|----------|------------|-------|
|                                   | Arrivals | Departures | Total | Arrivals | Departures | Total |
| Trip Rate                         | 0.151    | 0.441      | 0.592 | 0.392    | 0.16       | 0.552 |
| Traffic Generation (46 dwellings) | 7        | 20         | 27    | 18       | 7          | 25    |

6.3.2. The 2023 observed traffic flows at the Breach Lane/Equity Road East junction are set out in **Table 6-6** (as PCU). Table 1 shows that the traffic movements along the eastern section of Breach Lane from Equity Road East are very minor low, and the flows between Breach Lane (West) and Equity Road East are low.

**Table 6-6 - 2023 Observed Flows at Breach Lane/Equity Road East (PCU)**

| Junction Arm           | AM Peak |     |     | PM Peak |     |     |
|------------------------|---------|-----|-----|---------|-----|-----|
|                        | A       | B   | C   | A       | B   | C   |
| A – Breach Lane (East) |         | 4   | 16  |         | 2   | 8   |
| B – Equity Road East   | 0       |     | 252 | 3       |     | 200 |
| C – Breach Lane (West) | 12      | 167 |     | 18      | 255 |     |

Based on the traffic generation estimations and the low level of flows along Breach Lane, serving only four properties east of the access location, the access design will operate without any capacity concerns given the restricted nature of the access and limited number of dwellings served. The additional traffic will have a minimal impact on Breach Lane as a whole.

## 6.4 OFF-SITE STRATEGIC JUNCTIONS: CAPACITY ASSESSMENT

- 6.4.1. The results of the capacity assessment modelling are set out in the following sections. Junction modelling outputs are provided in **Appendix L**.

### SN 2 - A47/A447 Ashby Road

- 6.4.2. The A47/A447 Ashby Road is a four-arm signal junction located to the north of Hinckley and south-west Earl Shilton. The LinSig model was obtained from LCC which is based on the existing junction geometry and signal timings.
- 6.4.3. It is noted that an OPA for 475 dwellings on Land North of A47 Normandy Way and East of Stoke Road, Hinckley Leicestershire (planning ref: 22/00318/OUT) includes a mitigation scheme at the A47/A447 Ashby Road junction. The OPA has recently been granted approval through an appeal decision. It is noted that the Earl Shilton SUE traffic flows were included as committed development flows in the traffic impact assessment in support of the OPA. The mitigation scheme has not been modelled as it was not committed at the time of the junction modelling work for this TA Addendum.
- 6.4.4. The summary of results for this junction are provided in **Table 6-7** for the 2023 base scenario; **Table 6-8** for the 2036 future year baseline scenario and **Table 6-9** for the 2036 future year + Proposed Development scenario.

**Table 6-7 - A47/A447 Ashby Road - 2023 Base**

| Movement Description                   | AM Peak |           |                  | PM Peak |           |                  |
|----------------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                        | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Eastbound Ahead Left               | 48.60%  | 7         | 24.9             | 66.90%  | 10.4      | 31.2             |
| A47 Eastbound Ahead Right              | 49.60%  | 7         | 27.2             | 67.70%  | 10.1      | 34.2             |
| A47 Westbound Left                     | 22.40%  | 2.7       | 21.1             | 26.40%  | 3.2       | 23               |
| A47 Westbound Ahead Right              | 68.00%  | 11.8      | 29.7             | 74.90%  | 13        | 34.7             |
| A447 Southbound Right Left Ahead       | 69.60%  | 10.4      | 28.9             | 68.40%  | 10.5      | 27.9             |
| Ashby Road Northbound Left Right Ahead | 67.50%  | 8.9       | 34.2             | 75.00%  | 11.3      | 35.7             |

6.4.5. **Table 6-7** shows that the junction is operating within capacity in the 2023 baseline scenario in the AM and PM peaks, this is shown by the DoS being below 90%.

**Table 6-8 - A47/A447 Ashby Road - 2036 Future Year Baseline**

| Movement Description                   | AM Peak |           |                  | PM Peak |           |                  |
|----------------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                        | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Eastbound Ahead Left               | 72.60%  | 10        | 40.1             | 77.60%  | 12.7      | 38.1             |
| A47 Eastbound Ahead Right              | 73.80%  | 10.8      | 41.7             | 78.60%  | 12.9      | 40.4             |
| A47 Westbound Left                     | 37.00%  | 4.1       | 30.2             | 29.60%  | 3.5       | 24.9             |
| A47 Westbound Ahead Right              | 93.60%  | 18.6      | 68.6             | 83.00%  | 15        | 42.9             |
| A447 Southbound Right Left Ahead       | 92.30%  | 25.2      | 39.5             | 81.70%  | 16.2      | 33.6             |
| Ashby Road Northbound Left Right Ahead | 62.90%  | 9.5       | 28.9             | 84.70%  | 16.2      | 41.8             |

6.4.6. **Table 6-8** indicates that the growth in background traffic between 2023 and 2036 increases average delay and the MMQ at the junction in both the AM and PM peaks. The junction continues to operate within capacity in the PM peak, however, the A47 Westbound Ahead and Right movement and A447 Southbound exceed 90% degree of saturation in the AM peak indicating that these movement streams are saturated.

**Table 6-9 - A47/A447 Ashby Road - 2036 Future Year + Proposed Development**

| Movement Description                   | AM Peak |           |               | PM Peak |           |               |
|----------------------------------------|---------|-----------|---------------|---------|-----------|---------------|
|                                        | DoS (%) | MMQ (pcu) | Delay (s/pcu) | DoS (%) | MMQ (pcu) | Delay (s/pcu) |
| A47 Eastbound Ahead Left               | 74.60%  | 10.5      | 41.3          | 81.00%  | 13.7      | 40.6          |
| A47 Eastbound Ahead Right              | 75.90%  | 11.4      | 42.5          | 81.90%  | 14.1      | 42.5          |
| A47 Westbound Left                     | 51.60%  | 6.2       | 33            | 28.80%  | 3.4       | 24.8          |
| A47 Westbound Ahead Right              | 94.10%  | 19        | 70.6          | 86.10%  | 15.7      | 46.6          |
| A447 Southbound Right Left Ahead       | 95.40%  | 29.5      | 48.7          | 85.40%  | 18.2      | 36.9          |
| Ashby Road Northbound Left Right Ahead | 65.80%  | 9.7       | 30            | 87.70%  | 17.7      | 46            |

6.4.7. **Table 6-9** indicates the junction operating within capacity in the PM peak with the Proposed Development traffic. In the AM peak hour, the A47 Westbound Ahead and Right movement and the A447 Southbound each have an increased DoS, however, the level of increase is low: 0.50% and 3.10% respectively. The increases in MMQ and delay are also low: 0.4PCU MMQ and 2s/PCU and 4.3PCU MMQ and 9.2s/PCU respectively.

6.4.8. It is considered that the Proposed Development traffic flows have a minor impact and does not make the situation considerably worse. The mitigation scheme to be delivered by the Land North of A47

Normandy Way and East of Stoke Road development includes the Earl Shilton SUE within the assumptions for future traffic growth and addresses the future baseline capacity threshold issue. It is concluded that there is no requirement for the TA Addendum to consider a mitigation scheme at this junction.

### SN3 - A47/The Common/B4668

- 6.4.9. The A47/The Common/B4668 is a four-arm roundabout with three lane approaches on all arms except the A47 West arm which has two. The Junctions 10 model has been produced by WSP and validated against the 2023 observed traffic data.
- 6.4.10. The summary of results for this junction are provided in **Table 6-10** for the 2023 base scenario; **Table 6-11** for the 2036 future year baseline scenario and **Table 6-12** for the 2036 future year + Proposed Development scenario.

**Table 6-10 - A47/The Common/B4688 - 2023 Base**

| Junction Arm       | AM Peak     |           |      | PM Peak     |           |      |
|--------------------|-------------|-----------|------|-------------|-----------|------|
|                    | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| The Common         | 0.2         | 2.9       | 0.18 | 0.2         | 3.09      | 0.15 |
| A47 Leicester Rd   | 1.2         | 2.78      | 0.54 | 0.9         | 2.35      | 0.48 |
| B4668 Leicester Rd | 0.9         | 6.01      | 0.48 | 1.8         | 8.74      | 0.65 |
| A47 West           | 1.1         | 6.13      | 0.52 | 2.4         | 10.59     | 0.71 |

- 6.4.11. **Table 6-10** indicates that the junction operates within capacity in the AM and PM peaks, the RFC values are comfortably below the 0.85 threshold indicating spare capacity in the junction.

**Table 6-11 - A47/The Common/B4688 - 2036 Future Year Baseline**

| Junction Arm       | AM Peak     |           |      | PM Peak     |           |      |
|--------------------|-------------|-----------|------|-------------|-----------|------|
|                    | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| The Common         | 0.2         | 3.12      | 0.2  | 0.2         | 3.15      | 0.15 |
| A47 Leicester Rd   | 1.3         | 2.99      | 0.57 | 1           | 2.52      | 0.51 |
| B4668 Leicester Rd | 1           | 6.59      | 0.51 | 2.2         | 10.37     | 0.7  |
| A47 West           | 1.7         | 8.2       | 0.64 | 3.9         | 16.15     | 0.80 |

- 6.4.12. **Table 6-11** indicates that the growth in background traffic between 2023 and 2036 increases queue length and delay at the junction in both the AM and PM peaks. However, the junction continues to operate within capacity in the AM and PM peaks.

**Table 6-12 - A47/The Common/B4688 - 2036 Future Year + Proposed Development**

| Junction Arm       | AM Peak     |           |      | PM Peak     |           |      |
|--------------------|-------------|-----------|------|-------------|-----------|------|
|                    | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| The Common         | 0.2         | 3.16      | 0.19 | 0.2         | 3.41      | 0.16 |
| A47 Leicester Rd   | 1.6         | 3.36      | 0.62 | 1.1         | 2.62      | 0.53 |
| B4668 Leicester Rd | 1.3         | 7.81      | 0.57 | 4           | 16.24     | 0.81 |
| A47 West           | 2           | 9.17      | 0.67 | 10.9        | 42.67     | 0.94 |

- 6.4.13. **Table 6-12** indicates that the junction will continue to operate with capacity in the AM peak with the Proposed Development traffic, however, in the PM peak, the RFC on the A47 West arm is above 0.85, with an additional queue of 7 vehicles and delay of 36.52 seconds.
- 6.4.14. It is considered that the Proposed Development traffic flows have a minor impact and does not make the situation considerably worse. It is concluded that there is no requirement for the TA Addendum to consider a mitigation scheme at this junction.

#### SN4 - A47/Leicester Road

- 6.4.15. The A47/Leicester Road is a three-arm roundabout to the southwest of Earl Shilton. The Junctions 10 model has been produced by WSP and validated against the 2023 observed traffic data.
- 6.4.16. The summary of results for this junction are provided in **Table 6-13** for the 2023 base scenario; **Table 6-14** for the 2036 future year baseline scenario and **Table 6-15** for the 2036 future year + Proposed Development scenario.

**Table 6-13 - A47/Leicester Road - 2023 Base**

| Junction Arm       | AM Peak     |           |      | PM Peak     |           |      |
|--------------------|-------------|-----------|------|-------------|-----------|------|
|                    | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| A47 (E)            | 1.8         | 0.1       | 0.65 | 1.8         | 0.09      | 0.65 |
| A47 (W)            | 0.7         | 0.04      | 0.42 | 1.2         | 0.05      | 0.55 |
| Leicester Road (N) | 0.8         | 0.07      | 0.44 | 0.5         | 0.06      | 0.32 |

- 6.4.17. **Table 6-13** indicates that the junction operates within capacity in the AM and PM peaks, the RFC values are comfortably below the 0.85 threshold indicating spare capacity in the junction.

**Table 6-14 - A47/Leicester Road - 2036 Future Year Baseline**

| Junction Arm       | AM Peak     |           |      | PM Peak     |           |      |
|--------------------|-------------|-----------|------|-------------|-----------|------|
|                    | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| A47 (E)            | 2.1         | 0.11      | 0.68 | 2.4         | 0.11      | 0.71 |
| A47 (W)            | 0.9         | 0.05      | 0.48 | 1.3         | 0.06      | 0.57 |
| Leicester Road (N) | 1           | 0.09      | 0.51 | 0.5         | 0.07      | 0.34 |

- 6.4.18. **Table 6-14** indicates that the growth in background traffic between 2023 and 2036 increases queue length and delay at the junction in both the AM and PM peaks. However, the junction continues to operate within capacity in the AM and PM peaks.

**Table 6-15 - A47/Leicester Road - 2036 Future Year + Proposed Development**

| Junction Arm       | AM Peak     |           |      | PM Peak     |           |      |
|--------------------|-------------|-----------|------|-------------|-----------|------|
|                    | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| A47 (E)            | 3           | 0.14      | 0.75 | 2.9         | 0.12      | 0.74 |
| A47 (W)            | 1           | 0.05      | 0.5  | 1.8         | 0.07      | 0.64 |
| Leicester Road (N) | 1.2         | 0.09      | 0.54 | 0.6         | 0.07      | 0.37 |

6.4.19. **Table 6-15** indicates that the Proposed Development Traffic would have a minor impact on the junction capacity, however, the junction would continue to operate within capacity in both the AM and PM peaks.

#### SN5 - A47/B581 Station Road

6.4.20. The A47/B581 Station Road junction is a three-arm signal junction located to the south-west Earl Shilton. The LinSig model was obtained from LCC.

6.4.21. The summary of results for this junction are provided in **Table 6-16** for the 2023 base scenario; **Table 6-17** for the 2036 future year baseline scenario and **Table 6-18** for the 2036 future year + Proposed Development scenario.

**Table 6-16 - A47/Station Road B581- 2023 Base**

| Junction Arm             | AM Peak |           |                  | PM Peak |           |                  |
|--------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                          | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Westbound Ahead Left | 68.90%  | 6.7       | 29.6             | 71.50%  | 6.8       | 32.7             |
| A47 Westbound Ahead      | 69.30%  | 7.2       | 28.8             | 72.10%  | 7.4       | 31.9             |
| A47 Eastbound Ahead      | 59.60%  | 9.2       | 16.9             | 61.70%  | 9.7       | 17.3             |
| A47 Eastbound Right      | 67.70%  | 6.1       | 31.5             | 70.80%  | 7         | 30.8             |
| B581 Station Road Left   | 33.50%  | 3.6       | 11.2             | 42.10%  | 4.7       | 11.2             |
| B581 Station Road Right  | 23.00%  | 1.6       | 23.8             | 32.20%  | 2.3       | 24.9             |

6.4.22. **Table 6-16** shows that the junction operates within capacity in the AM and PM peaks, the DoS values are comfortably below the 90% threshold.

**Table 6-17 - A47/Station Road B581- 2036 Future Year Baseline**

| Junction Arm             | AM Peak |           |                  | PM Peak |           |                  |
|--------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                          | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Westbound Ahead Left | 81.90%  | 8.7       | 39.1             | 81.20%  | 8.2       | 41.1             |
| A47 Westbound Ahead      | 82.10%  | 9.4       | 37.7             | 81.80%  | 8.9       | 40               |
| A47 Eastbound Ahead      | 70.60%  | 11.9      | 19.6             | 62.10%  | 9.7       | 17.4             |
| A47 Eastbound Right      | 79.90%  | 8.3       | 36.9             | 83.30%  | 10.1      | 37.7             |
| B581 Station Road Left   | 35.40%  | 3.7       | 10.8             | 47.20%  | 5.7       | 11.2             |
| B581 Station Road Right  | 21.70%  | 1.5       | 23.6             | 38.80%  | 2.8       | 25.8             |

6.4.23. **Table 6-17** indicates that the growth in background traffic between 2023 and 2036 increases queue length and delay at the junction in both the AM and PM peaks. However, the junction continues to operate within capacity in the AM and PM peaks.

**Table 6-18 - A47/Station Road B581- 2036 Future Year + Proposed Development**

| Junction Arm             | AM Peak |           |                  | PM Peak |           |                  |
|--------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                          | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Westbound Ahead Left | 92.20%  | 12.7      | 56.6             | 83.50%  | 9.1       | 41.7             |
| A47 Westbound Ahead      | 92.50%  | 13.8      | 54.5             | 83.60%  | 9.8       | 40.1             |
| A47 Eastbound Ahead      | 72.90%  | 12.6      | 20.4             | 82.80%  | 16.2      | 25.2             |
| A47 Eastbound Right      | 89.50%  | 11.2      | 51               | 86.10%  | 10.4      | 42.9             |
| B581 Station Road Left   | 35.70%  | 3.8       | 11.2             | 50.00%  | 6.1       | 12.2             |
| B581 Station Road Right  | 25.60%  | 1.8       | 24.1             | 37.70%  | 2.7       | 25.7             |

- 6.4.24. **Table 6-18** indicates that the junction will continue to operate within capacity in the PM peak with the Proposed Development traffic. In the AM peak hour, the A47 Clickers Way westbound arm is above 90%, however, the increase in MMQ is modest - up to 4 PCU, and an increase in average delay of up to 17.5 s/pcu.
- 6.4.25. The A47 westbound arm has a two lane approach of about 54m in length, space for approximately nine vehicles (based on 6m allowance). Extension of this two lane approach to allow more vehicle stacking length is considered difficult due to an embankment, alternatively it would reduce the verge width which is part of the junction design.
- 6.4.26. It is considered that the Proposed Development traffic flows have a minor impact and does not make the situation considerably worse. It is concluded that there is no requirement for the TA Addendum to consider a mitigation scheme at this junction.

#### SN6 – A47/Wilkinson Lane

- 6.4.27. The A47/Wilkinson Lane junction is a three-arm signal junction located to the south-west Earl Shilton. The LinSig model was obtained from LCC.
- 6.4.28. The summary of results for this junction are provided in **Table 6-19** for the 2023 base scenario; **Table 6-20** for the 2036 future year baseline scenario and **Table 6-21** for the 2036 future year + Proposed Development scenario.

**Table 6-19 – A47/Wilkinson Lane – 2023 Base**

| Junction Arm              | AM Peak      |           |                  | PM Peak      |           |                  |
|---------------------------|--------------|-----------|------------------|--------------|-----------|------------------|
|                           | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Westbound Ahead       | 61.00%       | 8.1       | 22               | 59.70%       | 8.3       | 18.1             |
| A47 Westbound Right       | 6.60%        | 0.4       | 23.4             | 15.40%       | 1         | 24.2             |
| A47 Eastbound Ahead Left  | 67.7 : 68.5% | 6.4       | 27.1             | 62.1 : 62.0% | 6.9       | 22.2             |
| Wilkinson Lane Right Left | 68.20%       | 7.3       | 28.2             | 61.20%       | 4.8       | 30.6             |

- 6.4.29. **Table 6-19** shows that the junction operates within capacity in the AM and PM peaks, the DoS values are comfortably below the 90% threshold.

**Table 6-20 – A47/Wilkinson Lane – 2036 Future Year Baseline**

| Junction Arm              | AM Peak      |           |                  | PM Peak      |           |                  |
|---------------------------|--------------|-----------|------------------|--------------|-----------|------------------|
|                           | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Westbound Ahead       | 61.30%       | 8         | 20.9             | 6.80%        | 10.3      | 0.8              |
| A47 Westbound Right       | 31.80%       | 2.1       | 26               | 67.40%       | 26.6      | 7.3              |
| A47 Eastbound Ahead Left  | 71.7 : 72.3% | 7.5       | 27.1             | 66.8 : 67.5% | 25.3      | 6.6              |
| Wilkinson Lane Right Left | 71.90%       | 7.5       | 30.9             | 57.60%       | 34.8      | 3.6              |

- 6.4.30. **Table 6-20** indicates that the growth in background traffic between 2023 and 2036 increases queue length and delay at the junction in both the AM and PM peaks. However, the junction continues to operate within capacity in the AM and PM peaks.

**Table 6-21 – A47/Wilkinson Lane – 2036 Future Year + Proposed Development**

| Junction Arm              | AM Peak      |           |                  | PM Peak      |           |                  |
|---------------------------|--------------|-----------|------------------|--------------|-----------|------------------|
|                           | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Westbound Ahead       | 56.70%       | 7.5       | 18.8             | 2.50%        | 0.3       | 10.1             |
| A47 Westbound Right       | 71.40%       | 6         | 36.2             | 83.00%       | 10.1      | 36.7             |
| A47 Eastbound Ahead Left  | 69.0 : 69.6% | 7.5       | 24.9             | 79.8 : 80.5% | 9.4       | 28.4             |
| Wilkinson Lane Right Left | 70.30%       | 6.5       | 32               | 57.60%       | 3.7       | 34.8             |

- 6.4.31. **Table 6-21** indicates that the junction will continue to operate within capacity in both the AM and the PM peak with the Proposed Development traffic.

### SN7 – A47/Dans Lane

- 6.4.32. There is a mitigation scheme for the A47/Dans Lane junction as part of the Neovia Logistics development (HBBC planning reference: 21/00619/FUL). This comprises signalisation of the three-arm priority junction, widening and pedestrian provision in the form of improved footways and a crossing point.
- 6.4.33. Construction of the development has commenced, however the A47/Dans Lane signalisation has not been implemented yet. HBBC and LCC HDM have confirmed that the scheme should be considered as committed as it is a requirement of the planning permission. It is also noted that the scheme is included in the Uncertainty Log v1.2 that underpins the PRTM modelling undertaken for the Earl Shilton SUE and should be modelled as part of the junction capacity assessments for the 2036 scenarios.
- 6.4.34. WSP has produced the LinSig model based on the mitigation scheme included in the Neovia Logistics planning application, as provided in **Appendix M**, and the LinSig output included in the TA is support of the application.
- 6.4.35. **Table 6-22** presents a summary of the 2036 future year baseline results.

**Table 6-22 – A47/Dans Lane – 2036 Future Year Baseline**

| Junction Arm          | AM Peak |           |                  | PM Peak |           |                  |
|-----------------------|---------|-----------|------------------|---------|-----------|------------------|
|                       | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 (N) Ahead         | 29.80%  | 4.5       | 5.8              | 42.70%  | 6.1       | 6                |
| A47 (N) Right         | 58.30%  | 5.9       | 55.5             | 54.10%  | 6.1       | 34.4             |
| A47 (S) Left Ahead    | 59.50%  | 11.3      | 21.2             | 55.70%  | 8         | 25.1             |
| Dan's Lane Right Left | 57.60%  | 6.1       | 44.7             | 56.10%  | 4.5       | 37.7             |

- 6.4.36. **Table 6-22** shows that the junction operating within capacity in the 2036 future year baseline scenario in the AM and PM peaks, this is shown by the degree of saturation being below 90%.

**Table 6-23 – A47/Dans – 2036 Future Year + Proposed Development**

| Junction Arm          | AM Peak |           |                  | PM Peak |           |                  |
|-----------------------|---------|-----------|------------------|---------|-----------|------------------|
|                       | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 (N) Ahead         | 28.70%  | 4.3       | 5.4              | 47.20%  | 7.3       | 6.8              |
| A47 (N) Right         | 59.10%  | 6.2       | 54.6             | 56.40%  | 6.2       | 36               |
| A47 (S) Left Ahead    | 61.20%  | 11.1      | 21.2             | 58.00%  | 8.6       | 25.8             |
| Dan's Lane Right Left | 60.80%  | 6.2       | 46.4             | 55.50%  | 4.7       | 36.9             |

- 6.4.37. **Table 6-23** shows the junction performance in the 2036 Future Year + Proposed Development traffic scenario. The junction continues to operate within capacity.

#### SN8 – A47/Beggars Lane

- 6.4.38. There is a mitigation scheme for the A47/Beggars Lane junction as part of the Land North of Hinckley Road, Kirby Muxloe development (Blaby planning reference: 19/1610/OUT). This comprises improvements to the existing signalised junction.
- 6.4.39. HBBC and LCC HDM have confirmed that the scheme should be considered as committed, is included in the Uncertainty Log and should be modelled as part of the junction capacity assessments for the 2036 scenarios.
- 6.4.40. WSP has produced the LinSig model based on the mitigation scheme, as provided in **Appendix M**, and the LinSig output included in the TA is support of the application.
- 6.4.41. **Table 6-24** presents a summary of the 2036 future year baseline results.

**Table 6-24 – A47/Beggars Lane – 2036 Future Year Baseline**

| Junction Arm                    | AM Peak |           |                  | PM Peak |           |                  |
|---------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                 | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Hinckley Rd E Left Ahead    | 100.30% | 69.1      | 69.8             | 66.30%  | 17.6      | 14.5             |
| Beggars Lane Right Left         | 100.50% | 16.9      | 150.1            | 73.10%  | 4.8       | 57.9             |
| A47 Hinckley Rd (W) Ahead Right | 60.60%  | 9.5       | 8.4              | 73.30%  | 16.2      | 11.7             |

- 6.4.42. **Table 6-24** shows that the junction operating within capacity in the 2036 future year baseline scenario in the PM peak, this is shown by the degree of saturation being below 90%. However, **Table 6-24** indicates the junction exceeding capacity in the AM peak on the A47 Hinckley Road East and Beggars Lane arms.

**Table 6-25 – A47/Beggars Lane – 2036 Future Year + Proposed Development**

| Junction Arm                    | AM Peak |           |                  | PM Peak |           |                  |
|---------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                 | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Hinckley Rd E Left Ahead    | 101.40% | 76.6      | 87.4             | 69.10%  | 18.9      | 15.2             |
| Beggars Lane Right Left         | 99.50%  | 15.9      | 136.4            | 70.00%  | 4.5       | 55.6             |
| A47 Hinckley Rd (W) Ahead Right | 62.30%  | 10.6      | 9                | 72.80%  | 15.9      | 11.7             |

- 6.4.43. **Table 6-25** indicates the junction operating within capacity in the PM peak with the Proposed Development traffic.
- 6.4.44. In the AM peak hour, the A47 Hinckley Road East each has an increased DoS, however, Beggars Lane has a slight reduction: +1.10% and -1.00% respectively. The increase in MMQ and delay on the A47 Hinckley Road are relatively low: +6.5PCU MMQ and 17.6 s/PCU, whereas the MMQ and delay on Beggars Lane is reduced by 1PCU and 13.7 s/PCU respectively.
- 6.4.45. It is considered that the Proposed Development traffic flows have a minor impact and does not make the situation considerably worse. It is concluded that there is no requirement for the TA Addendum to consider a mitigation scheme at this junction.

#### SN9 - A47/Kirby Lane

- 6.4.46. There is a mitigation scheme for the A47/Kirby Lane junction as part of the Land North of Hinckley Road, Kirby Muxloe development (Blaby planning reference: 19/1610/OUT). This comprises improvements to the existing signalised junction.
- 6.4.47. HBBC and LCC HDM have confirmed that the scheme should be considered as committed, is included in the Uncertainty Log and should be modelled as part of the junction capacity assessments for the 2036 scenarios.
- 6.4.48. WSP has produced the LinSig model based on the mitigation scheme included in the Land North of Hinckley Road, Kirby Muxloe development planning application, as provided in **Appendix M**, and the LinSig output included in the TA is support of the application.
- 6.4.49. **Table 6-26** presents a summary of the 2036 future year baseline results.

**Table 6-26 - A47/Kirby Lane - 2036 Future Year Baseline**

| Junction Arm                         | AM Peak |           |                  | PM Peak |           |                  |
|--------------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                      | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Hinckley Rd (W) Left Ahead Right | 73.10%  | 16.6      | 22.6             | 75.50%  | 20.3      | 22.2             |
| Kirby Lane Right Left Ahead          | 65.50%  | 5.4       | 49               | 74.50%  | 5.1       | 62.7             |
| Hinckley Rd (E) Ahead Right Left     | 71.80%  | 15.3      | 15.9             | 75.10%  | 19.1      | 16.4             |
| Tesco Egress Left Ahead Right        | 0.00%   | 0         | 0                | 0.00%   | 0         | 0                |

- 6.4.50. **Table 6-26** shows that the junction operating within capacity in the 2036 future year baseline scenario in the AM and PM peaks, this is shown by the degree of saturation being below 90%.

**Table 6-27 - A47/Kirby Lane - 2036 Future Year + Proposed Development**

| Junction Arm                         | AM Peak |           |                  | PM Peak |           |                  |
|--------------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                      | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| A47 Hinckley Rd (W) Left Ahead Right | 73.30%  | 16.7      | 22.6             | 75.20%  | 20        | 22               |
| Kirby Lane Right Left Ahead          | 65.80%  | 5.5       | 49.1             | 74.50%  | 5         | 58.6             |
| Hinckley Rd (E) Ahead Right Left     | 71.60%  | 15.2      | 15.9             | 77.40%  | 20.5      | 17.2             |
| Tesco Egress Left Ahead Right        | 0.00%   | 0         | 0                | 0.00%   | 0         | 0                |

- 6.4.51. **Table 6-27** shows the junction performance in the 2036 Future Year + Proposed Development traffic scenario. The junction continues to operate within capacity.

#### SN10 - Spa Lane (B590)/Leicester Road (B590)/Leicester Road (B4668)

- 6.4.52. The Spa Lane (B590)/Leicester Road (B590)/Leicester Road (B4668A47/B581 Station Road junction is located in Hinckley and has been included at the request of LCC HDM. The signal junction comprises three arms, with a fourth arm, Highfield Road as one-way entry only and therefore not controlled by a traffic signal. The LinSig model was obtained from LCC.
- 6.4.53. The summary of results for this junction are provided in **Table 6-28** for the 2023 base scenario; **Table 6-29** for the 2036 future year baseline scenario and **Table 6-30** for the 2036 future year + Proposed Development scenario.

**Table 6-28 - Spa Lane (B590)/Leicester Road (B590)/Leicester Road (B4668) - 2023 Base**

| Junction Arm                                 | AM Peak |           |                  | PM Peak |           |                  |
|----------------------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                              | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| B590 Leicester Road (West) Left Ahead Right  | 35.80%  | 3.9       | 32.3             | 87.60%  | 7.9       | 91               |
| B4668 Leicester Road (East) Right Left Ahead | 89.60%  | 17.7      | 39.6             | 95.4%   | 11.5      | 65.4             |
| B590 Spa Lane Ahead Right Left               | 67.50%  | 11.5      | 26.2             | 58.10%  | 9.9       | 12.9             |

- 6.4.54. **Table 6-28** shows that the junction has capacity issues on the B4668 Leicester Road East – approaching theoretical capacity in the AM peak and overcapacity in the PM peak. It is noted that the queues and delay are generally higher in the AM peak.

**Table 6-29 - Spa Lane (B590)/Leicester Road (B590)/Leicester Road (B4668) - 2036 Future Year Baseline**

| Junction Arm                                | AM Peak |           |                  | PM Peak |           |                  |
|---------------------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                             | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| B590 Leicester Road (West) Left Ahead Right | 18.90%  | 2.6       | 14.2             | 34.4%   | 4.3       | 25.1             |

| Junction Arm                                 | AM Peak |           |                  | PM Peak |           |                  |
|----------------------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                              | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| B4668 Leicester Road (East) Right Left Ahead | 81.20%  | 16.4      | 23.7             | 70.8%   | 6.6       | 21.6             |
| B590 Spa Lane Ahead Right Left               | 81.90%  | 14.3      | 39.7             | 72.50%  | 14        | 23               |

6.4.55. **Table 6-29** shows that the junction has capacity in both the AM and PM peaks.

**Table 6-30 - Spa Lane (B590)/Leicester Road (B590)/Leicester Road (B4668) - 2036 Future Year + Proposed Development**

| Junction Arm                                 | AM Peak |           |                  | PM Peak |           |                  |
|----------------------------------------------|---------|-----------|------------------|---------|-----------|------------------|
|                                              | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) | DoS (%) | MMQ (pcu) | Av Delay (s/pcu) |
| B590 Leicester Road (West) Left Ahead Right  | 20.1%   | 2.8       | 15.5             | 50.2%   | 6.9       | 27.6             |
| B4668 Leicester Road (East) Right Left Ahead | 81.0%   | 12.8      | 22.9             | 73.0%   | 7.4       | 22               |
| B590 Spa Lane Ahead Right Left               | 81.00%  | 14.5      | 37.1             | 72.70%  | 14        | 23.1             |

6.4.56. **Table 6-30** shows the junction performance in the 2036 Future Year + Proposed Development traffic scenario. The junction continues to operate within capacity.

## 6.5 OFF-SITE LOCAL ROUTE JUNCTIONS: CAPACITY ASSESSMENT

6.5.1. Junction capacity assessment have been undertaken of the local junctions in the vicinity of the Site accesses that will be used by the Proposed Development traffic.

### LN1 - Astley Road/Alexander Avenue

6.5.2. Astley Road/Alexander Avenue is a three-arm priority junction in Earl Shilton to the north of the Astley Road access junction. The Junctions 10 model has been produced by WSP and validated against the 2023 observed traffic data.

6.5.3. The summary of results for this junction are provided in **Table 6-31** for the 2023 base scenario; **Table 6-32** for the 2036 future year baseline scenario and **Table 6-33** for the 2036 future year + Proposed Development scenario.

**Table 6-31 - Astley Road/Alexander Avenue - 2023 Base**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 6.37      | 0.1  | 0.1         | 6.03      | 0.05 |
| B-A          | 0           | 8.95      | 0.04 | 0.1         | 8.36      | 0.06 |
| C-AB         | 0.1         | 6.76      | 0.11 | 0.1         | 6.21      | 0.09 |

A: Alexander Avenue East; B: Astley Road and C: Alexander Avenue West.

6.5.4. **Table 6-31** indicates that the junction operates within capacity in the AM and PM peaks, the RFC values are comfortably below the 0.85 threshold indicating spare capacity in the junction.

**Table 6-32 - Astley Road/Alexander Avenue - 2036 Future Year Baseline**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 6.39      | 0.1  | 0.1         | 5.93      | 0.05 |
| B-A          | 0           | 8.92      | 0.04 | 0.1         | 8.86      | 0.09 |
| C-AB         | 0.1         | 6.79      | 0.11 | 0.1         | 6.22      | 0.09 |

A: Alexander Avenue East; B: Astley Road and C: Alexander Avenue West.

- 6.5.5. **Table 6-32** indicates that the growth in background traffic between 2023 and 2036 delay at the junction in both the AM and PM peaks. However, the junction continues to operate within capacity in the AM and PM peaks.

**Table 6-33 - Astley Road/Alexander Avenue - 2036 Future Year + Proposed Development**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.4         | 9.75      | 0.27 | 0.1         | 7.83      | 0.13 |
| B-A          | 0.8         | 15.81     | 0.44 | 0.6         | 13.66     | 0.39 |
| C-AB         | 0.3         | 7.88      | 0.19 | 0.2         | 7.36      | 0.17 |

A: Alexander Avenue East; B: Astley Road and C: Alexander Avenue West.

- 6.5.6. **Table 6-33** indicates that the Proposed Development traffic would have an impact on the junction capacity, however, the junction would continue to operate within capacity in both the AM and PM peaks.

## LN2 - Alexander Avenue/High Street

- 6.5.7. Alexander Avenue/High Street is a three-arm mini roundabout near the centre of Earl Shilton. The Junctions 10 model has been produced by WSP and validated against the 2023 observed traffic data.
- 6.5.8. The summary of results for this junction are provided in **Table 6-34** for the 2023 base scenario;
- 6.5.9. **Table 6-35** for the 2036 future year baseline scenario and **Table 6-36** for the 2036 future year + Proposed Development scenario.

**Table 6-34 - Alexander Avenue/High Street - 2023 Base**

| Junction Arm     | AM Peak     |           |      | PM Peak     |           |      |
|------------------|-------------|-----------|------|-------------|-----------|------|
|                  | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| High Street (SW) | 1           | 8.87      | 0.5  | 1           | 8.63      | 0.49 |
| High Street (NE) | 0.8         | 8.46      | 0.45 | 1.4         | 11.62     | 0.59 |
| Alexander Avenue | 0.4         | 8.25      | 0.31 | 0.3         | 8.2       | 0.23 |

- 6.5.10. **Table 6-34** indicates that the junction operates within capacity in the AM and PM peaks, the RFC values are comfortably below the 0.85 threshold indicating spare capacity in the junction.

**Table 6-35 - Alexander Avenue/High Street - 2036 Future Year Baseline**

| Junction Arm     | AM Peak     |           |      | PM Peak     |           |      |
|------------------|-------------|-----------|------|-------------|-----------|------|
|                  | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| High Street (SW) | 1.3         | 10.34     | 0.57 | 1.2         | 9.54      | 0.54 |
| High Street (NE) | 0.9         | 8.7       | 0.46 | 1.5         | 11.92     | 0.6  |
| Alexander Avenue | 0.5         | 8.5       | 0.32 | 0.3         | 8.27      | 0.23 |

6.5.11.

6.5.12. **Table 6-35** shows that the junction continues to operate within capacity in the AM and PM peaks.

**Table 6-36 - Alexander Avenue/High Street - 2036 Future Year + Proposed Development**

| Junction Arm     | AM Peak     |           |      | PM Peak     |           |      |
|------------------|-------------|-----------|------|-------------|-----------|------|
|                  | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| High Street (SW) | 1.4         | 10.87     | 0.59 | 1.2         | 9.87      | 0.56 |
| High Street (NE) | 1           | 9.72      | 0.51 | 1.8         | 13.6      | 0.65 |
| Alexander Avenue | 0.8         | 10.57     | 0.44 | 0.4         | 9.38      | 0.31 |

6.5.13. **Table 6-36** indicates that the Proposed Development Traffic would have an impact on the junction capacity, however, the junction would continue to operate within capacity in both peaks.

#### LN3- Station Road/Wood Street/High Street

6.5.14. Station Road/Wood Street/High Street is a three-arm signal junction in the centre of Earl Shilton. The LinSig used in the modelling has been purchased from LCC.

6.5.15. The summary of results for this junction are provided in **Table 6-37** for the 2023 base scenario; **Table 6-38** for the 2036 future year baseline scenario and **Table 6-39** for the 2036 future year + Proposed Development scenario.

**Table 6-37 - Station Road/Wood Street/High Street - 2023 Base**

| Junction Arm            | AM Peak      |           |                  | PM Peak      |           |                  |
|-------------------------|--------------|-----------|------------------|--------------|-----------|------------------|
|                         | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) |
| High Street Ahead Left  | 57.80%       | 5.4       | 25.8             | 72.10%       | 7.5       | 30.4             |
| Wood Street Ahead Right | 72.9 : 72.9% | 6.6       | 31.1             | 66.7 : 66.7% | 5.3       | 29.4             |
| Station Road Left Right | 75.80%       | 4.4       | 54.8             | 50.70%       | 2.4       | 39.4             |

6.5.16. **Table 6-37** shows that the junction is operating within capacity in the 2023 baseline in both peaks.

**Table 6-38 - Station Road/Wood Street/High Street - 2036 Future Year Baseline**

| Junction Arm            | AM Peak      |           |                  | PM Peak      |           |                  |
|-------------------------|--------------|-----------|------------------|--------------|-----------|------------------|
|                         | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) |
| High Street Ahead Left  | 59.40%       | 5.4       | 27.3             | 72.20%       | 7.5       | 30.4             |
| Wood Street Ahead Right | 67.8 : 67.8% | 5.4       | 30.2             | 58.9 : 58.9% | 4.4       | 27.5             |

|                         |        |     |      |        |     |      |
|-------------------------|--------|-----|------|--------|-----|------|
| Station Road Left Right | 65.20% | 3.6 | 42.9 | 49.90% | 2.3 | 39.1 |
|-------------------------|--------|-----|------|--------|-----|------|

- 6.5.17. **Table 6-38** shows that the junction continues to operate within capacity in the 2036 baseline in both peaks.

**Table 6-39 - Station Road/Wood Street/High Street - 2036 Future Year + Proposed Development**

| Junction Arm            | AM Peak      |           |                  | PM Peak      |           |                  |
|-------------------------|--------------|-----------|------------------|--------------|-----------|------------------|
|                         | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) | DoS (%)      | MMQ (pcu) | Av Delay (s/pcu) |
| High Street Ahead Left  | 73.50%       | 7.6       | 31.2             | 81.40%       | 9.3       | 36.2             |
| Wood Street Ahead Right | 76.1 : 76.1% | 7.2       | 33.3             | 68.7 : 82.5% | 5.7       | 31.8             |
| Station Road Left Right | 74.50%       | 4.2       | 53.3             | 49.90%       | 2.3       | 39.1             |

- 6.5.18. **Table 6-39** shows that the traffic from the Proposed Development has an impact, however, the junction is still operating within capacity in both peaks.

#### LN4 - Mill Lane/Alexander Avenue

- 6.5.19. Mill Lane/Alexander Avenue is a three-arm priority junction to the west of the Mill Lane access. The Junctions 10 model has been produced by WSP and validated against the 2023 observed traffic data.
- 6.5.20. The summary of results for this junction are provided in **Table 6-40** for the 2023 base scenario; **Table 6-41** for the 2036 future year baseline scenario and **Table 6-42** for the 2036 future year + Proposed Development scenario.

**Table 6-40 - Mill Lane/Alexander Avenue- 2023 Base**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 5.62      | 0.06 | 0           | 5.71      | 0.03 |
| B-A          | 0           | 8.21      | 0.01 | 0           | 7.7       | 0.03 |
| C-AB         | 0.1         | 6.12      | 0.07 | 0           | 5.96      | 0.05 |

A: Mill Lane (SE); B: Alexander Avenue and C: Mill Lane (NW)

- 6.5.21. **Table 6-40** indicates that the junction operates within capacity in the AM and PM peaks, the RFC values are comfortably below the 0.85 threshold indicating spare capacity in the junction.

**Table 6-41 - Mill Lane/Alexander Avenue- 2036 Future Year Baseline**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 5.65      | 0.06 | 0           | 5.73      | 0.03 |
| B-A          | 0           | 8.17      | 0.01 | 0           | 7.69      | 0.03 |
| C-AB         | 0.1         | 6.13      | 0.07 | 0.1         | 5.97      | 0.05 |

A: Mill Lane (SE); B: Alexander Avenue and C: Mill Lane (NW)

6.5.22. **Table 6-41** shows that the junction continues to operate with ample capacity in the future 2036 baseline scenario.

**Table 6-42 - Mill Lane/Alexander Avenue- 2036 Future Year + Proposed Development**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 5.81      | 0.07 | 0.1         | 5.75      | 0.05 |
| B-A          | 0           | 8.67      | 0.01 | 0           | 8.16      | 0.04 |
| C-AB         | 0.1         | 6         | 0.08 | 0           | 5.66      | 0.02 |

A: Mill Lane (SE); B: Alexander Avenue and C: Mill Lane (NW)

6.5.23. **Table 6-42** shows that the junction continues to operate with ample capacity in the future 2036 scenario with the addition of the Proposed Development traffic.

#### LN5 - Mill Lane/Almey's Lane/Chapel Street

6.5.24. Mill Lane/ Almey's Lane/Chapel Street is a three-arm priority junction at the western end of Mill Lane. The Junctions 10 model has been produced by WSP and validated against the 2023 observed traffic data.

6.5.25. The summary of results for this junction are provided in **Table 6-43** for the 2023 base scenario;

6.5.26. **Table 6-44** for the 2036 future year baseline scenario and **Table 6-45** for the 2036 future year + Proposed Development scenario.

**Table 6-43 - Mill Lane/Almey's Lane/Chapel Street - 2023 Base**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 7.15      | 0.06 | 0           | 6.76      | 0.02 |
| B-A          | 0.2         | 8.78      | 0.14 | 0.1         | 7.81      | 0.06 |
| C-AB         | 0.1         | 6.3       | 0.08 | 0           | 6.04      | 0.02 |

A: Chapel Street; B: Mill Lane and C: Almey's Lane

6.5.27. **Table 6-43** indicates that the junction operates within capacity in the AM and PM peaks, the RFC values are comfortably below the 0.85 threshold indicating spare capacity in the junction.

**Table 6-44 - Mill Lane/Almey's Lane/Chapel Street - 2036 Future Year Baseline**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 7.27      | 0.06 | 0           | 6.89      | 0.02 |
| B-A          | 0.2         | 8.96      | 0.15 | 0.1         | 8.01      | 0.07 |
| C-AB         | 0.1         | 6.32      | 0.08 | 0           | 5.97      | 0.02 |

A: Chapel Street; B: Mill Lane and C: Almey's Lane

- 6.5.28. **Table 6-44** indicates that the growth in background traffic between 2023 and 2036 increases delay at the junction in both the AM and PM peaks. However, the junction continues to operate within capacity in the AM and PM peaks.

**Table 6-45 - Mill Lane/Almeyer's Lane/Chapel Street - 2036 Future Year + Proposed Development**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 8.52      | 0.08 | 0           | 7.62      | 0.03 |
| B-A          | 0.4         | 11.02     | 0.28 | 0.2         | 9.34      | 0.16 |
| C-AB         | 0.1         | 6.09      | 0.10 | 0           | 5.93      | 0.03 |

A: Chapel Street; B: Mill Lane and C: Almeyer's Lane

- 6.5.29. **Table 6-45** indicates that the Proposed Development Traffic would have a minor impact on the junction capacity, however, the junction would continue to operate within capacity in both the AM and PM peaks.

#### LN6 - Chapel Street/Church Street

- 6.5.30. Chapel Street/Church Street is a three-arm priority junction north of the western end of Mill Lane. The Junctions 10 model has been produced by WSP and validated against the 2023 observed traffic data.
- 6.5.31. The summary of results for this junction are provided in **Table 6-46** for the 2023 base scenario; **Table 6-47** for the 2036 future year baseline scenario and **Table 6-48** for the 2036 future year + Proposed Development scenario.

**Table 6-46 - Chapel Street/Church Street - 2023 Base**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 7.16      | 0.1  | 0.1         | 6.82      | 0.05 |
| B-A          | 0.2         | 9.39      | 0.15 | 0.1         | 8.81      | 0.07 |
| C-AB         | 0.1         | 5.89      | 0.06 | 0.1         | 5.87      | 0.07 |

A: Church Street (E); B: Chapel Street and C: Church Street (W)

- 6.5.32. **Table 6-46** indicates that the junction operates within capacity in the AM and PM peaks, the RFC values are comfortably below the 0.85 threshold indicating spare capacity in the junction.

**Table 6-47 - Chapel Street/Church Street - 2036 Future Year Baseline**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 7.77      | 0.1  | 0.1         | 8.03      | 0.06 |
| B-A          | 0.2         | 10.44     | 0.18 | 0.2         | 9.77      | 0.13 |
| C-AB         | 0.1         | 5.53      | 0.08 | 0.1         | 5.9       | 0.08 |

A: Church Street (E); B: Chapel Street and C: Church Street (W)

- 6.5.33. **Table 6-47** indicates that the growth in background traffic between 2023 and 2036 increases queue length and delay at the junction in both the PM peak and increases delay in the AM Peak. However, the junction continues to operate within capacity in the AM and PM peaks.

**Table 6-48 - Chapel Street/Church Street - 2036 Future Year + Proposed Development**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.2         | 10.77     | 0.19 | 0.1         | 9.71      | 0.09 |
| B-A          | 0.8         | 15.2      | 0.45 | 0.5         | 12.98     | 0.35 |
| C-AB         | 0.2         | 6.01      | 0.13 | 0.1         | 6.26      | 0.09 |

A: Church Street (E); B: Chapel Street and C: Church Street (W)

- 6.5.34. **Table 6-48** indicates that the Proposed Development Traffic would have an impact on the junction capacity, however, the junction would continue to operate within capacity in the AM and PM peaks.

#### **LN7 - Church Street/Leicester Road/Hill Top**

- 6.5.35. Church Street/Leicester Road is a three-arm priority junction at the western end of Church Street. The Junctions 10 model has been produced by WSP and validated against the 2023 observed traffic data.
- 6.5.36. The summary of results for this junction are provided in **Table 6-49** for the 2023 base scenario; **Table 6-50** for the 2036 future year baseline scenario and

6.5.37. **Table 6-51** for the 2036 future year + Proposed Development scenario.

**Table 6-49 - Church Street/Leicester Road - 2023 Base**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.1         | 6.79      | 0.11 | 0.1         | 7.36      | 0.12 |
| B-A          | 0.2         | 10.56     | 0.2  | 0.2         | 11.49     | 0.18 |
| C-AB         | 0.1         | 7.04      | 0.1  | 0.1         | 7.68      | 0.1  |

A: Leicester Road (N); B: Church Street and C: Hill Top

6.5.38. **Table 6-49** indicates that the junction operates within capacity in the AM and PM peaks, the RFC values are comfortably below the 0.85 threshold indicating spare capacity in the junction.

**Table 6-50 - Church Street/Leicester Road - 2036 Future Year Baseline**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.3         | 8.42      | 0.24 | 0.5         | 10.49     | 0.36 |
| B-A          | 0.3         | 11.57     | 0.22 | 0.3         | 12.93     | 0.21 |
| C-AB         | 0.1         | 7.5       | 0.12 | 0.1         | 7.91      | 0.11 |

A: Leicester Road (N); B: Church Street and C: Hill Top

6.5.39. **Table 6-50** shows that the junction continues to operate with ample capacity in both peak periods in the future 2036 baseline scenario.

**Table 6-51 - Church Street/Leicester Road - 2036 Future Year + Proposed Development**

| Junction Arm | AM Peak     |           |      | PM Peak     |           |      |
|--------------|-------------|-----------|------|-------------|-----------|------|
|              | Queue (Veh) | Delay (s) | RFC  | Queue (Veh) | Delay (s) | RFC  |
| B-C          | 0.4         | 9.56      | 0.29 | 0.6         | 11.63     | 0.39 |
| B-A          | 0.3         | 13.75     | 0.26 | 0.4         | 15.51     | 0.26 |
| C-AB         | 0.1         | 7.96      | 0.13 | 0.2         | 8.37      | 0.13 |

A: Leicester Road (N); B: Church Street and C: Hill Top

#### 6.5.40.

- 6.5.41. **Table 6-51** shows that the junction continues to operate with ample spare capacity in the 2036 future scenario with the addition of the Proposed Development traffic.

## 6.6 LOCAL ROAD NETWORK JUNCTION MODELLING RESULTS - CONCLUSION

- 6.6.1. As demonstrated by the junction capacity results in **Section 6.3**, it is concluded that the proposed access junctions for the Earl Shilton SUE will operate with ample capacity, as set out in.
- 6.6.2. As demonstrated by the results set out in **Section 6.4**, it is concluded that the Earl Shilton SUE traffic flows can be accommodated on the local road network. Where there are impacts at junctions that exceed the capacity thresholds, it is considered that the Proposed Development traffic flows have a minor impact and there is no requirement for the TA Addendum to consider a mitigation scheme at this junction.
- 6.6.3. Discussion with LCC HDM on the local road network mitigation strategy has concluded that this should comprise a proportionate contribution to the delivery of an improvement scheme at Desford Crossroads. LCC is in the process of producing detailed designs and costings for a scheme which are expected to be finalised in the Spring 2024. The contribution will be based on Earl Shilton SUE traffic flows at the junction as a proportion of the overall growth.

## 6.7 STRATEGIC ROAD NETWORK

- 6.7.1. National Highways had recommended a holding objection to both OPAs, requesting further work on the traffic modelling to ascertain the suitability of the development proposals on the SRN.
- 6.7.2. The Aol identified through the PRTM modelling included one junction on the National Highways' SRN, the A5/A47/B4666 roundabout, referred to as 'the Dodwells Roundabout', which is within Hinckley and Bosworth Borough in Leicestershire County.
- 6.7.3. National Highways required assessment of Dodwells Roundabout using the A5 VISSIM which includes The Long Shoot signal junction to the west which is within Nuneaton and Bedworth Borough in Warwickshire County.
- 6.7.4. Consultation has been undertaken with National Highways officers and their transport consultants to identify the requirements for the additional traffic modelling. The *A5 VISSIM Technical Note* in **Appendix N** (doc ref: 42523-WSPE-XX-XX-TN-OT-00005\_S2\_P01.1) sets out the approach.
- 6.7.5. National Highways removed the holding objections to both applications on 5<sup>th</sup> January 2024 on the basis that the methodology used and the resultant outcome satisfactorily resolved the concerns identified.

## 7 SUMMARY AND CONCLUSIONS

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### 7.1 SUMMARY OF THE TA ADDENDUM

- 7.1.1. This TA Addendum has been produced to address comments on the traffic modelling identified by the highway authorities to demonstrate that the overall impact of the Proposed Development on the transport network will be acceptable. The TA Addendum has been developed in consultation with LCC Highways and National Highways.
- 7.1.2. The key changes to the TA that are outlined within this addendum are updates/changes to the following where appropriate/applicable:
- National and local policy;
  - Baseline situation – updates to public transport and accident records;
  - Proposed Development – updates to access junction designs and bus provision proposals;
  - Traffic and junction modelling – further modelling in PRTM and updated junction modelling based on the PRTM output and recent traffic surveys.

### 7.2 SUMMARY OF TRANSPORT PROPOSALS

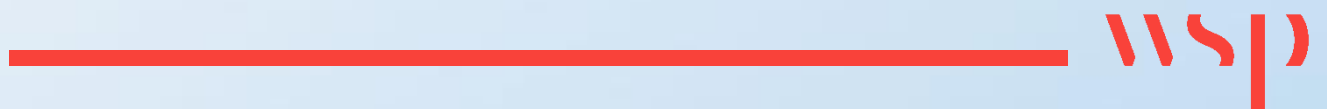
- 7.2.1. The following are proposed.
- Five access junctions comprising:
    - a three-arm roundabout with pedestrian/cycle infrastructure on the A47 to the north (part of Application B);
    - a four-arm roundabout with pedestrian/cycle infrastructure and bridleway diversion on the A47 to the south (part of Application B);
    - a three arm priority junction with pedestrian infrastructure on Astley Road with a short right turn lane on Astley Road (part of Application A);
    - widening on a section of Mill Lane with pedestrian/cycle infrastructure and three arm mini roundabout (part of Application A); and
    - widening on a section of Breach Lane with pedestrian infrastructure and priority junction into a residential parcel for up to 46 dwellings (part of Application B).
  - High quality pedestrian/cycle internal infrastructure within the Site with good links to the external network;
  - Traffic calming measures on Mill Lane and along the internal access road to the Astley Road access junction to reduce traffic speeds along the route and promote it as an attractive route for cycling and walking;
  - Improved pedestrian links on Mill Lane and Breach Lane;
  - Reinstatement of bus services to provide travel choice to the SUE occupants which will be of benefit to existing residents within Earl Shilton and neighbouring Hinckley;
  - Provision of local services at the heart of the development, such as the primary school and small retail outlets;
  - Spine road through the Site and bus stop infrastructure designed to accommodate a bus service; and
  - Facilitation and promotion of alternatives to the private car through a robust travel plan from commencement of occupation of the Proposed Development.

## **7.3 CONCLUSIONS**

- 7.3.1. This TA Addendum demonstrates that the traffic generated by the Proposed Development has an acceptable level of impact on the local and strategic road network and therefore complies with the NPPF (paragraph 115).
- 7.3.2. The proposals will also provide sustainable travel choice for the occupants of the SUE and will improve travel options for existing residents through the reinstatement of a withdrawn bus service, benefit to all.

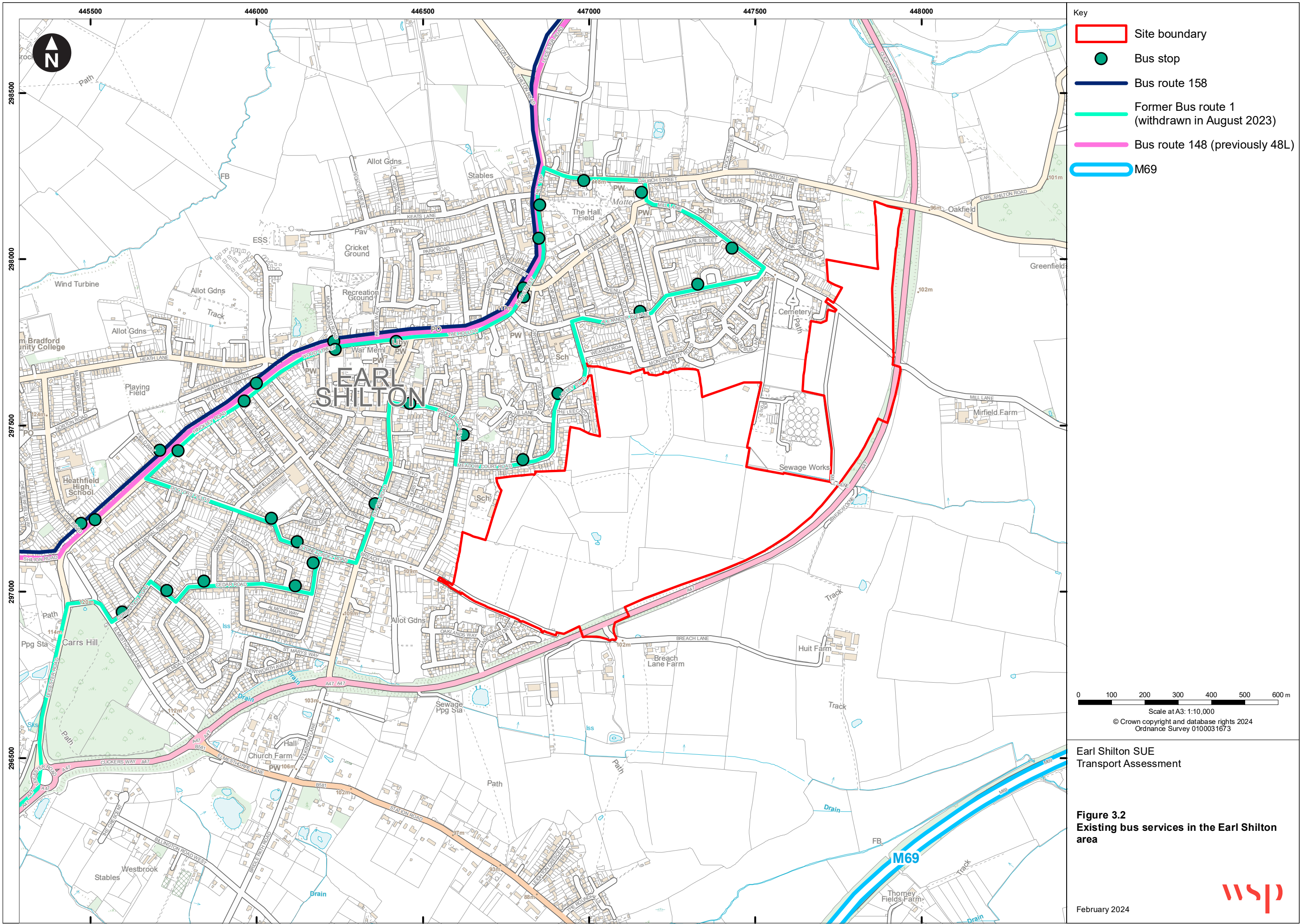
# Appendix A

## **UPDATES TO SUBMITTED TA FIGURES**

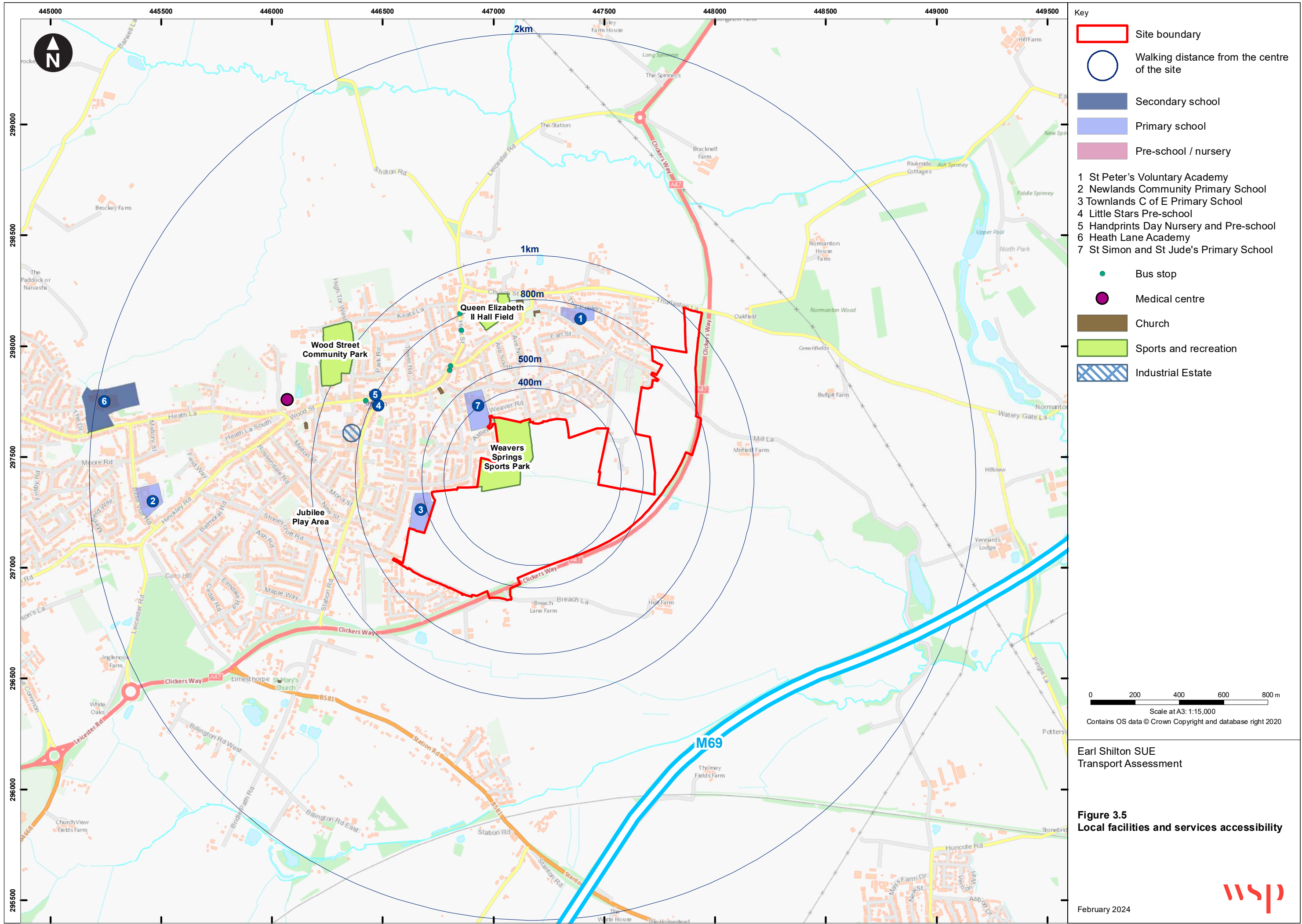


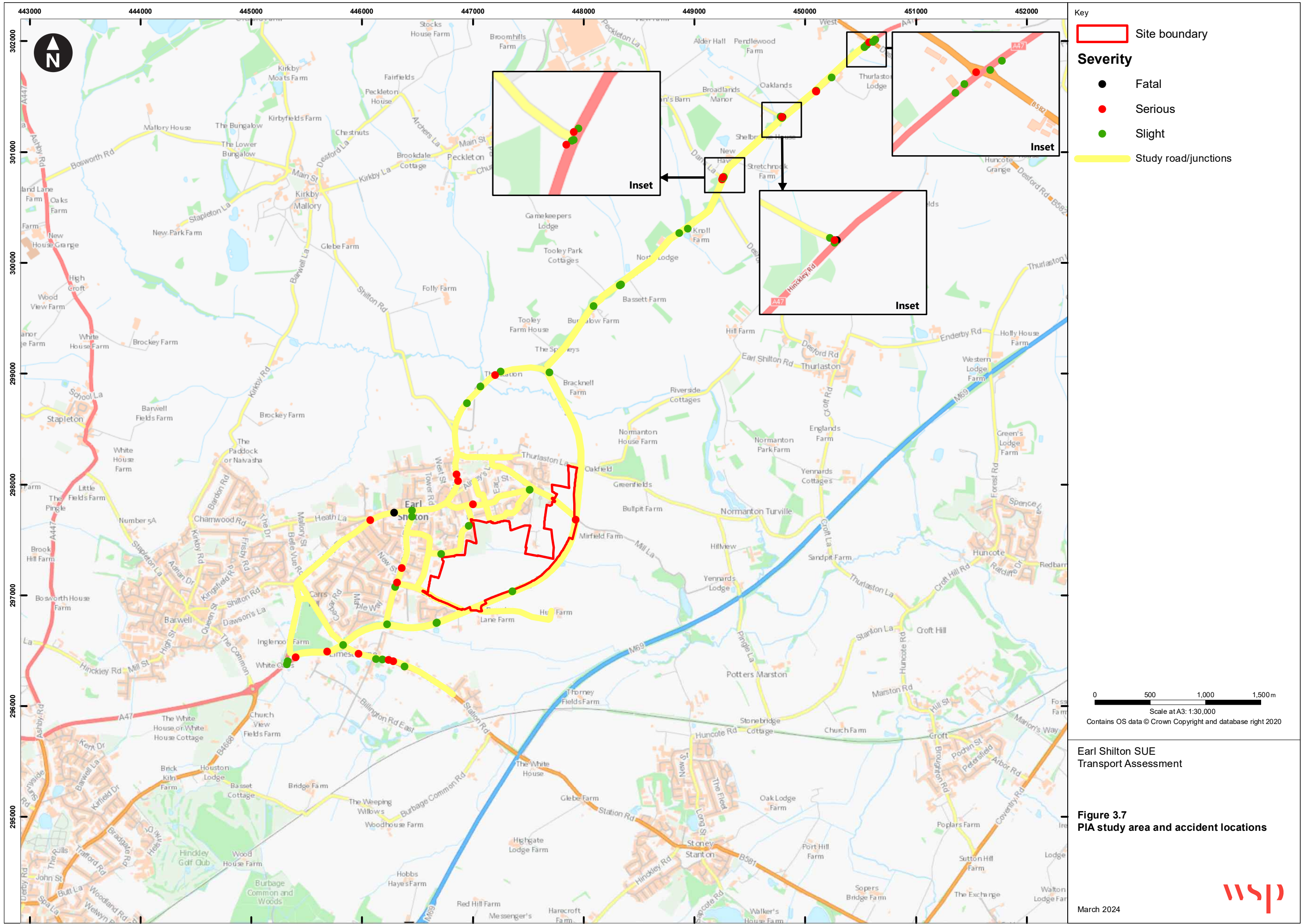
| Figures included within submitted TA (42523-WOOD-XX-XX-RP-OT-0002_S3_P02.1) | Required Update due to Proposed Changes Outlined in this TA Addendum (42523-WSPE-XX-XX-RP-OT-00001_S2_P01) | New drawing revision included within this TA Addendum (42523-WSPE-XX-XX-RP-OT-00001_S2_P01) |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Figure 1.1. Site Location                                                   | No                                                                                                         | N/A                                                                                         |
| Figure 1.2 Landownership for Applications                                   | No                                                                                                         | N/A                                                                                         |
| Figure 3.1 Local Road Network                                               | No                                                                                                         | N/A                                                                                         |
| Figure 3.2 Existing Bus Services in the Earl Shilton Area                   | Yes                                                                                                        | P02                                                                                         |
| Figure 3.3 Existing Public Rights of Way Across the Site                    | No                                                                                                         | N/A                                                                                         |
| Figure 3.4 Existing Cycle and Pedestrian Route in the Earl Shilton Area     | No                                                                                                         | N/A                                                                                         |
| Figure 3.5 Local Facilities and Services Accessibility                      | Yes                                                                                                        | P02                                                                                         |
| Figure 3.6 Study Area Method of Travel to Work                              | No                                                                                                         | N/A                                                                                         |
| Figure 3.7 PIA Study Area and Accident Locations                            | Yes                                                                                                        | P02                                                                                         |
| Figure 4.1 Proposed Land-use Parameters                                     | Yes                                                                                                        | P1.02                                                                                       |
| Figure 4.2 A47 North Access Junction                                        | Yes                                                                                                        | Updated plan provided within <b>Appendix C</b>                                              |
| Figure 4.3 A47 North Access Junction – Swept Path Analysis                  | Yes                                                                                                        | Updated plan provided <b>Appendix C</b>                                                     |
| Figure 4.4 A47 South Access Junction                                        | Yes                                                                                                        | <b>Appendix D</b>                                                                           |
| Figure 4.5 A47 South Access Junction – Swept Path Analysis                  | Yes                                                                                                        | <b>Appendix D</b>                                                                           |

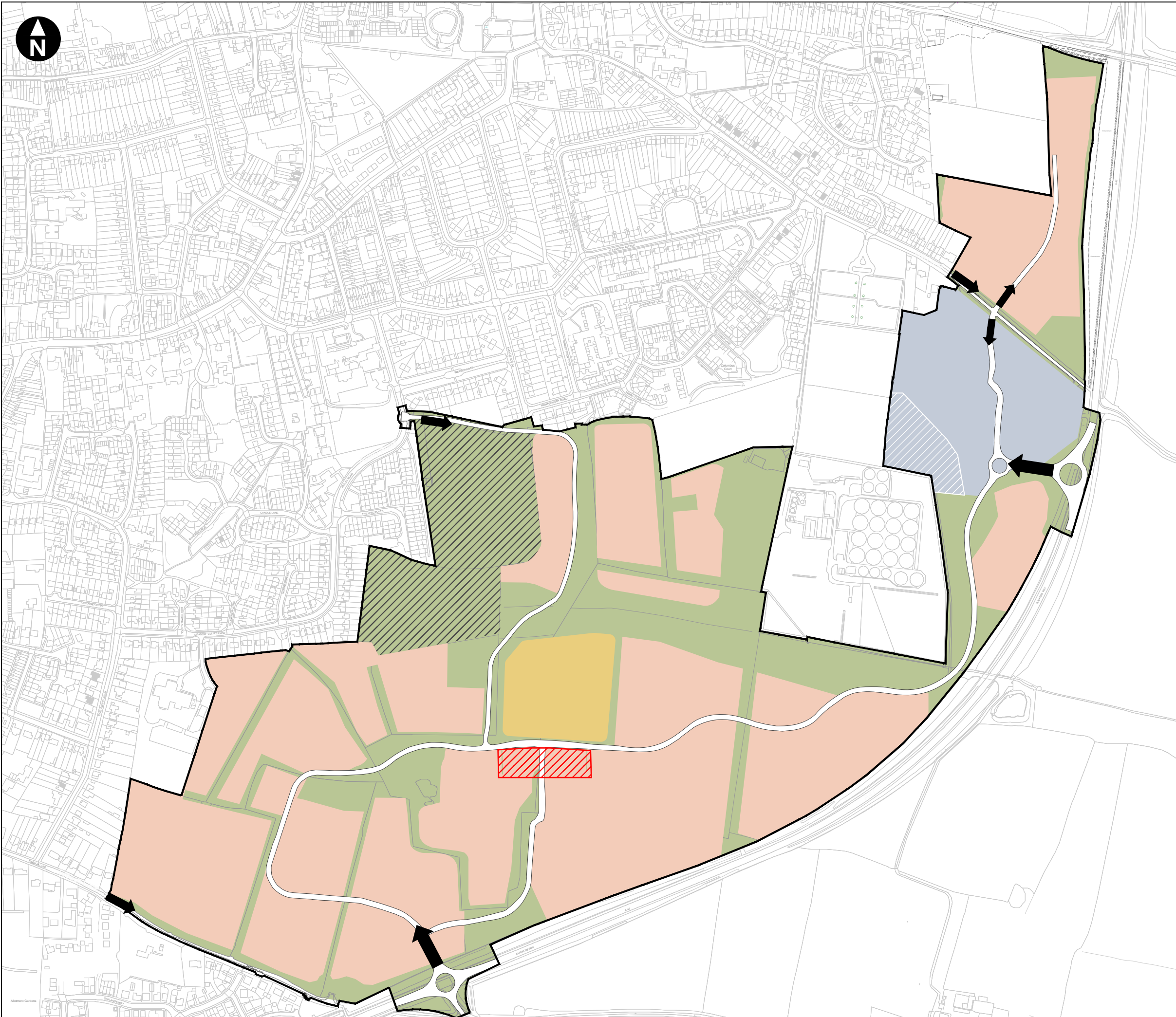
|                                                                    |     |                                                                                                                                                                                            |
|--------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Figure 4.6 Astley Road Access                                      | Yes | Updated plan provided within <b>Appendix E</b>                                                                                                                                             |
| Figure 4.7 Astley Road Access – Swept Path Analysis                | Yes | Updated plan provided within <b>Appendix E</b>                                                                                                                                             |
| Figure 4.8 Mill Lane Improvement Scheme                            | Yes | Updated plan provided within <b>Appendix F</b>                                                                                                                                             |
| Figure 4.9 Breach Lane Improvement Scheme                          | Yes | Updated plan provided within <b>Appendix G</b>                                                                                                                                             |
| Figure 4.10 Access and Movement Strategy                           | Yes | P02                                                                                                                                                                                        |
| Figure 5.1 Parent Zones used for trip distribution – PRTM          | Yes | Updated Figure 5.1 provided within TA Addendum body.                                                                                                                                       |
| Figure 5.2 Development trip distribution 2026 AM peak – PRTM Model | Yes | Equivalent, updated, graphic 'Figure 2.2' presented within the PRTM Transport Modelling Ear Shilton Sustainable Urban Extension (SE) Forecasting Report in Appendix C of <b>Appendix I</b> |
| Figure 5.3 Development trip distribution 2026 PM peak – PRTM Model | Yes | Equivalent, updated, graphic 'Figure 2.3' presented within the PRTM Transport Modelling Ear Shilton Sustainable Urban Extension (SE) Forecasting Report in Appendix C of <b>Appendix I</b> |
| Figure 5.4 Development trip distribution 2036 AM peak – PRTM Model | Yes | Equivalent, updated, graphic 'Figure 2.4' presented within the PRTM Transport Modelling Ear Shilton Sustainable Urban Extension (SE) Forecasting Report in Appendix C of <b>Appendix I</b> |
| Figure 5.5 Development trip distribution 2036 PM peak – PRTM Model | Yes | Equivalent, updated, graphic 'Figure 2.5' presented within the PRTM Transport Modelling Ear Shilton Sustainable Urban Extension (SE) Forecasting Report in Appendix C of <b>Appendix I</b> |



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Key

- Site Boundary (65 ha)
- Residential (35 ha)
- Public open space and Green Infrastructure (incorporating SuDS) (19.3 ha)
- Roads/ Access Works (2.73 ha)
- Employment (5.3 ha)
- Non sensitive employment uses (e.g ancillary uses, storage, parking)
- School Site (2 ha)
- Community Hub (0.5 ha)
- Sports Pitches (Weaver Springs)
- Location of Access Points (for detailed approval)

(Areas shown are approximate)

0 m 300 m

Scale 1:5000 @ A3

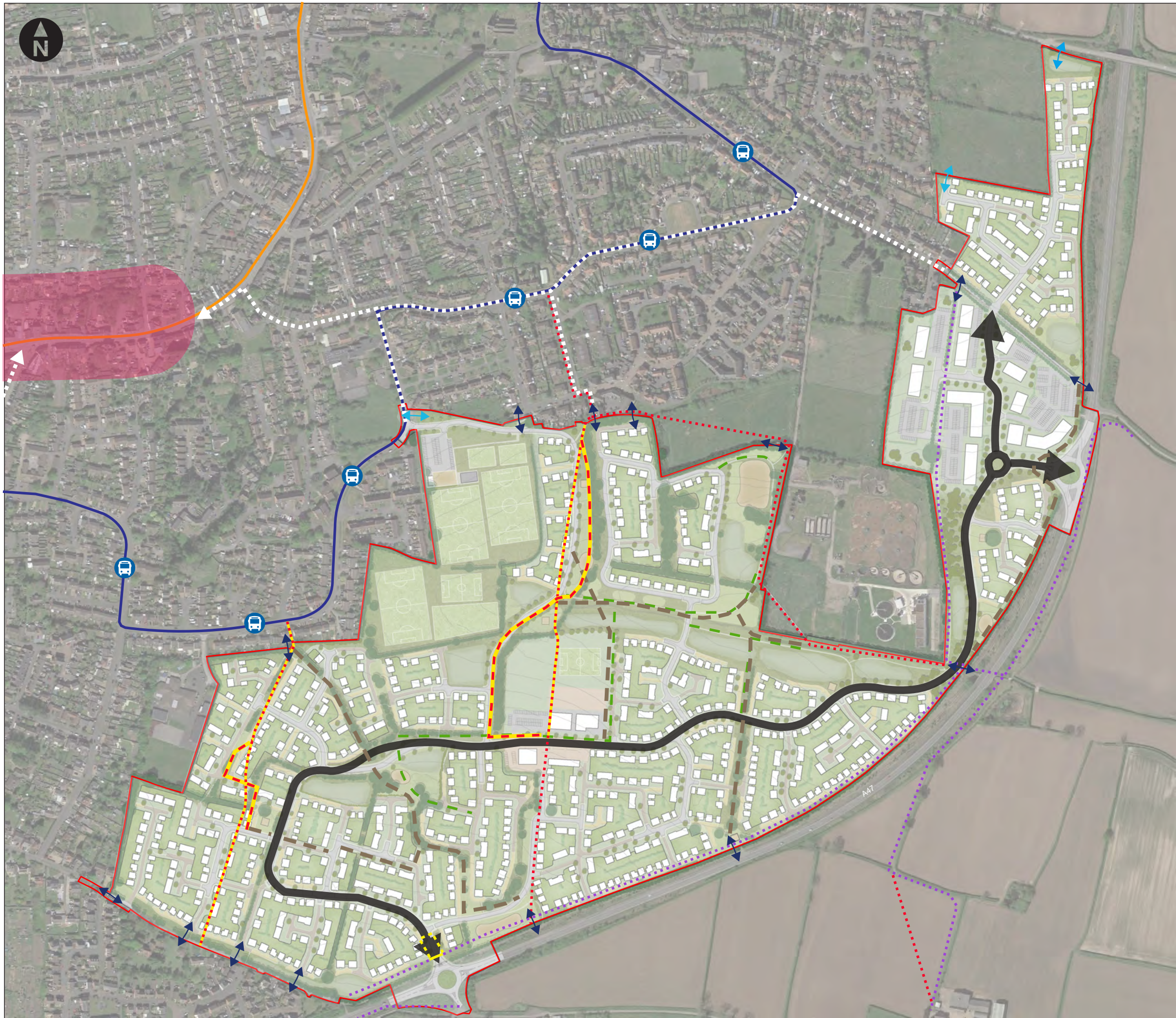
© 2014 Google

Earl Shilton SUE  
Planning Application

Land Use Parameter Plan

September 2023





Key

- Site boundary
- Main spine road with dedicated cycle provision
- Existing routes to town centre
- Indicative proposed additional footpath link
- Opportunity to improve existing connection
- Potential for additional connection subject to detail design
- Public footpaths
- Public bridleways
- Existing footpath section requiring diversion
- Indicative proposed diversion of existing footpath
- Existing bridleway section requiring diversion
- Indicative proposed diversion of existing bridleway
- Potential for additional recreation and leisure route
- Existing bus route
- Proposed re-instated bus route
- Proposed bus stop re-instatement
- Town centre

0 m 300 m  
Scale 1:5,000 @ A3  
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# Appendix B

## ACCIDENT DATA



| Accident Data: Junctions |                     |          |                    |      |                    |                      |             |                            |                    |              |                                                  |                         |                     |                     |                |                          |                          |
|--------------------------|---------------------|----------|--------------------|------|--------------------|----------------------|-------------|----------------------------|--------------------|--------------|--------------------------------------------------|-------------------------|---------------------|---------------------|----------------|--------------------------|--------------------------|
| Accident_ID              | Carriageway Hazards | Severity | Accident_DateTime  | Year | Number_of vehicles | Number_of casualties | Road_Number | Weather_conditions         | Road_Type          | Road_surface | Light_conditions                                 | Junction_detail         | Involved_pedalcycle | Pedestrian_casualty | Child_casualty | Pedal_cycleuser_casualty | Junction_control         |
| 2019331901263            | None                | Slight   | December 12, 2019  | 2019 | 2                  | 2                    | A47         | Fine without high winds    | Single carriageway | Dry          | Darkness: street lights present and lit          | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2019331900650            | None                | Slight   | March 28, 2019     | 2019 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331801465            | None                | Slight   | September 6, 2018  | 2018 | 2                  | 2                    | A47         | Fine without high winds    | Single carriageway | Dry          | Darkness: no street lighting                     | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2020332000017            | None                | Fatal    | January 17, 2020   | 2020 | 1                  | 1                    | A47         | Fine without high winds    | Single carriageway | Wet or Damp  | Darkness: no street lighting                     | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331802086            | None                | Slight   | September 13, 2018 | 2018 | 2                  | 1                    | A47         | Unknown                    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Crossroads              | 0                   | 0                   | 0              | 0                        | Auto traffic signal      |
| 2020332000366            | None                | Serious  | June 23, 2020      | 2020 | 3                  | 3                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2020332000054            | None                | Slight   | January 13, 2020   | 2020 | 3                  | 3                    | A47         | Raining without high winds | Single carriageway | Wet or Damp  | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331801276            | None                | Serious  | December 3, 2018   | 2018 | 2                  | 2                    | A47         | Fine without high winds    | Single carriageway | Wet or Damp  | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 1              | 0                        | Give way or uncontrolled |
| 2020332000955            | None                | Serious  | December 9, 2020   | 2020 | 2                  | 1                    | A47         | Other                      | Roundabout         | Wet or Damp  | Darkness: street lights present and lit          | Roundabout              | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2019331900541            | None                | Slight   | May 27, 2019       | 2019 | 1                  | 1                    | A47         | Raining without high winds | Roundabout         | Wet or Damp  | Daylight: regardless of presence of streetlights | Roundabout              | 0                   | 1                   | 0              | 0                        | Give way or uncontrolled |
| 2020332000501            | None                | Slight   | February 12, 2020  | 2020 | 2                  | 2                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331801373            | None                | Slight   | December 2, 2018   | 2018 | 2                  | 1                    | A47         | Raining without high winds | Single carriageway | Wet or Damp  | Darkness: street lights present and lit          | T or staggered junction | 0                   | 0                   | 0              | 0                        | Auto traffic signal      |
| 2018331801047            | None                | Slight   | September 8, 2018  | 2018 | 2                  | 1                    | A47         | Fine without high winds    | Dual carriageway   | Dry          | Daylight: regardless of presence of streetlights | Roundabout              | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331801174            | None                | Slight   | September 2, 2018  | 2018 | 1                  | 1                    | A47         | Fine without high winds    | Roundabout         | Dry          | Daylight: regardless of presence of streetlights | Roundabout              | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331802172            | None                | Slight   | December 18, 2018  | 2018 | 3                  | 1                    | U0          | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331800817            | None                | Serious  | August 13, 2018    | 2018 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331801194            | None                | Slight   | June 13, 2018      | 2018 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Darkness: street lighting unknown                | T or staggered junction | 0                   | 0                   | 0              | 0                        | Auto traffic signal      |
| 2020332000047            | None                | Slight   | January 16, 2020   | 2020 | 2                  | 2                    | A47         | Raining without high winds | Single carriageway | Wet or Damp  | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2019331900731            | None                | Serious  | July 23, 2019      | 2019 | 2                  | 3                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | T or staggered junction | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2022332200892            | None                | Serious  | October 20, 2022   | 2022 | 2                  | 1                    | A47         | Raining without high winds | Single carriageway | Wet or Damp  | Daylight: regardless of presence of streetlights | Crossroads              | 0                   | 0                   | 0              | 0                        | Auto traffic signal      |
| 2022332201024            | None                | Slight   | November 18, 2022  | 2022 | 2                  | 1                    | A47         | Other                      | Single carriageway | Dry          | Darkness: street lights present and lit          | Crossroads              | 0                   | 0                   | 0              | 0                        | Auto traffic signal      |

Department for Transport data published by [www.crashmap.co.uk](http://www.crashmap.co.uk)

| Accident Data: Links |                             |          |                   |      |                    |                      |             |                            |                    |              |                                                  |                                        |                     |                     |                |                          |                          |
|----------------------|-----------------------------|----------|-------------------|------|--------------------|----------------------|-------------|----------------------------|--------------------|--------------|--------------------------------------------------|----------------------------------------|---------------------|---------------------|----------------|--------------------------|--------------------------|
| Accident_ID          | Carriageway_Hazards         | Severity | Accident_DateTime | Year | Number_of_vehicles | Number_of_casualties | Road_Number | Weather_conditions         | Road_Type          | Road_surface | Light_conditions                                 | Junction_detail                        | Involved_pedalcycle | Pedestrian_casualty | Child_casualty | Pedal_cycleuser_casualty | Junction_control         |
| 2020332000874        | None                        | Slight   | November 6, 2020  | 2020 | 2                  | 1                    | U0          | Fine without high winds    | Single carriageway | Dry          | Darkness: street lights present and lit          | T or staggered junction                | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2020332000477        | None                        | Slight   | March 6, 2020     | 2020 | 3                  | 2                    | A47         | Fine without high winds    | Single carriageway | Wet or Damp  | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331800465        | None                        | Slight   | May 8, 2018       | 2018 | 1                  | 1                    | B581        | Unknown                    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Crossroads                             | 0                   | 1                   | 0              | 0                        | Give way or uncontrolled |
| 2022332200828        | None                        | Serious  | October 4, 2022   | 2022 | 1                  | 1                    | U0          | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331800024        | None                        | Serious  | January 9, 2018   | 2018 | 1                  | 1                    | B581        | Fine without high winds    | Single carriageway | Wet or Damp  | Darkness: street lights present and lit          | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2020332000199        | None                        | Slight   | April 21, 2020    | 2020 | 2                  | 2                    | B581        | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331800365        | None                        | Slight   | April 16, 2018    | 2018 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Using private drive or entrance        | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2022332200684        | None                        | Serious  | August 20, 2022   | 2022 | 1                  | 2                    | B581        | Fine without high winds    | Single carriageway | Dry          | Darkness: street lights present and lit          | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2020332000545        | None                        | Slight   | August 2, 2020    | 2020 | 2                  | 2                    | A47         | Fine without high winds    | Single carriageway | Dry          | Darkness: no street lighting                     | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331801217        | None                        | Slight   | August 1, 2018    | 2018 | 3                  | 3                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2021332100218        | None                        | Serious  | April 17, 2021    | 2021 | 3                  | 1                    | U0          | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2022332200459        | None                        | Slight   | June 7, 2022      | 2022 | 1                  | 1                    | U0          | Unknown                    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 1                   | 0              | 0                        | Not Applicable           |
| 2018331800800        | None                        | Serious  | February 5, 2018  | 2018 | 2                  | 1                    | U0          | Fine without high winds    | Roundabout         | Dry          | Darkness: street lighting unknown                | Mini roundabout                        | 1                   | 0                   | 0              | 1                        | Give way or uncontrolled |
| 2018331800213        | None                        | Slight   | March 11, 2018    | 2018 | 2                  | 5                    | U0          | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 1              | 0                        | Not Applicable           |
| 2020332000250        | None                        | Slight   | May 19, 2020      | 2020 | 1                  | 1                    | U0          | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331800389        | None                        | Slight   | April 23, 2018    | 2018 | 2                  | 2                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Using private drive or entrance        | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2020332000341        | None                        | Serious  | June 22, 2020     | 2020 | 1                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Darkness: no street lighting                     | Not at or within 20 metres of junction | 0                   | 1                   | 0              | 0                        | Not Applicable           |
| 2019331900801        | None                        | Slight   | August 13, 2019   | 2019 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Darkness: no street lighting                     | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2021332100823        | None                        | Serious  | October 15, 2021  | 2021 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Using private drive or entrance        | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331800828        | None                        | Serious  | August 16, 2018   | 2018 | 1                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Using private drive or entrance        | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2018331800428        | None                        | Slight   | April 22, 2018    | 2018 | 2                  | 1                    | B581        | Unknown                    | Single carriageway | Wet or Damp  | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 1                   | 0                   | 1              | 1                        | Not Applicable           |
| 2018331800763        | None                        | Serious  | July 21, 2018     | 2018 | 3                  | 1                    | U0          | Fine without high winds    | Single carriageway | Dry          | Darkness: street lights present and lit          | T or staggered junction                | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2021332100543        | None                        | Slight   | July 23, 2021     | 2021 | 2                  | 2                    | A47         | Other                      | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331800356        | None                        | Slight   | April 14, 2018    | 2018 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331801461        | None                        | Slight   | December 29, 2018 | 2018 | 2                  | 2                    | A47         | Other                      | Single carriageway | Dry          | Darkness: no street lighting                     | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331801207        | None                        | Fatal    | November 17, 2018 | 2018 | 2                  | 1                    | U0          | Raining without high winds | Single carriageway | Wet or Damp  | Darkness: street lights present and lit          | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2021332100887        | None                        | Serious  | November 3, 2021  | 2021 | 2                  | 2                    | A47         | Fine without high winds    | Single carriageway | Wet or Damp  | Darkness: street lighting unknown                | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2022332200517        | None                        | Serious  | June 13, 2022     | 2022 | 2                  | 1                    | U0          | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | T or staggered junction                | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2022332200488        | None                        | Slight   | June 16, 2022     | 2022 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | T or staggered junction                | 0                   | 0                   | 0              | 0                        | Auto traffic signal      |
| 2020332000809        | None                        | Serious  | October 15, 2020  | 2020 | 1                  | 1                    | U0          | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 1                   | 0              | 0                        | Not Applicable           |
| 2021332101584        | None                        | Slight   | July 24, 2021     | 2021 | 2                  | 2                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2018331800715        | None                        | Slight   | May 18, 2018      | 2018 | 1                  | 2                    | U0          | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Using private drive or entrance        | 0                   | 1                   | 1              | 0                        | Give way or uncontrolled |
| 2018331801397        | None                        | Slight   | December 21, 2018 | 2018 | 3                  | 2                    | A47         | Fine without high winds    | Single carriageway | Wet or Damp  | Daylight: regardless of presence of streetlights | Using private drive or entrance        | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |
| 2022332200607        | None                        | Serious  | July 24, 2022     | 2022 | 2                  | 1                    | B581        | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2020332000073        | Other object in carriageway | Slight   | January 22, 2020  | 2020 | 2                  | 1                    | A47         | Fine without high winds    | Single carriageway | Dry          | Darkness: no street lighting                     | Not at or within 20 metres of junction | 0                   | 0                   | 0              | 0                        | Not Applicable           |
| 2022332200117        | None                        | Slight   | February 10, 2022 | 2022 | 4                  | 2                    | A47         | Fine without high winds    | Single carriageway | Dry          | Daylight: regardless of presence of streetlights | Using private drive or entrance        | 0                   | 0                   | 0              | 0                        | Give way or uncontrolled |

# Appendix C

## **A47 NORTHERN ACCESS ROUNDBOUT**

