# 17 Transport & Access

## 17.1 Introduction

17.1.1 This chapter of the ES has been prepared by Abley Letchford on behalf of the University of Reading ('the Applicant') and assesses the likely significant effects of the Proposed Development on the environment with respect to transport and access.

17.1.2 The chapter considers the potential effects of the construction phase and the operation of the Proposed Development, upon sensitive receptors around the Site (with mitigation measures proposed where necessary). A Transport Assessment has been produced in order to quantify the transport and highways impacts of the Proposed Development and identify suitable mitigation and is provided at Appendix 17.1.

17.1.3 The baseline situation is considered before the likely environmental effects of the Proposed Development are identified during its construction and operational phases. Mitigation measures to reduce any negative environmental effects are identified as appropriate, before the residual environmental effects are assessed.

17.1.4 The assessment of environmental effects is based on the Proposed Development, as set out in Chapter 3 of this ES. A further assessment scenario is however also presented which considers the effects arising from the full Loddon Valley Garden Village proposals which includes development at adjacent parcels which comprise the remaining components of the Loddon Valley Garden Village Strategic Development Location.

17.1.5 This chapter is supported by the following additional documents which are provided as Appendices.

- Appendix 17.1 : Transport Assessment Report (Ref : A392-R051)
- Appendix 17.2 : Framework Travel Plan (Ref : A392-R060)

### Legislation, Planning Policy and Guidance

17.1.6 This section summarises national and local transport policies of relevance to the Proposed Development. Aside from these planning policies, there is no legislation relevant to the assessment of traffic and transport effects of a proposed development that need consideration within this chapter of the ES.

***National Policy***

National Planning Policy Framework

17.1.7 The Department for Communities and Local Government published the 'National Planning Policy Framework' (NPPF) document in March 2012 which was most recently revised in December 2024 and subsequently updated in February 2025. The NPPF sets out the Government's policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.

17.1.8 The purpose of the planning system is to contribute to the achievement of sustainable development. So that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development.

17.1.9 In respect of promoting sustainable travel, Paragraph 115 of the NPPF states that planning policies and decisions should ensure that:

- 'Sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location;
- Safe and suitable access to the site can be achieved for all users;
- The design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and
- Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision-led approach.'

17.1.10 Paragraph 116 of the NPPF advises that, subject to the above considerations, a proposed development should not be prevented or refused on transport grounds unless there would be an unacceptable impact on highway safety or the residual cumulative impacts of the development, following mitigation, would be severe, taking into account all reasonable future scenarios.

Planning Practice Guidance

17.1.11 The Planning Practice Guidance (PPG) was launched on 6th March 2014 and provides a web-based source of all national planning guidance. In the section relating to Travel Plans, Transport Assessments and Statements, the PPG defines these documents as ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements.

17.1.12 The PPG provides guidance as to what should be considered when setting the scope of the transport assessment, as well as the level of detail to be included, whilst acknowledging that this will vary from site to site. It states that an assessment should include the likely associated environmental impacts of transport related to the proposed development, particularly in relation to proximity to environmentally sensitive areas as well as an appropriate assessment of the cumulative impacts arising from other, committed developments.

***Local Policy***

Wokingham Borough Adopted Core Strategy (2006-2026)

17.1.13 The Wokingham Borough Core Strategy was adopted in January 2010 and sets out a vision for how the Borough will develop in the period to 2026. Policies of relevance to this development site include:

- CP1 establishes a requirement to provide sustainable development and in particular to provide attractive, functional, accessible, safe, secure and adaptable schemes with the aim of enhancing the overall sustainability of the area through minimising impact on the environment, including access to facilities.
- CP4 establishes the need for proposals to demonstrate that there is either sufficient infrastructure capacity or that this can be readily provided as part of any scheme. Infrastructure includes roads and other transport requirements.

- CP6 establishes a desire to manage travel demand rather than designing for the private car. The aim of policy CP6 is to ensure that all proposals achieve sustainable development and that people have the widest range of choice in selecting transport modes thereby helping to reduce the use of the private car.
- CP10 sets out a need to make improvements to the Strategic Transport Network including improvements to the quality and frequency of public transport services along any part of the network and improvements to increase the use of bicycles, including cycle paths.
- CP19 establishes the need for a proposed mixed use strategic development South of the M4. The development areas encompass land at Three Mile Cross, Spencers Wood and Shinfield and requires the delivery of the Shinfield Eastern Relief Road.

17.1.14 Notably, the Shinfield Eastern Relief Road which is advocated within Policy CP19 of the Core Strategy has since been completed and opened, providing access to the Thames Valley Science Park.

Wokingham Borough Council – Local Plan Update 2023-2040: Proposed Submission Plan

17.1.15 Wokingham Borough Council (WBC) submitted a new Local Plan to the Secretary of State for examination in February 2025 which, once adopted, will replace the current Core Strategy. Notwithstanding the unadopted status of the Local Plan Update, it does show a direction of travel and is a material consideration in the determination of the planning application for the Proposed Development.

17.1.16 Of particular note is that land at the Loddon Valley Garden Village site is proposed for allocation as a new Garden Community via Policy SS13 within Wokingham Borough Council's Local Plan Update: Proposed Submission Plan (Regulation 19) of 2024.

Wokingham Borough Third Local Transport Plan (LTP3) 2011-2026

17.1.17 The Third Local Transport Plan for Wokingham Borough (LTP3) covers the fifteen year period between 2011-2026. The main objective articulated by the LTP3 is to provide a cost effective, inclusive transport network that enhances the economic, social and environmental prospects of the Borough whilst promoting the safety, health and wellbeing of those that use it.

17.1.18 The following five goals for the LTP3 are identified which reflect the local priorities set out in Wokingham Borough's Sustainable Community Strategy and the overarching national transport priorities:

- To have a resilient, safe highway network that balances capacity for all users, enhances the economic prospects of the Borough, and promotes sustainable travel.
- To work with partners to promote walking and cycling as a health enhancing physical activity for all of our residents through providing; connected, convenient, safe and signed pedestrian networks across the Borough to enhance existing networks; new cycleways integrated with the existing cycle network; and improved cycle parking at stations, businesses and schools.
- To promote an integrated and inclusive public transport network that provides a convenient, acceptable, reliable and affordable alternative to car travel.
- To enable people who live, visit and work in the Borough to make informed, safe and sustainable travel decisions from a range of transport options.

- To manage the demand for travel in order to ensure that people have a high level of access to different destinations, with sufficient choice, whilst minimising the adverse effects of congestion.

Shinfield Parish Council Neighbourhood Development Plan (February 2017)

17.1.19 Following examination and a referendum, the Shinfield Parish Council Neighbourhood Plan is part of WBC's Development Plan and will be given full weight in the determination of all planning applications within Shinfield Parish.

17.1.20 The Neighbourhood Plan seeks to achieve the objectives of:

- Ensuring that new developments enhance the character of existing settlements.
- Developing a vibrant and prosperous neighbourhood by encouraging development that supports a good range of housing, schools, shops and services that meets the needs of local people and protects the quality of the local environment.
- Providing new and diverse leisure and recreational activities in order to promote healthy and crime free lifestyles for everyone.

17.1.21 In relation to transport and highways the Neighbourhood Plan sets out the following polices in Policy 4 stating that all development proposals should demonstrate appropriate levels of accessibility and highway safety. The following issues should be considered when forming such proposals.

- Restricting traffic speed through traffic calming measures such as the use of chicanes within residential streets, restricted speed limits within development roads and pedestrian priority zones.
- Make the fullest possible use of public transport, walking and cycling to school, work places and local amenities, through measures such as (but not limited to):
  - The provision of additional pedestrian footpath and cycle routes;
  - Accessibility improvements to bus stops from existing developments;
  - Real time travel information at bus stops;
  - Practical walking routes from developments to public transport, schools, work places and local amenities with proper footpaths, street lighting and safe crossing points.
- Steps to actively encourage the integration of walking and cycling routes and facilities into key destinations within the Parish
- Provision of safe routes for equestrians.

17.1.22 Policy 5 of the Neighbourhood Plan relates to parking. The Parish Council has stated that developments should look to deliver a parking provision of one parking space per bedroom either on-site or on-street depending on the parking capacity available in the area, unless otherwise justified. Clearly the parking levels provided, whilst being sympathetic to the aspirations of the Neighbourhood Plan, also need to take account of Wokingham Borough Council's adopted parking standards, as set out in their Managing Development delivery DPD which was adopted in February 2014.

## 17.2 Assessment Methodology

### Consultation / Scoping Process

17.2.1 Extensive pre-application discussions have been held with Wokingham Borough Council to agree the scope of transport impact assessment. Weekly meetings have been held with Wokingham Borough Council Highway Officers to discuss the parameters and methodology pertaining to transport and highways impact.

17.2.2 In addition to this, the following documents have informed the extent and methodology undertaken within this ES chapter:

- EIA Scoping Report (Savills) : Appendix 5.1
- EIA Scoping Opinion (WBC) : Appendix 5.2

### Baseline Data Collection

17.2.3 The traffic data utilised within this assessment, including future year baseline traffic flows, has been derived from the Wokingham Strategic Transport model (WSTM). This approach ensures that the appraisal of traffic impact is undertaken in a comprehensive manner that fully allows for committed development and other planned growth in the area.

17.2.4 Outputs obtained from the WSTM have been used to ascertain future year traffic flows for the morning and evening peak hours as well as 24hr daily flows. Similarly, records of personal injury accident data have been obtained from WBC to aid the appraisal of effects in terms of highway safety.

### Predicting Effects

17.2.5 In accordance with best practice, the assessment has been undertaken based on the relevant guidance for the assessment of a proposed development's environmental impacts on transport and access. This includes:

- Institute of Environmental Management and Assessment (IEMA) Guidelines; Environmental Assessment of Traffic and Movement (July 2023). These guidelines have been used to assess the significance of the changes in environmental conditions caused by road traffic generated by the Proposed Development; and
- Environmental Impact Assessment, A Guide to Procedures, Department for Transport, Local Government and the Regions (2000).

***Methodology***

17.2.6 The Guidelines for the Environmental Assessment of Road Traffic and Movement (the IEMA Guidelines) recommend two broad rules of thumb as criteria to assist in delimiting the scale and extent of environmental assessment when assessing the impact of development-generated traffic on a highway link:

- Rule 1: Include highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%); and
- Rule 2: Include highway links of high sensitivity where traffic flows have increased by 10% or more.

17.2.7 The above guidance is based upon knowledge and experience of environmental effects of traffic and acknowledges that traffic forecasting is not an 'exact science'. The guidance recommends

that as a starting point, a 30% change in traffic flow represents a reasonable threshold for including a highway link within an environmental assessment and that projected changes in traffic flow on less than 10% create no discernible environmental effects.

17.2.8 Section 2.17 of the guidance also identifies that Rule 1 and Rule 2 'criteria' process may not be appropriate for some impacts, and it is generally accepted by regulators and practitioners that it should not necessarily be applied to assessments of road safety and driver delay. For these impacts, reference will also be made to the findings of the Transport Assessment Report (Appendix 17.1).

***Nature of Effect***

17.2.9 Paragraph 3.3 of the IEMA Guidelines sets out the guidance for addressing specific traffic and movement related impacts. Each category and the potential effects that are relevant to transport and access are listed below, along with some explanatory text relating to the assessment criteria. It is on this basis that the assessment within this ES chapter has been undertaken. Of note is that the sensitivity of a highway has a bearing on each potential effect, as set out in paragraphs 7.2.15 to 7.2.17 below.

- **Severance of Communities**: Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure. In general terms, according to the IEMA Guidelines a 30% change in traffic flow is likely to produce a 'minor' change in severance, with 'moderate' and 'substantial' changes occurring at 60% and 90%, respectively. This has been assessed on links where the increase in traffic flow is above 30% threshold or 10% for sensitive links;
- **Road Vehicle Driver and Passenger Delay**: Delay to the drivers generally occurs at junctions where opposing vehicle manoeuvres are undertaken with vehicles having to give or receive priority depending upon the type of junction arrangement. This potential effect has been assessed on links which the increase in traffic flow is above the 30% threshold or 10% for sensitive links during a peak hour period and the magnitude of effect is determined by the junction capacity assessment results which quantify the increase in delay that would result. Moreover, reference is made to the findings of the detailed appraisal of junction details across the study area presented within the Transport Assessment (Appendix 17.1);
- **Non-motorised User Delay**: The severance and delay incurred by pedestrians is generally a direct consequence of their ability to cross roads. This has been assessed on links where the increase in traffic flow is above 30% threshold or 10% for sensitive links during a peak hour period and the magnitude of effect is determined qualitatively based on the existing speed of the link and width of the road and pedestrian crossing infrastructure available;
- **Non-motorised User Amenity**: The term pedestrian amenity is broadly defined as the relative pleasantness of a journey and is considered to be affected by traffic flow, traffic composition and pavement width / separation from traffic. This has been assessed on links where the increase in traffic flow is above the 30% threshold, or 10% for sensitive links during a peak hour period and the magnitude of effect is determined qualitatively based on the existing speed of the link and the types of additional vehicles (i.e. HGVs). The assessment of amenity also pays regard to specific local conditions;

- **Fear and Intimidation on and by Road Users**: The environmental impact of fear and intimidation from moving objects, including various modes of transportation such as motorcycles, cars, and e-scooters, is a concern. Factors influencing fear include traffic volume, heavy vehicle composition, speed, and proximity to pedestrians. Despite a lack of universally agreed-upon thresholds, referencing past studies can aid in estimating danger levels. A weighting system is presented in Table 3.1 of the IEMA Guidelines[1] assists in evaluating the likelihood of pedestrian's fear and intimidation, considering factors like high-speed areas and unfamiliar locales. This system involves assigning scores based on established thresholds, enhancing hazard assessment on highway links.
- **Road User and Pedestrian Safety**: This establishes the effect on the road safety record of the adjoining road network. This has been assessed on links where the increase in traffic flow is above the 30% threshold, or 10% for sensitive links during a peak hour period and the magnitude of effect is determined by reviewing the previous five years accident data on the link from data obtained from Wokingham Borough Council. In addition, reference is made to the findings of the appraisal of accidents across the study area presented within the Transport Assessment (Appendix 17.1).
- **Hazardous/Large Loads**: Due to the nature of the proposals, the Proposed Development would not result in hazardous loads and therefore this effect is not considered further.

***Magnitude of Effect***

17.2.10 A description of the terminology used in describing the magnitude of the environmental effects, which could be either adverse or beneficial, is set out in Table 17.1 below. It is important to note that the following parameters have been used as a guide and that, as advocated in the IEMA Guidelines, a range of factors have been considered in reaching a professional judgement when assessing the magnitude of the effects.

**Table 17.1 Criteria for Evaluating Magnitude of Environmental Impacts**

| Magnitude of Change | Magnitude of Impact |
|---|---|
| Change in total traffic flows of less than 10% | Negligible |
| Change in total traffic flows of 10% to 30% | Low |
| Change in total traffic flows of 30%-60% | Medium |
| Change in total traffic flows of over 60% | High |

17.2.11 Where the IEMA Guidelines' 30% threshold is exceeded (or 10% for sensitive links), the assessment of effects relating to pedestrian severance, delay and amenity has been undertaken, primarily by examining the effects of the changes in traffic flows. The existing pedestrian and cycle provision along the links, including pedestrian crossing locations, has also been accounted for. The magnitude of any effects has been identified based on the criteria set out in Table 17.1.

17.2.12 Where the IEMA Guidelines' 30% threshold is exceeded (or 10% for sensitive links), then the effects on driver delay may also have needed to be calculated. This has been informed through

[1] Institute of Environmental Management and Assessment (IEMA) Guidelines; Environmental Assessment of Traffic and Movement (July 2023).

the results of junction operational assessments which have been undertaken. The magnitude of any effects have been identified based on an appraisal of the forecast changes to queuing that may occur at the junctions.

17.2.13 Similarly, if the IEMA Guidelines' 30% threshold is exceeded (or 10% for sensitive links), then the effects on accidents and safety have been appraised. The effects on accidents and safety have been identified using the appraisal of the personal injury accident data along the local highway links. The magnitude of any effects has been identified based on an appraisal of the likely changes in accident rates that may occur as a result of the forecast changes in traffic flows.

17.2.14 Finally, where the IEMA Guidelines' 30% threshold is exceeded (or 10% for sensitive links), then the effect on Fear and Intimidation on and by Road Users has been considered.

***Sensitivity of Receptor***

17.2.15 In order to identify the significance of each effect, its magnitude has been appraised against the sensitivity of the receptor. For example, an effect with a moderate magnitude in a typical area of highway network may become more significant if it were to occur in a location near to a school where pedestrian activity would be higher.

17.2.16 Paragraph 1.30 of the IEMA Guidelines identifies special interests that should be considered when defining sensitive receptor locations. These include sensitive / vulnerable groups, locations with concentrations of vulnerable users (eg hospitals or schools) and collision clusters and routes with road safety concerns.

17.2.17 Where the traffic flow increases exceed the IEMA Guidelines' 10% threshold for sensitive links, road links have been assessed in further detail. At that point, additional consideration has been given to the sensitivity of the link and how it accords with the sensitivities set out at Table 17.2 below and in the context of the approach advocated in paragraph 2.21 of the IEMA Guidelines.

**Table 17.2 Methodology for Determining Receptor Sensitivity**

| Value (sensitivity) of Receptor | Typical Description |
|---|---|
| Very High | Very high concentration of sensitive land uses (such as schools, hospitals or very high pedestrian flows) along link with very poor standard of provision of road users. |
| High | High concentration of sensitive land uses (such as schools, hospitals or high pedestrian flows) along link with poor standard of provision of road users. |
| Medium | Sensitive land uses (such as schools, hospitals or high pedestrian flows) along link with good standard of provision for road users. |
| Low | Some adjacent land uses along link with poor standard of provision of road users |
| Negligible | No adjacent land uses along link with good standard of provision for road users |

***Significance of Effect***

17.2.18 The resultant transport related effects have been determined based on the sensitivity of the receptor and the magnitude of impact. Table 17.3 below illustrates the result of the interaction of each. It is important to note however that the following parameters are used as a guide and that, as advocated in the EIA guidance, a range of factors have been considered in reaching a professional judgement when assessing the significance of effects.

**Table 17.3 Methodology for Determining Significance of Effect**

| | | Magnitude of Impact (Degree of Change) | | | |
|---|---|---|---|---|---|
| | | **Negligible** | **Low** | **Medium** | **High** |
| **Environmental Value (Sensitivity)** | **High** | Negligible | Moderate | Major | Substantial |
| | **Medium** | Negligible | Minor | Moderate | Major |
| | **Low** | Negligible | Minor | Minor | Moderate |
| | **Negligible** | Negligible | Negligible | Negligible | Negligible |

17.2.19 The resultant effects can be of negligible, minor, moderate, major or substantial significance. Negligible and minor effects are not considered to be significant environmental effects for the purposes of this assessment.

17.2.20 The environmental effects in respect of transport have been evaluated using the above methodology in order to establish the Initial Effects (i.e. those which would occur as a result of the Proposed Development which incorporates the Inherent Design Mitigation measures that are embedded within the proposals). The Inherent Design Mitigation measures are summarised within Section 17.4 of this ES chapter.

17.2.21 Where appropriate, the process has been repeated, taking into account the adoption of identified additional mitigation or enhancement measures. In order to identify the Residual Effects. The additional mitigation measures are summarised in Section 17.6 of this ES chapter.

### Geographic Scope

17.2.22 The modelling methodology and scope of the transport appraisal encompasses the road links and junctions within the study area which was established and agreed with WBC during the scoping process, as listed below and depicted on Figure 17.1.

- 1. Basingstoke Road/Three Mile Cross Signal Junction
- 2. Basingstoke Road/Church Lane Mini Roundabout
- 3. Black Boy Roundabout/Eastern Relief Road Signal Junction
- 4. Eastern Relief Road/Arborfield Road Roundabout
- 5. Lower Earley Way/Meldreth Way Roundabout
- 6. Link Road/Lower Earley Way Signal Junction
- 7. Showcase Roundabout
- 8. A3290 / Wharfdale Road Roundabout
- 9. Wharfdale Road/A329m Slips Roundabout
- 10. A3290/A329m Roundabout
- 11. Winnersh Crossroads Signal Junction
- 12. Mill Lane /New Road Roundabout
- 13. Lower Earley Way/Beeston Way Linked Roundabouts
- 14. B3270/Whitley Wood Road Priority Junction
- 15. M4/J11 Junction
- 16. Brookers Hill/Hollow Lane Signal Junction

- 17. Church Lane/Hollow Lane Roundabout
- 18. Hollow Lane/Arborfield Road Roundabout
- 19. Hyde End Road/Basingstoke Road Signal Junction
- 20. Shinfield Road/Whitley Wood Road Signal Junction
- 21. Shinfield Road/Elm Road Signal Junction
- 22. Barkham Road/Bearwood Road Mini Roundabout
- 23. Observer Way/Eversley Road/A327 Roundabout
- 24. A33/ B3349/Welsh Lane Roundabout
- 25. Arborfield Victory Roundabout
- 26. Langley Common Road/B3349 Priority Junction
- 27. Barkham Road/Barkham Street Mini Roundabout
- 28. A327 Reading Road / Fleet Hill Priority Junction

17.2.23 In addition, the appraisal also includes the proposed access junctions for the full Loddon Valley Garden Village proposals which, in addition the Proposed Development being promoted by the University of Reading, also includes development at adjacent parcels which comprise the remaining components of the Loddon Valley Garden Village Strategic Development Location. These access junctions are listed below and also depicted on Figure 17.1

- A. Thames Valley Science Park Access Roundabout
- B. Arborfield Relief Road Roundabout
- C. Access Junction at Mole Road
- D. A 4-arm Roundabout at Mill Lane Adjacent to Hatch Farm
- E. Mill Lane Junction / Access Road Roundabout
- F. Lower Earley Way / Mill Lane Roundabout
- G. Hatch Farm Way Junction/Access Road Roundabout

### Temporal Scope

17.2.24 The assessment of the impact of the Proposed Development has been informed using traffic flow information obtained from Wokingham Borough Council's Wokingham Strategic Transport Model (WSTM). Use of such flows assesses the impact of the Proposed Development on a cumulative basis accounting not only for traffic associated with the Proposed Development but also that from other committed and planned development sites as well as background traffic growth.

17.2.25 The assessment years that have been considered are :

- 2032 Forecast Baseline
- 2032 With Construction Traffic
- 2040 Forecast Baseline
- 2040 With Proposed Development
- 2040 With Proposed Development and Other LGV development

17.2.26 Notably, as it is not possible to remove the effects of other committed and planned development from the future year models, the resultant outputs for the 2032 and 2040 scenarios are inherently representative of a cumulative assessment and therefore enable a robust assessment.

17.2.27 A construction phase assessment has been undertaken based on the 2032 scenario year flows which accounts for the construction traffic attributable to the likely HGV movements and construction workers. This has been quantified based on the anticipated build rates for the Proposed Development and distributed onto the network via routes such traffic is likely to utilise. An appraisal has then been undertaken using the Assessment Methodology outlined above in order to identify the initial environmental effects as well as the residual effects which account for mitigation measures.

17.2.28 As well as undertaking a construction phase assessment, the environmental effects have also been appraised for the operational phase accounting for the traffic that would be generated when the Proposed Development is fully operational in the 2040 year scenario year. Again, the appraisal identified the initial effects as well as the residual effects which account for mitigation measures.

17.2.29 The above scenarios allow for the effects of the Proposed Development to be appraised during the construction and operational phases using flows which allow for background growth and other committed and planned development in the area. Further cumulative assessments have however also been undertaken which appraise the effects of the Proposed Development in conjunction with development at adjacent parcels which comprise the remaining components of the Loddon Valley Garden Village Strategic Development Location.

### Limitations and Assumptions

17.2.30 The WSTM assesses both existing traffic on the network as well as that associated with future developments which are yet to be built. This ensures that the road network has been appraised comprehensively, including accounting for the cumulative effects of committed and planned development. Notwithstanding this, model traffic flow outputs are only available for certain future years, in this case 2032 and 2040. Accordingly, the 2032 year scenario flows have been used as the basis for undertaking the assessments during the construction phase whereas the 2040 scenarios have been used to appraisals effects when the Proposed Development is fully operational.

17.2.31 Traffic generation estimates for the construction of the Proposed Development are based on a number of assumptions on matters such as materials quantities, number of workers, construction programme etc. However, worst case assumptions have been made in a number of instances. For example, the highest period of the peak traffic generation during the construction phasing has been used.

17.2.32 Traffic generation assumptions for the assessment of the Proposed Development during the operational phase are based on a detailed appraisal of trip generation patterns which reflects trips generation that arises at similar land uses as well as local and national travel patterns. In this respect, a conservative approach has been adopted when identifying the mode share and levels of trip internalisation that are likely to occur within the Proposed Development. This enables a robust assessment of the effects of the Proposed Development along the surrounding pedestrian, cycle and highway networks. For the avoidance of doubt, whilst the Transport Assessment Report does identify separately the benefits that would occur if more aspirational parameters were to be used for mode shares and trip internalisation, the appraisal of impacts and effects within the Transport Assessment and this ES chapter are based on the more onerous set of flows which adopt a more conservative approach.

17.2.33 Of note is that the WSTM includes the traffic impact resulting from committed and planned developments in the area as well as background traffic growth. It is not possible to remove the effects of other planned development and background growth from the future year models and hence the resultant outputs for the 2032 'Forecast Baseline' and 2040 'With Development' scenarios are inherently representative of a cumulative assessment and therefore enable a robust assessment.

## 17.3 Baseline conditions

### Current Baseline

#### *Active Travel*

17.3.1 The Site contains a varied and extensive Public Rights of Way (PRoW) network amounting to a total length of approximately 12.6 km. This includes footpaths, bridleways and byways, with alignments generally running east–west and providing access between Shinfield to the west, Arborfield to the south and Barkham/Wokingham to the east.

17.3.2 The majority of paths cross open farmland or skirt field boundaries, with surface quality ranging from asphalt and compacted stone to earth or grass. Where unsurfaced, routes can be subject to seasonal constraints, becoming muddy and uneven during winter months. Widths vary significantly, with some stretches under 1m wide and enclosed by hedgerows, while others are 2–3 m wide farm tracks. Formal lighting is not generally provided outside settlements, reducing their usability after dark.

17.3.3 The M4 motorway bisects the wider area to the north and acts as a major barrier to pedestrian and cycle movement. Two existing crossings provide access:

- The Cutbush Lane East bridge, a dedicated pedestrian and cycle facility linking the site area with Lower Earley. This structure provides a traffic-free route with surfaced approaches, connecting directly to Lower Earley.
- The Shinfield Eastern Relief Road bridge, which carries vehicular traffic but also accommodates a shared-use footway/cycleway of approximately 3m width, with guardrailing separation from the carriageway.

17.3.4 To the north of the motorway, Lower Earley has a more developed footway and cycleway network, with continuous footways along residential streets and a number of off-road paths through green corridors. Connections are available towards Rushey Way local centre and to the University of Reading Whiteknights campus.

17.3.5 To the west, Shinfield village is accessible via the A327 Arborfield Road corridor, where footways are present on the southern side as the corridor enters Shinfield. Within the village

core, crossings are provided by dropped kerbs with tactile paving, though signal-controlled pedestrian facilities are limited.

17.3.6 To the south, Arborfield is accessed via the A327 and Church Lane. On the approach to Arborfield village, footways are intermittent and, in some sections, absent, with carriageway widths narrowing to 5.5–6.0m. Observer Way bypasses Arborfield Cross and includes a shared-use footway / cycleway path. This facility connects through to Arborfield Green, providing a relatively high-quality active travel spine south of the site.

17.3.7 To the east, Barkham is reached via Mole Road and Barkham Road. These routes are rural in character, generally without footways, street lighting or cycle facilities. A number of PRoWs such as Ellis's Hill and Gravelpithill Lane provide alternative connections as unbound tracks through fields and woodland.

17.3.8 Overall, the baseline active travel network is extensive in length but inconsistent in quality. High-quality shared-use routes exist on modern corridors and at the M4 motorway crossings, while elsewhere provision is fragmented, unsurfaced, or absent. The result is a patchwork network which provides access to neighbouring settlements but with significant variations in safety, comfort and convenience.

***Public Transport***

17.3.9 The fringes of the Site have access to various public transport services.

17.3.10 On the A327 Arborfield Road to the south of the Site, the Leopard 3 service provides one of the strongest corridors. This route operates up to every 15 minutes Monday to Friday during the daytime, with evening and weekend services also running. The service links Wokingham, Arborfield, Shinfield, the University of Reading campus, Royal Berkshire Hospital and Reading town centre. Journey times from Arborfield Cross to central Reading are typically 30 minutes.

17.3.11 On the A329 Reading Road corridor, the Lion 4 and 4a services provide a direct connection between Reading, Wokingham and Bracknell. The service operates at 30-minute frequency.

17.3.12 Additional services include:

- Route 600 (hourly, Monday–Saturday), operating between, Spencers Wood, Shinfield and Reading via Mereoak Park & Ride.
- Route 19b (hourly, Monday–Saturday), connecting Reading and Lower Earley.
- Claret 21 (every 15 minutes Monday–Saturday), linking Reading town centre with Earley and Lower Earley.
- Route 128 (two-hourly), between Reading and Wokingham via Shinfield.
- Route 500 Park & Ride between Reading and Winnersh Triangle.

17.3.13 Rail provision is available at Winnersh, Winnersh Triangle and Earley stations, all within approximately 3km of the Site. These stations are located on the Reading–London Waterloo line. Services typically operate every 30 minutes, with journey times of 9 minutes from Winnersh to Reading and 75 minutes from Winnersh to London Waterloo. Reading station, approximately 6.5 km to the north, provides a major interchange with direct services to London Paddington (c.25 minutes), Oxford, Basingstoke, Bristol, Cardiff and Birmingham.

17.3.14 Community transport providers operate in the area, including Keep Mobile and Readibus, offering pre-booked accessible transport for mobility-impaired and elderly passengers. These services operate on demand rather than fixed routes but form part of the baseline transport offer.

***Local Highway Network***

17.3.15 The Site sits within a network of strategic and local highway corridors, which provide access to Reading, Wokingham and the region beyond. The network consists of a combination of high-standard distributor roads and older rural corridors.

Strategic Connections

17.3.16 M4 Motorway: The M4 motorway is the principal east–west strategic route in the South of England, running between London and South Wales.

17.3.17 Junction 11, approximately 4 km to the west of the centre of the Site, is a grade-separated junction. It connects directly to the A33 corridor into Reading and south towards Basingstoke.

17.3.18 Junction 10, approximately 5 km to the east of the centre of the Site, is a fully grade separated interchange with the A329(M). It provides access to Bracknell, Maidenhead and the M25 motorway. Slip roads connect directly to the A329(M), which is dual carriageway standard.

17.3.19 These two motorway junctions place the Site within short drive times of the strategic road network and form the primary vehicular gateways for regional trips.

Primary Local Routes

17.3.20 A327 Arborfield Road: Running north–south, this single-carriageway corridor links Reading/Shinfield with Arborfield and Eversley. Posted speed limits are typically 30 mph within settlements, rising to 40–50 mph between built-up areas. In some locations the road provides frontage access to residential and commercial properties.

17.3.21 Shinfield Eastern Relief Road: This road runs between the A327 south of Shinfield and the Shinfield gyratory north of the M4 motorway. Shared-use footways/cycleways are provided on the northern part of the route. The route is lit, with signal-controlled junctions at its connections with the A327 and at the Shinfield gyratory.

17.3.22 Observer Way: This road, provided in recent years, connects the Arborfield Road with the B3348, bypassing Arborfield cross. A shared-use path is provided, and the carriageway is subject to a 50 mph speed limit.

17.3.23 B3270 Lower Earley Way: This east–west distributor runs between M4 Junction 11 and Winnersh. It is a single carriageway with speed limits varying between 40mph and national speed limit depending on location. Key junctions include the Shinfield gyratory and Showcase Roundabout.

17.3.24 Hatch Farm Way: Hatch Farm Way connects the A329 Reading Road to Lower Earley Way. The alignment bypasses Winnersh village, reducing traffic in the centre and providing access to recent housing development.

Local / Rural Connections

17.3.25 Mole Road: A north–south route linking Arborfield with Winnersh and Wokingham. Primarily a rural route, with limited provision for active travel.

17.3.26 B3349 Barkham Road: Connecting Arborfield with Barkham and Wokingham, this road is two-lane but constrained in width through Barkham village, where carriageways narrow and footways are less than 1.5m in width. It provides local access rather than strategic connectivity.

17.3.27 Mill Lane: A rural road providing access between Sindlesham and Lower Earley. The western section which routes to the north of the M4 motorway is constrained by two narrow river bridges allowing only one vehicle to pass at a time.

***Accident Analysis***

17.3.28 A review of Personal Injury Collision data is set out within the Transport Assessment (Appendix 17.1).

17.3.29 Personal Injury Collision data in the vicinity of the Site was obtained from Wokingham Borough Council, covering the most recent five-year period available at the time (1 January 2020 – 31 December 2024). The area of coverage includes:

- A327 and Shinfield Eastern Relief Road (SERR)
- Hatch Farm Way
- Hollow Lane
- Lower Earley Way
- Mill Lane
- Mole Road
- King Street Lane
- M4 Junction 11

17.3.30 A total of 88 injury collisions were recorded within the study area over the five-year period. Of these, 31 involved a vulnerable road user six pedestrians, 14 cyclists and 11 powered two-wheeler riders. Overall, the accidents within the study area provide no indication of systemic deficiencies in the local highway network. Instead, they were attributed to a variety of factors, predominantly driver error.

## Future Baseline

17.3.31 Background traffic growth will occur during the periods up to 2032 and 2040 as well as new traffic movements attributable to committed and planned developments that will become operational in the intervening years. The traffic flows arising from such developments are fully allowed for within the 2032 and 2040 ‘Forecast Baseline’ scenarios derived from the WSTM traffic model.

17.3.32 As well as the additional traffic flows attributable to committed and planned developments, the future year baseline traffic models also account for the access infrastructure and off-site highway improvements that would accompany the committed and planned developments. For example, the completion of the South Wokingham Southern Distributor Road is allowed for within the 2032 Forecast Baseline scenario whilst further highway connections associated with the planned South Wokingham SDL extension are then reflected within the 2040 Forecast Baseline scenario.

17.3.33 Where appropriate, the 2032 Forecast Baseline model allows for partial completion of development and / or associated infrastructure where the build out trajectory is predicted to take place over an extended period. For the avoidance of doubt however, the 2040 Forecast

Baseline scenario allows for all known committed and planned development (and associated access and highway infrastructure) to be completed and fully operational.

***2032 Forecast Baseline Flows***

17.3.34 The resultant 2032 Forecast Baseline Flows derived from the WSTM traffic model are presented within Table 17.4 below. The outputs present the two-way vehicle flows along each link along the local highway network for the AM peak hour (08:00 to 09:00hrs) and 24hr time periods. For ease of reference, the locations of each of the road links identified are depicted on Figure 17.2. It should be noted that some links presented within the Table represent infrastructure that will be provided as part of the Proposed Development and therefore do not cater for and traffic flows during the Forecast Base scenario.

**Table 17.4 2032 Forecast Baseline Traffic Flows (Two-Way Vehicles)**

| Highway Link | | AM Peak Hour | 24hr Daily |
|---|---|---|---|
| ID | Name | | |
| 1 | Wokingham Road | 2,197 | 21,931 |
| 2 | Reading Road | 1,744 | 18,337 |
| 3 | Lower Earley Way (north) | 2,808 | 27,247 |
| 4 | Hatch Farm Way (north) | 1,523 | 15,004 |
| 5 | Lower Earley Way (south) | 2,628 | 26,163 |
| 6 | Mill Lane (north of M4) | 1,137 | 11,359 |
| 7 | Hatch Farm Way (south) | 1,498 | 14,369 |
| 8 | King Street Lane | 573 | 6,983 |
| 9 | Lower Earley Way (east) | 1,947 | 20,519 |
| 10 | Link to Hatch Farm Way | - | - |
| 11 | Mill Lane (west) | 1,137 | 11,359 |
| 12 | B3270 (west) | 2,543 | 26,929 |
| 13 | Longdon Road | 1,505 | 14,981 |
| 14 | A33 (south) | 4,674 | 47,922 |
| 15 | Mill Lane (east) | 1,137 | 11,359 |
| 16 | Mole Rd (north) | 958 | 10,069 |
| 17 | New Rd | 523 | 5,625 |
| 18 | Lower Earley Way (central) | 1,709 | 17,540 |
| 19 | Internal St (M4 Bridge) | - | - |
| 20 | Internal St (Hatch) | - | - |
| 21 | Shinfield Rd | 1,216 | 13,348 |
| 22 | Lower Earley Way (west) | 2,596 | 26,259 |
| 23 | Internal St (River Bridge) | - | - |
| 24 | Bearwood Rd | 1,495 | 14,239 |
| 25 | A33 (north) | 3,478 | 38,239 |
| 26 | Whitley Wood Lane | 822 | 9,433 |
| 27 | B3270 (east) | 2,867 | 29,176 |
| 28 | Shinfield ERR (north) | 1,743 | 18,514 |
| 29 | Internal St (north) | - | - |
| 30 | Mole Rd (south) | 1,654 | 16,525 |
| 31 | Brookers Hill | 883 | 8,286 |
| 32 | Hollow Lane | 1,135 | 11,870 |
| 33 | Shinfield ERR (south) | 1,271 | 13,037 |
| 34 | Internal St (central) | - | - |
| 35 | Church Lane | 1,191 | 10,969 |
| 36 | Arborfield Rd (west) | 723 | 6,470 |
| 37 | Arborfield Rd (east) | 1,505 | 16,433 |
| 38 | Internal St (south) | - | - |
| 39 | Internal St (Gleeson) | - | - |
| 40 | Basingstoke Rd (north) | 1,185 | 11,422 |
| 41 | Hyde End Rd | 780 | 7,446 |
| 42 | Observer Way | 1,180 | 12,743 |
| 43 | Reading Rd | 373 | 3,949 |
| 44 | Sindlesham Rd | 831 | 7,929 |

| | | | |
|---|---|---|---|
| 45 | Swallowfield Rd | 202 | 2,414 |
| 46 | Eversley Rd | 662 | 6,001 |
| 47 | School Rd | 29 | 248 |
| 48 | A33 Swallowfield Bypass | 2,455 | 27,396 |
| 49 | Basingstoke Rd (south) | 1,194 | 10,762 |
| 50 | Eversley Rd | 1,505 | 16,105 |
| 51 | Rushey Way | 1,254 | 12,265 |
| 52 | Meldreth Way | 298 | 3,280 |
| X7 | A329 | 2,254 | 23,782 |
| X8 | Wharfedale Rd | 2,148 | 7,169 |
| X9 | Lower Earley Way | 3,275 | 30,722 |

### *2040 Forecast Baseline Flows*

17.3.35 The resultant 2040 Forecast Baseline Flows derived from the WSTM traffic model are presented within Table 17.5 below. The outputs present the two-way vehicle flows along each link along the local highway network for the AM peak hour (08:00 to 09:00hrs), PM peak hour (17:00 to 18:00hrs) and 24hr time periods. For ease of reference, the locations of each of the road links identified are depicted on Figure 17.2. It should be noted that some links presented within the Table represent infrastructure that will be provided as part of the Proposed Development and therefore do not cater for any traffic flows during the Forecast Base scenario.

**Table 17.5 2040 Forecast Baseline Flows (Two-Way Vehicles)**

| Highway Link | | AM Peak Hour | PM Peak Hour | 24hr Daily |
|---|---|---|---|---|
| ID | Name | | | |
| 1 | Wokingham Road | 2,471 | 2,217 | 24,386 |
| 2 | Reading Road | 1,958 | 2,088 | 20,362 |
| 3 | Lower Earley Way (north) | 3,321 | 2,889 | 32,450 |
| 4 | Hatch Farm Way (north) | 1,730 | 1,530 | 17,038 |
| 5 | Lower Earley Way (south) | 3,076 | 2,787 | 30,647 |
| 6 | Mill Lane (north of M4) | 1,250 | 1,140 | 12,507 |
| 7 | Hatch Farm Way (south) | 1,726 | 1,422 | 16,438 |
| 8 | King Street Lane | 639 | 812 | 7,629 |
| 9 | Lower Earley Way (east) | 2,112 | 2,194 | 22,788 |
| 10 | Link to Hatch Farm Way | - | - | - |
| 11 | Mill Lane (west) | 1,250 | 1,140 | 12,507 |
| 12 | B3270 (west) | 2,715 | 2,927 | 29,562 |
| 13 | Longdon Road | 1,768 | 1,568 | 17,436 |
| 14 | A33 (south) | 5,113 | 4,834 | 52,031 |
| 15 | Mill Lane (east) | 1,250 | 1,140 | 12,507 |
| 16 | Mole Rd (north) | 1,034 | 989 | 10,584 |
| 17 | New Rd | 580 | 657 | 6,485 |
| 18 | Lower Earley Way (central) | 1,825 | 1,860 | 19,294 |
| 19 | Internal St (M4 Bridge) | - | - | - |
| 20 | Internal St (Hatch) | - | - | - |
| 21 | Shinfield Rd | 1,352 | 1,470 | 14,642 |
| 22 | Lower Earley Way (west) | 2,790 | 2,662 | 28,576 |
| 23 | Internal St (River Bridge) | - | - | - |
| 24 | Bearwood Rd | 1,764 | 1,485 | 16,975 |
| 25 | A33 (north) | 3,643 | 3,733 | 39,078 |
| 26 | Whitley Wood Lane | 861 | 1,140 | 10,511 |
| 27 | B3270 (west) | 3,067 | 2,988 | 31,519 |
| 28 | Shinfield ERR (north) | 1,814 | 1,917 | 19,539 |
| 29 | Internal St (north) | - | - | - |
| 30 | Mole Rd (south) | 1,771 | 1,511 | 17,146 |
| 31 | Brookers Hill | 945 | 788 | 9,045 |
| 32 | Hollow Lane | 1,228 | 1,224 | 12,824 |
| 33 | Shinfield ERR (south) | 1,358 | 1,368 | 14,266 |
| 34 | Internal St (central) | - | - | - |

| | | | | |
|---|---|---|---|---|
| 35 | Church Lane | 1,269 | 986 | 11,767 |
| 36 | Arborfield Rd (west) | 866 | 598 | 7,628 |
| 37 | Arborfield Rd (east) | 1,678 | 1,832 | 18,389 |
| 38 | Internal St (south) | - | - | - |
| 39 | Internal St (Gleeson) | - | - | - |
| 40 | Basingstoke Rd (north) | 1,263 | 1,079 | 12,235 |
| 41 | Hyde End Rd | 892 | 738 | 8,512 |
| 42 | Observer Way | 1,282 | 1,360 | 13,835 |
| 43 | Reading Rd | 447 | 473 | 4,825 |
| 44 | Sindlesham Rd | 907 | 714 | 8,460 |
| 45 | Swallowfield Rd | 242 | 274 | 2,711 |
| 46 | Eversley Rd | 704 | 504 | 6,292 |
| 47 | School Rd | 32 | 21 | 281 |
| 48 | A33 Swallowfield Bypass | 2,745 | 3,048 | 30,359 |
| 49 | Basingstoke Rd (south) | 1,275 | 982 | 11,776 |
| 50 | Eversley Rd | 1,650 | 1,757 | 17,854 |
| 51 | Rushey Way | 1,517 | 1,227 | 14,320 |
| 52 | Meldreth Way | 354 | 371 | 3,803 |
| X7 | A329 | 2,446 | 2,599 | 26,049 |
| X8 | Wharfedale Rd | 2,498 | 2,487 | 7,971 |
| X9 | Lower Earley Way | 3,735 | 2,827 | 34,219 |

## 17.4 Inherent Design Mitigation

### Construction Phase

17.4.1 The Proposed Development already allows for inherent mitigation measures that will accrue from the measures promoted during the construction phase.

17.4.2 Mindful of the specific nature of the HGV trips that would be generated during the construction period a Construction Environment Management Plan (CEMP) has been prepared for approval by Wokingham Borough Council prior to the commencement of any development. The CEMP, which is attached as Appendix 3.7, would be secured by condition attached to the grant of planning permission.

17.4.3 In respect of transport, the principal aim of the Construction Environment Management Plan is to ensure that construction works are organised and delivered in a manner that safeguards the highway impact, highway safety and amenity of the area surrounding the Proposed Development.

17.4.4 Along with specifying the construction duration and hours of operation, the Construction Environment Management Plan contains information such as a routing plan for the demolition, excavation and construction vehicles. This would be established to seek to minimise the impacts on other users of the highway network. The Construction Environment Management Plan also sets out the access arrangements throughout the construction stage.

### Operational Phase

17.4.5 The Proposed Development already allows for inherent mitigation measures that will accrue from the measures being delivered to facilitate active travel, public transport and vehicular movement during the operational phase.

17.4.6 A range of walking and cycling provision is being promoted within the Proposed Development as is evident from the LGV Movement Parameter Plan. Segregated cycleways will be provided to a high specification along all of the primary streets. The standard of provision is fully in accordance with the Department for Transport's Cycle Infrastructure Design guidance (LTN1/20) and hence can satisfactorily accommodate the levels of flows throughout all areas

of the Proposed Development, including at key locations such as the local centres and in the vicinity of the primary and secondary schools.

17.4.7 The segregated cycleways will be supplemented by an extensive network of shared use footways / cycleways which will also run alongside the main highway corridors as well as through areas of green space. Notably, the off-road routes follow corridors which respond positively to the Wokingham Borough Council's planned Greenway networks in the area, including the proposals for the Long Distance Path along the river Loddon. A network of other, less formal, paths will also be provided along the peripheries of the development which will complement and enhance the public rights of ways in these areas.

17.4.8 As well as delivering a high quality and comprehensive network within the Proposed Development, the layout and treatment of junctions and crossing points throughout will reflect LTN 1/20 guidance so that pedestrians cyclists can negotiate such potential conflict points safely and conveniently without undue delay or deviation from the route. This ensures a high degree of connectivity is achieved that enables ease of movement throughout the Proposed Development.

17.4.9 A Travel Plan will accompany the Proposed Development to actively promote sustainable travel amongst employees, residents and visitors. A Framework Travel Plan, which will be developed into a Full Travel Plan as the proposals are advanced is attached as Appendix 17.2. The process will include the implementation of range of measures and incentives such a discounted travel on public transport and discount voucher for cycle purchase. The travel planning initiatives will also be supplemented through the promotion of Travel Hubs. One of the main Travel Hubs is to be conveniently located within the district centre area while a secondary Travel Hub is to be provided within the local centre area near to the primary and secondary schools. The main Travel Hub will incorporate a range of facilities such as cycle parking, car club parking, cycle hire and repair facilities.

17.4.10 The Proposed Development also includes the promotion of new bus services to ensure that future residents and other users will benefit from a high level of accessibility to bus services. The key element of the strategy is the phased introduction of new high quality bus services from the outset of any development, operating between the proposed development area and key destinations such as Reading, Wokingham and Winnersh. This will cater for trips by public transport to key employment, retail and leisure destinations within Reading and Wokingham town centres. Moreover, delivering good bus service connections between LGV and the rail stations at Reading, Wokingham, Winnersh and Winnersh Triangle will also facilitate a range of opportunities for onward travel along the national rail network. Further details are provided with the Transport Assessment (Appendix 17.1).

17.4.11 As is shown on the LGV Movement Parameter Plan, the promotion of new highway infrastructure within the Proposed Development itself, such as the new river crossing of the Loddon and bridge over the M4 motorway corridor, will not only act to facilitate the broad dispersal of development traffic but also help to avoid extraneous routings that would otherwise occur along the road network. Indeed, the creation of a new north-south connection between the B3270 Lower Earley Way and the Arborfield Road corridors offers the opportunity for some background traffic to re-route through the development and thereby provide some relief to adjacent areas such as within and around Sindlesham and Shinfield. This beneficial effect is reflected within the traffic flows obtained from the 'With Development 'scenarios obtained from the WSTM traffic model.

17.4.12 In addition, the 'With Development' scenarios used within the WSTM traffic model allow for a number of off-site highway mitigation measures that would accompany the development at the Loddon Valley Garden Village allocation site; namely

- New road connection through expanded Thames Valley Science Park.
- Improved Thames Valley Science Park / Shinfield Eastern Relief Road Roundabout.
- Carriageway widening along Shinfield Eastern Relief Road, north of Thames Valley Science Park access roundabout.
- Additional circulatory lanes within Shinfield Road gyratory north of M4 motorway.
- Additional westbound lane along B3270 between Whitley Wood Lane and M4 Junction 11.
- M4 Junction 11 optimisation and changes to lane markings to accommodate additional lane for traffic movement into B3270.
- Capacity improvements at Arborfield Road / Observer Way roundabout incorporating new access into Proposed Development.
- Capacity improvements at Lower Earley Way / Meldreth Way roundabout incorporating new access into Proposed Development.
- Additional eastbound lane along Lower Earley Way between Meldreth Way and Rushey Way roundabouts.
- Additional westbound lane along Lower Earley Way between Hatch Farm Way signal junction and Rushey Way roundabout.
- Upgrades to Lower Earley Way / Hatch Farm Way signal junction.
- New link road to Hatch Farm Way and closure of Mill Lane to vehicular traffic.

17.4.13 Further details relating to the proposed off-site highway infrastructure package are presented within the Transport Assessment Report (Appendix 17.1).

## 17.5 Potential Effects Prior to Additional Mitigation (Proposed Development Scenario)

### Construction Phase

17.5.1 The Proposed Development is expected to be fully operational by 2040. Construction activities are expected to commence in 2027, with first occupations achieved during 2028. However, due to the availability of future year baseline traffic flows, a 2032 design year has been used to represent a typical year during the construction period in order to assess the likely significant transport effects during the construction phase.

17.5.2 The initial stages of the construction will include formation of the new permanent access routes into the development and the primary internal roads. Access will be provided via the proposed new northern arm of the Observer Way roundabout which has been designed to accommodate two-way HGV movements. In the interim scenario prior to the fourth arm at the roundabout being formed, construction traffic will utilise the existing Hall Farm access junction which is located along Arborfield Road to the west.

17.5.3 Subsequent phases of construction which require access to the areas of the Site which lie to the west of the River Loddon will initially be achieved by making use of the road infrastructure that has already been implemented within the Thames Valley Science Park via the roundabout onto the Shinfield Eastern Relief Road. Similarly, works to implement the new bridge crossing

over the M4 motorway would utilise access from a fourth arm which is being formed on the Lower Earley Way / Meldreth Way roundabout.

17.5.4 Construction traffic associated with the Proposed Development would therefore initially route to and from the Arborfield Road frontage before dispersing onto the wider highway network. Construction traffic would be routed along the Shinfield Eastern Relief Road for northern destinations and the Observer Way Relief Road for journeys to and from the south. Notably, the most direct rotes towards the strategic highway network would be to the north towards the M3 and A329 (M) motorway corridors.

17.5.5 It is estimated that a development of this size and nature would typically achieve an annual build out rate of approximately 85 dwellings per annum during the initial stages. Build out rates are likely to increase during later stages, although at that time the new highway links within and beyond the Proposed Development will have been implemented which will enable a more dispersed routing pattern for construction traffic. Appraising the construction effects during the early period of the build out therefore ensures a robust assessment of the potential effects based on the existing configuration of the road network.

17.5.6 Using information obtained at other residential sites, and based on the estimated 85 annual dwelling build out rate, approximately 145 construction movements are likely to occur during a working day. The busiest peak hour occurs during the morning peak period between 08:00-09:00hrs where approximately 15 construction movements would be expected to occur.

17.5.7 Table 17.6 identities the construction trips during these time periods, including a breakdown of the quantum of light vehicles and Heavy Goods Vehicles (HGVs).

**Table 17.6 Vehicular Trip Generation from Construction Activities**

| Time Period | Light Vehicles | | | Heavy Goods Vehicles | | | Total Vehicles | | |
|---|---|---|---|---|---|---|---|---|---|
| | In | Out | Two Way | In | Out | Two Way | In | Out | Two Way |
| AM Peak Hour | 8 | 2 | 10 | 3 | 2 | 5 | 11 | 4 | 15 |
| 24 Hour | 54 | 54 | 108 | 18 | 18 | 37 | 72 | 72 | 145 |

***Construction Traffic Assessment***

17.5.8 Table 17.7 presents an assessment of highway link flows for the construction phase by comparing the 2032 baseline flows to the additional traffic generated by the construction activities. For ease of reference, the locations of each of the road links identified are depicted on Figure 17.2. It should be noted that some links presented within the Table represent infrastructure that will be provided as part of the Proposed Development and therefore do not cater for and traffic flows during the Forecast Base scenario.

## Table 17.7 Link Flow Analysis – With Construction Traffic Appraisal

| Highway Link | | AM Peak Hour (Two Way Vehs) | | | 24 hr Daily (Two Way Vehs) | | |
|---|---|---|---|---|---|---|---|
| ID | Name | 2032 Base | Change | % Change | 2032 Base | Change | % Change |
| 1 | Wokingham Road | 2,197 | 0 | 0.0% | 21,931 | 0 | 0.0% |
| 2 | Reading Road | 1,744 | 0 | 0.0% | 18,337 | 0 | 0.0% |
| 3 | Lower Earley Way (north) | 2,808 | +7 | +0.3% | 27,247 | +72 | +0.3% |
| 4 | Hatch Farm Way (north) | 1,523 | 0 | 0.0% | 15,004 | 0 | 0.0% |
| 5 | Lower Earley Way (south) | 2,628 | +7 | +0.3% | 26,163 | +72 | +0.3% |
| 6 | Mill Lane (north of M4) | 1,137 | 0 | 0.0% | 11,359 | 0 | 0.0% |
| 7 | Hatch Farm Way (south) | 1,498 | 0 | 0.0% | 14,369 | 0 | 0.0% |
| 8 | King Street Lane | 573 | 0 | 0.0% | 6,983 | 0 | 0.0% |
| 9 | Lower Earley Way (east) | 1,947 | +7 | +0.4% | 20,519 | +72 | +0.4% |
| 10 | Link to Hatch Farm Way | - | - | - | - | - | - |
| 11 | Mill Lane (west) | 1,137 | 0 | 0.0% | 11,359 | 0 | 0.0% |
| 12 | B3270 (west) | 2,543 | +7 | +0.3% | 26,929 | +72 | 0.3% |
| 13 | Longdon Road | 1,505 | 0 | 0.0% | 14,981 | 0 | 0.0% |
| 14 | A33 (south) | 4,674 | 0 | 0.0% | 47,922 | 0 | 0.0% |
| 15 | Mill Lane (east) | 1,137 | 0 | 0.0% | 11,359 | 0 | 0.0% |
| 16 | Mole Rd (north) | 958 | 0 | 0.0% | 10,069 | 0 | 0.0% |
| 17 | New Rd | 523 | 0 | 0.0% | 5,625 | 0 | 0.0% |
| 18 | Lower Earley Way (central) | 1,709 | +7 | +0.4% | 17,540 | +72 | +0.4% |
| 19 | Internal St (M4 Bridge) | - | - | - | - | - | - |
| 20 | Internal St (Hatch) | - | - | - | - | - | - |
| 21 | Shinfield Rd | 1,216 | 0 | 0.0% | 13,348 | 0 | 0.0% |
| 22 | Lower Earley Way (west) | 2,596 | +7 | +0.3% | 26,259 | +72 | +0.3% |
| 23 | Internal St (River Bridge) | - | - | - | - | - | - |
| 24 | Bearwood Rd | 1,495 | 0 | 0.0% | 14,239 | 0 | 0.0% |
| 25 | A33 (north) | 3,478 | 0 | 0.0% | 38,239 | 0 | 0.0% |
| 26 | Whitley Wood Lane | 822 | 0 | 0.0% | 9,433 | 0 | 0.0% |
| 27 | B3270 (east) | 2,867 | +7 | +0.3% | 29,176 | +72 | +0.2% |
| 28 | Shinfield ERR (north) | 1,743 | +15 | +0.9% | 18,514 | +145 | +0.8% |
| 29 | Internal St (north) | - | - | - | - | - | - |
| 30 | Mole Rd (south) | 1,654 | 0 | 0.0% | 16,525 | 0 | 0.0% |
| 31 | Brookers Hill | 883 | 0 | 0.0% | 8,286 | 0 | 0.0% |
| 32 | Hollow Lane | 1,135 | 0 | 0.0% | 11,870 | 0 | 0.0% |
| 33 | Shinfield ERR (south) | 1,271 | +15 | +1.2% | 13,037 | +145 | +1.1% |
| 34 | Internal St (central) | - | - | - | - | - | - |
| 35 | Church Lane | 1,191 | 0 | 0.0% | 10,969 | 0 | 0.0% |
| 36 | Arborfield Rd (west) | 723 | 0 | 0.0% | 6,470 | 0 | 0.0% |
| 37 | Arborfield Rd (east) | 1,505 | +15 | +1% | 16,433 | +145 | +0.9% |
| 38 | Internal St (south) | - | - | - | - | - | - |
| 39 | Internal St (Gleeson) | - | - | - | - | - | - |
| 40 | Basingstoke Rd (north) | 1,185 | 0 | 0.0% | 11,422 | 0 | 0.0% |
| 41 | Hyde End Rd | 780 | 0 | 0.0% | 7,446 | 0 | 0.0% |
| 42 | Observer Way | 1,180 | 0 | 0.0% | 12,743 | 0 | 0.0% |
| 43 | Reading Rd | 373 | 0 | 0.0% | 3,949 | 0 | 0.0% |
| 44 | Sindlesham Rd | 831 | 0 | 0.0% | 7,929 | 0 | 0.0% |
| 45 | Swallowfield Rd | 202 | 0 | 0.0% | 2,414 | 0 | 0.0% |
| 46 | Eversley Rd | 662 | 0 | 0.0% | 6,001 | 0 | 0.0% |
| 47 | School Rd | 29 | 0 | 0.0% | 248 | 0 | 0.0% |
| 48 | A33 Swallowfield Bypass | 2,455 | 0 | 0.0% | 27,396 | 0 | 0.0% |
| 49 | Basingstoke Rd (south) | 1,194 | 0 | 0.0% | 10,762 | 0 | 0.0% |
| 50 | Eversley Rd | 1,505 | 0 | 0.0% | 16,105 | 0 | 0.0% |
| 51 | Rushey Way | 1,254 | 0 | 0.0% | 12,265 | 0 | 0.0% |
| 52 | Meldreth Way | 298 | 0 | 0.0% | 3,280 | 0 | 0.0% |
| X7 | A329 | 2,254 | +4 | +0.2% | 23,782 | +36 | +0.2% |
| X8 | Wharfedale Rd | 2,148 | +4 | +0.2% | 7,169 | +36 | +0.5% |
| X9 | Lower Earley Way | 3,275 | +7 | +0.2% | 30,722 | +72 | +0.2% |

17.5.9 Table 17.7 shows that traffic flows associated with the construction traffic would not be substantially different from the 'Forecast Baseline' scenario. Indeed, traffic increases along all areas of the road network would be less than +2% during the peak hours and over a 24hr period. Changes of this magnitude lie well below the 10% threshold, even for sensitive links, and therefore, in accordance with the IEA guidance thresholds, would not be perceptible.

17.5.10 Notwithstanding that flow increases across all areas of the network would lie below the 10% threshold, it is also evident that the absolute increase in traffic movements along any part of the highway network would equate to only 1 additional vehicle every four minutes during the peak hours. This quantum of additional traffic would not result in any perceptible effects in terms of driver delay or highway safety.

17.5.11 Whilst the changes in traffic flows along all areas of the surrounding highway network would not be discernible during the construction stage of the Proposed Development, the construction activity would generate HGV movements that would not occur in the baseline scenario. The construction traffic would be managed through the implementation of the CEMP. Nevertheless, the nature of the HGV trips associated with the construction activities is such that could have the potential to create a **minor adverse effect (not significant)** in terms of non motorised user amenity along the surrounding network. The effect of the HGV trips in respect of the other assessment criteria, namely community severance, driver delay, non motorised user delay, fear & intimidation and highway safety would however be **negligible (not significant)**.

***Construction of Access Junctions***

17.5.12 The access proposals for the Proposed Development include the construction of new vehicular access junctions at the Arborfield Road and Lower Earley Way frontages. In both locations, the access will take the form of the provision of an additional arm onto an existing roundabout. Further details of the proposed junction layouts are provided on Drawing No. A392-OPA-0101 and Drawing No. A392-0109 within the Transport Assessment Report which is attached as Appendix 17.1.

17.5.13 The construction of each of the access junctions is likely to take place over a 6 to 9 month period, part of which time local traffic management measures would be introduced along Arborfield Road and Lower Ealy Way as required. It is also possible that utility diversions may need to be undertaken along the northern and southern frontages of the Proposed Development as part of the construction works for the site access junctions. The construction works for any such service diversions would however be scheduled to take place during the same period as the construction of the access junctions in order to minimise the disruption.

17.5.14 The access junction construction works would be implemented in accordance with the measures set out in the CEMP. Notwithstanding, the works are likely to effect the users of Arborfield Road and Lower Earley Way and result in a slight adverse effect (not significant) in terms of driver delay while the traffic management measures are in place. As the construction works for the access junctions are likely to only occur for only a 6 to 9 month duration, the adverse effects would however be short term in nature.

17.5.15 The construction of the access junctions would have limited effect on the pedestrian or cycle networks in the area. Consequently, the effects in terms of community severance, non motorised user delay, non motorised user amenity or fear & intimidation would be **negligible (not significant)**. Similarly, the traffic management schemes that would accompany the construction works would ensure that the activities are undertaken in an appropriate and safe manner, thereby ensuring that there would also be **negligible effects (not significant)** in terms of highway safety.

### Operational Phase

17.5.16 The Proposed Development is likely to be fully operational by 2040. Therefore, for the purposes of assessing the operational transport effects, an assessment year of 2040 has been used.

17.5.17 The vehicular trip generation for the Proposed Development during the operational phase has been appraised based on the detailed appraisal of trip generation patterns which reflects trips generation that arises at similar land uses as well as local and national travel patterns. Details of the methodology used and resulting trip generation are set out within the Transport Assessment Report provided at Appendix 17.1.

17.5.18 The resultant vehicular trip generation for the Proposed Development is summarised in Table 17.8 for the morning and evening peak hours. It should be noted that that the trip generation is based on the land uses being promoted with the Proposed Development and therefore excludes trips that would arise from the adjacent residential parcels that comprise the remaining components of the Loddon Valley Garden Village Strategic Development Location.

**Table 17.8 Vehicular Trip Generation – Fully Operational**

| | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | In | Out | Two Way | In | Out | Two Way |
| Trip Generation (Two Way Vehs) | 1,758 | 1,481 | 3,240 | 1,333 | 1,356 | 2,690 |

#### *Operational Traffic Assessment*

17.5.19 The vehicular trips that would be generated by the Proposed Development have been assigned onto the local highway network using Wokingham Borough Council's WSTM traffic model.

17.5.20 Table 17.19 presents an assessment of highway link flows for the operational phase by comparing the 2040 'Forecast Baseline' flows to the additional traffic generated by the 2040 'With Development' scenario. For ease of reference, the locations of each of the road links identified are depicted on Figure 17.2. It should be noted that some links presented within the Table represent infrastructure that will be provided as part of the Proposed Development and therefore do not cater for any traffic flows during the Forecast Base scenario.

## Table 17.9 Link Flow Analysis –With Operational Traffic Appraisal

| Highway Link | | AM Peak Hour (Two Way Vehs) | | | PM Peak Hour (Two Way Vehs) | | | 24 hr Daily (Two Way Vehs) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ID | Name | 2040 Base | Change | % Change | 2040 Base | Change | % Change | 2040 Base | Change | % Change |
| 1 | Wokingham Road | 2,471 | +16 | +1% | 2,217 | +61 | +3% | 24,386 | +231 | +1% |
| 2 | Reading Road | 1,958 | +195 | +10% | 2,088 | +102 | +5% | 20,362 | +1,574 | +8% |
| 3 | Lower Earley Way (north) | 3,321 | +298 | +9% | 2,889 | +396 | +14% | 32,450 | +2,992 | +9% |
| 4 | Hatch Farm Way (north) | 1,730 | +375 | +22% | 1,530 | +628 | +41% | 17,038 | +4,651 | +27% |
| 5 | Lower Earley Way (south) | 3,076 | +146 | +5% | 2,787 | +176 | +6% | 30,647 | +1,617 | +5% |
| 6 | Mill Lane (north of M4) | 1,250 | -1,250 | -100% | 1,140 | -1,140 | -100% | 12,507 | -12,507 | -100% |
| 7 | Hatch Farm Way (south) | 1,726 | -351 | -20% | 1,422 | -52 | -4% | 16,438 | -2,320 | -14% |
| 8 | King Street Lane | 639 | -11 | -2% | 812 | -27 | -3% | 7,629 | +104 | +1% |
| 9 | Lower Earley Way (east) | 2,112 | +80 | +4% | 2,194 | -41 | -2% | 22,788 | +780 | +3% |
| 10 | Link to Hatch Farm Way | - | +1,079 | - | - | +1,021 | - | - | +10,617 | - |
| 11 | Mill Lane (west) | 1,250 | -173 | -14% | 1,140 | -135 | -12% | 12,507 | -1,895 | -15% |
| 12 | B3270 (west) | 2,715 | +293 | +11% | 2,927 | +348 | +12% | 29,562 | +3,285 | +11% |
| 13 | Longdon Road | 1,768 | -145 | -8% | 1,568 | +120 | +8% | 17,436 | -227 | -1% |
| 14 | A33 (south) | 5,113 | -298 | -6% | 4,834 | -146 | -3% | 52,031 | -709 | -1% |
| 15 | Mill Lane (east) | 1,250 | +102 | +8% | 1,140 | +122 | +11% | 12,507 | +163 | +1% |
| 16 | Mole Rd (north) | 1,034 | +70 | +7% | 989 | +168 | +17% | 10,584 | +872 | +8% |
| 17 | New Rd | 580 | +86 | +15% | 657 | -43 | -6% | 6,485 | -135 | -2% |
| 18 | Lower Earley Way (central) | 1,825 | -232 | -13% | 1,860 | -70 | -4% | 19,294 | -1,817 | -9% |
| 19 | Internal St (M4 Bridge) | - | +1,349 | - | - | +1,258 | - | - | +13,530 | - |
| 20 | Internal St (Hatch) | - | +831 | - | - | +862 | - | - | +7,318 | - |
| 21 | Shinfield Rd | 1,352 | +218 | +16% | 1,470 | +44 | +3% | 14,642 | +1,534 | +10% |
| 22 | Lower Earley Way (west) | 2,790 | -465 | -17% | 2,662 | -367 | -14% | 28,576 | -4,401 | -15% |
| 23 | Internal St (River Bridge) | - | +1,118 | - | - | +966 | - | - | +10,259 | - |
| 24 | Bearwood Rd | 1,764 | -128 | -7% | 1,485 | -61 | -4% | 16,975 | -1,300 | -8% |
| 25 | A33 (north) | 3,643 | +69 | +2% | 3,733 | -152 | -4% | 39,078 | +211 | +1% |
| 26 | Whitley Wood Lane | 861 | +18 | +2% | 1,140 | +56 | +5% | 10,511 | +410 | +4% |
| 27 | B3270 (east) | 3,067 | +543 | +18% | 2,988 | +545 | +18% | 31,519 | +5,938 | +19% |
| 28 | Shinfield ERR (north) | 1,814 | +765 | +42% | 1,917 | +609 | +32% | 19,539 | +6,672 | +34% |
| 29 | Internal St (north) | - | +828 | - | - | +829 | - | - | +8,639 | - |
| 30 | Mole Rd (south) | 1,771 | -47 | -3% | 1,511 | +37 | +2% | 17,146 | -523 | -3% |
| 31 | Brookers Hill | 945 | +87 | +9% | 788 | +95 | +12% | 9,045 | +910 | +10% |
| 32 | Hollow Lane | 1,228 | +5 | +0% | 1,224 | -27 | -2% | 12,824 | -95 | -1% |
| 33 | Shinfield ERR (south) | 1,358 | +395 | +29% | 1,368 | +339 | +25% | 14,266 | +3,623 | +25% |
| 34 | Internal St (central) | - | - | - | - | - | - | - | +6,610 | - |
| 35 | Church Lane | 1,269 | +35 | +3% | 986 | +44 | +4% | 11,767 | +383 | +3% |
| 36 | Arborfield Rd (west) | 866 | +206 | +24% | 598 | +351 | +59% | 7,628 | +2,765 | +36% |
| 37 | Arborfield Rd (east) | 1,678 | +405 | +24% | 1,832 | +419 | +23% | 18,389 | +3,901 | +21% |
| 38 | Internal St (south) | - | +1,010 | - | - | +850 | - | - | +9,417 | - |
| 39 | Internal St (Gleeson) | - | +319 | - | - | +416 | - | - | +2,994 | - |
| 40 | Basingstoke Rd (north) | 1,263 | +24 | +2% | 1,079 | +20 | +2% | 12,235 | +433 | +4% |
| 41 | Hyde End Rd | 892 | +192 | +22% | 738 | +211 | +29% | 8,512 | +2,051 | +24% |
| 42 | Observer Way | 1,282 | +466 | +36% | 1,360 | +433 | +32% | 13,835 | +4,646 | +34% |
| 43 | Reading Rd | 447 | -37 | -8% | 473 | -73 | -16% | 4,825 | -28 | -1% |
| 44 | Sindlesham Rd | 907 | +41 | +5% | 714 | +98 | +14% | 8,460 | +286 | +3% |
| 45 | Swallowfield Rd | 242 | -5 | -2% | 274 | +5 | +2% | 2,711 | -42 | -2% |
| 46 | Eversley Rd | 704 | +45 | +6% | 504 | +111 | +22% | 6,292 | +429 | +7% |
| 47 | School Rd | 32 | +1 | +2% | 21 | +0 | +2% | 281 | +37 | +13% |
| 48 | A33 Swallowfield Bypass | 2,745 | -95 | -3% | 3,048 | -4 | -0% | 30,359 | -282 | -1% |
| 49 | Basingstoke Rd (south) | 1,275 | +210 | +16% | 982 | +220 | +22% | 11,776 | +2,129 | +18% |
| 50 | Eversley Rd | 1,650 | +136 | +8% | 1,757 | +131 | +7% | 17,854 | +1,146 | +6% |
| 51 | Rushey Way | 1,517 | -4 | -0% | 1,227 | -15 | -1% | 14,320 | +6 | +0% |
| 52 | Meldreth Way | 354 | +145 | +41% | 371 | +103 | +28% | 3,803 | +1,232 | +32% |
| X7 | A329 | 2,446 | -51 | -2% | 2,599 | +114 | +4% | 26,049 | +180 | +1% |
| X8 | Wharfedale Rd | 2,498 | -16 | -1% | 2,487 | -71 | -3% | 7,971 | -61 | -1% |
| X9 | Lower Earley Way | 3,735 | +52 | +1% | 2,827 | +150 | +5% | 34,219 | +847 | +2% |

17.5.21 As can be seen from Table 17.9, there are many instances where traffic flows along highway links would not increase substantially when compared to the baseline scenario. Indeed, in the cases where the magnitude of change in less than 10%, the environmental effects would not be perceptible in environmental impact assessment terms.

17.5.22 There are many links where the increase in flow lies between the 10% and 30%, indicating that there may be a need to consider the environmental effects if the highway link is deemed to be sensitive. The screening process which establishes this is set out below.

17.5.23 The potential environmental effects that could occur along highway links where flows are predicted to increase by over 30% fall within the scope of assessment, irrespective of the sensitivity of the link.

17.5.24 There are some instances where traffic flows would decrease slightly. This is due to the traffic adopting different routings in response to the different traffic flows and highway network configuration that will be in place by 2040. This is particularly evident along some highway links within and around Sindlesham, where traffic adopts different routings to utilise the new highway link connection to Hatch Farm Way instead of current routings which utilise the Hatch Farm Way / King Street Lane junction and the Mole Road / Mill Lane roundabout. Indeed, this new highway infrastructure enables the closure of Mill Lane to through traffic and thereby results in a substantial reduction in traffic flow along this link.

17.5.25 Similarly, the creation of the new highway connections through the Proposed Development which links the Arborfield Road and Lower Earley Way corridors via the new M4 overbridge also acts to relieve some of the traffic flows which currently route along the western section of Lower Earley Way.

Identification of Links for Further Assessment

17.5.26 The following links are predicted to experience increases in traffic flow of above 30% and hence require further assessment irrespective of the sensitivity of the link.

- Link 4 : Hatch Farm Way (north)
- Link 28 : Shinfield Eastern Relief Road (north of TVSP access)
- Link 36 : Arborfield Raod (west of Eastern Relief Road)
- Link 42 : Observer Way
- Link 52 : Meldreth Way

17.5.27 The following links are predicted to experience increases in traffic flow between 10% and 30% and are deemed to require further assessment as they are considered to be sensitive to changes in traffic flow in the context of the approach advocated in the IEMA Guidelines.

- Link 2 : Reading Road
- Link 3 : Lower Earley Way (north)
- Link 12 : B3270 (west)
- Link 15 : Mill Lane (east)
- Link 16 : Mole Road (north)
- Link 17 : New Road
- Link 21 : Shinfield Road

- Link 27 : B3270 (east)
- Link 31 : Brookers Hill
- Link 33 : Shinfield Eastern Relief Road (south)
- Link 37 : Arborfield Road (east)
- Link 41 : Hyde End Road
- Link 44 : Sindlesham Road
- Link 46 : Eversley Road
- Link 47 : School Road
- Link 49 : Basingstoke Road (south)

17.5.28 The forecast increases in flows along all other links within the study area would be below 10% and hence no further assessment is required as changes in flow of this magnitude would not be perceptible in environmental impact terms.

Severance of Communities

17.5.29 Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure. In general terms, according to the IEMA Guidelines a 30% change in traffic flow is likely to produce a 'minor' change in severance, with 'moderate' and 'substantial' changes occurring at 60% and 90%, respectively.

17.5.30 Of the highway links identified for further assessment, the following are predicted to experience a change in AADT flow over 30% and up to 60% which equates to a minor magnitude of effect.

- Link 4 : Hatch Farm Way (north) : +41% (PM Peak)
- Link 28 : Shinfield Eastern Relief Road (north of TVSP access) : +42% (AM Peak)
- Link 36 : Arborfield Road : (west of Eastern Relief Road) : +59% (PM Peak)
- Link 42 : Observer Way : +36% (AM Peak)
- Link 52 : Meldreth Way : + 41% (AM Peak)

17.5.31 Hatch Farm Way, the Shinfield Eastern Relief Road and Observer Way are all recently implemented relief roads that have limited frontage development and do not serve adjacent uses such as schools, hospitals. Accordingly, these corridors are deemed to be of low sensitivity which, combined with the low magnitude of change, could result in the potential for a **minor adverse effect (not significant)** in terms of community severance.

17.5.32 The western section of Arborfield Road and also Meldreth Way route though residential areas with development located on either side of the road corridors. Both corridors are deemed to be of medium sensitivity which combined with the low magnitude of change, could result in the potential for a **minor adverse effect (not significant)** in terms of community severance.

17.5.33 Of note is that the adverse effect that has been identified along Meldreth Way is primarily a function of the relatively low level of baseline traffic that routes along the corridor which then gives rise to a higher percentage increase when the development traffic is accounted for. In absolute terms, traffic flows along the corridor with the development would increase to approximately 500 two-way movements which would not trigger any substantial severance issues. Neverthless, in order to ensure a robust assessment, a **minor adverse effect (not significant)** has been recorded for this location.

Driver Delay

17.5.34 Capacity assessments have been undertaken at the proposed access junctions and neighbouring junctions along the highway network. The results, which are presented within the Transport Assessment Report within Appendix 17.1, show that the access arrangements for the Proposed Development would operate within capacity and with minimal queuing delays when the Proposed Development is fully operational.

17.5.35 Similarly, the capacity analysis demonstrates that the off-site highway mitigation measures that are inherent within the 'With Development' scenario would ensure that queuing delay would not increase substantially along the adjacent areas of the highway network when compared to the 'Forecast Baseline' scenario.

17.5.36 The capacity results do however identify that the Mole Road / Mill Lane roundabout and the nearby King Street Lane / Hatch Farm Way signal junction would operate over capacity in the peak hour periods and that, without any mitigation, the situation would worsen when the Proposed Development is fully operational. The extent of additional queuing delay predicted in these locations as a result of the Proposed Development is not substantial. However, these junctions are considered to be high sensitivity locations in recognition of the frontage development that is present in these congested locations. Accordingly, whilst the magnitude of change is low, in the absence of any mitigation there could be the potential for **moderate adverse effects (significant)** in terms of driver delay in these locations.

Non Motorised User Delay

17.5.37 The IEMA Guidelines refer to studies which indicate that two-way flow of approximately 1,400 vehicles per hour typically equates to a 10 second delay for pedestrian wishing to cross a link where there are no controlled crossing facilities. This is considered to represent a negligible delay and hence links where the predicted flows are lower than this threshold have been discounted from further appraisal.

17.5.38 In addition, links where there are already signal controlled crossing facilities available are unlikely to result in any discernible increase in crossing delay for pedestrians, irrespective of the increase in traffic flows. Such links include Reading Road (Link 2), Lower Ealey Way to the east of Hatch Farm Way (Link 3) and the eastern section of the B3270 (Link 27). Similarly, pedestrian connectivity across the western section of the B3270 (Link 12) is achieved via an existing pedestrian bridge, thereby fully segregating movements from the traffic flows. Accordingly, the non-motorised user delay along these links is also considered to be **negligible (not significant)**.

17.5.39 The likely effects in terms of non motorised user delay on the remaining links are considered below.

17.5.40 Whilst Hatch Farm Way (Link 4) benefits from signal controlled crossings at its northern and southern extents, the crossing points along the remainder of the link take the form of uncontrolled crossings with central island refuges. The corridor is deemed to be of low sensitivity whilst the increase in traffic is considered to be of medium magnitude. Taken together, this could equate to the potential for a **minor adverse effect (not significant)** in terms of crossing delay for pedestrians and cyclists.

17.5.41 Shinfield Road (Link 21) is considered to be a link of high sensitivity. There are currently signal controlled crossings at its southern interface with the Shinfield Gyratory and also at the northern end as part of the signal junction with Whitley Wood Road. There are some intermediate crossing points which take the form of uncontrolled crossings with central refuge islands. The forecast increase in flow is relatively modest and would equate to only a low magnitude.

However, when combined with the high sensitivity of the link, there is a potential for a **moderate adverse effect (significant)** in terms of crossing delay for pedestrians and cyclists.

17.5.42 Whilst Shinfield Eastern Relief Road (Links 28 and 33) is considered to be of low sensitivity, the flows increases along the corridor are considered to represent a high magnitude of change. At present there are no crossing facilities along the corridor apart from the signal junction at the northern extent. In this context, there is considered to be a potential for a **moderate adverse effect (significant)** in terms of effect in terms of crossing delay for pedestrians and cyclists.

17.5.43 The section of Arborfield Road (Link 37) that lies to the east of the Shinfield Eastern Relief Road is deemed to be of medium sensitivity. At present there are no crossing facilities along the corridor. The increase in traffic flows is deemed to be of medium magnitude which could result in the potential for a **moderate adverse effect (significant)** in terms of effect in terms of crossing delay for pedestrians and cyclists.

17.5.44 The Observer Way corridor (Link 42) is deemed to be of low sensitivity. There are uncontrolled crossing points at the northern, central and southern sections of the corridor. The increase in traffic flows is deemed to be of medium magnitude which would result in the potential for a **minor adverse effect (not significant)** in terms of effect in terms of crossing delay for pedestrians and cyclists.

Non Motorised User Amenity

17.5.45 Pedestrian amenity is broadly defined as the relative pleasantness of a journey. The IEMA Guidelines set out that traffic flow would typically need to half or double for the effect on pedestrian amenity to be discernible. The forecast increases in traffic flows along all highway links lie below this threshold for all time periods that are considered. Moreover, the quantum of HGVs generated during the operational phase would be very low, which again indicates that the effects would not be discernible, even when allowing for the composition of traffic flows.

17.5.46 Of note however is that the traffic flows along Mill Lane (Link 11) to the north of the M4 motorway would reduce substantially, given that the formation of the new link road to Hatch Farm Way incorporates measures to prevent through traffic along the corridor. There would still be some residual vehicular movements along the link associated with local traffic gaining access and, on this basis, the magnitude of change is considered to be medium. Given the absence of any footways and the presence of land uses such as hotel, public house and residential properties, the link is considered to be of medium sensitivity. Taken together, there is the potential for a for a **moderate beneficial effect (significant)** in terms of non motorised amenity along the link.

17.5.47 The potential effects on non motorised user amenity along all other areas of the network would be **negligible (not significant)**.

Fear and Intimidation

17.5.48 The IEMA Guidelines suggest how to determine what the level of fear and intimidation of vehicle movements may be on vulnerable users, and the magnitude of impact that occur as a result of new development. The assessment applies criteria based on average traffic flows, the HGV flows, and average vehicle speeds. This approach is used to quantify the level of fear and intimidation in both base and future scenarios, and from there identify the magnitude of impact based on the overall change between scenarios.

17.5.49 Table 17.10 provides the summary of the analysis based on the 2040 ‘Forecast Baseline’ flows while Table 17.11 presents the findings based on the 20240 ‘With Development’ flows.

## Table 17.10 Fear & Intimidation Analysis – 2040 'Forecast Baseline'

| ID | Name | 24hr AADT Two Way Flows | Average Hourly Flow (based on 18 hr AAWT) | 18 hour HGVs (AAWT) | Speed (mph) | A Score | B Score | C Score | Total Score | Degree of Hazzard |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Reading Road | 20,362 | 1,204 | 694 | 30 | 20 | 0 | 10 | 30 | Moderate |
| 3 | Lower Earley Way (north) | 32,450 | 1,919 | 414 | 40 | 30 | 0 | 20 | 50 | Great |
| 4 | Hatch Farm Way (north) | 17,038 | 1,007 | 399 | 40 | 10 | 0 | 20 | 30 | Moderate |
| 6 | Mill Lane (north of M4) | 12,507 | 740 | 226 | 40 | 10 | 0 | 30 | 40 | Moderate |
| 12 | B3270 (west) | 29,562 | 1,748 | 409 | 40 | 20 | 0 | 20 | 40 | Moderate |
| 15 | Mill Lane (east) | 12,507 | 740 | 226 | 60 | 10 | 0 | 30 | 40 | Moderate |
| 16 | Mole Rd (north) | 10,584 | 626 | 113 | 30 | 10 | 0 | 10 | 20 | Small |
| 17 | New Rd | 6,485 | 383 | 186 | 30 | 0 | 0 | 10 | 10 | Small |
| 21 | Shinfield Rd | 14,642 | 866 | 234 | 30 | 10 | 0 | 10 | 20 | Small |
| 27 | B3270 (east) | 31,519 | 1,864 | 470 | 40 | 30 | 0 | 20 | 50 | Great |
| 28 | Shinfield ERR (north) | 19,539 | 1,155 | 562 | 40 | 10 | 0 | 20 | 30 | Moderate |
| 31 | Brookers Hill | 9,045 | 535 | 173 | 40 | 0 | 0 | 20 | 20 | Small |
| 33 | Shinfield ERR (south) | 14,266 | 844 | 410 | 50 | 10 | 0 | 30 | 40 | Moderate |
| 36 | Arborfield Rd (west) | 7,628 | 451 | 24 | 30 | 0 | 0 | 10 | 10 | Small |
| 37 | Arborfield Rd (east) | 18,389 | 1,087 | 431 | 50 | 10 | 0 | 30 | 40 | Moderate |
| 41 | Hyde End Rd | 8,512 | 503 | 36 | 30 | 0 | 0 | 10 | 10 | Small |
| 42 | Observer Way | 13,835 | 818 | 412 | 50 | 10 | 0 | 30 | 40 | Small |
| 44 | Sindlesham Rd | 8,460 | 500 | 135 | 30 | 0 | 0 | 10 | 10 | Small |
| 46 | Eversley Rd | 6,292 | 372 | 60 | 30 | 0 | 0 | 10 | 10 | Small |
| 47 | School Rd | 281 | 17 | 2 | 30 | 10 | 0 | 0 | 10 | Small |
| 49 | Basingstoke Rd (south) | 11,776 | 696 | 263 | 40 | 10 | 0 | 20 | 30 | Moderate |
| 52 | Meldreth Way | 3,803 | 225 | 12 | 30 | 0 | 0 | 10 | 10 | Small |

## Table 17.11 Fear & Intimidation Analysis – 2040 'With Development'

| ID | Name | 24hr AADT Two Way Flows | Average Hourly Flow (based on 18 hr AAWT) | 18 hour HGVs (AAWT) | Speed (mph) | A Score | B Score | C Score | Total Score | Degree of Hazzard |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Reading Road | 21,936 | 1297 | 747 | 30 | 20 | 0 | 10 | 30 | Moderate |
| 3 | Lower Earley Way (north) | 35,442 | 2096 | 453 | 40 | 30 | 0 | 20 | 50 | Great |
| 4 | Hatch Farm Way (north) | 21,689 | 1283 | 508 | 40 | 20 | 0 | 20 | 40 | Moderate |
| 6 | Mill Lane (north of M4) | 0 | 0 | 0 | 40 | 0 | 0 | 30 | 30 | Moderate |
| 12 | B3270 (west) | 32,847 | 1942 | 455 | 40 | 30 | 0 | 20 | 50 | Great |
| 15 | Mill Lane (east) | 12,670 | 749 | 229 | 60 | 10 | 0 | 30 | 40 | Moderate |
| 16 | Mole Rd (north) | 11,456 | 677 | 122 | 30 | 10 | 0 | 10 | 20 | Small |
| 17 | New Rd | 6,350 | 376 | 182 | 30 | 0 | 0 | 10 | 10 | Small |
| 21 | Shinfield Rd | 16,176 | 957 | 258 | 30 | 10 | 0 | 10 | 20 | Small |
| 27 | B3270 (east) | 37,457 | 2215 | 558 | 40 | 30 | 0 | 20 | 50 | Great |
| 28 | Shinfield ERR (north) | 26,211 | 1550 | 753 | 40 | 20 | 0 | 20 | 40 | Moderate |
| 31 | Brookers Hill | 9,955 | 589 | 191 | 40 | 0 | 0 | 20 | 20 | Small |
| 33 | Shinfield ERR (south) | 17,889 | 1058 | 514 | 50 | 10 | 0 | 30 | 40 | Moderate |
| 36 | Arborfield Rd (west) | 10,393 | 615 | 33 | 30 | 0 | 0 | 10 | 10 | Small |
| 37 | Arborfield Rd (east) | 22,290 | 1318 | 522 | 50 | 20 | 0 | 30 | 50 | Great |
| 41 | Hyde End Rd | 10,563 | 625 | 45 | 30 | 0 | 0 | 10 | 10 | Small |
| 42 | Observer Way | 18,481 | 1093 | 551 | 50 | 10 | 0 | 30 | 40 | Moderate |
| 44 | Sindlesham Rd | 8,746 | 517 | 140 | 30 | 0 | 0 | 10 | 10 | Small |
| 46 | Eversley Rd | 6,721 | 397 | 64 | 30 | 0 | 0 | 10 | 10 | Small |
| 47 | School Rd | 318 | 19 | 2 | 30 | 10 | 0 | 0 | 10 | Small |
| 49 | Basingstoke Rd (south) | 13,905 | 822 | 311 | 40 | 10 | 0 | 20 | 30 | Moderate |
| 52 | Meldreth Way | 5,035 | 298 | 16 | 30 | 0 | 0 | 10 | 10 | Small |

17.5.50 A comparison of the findings within Table 17.10 and Table 17.11 indicates that the classification of the degree of hazard will only change along the B3270 (Link 12), Arborfield Road east (Link 37) and Observer Way (Link 42). In all three instances, the classification of hazard moves up only one step which, based on the IEMA Guidelines, indicates that the magnitude of change is deemed to be low.

17.5.51 Accounting for the sensitivity of the three links results, there is the potential for **minor adverse effects (not significant)** in terms of fear and intimidation at these locations.

17.5.52 Of note is that the adverse effect that has been identified along the Observer Way corridor is a function of the increased traffic flows and does not account for the presence of the high standard footway / cycleway that routes along the corridor which benefits from a generous verge width that offsets the facility from the carriageway. Neverthless, in order to ensure a robust assessment, a **minor adverse effect (not significant)** has been recorded for this location.

Highway Safety

17.5.53 The proposed access arrangements have been designed with full compliance to highway standards and a Road Safety Auditor has been commissioned to independently appraise the access proposals. The Road Safety Audits raise no fundamental issues with the proposed arrangements and all residual recommendations made by the Auditor have been incorporated into the proposed designs.

17.5.54 A review of the local personal injury accident data is presented in the Transport Assessment (Appendix 17.1). The analysis suggests that human error is likely to have been the primary cause in the majority of the accidents, rather than any predominant common causation factors that would otherwise indicate particular deficiencies with highway safety in the area.

17.5.55 Whilst all accidents are regrettable, based on the analysis undertaken it is not considered that there are any specific issues with highway safety in the area that would be substantially exacerbated by the traffic attributable to the development proposals. Accordingly, there would only be **minor adverse effects (not significant)** arising from the Proposed Development in terms of highway safety.

## 17.6 Additional Mitigation

### Construction Phase

17.6.1 The key mitigation measure associated with the construction phase is the implementation of the Construction Environmental Management Plan (CEMP) attached as Appendix 3.7. However, the beneficial effects of the CEMP are already allowed for as part of the inherent mitigation that is embedded into the Proposed Development. Accordingly, no further benefits from the CEMP have been allowed for within this assessment.

### Operational Phase

17.6.2 The package of off-site highway works which has been formulated to help ensure that the vehicular traffic arising from the Proposed Development can be accommodated in a satisfactory manner is already allowed for within the “With Development” scenarios that have been undertaken using the WSTM traffic model. The considerable beneficial effects of these mitigation works are therefore already inherent within the analysis.

17.6.3 The Proposed Development does however also include a substantial package of additional measures aimed at encouraging journeys by active travel and public transport modes which has not been accounted for. Details of the proposals are set out within the Transport

Assessment (Appendix 17.1). The effect of these additional measures will be to encourage travel by sustainable modes, thereby helping to reduce the vehicular trips that would be generated by the Proposed Development. Moreover, the additional mitigation proposals include a suite of proposed improvements to the active travel networks beyond the development which will help better facilitate onward journeys beyond the site by foot and cycle. Indeed, many of these additional measures will help to mitigate the potential environmental effects that have been identified.

***Travel Plan***

17.6.4 A Framework Travel Plan (Appendix 17.2) has been prepared which sets out measures which can be adopted or adapted by future Travel Plans which will be secured through planning conditions and / or S106 obligations. The measures that are promoted, such as personalised travel planning, incentives for walking cycling and public transport travel, will support the long-term shift towards sustainable modes and help to reduce vehicular trips.

***Public Transport Strategy***

17.6.5 A public transport strategy has been established to ensure that future residents and other users of the Proposed Development will benefit from a high level of accessibility to bus services. Further details are provided within the Transport Assessment (Appendix 17.1) The phased introduction of new bus services is proposed based on an implementation strategy that responds to the likely phased built out of development parcels and associated highway infrastructure within the Proposed Development and other areas of the Loddon Valley Garden Village allocation site.

17.6.6 The strategy entails the introduction of new high quality bus services operating at a 30 minute frequency that increases to 20 minutes as the development becomes fully built out. The service would operate to key destinations such as Reading, Wokingham and Winnersh rail station. This will cater for trips by public transport to key employment, retail and leisure destinations within Reading and Wokingham town centres. Providing good connectivity to the rail stations in Reading, Winnersh and Wokingham will also facilitate a range of opportunities for onward travel along the national rail network.

***Active Travel Strategy***

17.6.7 The Active Travel Strategy has been formulated to ensure that key desire lines for walking and cycling trips beyond the Proposed Development can be accommodated satisfactorily. Measures include commitments to provide upgrades to existing facilities and / or promote new walking and cycling links to ensure a high degree of connectivity is achieved.

17.6.8 The access proposals at the gateways to the Proposed Development incorporate measures to facilitate the movement of pedestrian and cycle trips onto the adjacent networks. This includes features such a new signal controlled Toucan crossings in association with the access junctions onto Arborfield Road and Lower Earley Way.

17.6.9 The package of works also includes commitments to enhance existing routes beyond the Site, with a focus on improving connectivity westwards into Shinfield, northwards to Lower Earley and Reading, eastwards to Winnersh as well as connections into the recreational Public Right of Way networks towards Barkham.

17.6.10 Further details of the above improvements are provided within the Transport Assessment (Appendix 17.1) However, specific measures that are particularly relevant in the context of helping to address the potential environmental effects that have been identified include:

- New signal controlled crossing facility along the Hatch Farm Way corridor.
- New signal controlled Toucan crossing facility along the Shinfield Eastern Relief Road.
- New footway / cycleway along the Arborfield Road corridor into Shinfield, with associated signal controlled Toucan crossing and uncontrolled pedestrian crossings with central refuge islands.
- Promotion of pedestrian crossings with central refuge along the Shinfield Road corridor north of the Shinfield Gyratory to improve crossing connectivity.

17.6.11 Allowance for the proposed enhancements to the off-site active travel networks, including the specific works itemised above, has been made within the Infrastructure Delivery Plan (IDP) for the Loddon Valley Garden Village proposals and hence the delivery of the works can be secured through planning condition and / or S106 obligation.

***Highway Mitigation***

17.6.12 As identified above, the beneficial effects of the substantial package of off-site highway works is already allowed for within the "With Development" scenarios that have been undertaken using the WSTM traffic model and hence are already inherent within the analysis.

17.6.13 Notwithstanding, the results of the detailed capacity assessment presented within the Transport Assessment (Appendix 17.1) have identified additional junction improvement works to be promoted at the Mole Road / Mill Lane roundabout and also the King Street Lane / Hatch Farm Way signal junction. Allowance for the proposed improvement works at these locations has been made with the Infrastructure Delivery Plan (IDP) for the Loddon Valley Garden Village proposals and hence the delivery of the works can be secured through planning condition and / or S106 obligation.

## 17.7 Residual effects

### Construction Phase

17.7.1 As the beneficial measures promoted within the Construction Environmental Management Plan (CEMP) are already embedded within the assessment, there would still remain a **minor adverse effect (not significant)** in terms of non motorised user amenity along the surrounding network during the construction activities.

17.7.2 Similarly, there would still remain a **slight adverse effect (not significant)** in terms of driver delay along the road corridors during the period when the access junctions are formed.

### Operational Phase

***Community Severance***

17.7.3 The analysis undertaken within Section 17.5 of this chapter of the ES has determined that the additional traffic arising from the Proposed Development has the potential to result in **minor adverse effects (not significant)** in terms of community severance along the Hatch Farm Way, Arborfield Road, Shinfield Eastern Relief Road, Observer Way and Meldreth Way corridors.

17.7.4 As identified above, the Active Travel Strategy for the Proposed Development includes the promotion of a new signal crossings of the Hatch Farm Way corridor which, in conjunction with the new footway cycleway provision being provided along the new highway link between Mill Lane and Hatch Farm Way, will greatly improve connectivity for east-west movements across the corridor.

17.7.5 The new crossing points (signal controlled and uncontrolled pedestrian refuge islands), being provided along the Arborfield Road, in conjunction with the new footway / cycleway being promoted along the southern side of the corridor into Shinfield, will address the severance issues that are currently experienced for pedestrian and cycle movements along and across the corridor.

17.7.6 Similarly, the proposed signal controlled and uncontrolled crossing points being promoted along the Shinfield Eastern Relief Road will cater for movements across the corridor at a number of locations, including catering for cyclists using Cutbush Lane and for walking trips along the Public Right of Way networks that lie on either side of the road corridor.

17.7.7 It is considered that the additional mitigation measures would more than outweigh the negative effects of increased traffic flows, resulting in a **minor beneficial effects (not significant)** in terms of community severance in these locations.

17.7.8 The development proposals also include additional measures to enhance the pedestrian and cycle facilities at the northern extent of the Observer Way Relief Road. No improvements to the existing crossing provision are however proposed further south along the corridor, primarily as the key desire lines run along, rather than across, the corridor. Notwithstanding the delivery of this additional mitigation at the northern extent of the corridor, the residual **minor adverse effect (not significant)** in terms of community severance that has been identified in this location would remain.

17.7.9 The access proposals include enhanced pedestrian and cycle crossing facilities at the southern end of the Meldreth Way corridor as part of the access roundabout improvement works. No further improvements are however being promoted along the Meldreth Way corridor. Again, notwithstanding the delivery of this additional mitigation at the southern extent of the corridor, the residual **minor adverse effect (not significant)** in terms of community severance that has been identified in this location would remain.

***Driver Delay***

17.7.10 The analysis undertaken within Section 17.5 of this chapter of the ES has determined that, in the absence of any mitigation, the additional traffic arising from the Proposed Development has the potential to result in **moderate adverse effects (significant)** in terms of driver delay at the Mole Road / Mill Lane roundabout and the King Street Lane / Hatch Farm Way signal junction.

17.7.11 However, when account is taken of the additional mitigation schemes that have been identified for these locations, which would address the increase in queuing delay that is otherwise predicted to occur, the residual effects would reduce to being **negligible (not significant).**

***Non Motorised User Delay***

17.7.12 The analysis undertaken within Section 17.5 of this Chapter of the ES has determined that, in the absence of any mitigation, the additional traffic arising from the Proposed Development has the potential to result in **minor adverse effects (not significant)** in terms of pedestrian delay along the Hatch Farm Way, Arborfield Road and Observer Way corridors. Similarly, in the absence of any mitigation, **moderate adverse effects (significant)** in terms of pedestrian delay are predicted along the Shinfield Road and Eastern Relief Road corridors.

17.7.13 The proposed improved crossing facilities being promoted at the new signal junction along Hatch Farm Way, as well as the numerous crossings (including signal control) being promoted along the Arborfield Road and Shinfield Eastern Relief Road corridors, will act to substantially improve crossing delays at these locations, and hence the residual effects would reduce to being **negligible (not significant)**.

17.7.14 The proposal to implement pedestrian crossings with central islands along the Shinfield Road corridor will also have a positive effect. However, given the uncontrolled nature of the proposed crossing facilities, it is considered there would still be a residual **minor adverse effect (not significant)** along this corridor.

17.7.15 Notwithstanding the additional mitigation measures being delivered at the northern extent of the Observer Way corridor, the residual **minor adverse effect (not significant)** in terms of non-motorised user delay that has been identified in this location would remain.

***Non Motorised User Amenity***

17.7.16 The analysis undertaken within Section 17.5 of this chapter of the ES has determined that there would be a **moderate beneficial effect (significant)** in terms of non motorised user amenity along the northern section of Mill Lane as a result of the proposals to prevent through traffic routing along the corridor. This beneficial effect is already inherently reflected in the WSTM traffic model for the “With Development” scenarios and hence the findings are unchanged.

17.7.17 A **negligible effect (not significant)** in terms of non motorised user amenity has been identified along the Arborfield Road corridor. However, when account is taken of the new footway / cycleway that is being promoted along the southern side of the carriageway, it is considered that there would be a residual **moderate beneficial effect (significant)** in this location.

***Fear and Intimidation***

17.7.18 The analysis undertaken within Section 17.5 of this Chapter of the ES has determined that there is the potential for **minor adverse effects (not significant)** in terms of fear and intimidation along the B3270, Arborfield Road and Observer Way corridors.

17.7.19 It is considered that the implementation of the new footway / cycleway along the Arborfield Road corridor along with the new crossing facilities will more than outweigh the negative effects of increased traffic flows, resulting in a **minor beneficial effects (not significant)** in terms of fear and intimidation at this location.

17.7.20 Notwithstanding the additional mitigation measures being delivered, the **minor adverse effects (not significant)** that have been identified along the Observer Way and B3270 corridor would not be affected by the additional mitigation measures.

***Road Safety***

17.7.21 The proposed improvements for active travel modes being promoted along the Arborfield Road and Shinfield Eastern Relief Road corridors will result in a safer environment for pedestrians and cyclists. Similarly, the junction mitigation scheme being promoted at Mole Road / Mill Lane junction incorporates signal controlled crossings along all approaches which will provide a safer environment for pedestrians crossing the approaches.

17.7.22 Notwithstanding, the appraisal of personal injury accident data has not identified any inherent safety deficiencies across the study area and hence the residual effects would remain as being **minor adverse (not significant)** across the surrounding road network.

## 17.8 Implications of Climate Change

17.8.1 Future changes in weather pattens resulting from increasing average temperature could possibly have a small effect on the propensity to travel by non car modes. For example, increased rainfall events could act to deter the incidence of walk and cycle trips although, conversely, extended warmer periods might act to encourage active travel modes. Due to uncertainties, it is not possible to quantity the impacts that might result. However, any effects are not likely to be significant, not least given that the traffic flows used to inform the assessment within this chapter of the ES have been derived in a robust manner and hence are not reliant on high active travel mode share being realised.

17.8.2 The transport strategies that have been derived for the Proposed Development are based on optimising opportunities to encourage sustainable modes of travel and hence reduce reliance on the private car. This approach helps to minimise emissions associated with vehicular travel that contribute to climate change.

17.8.3 From an infrastructure perspective, the principal transport corridors that will accommodate pedestrian, cycle and vehicular movements within the Proposed Development have been designed so that the finished ground levels can be provided above flood levels that might occur during extreme (in in 100 yr) rainfall events which includes appropriate allowances for climate change.

## 17.9 Cumulative effects : Loddon Valley Garden Village Strategic Development Location

17.9.1 The assessment of the impact of the Proposed Development set out within Sections 17.5 to 17.8 of this Chapter has been informed using traffic flow information obtained from Wokingham Borough Council's Wokingham Strategic Transport Model (WSTM). Use of such flows assesses the impact of the Proposed Development on a cumulative basis accounting not only for traffic associated with the Proposed Development but also that from other committed and planned development sites as well as background traffic growth. As it is not possible to remove the effects of other planned development and background growth from the future year models, the resultant outputs for 'Forecast Baseline' 'With Development' scenarios are inherently representative of a cumulative assessment.

17.9.2 Notwithstanding, further assessments have been undertaken within this section of the ES which appraises the effects of the Proposed Development in conjunction with development at adjacent parcels which comprise the remaining components of the Loddon Valley Garden Village (LVGV) Strategic Development Location.

### Construction Phase

17.9.3 As is the case for the Proposed Development, construction of the other development parcels within the Loddon Valley Garden Village Strategic Development Location are expected to commence in 2027, with first occupations achieved during 2028. However, due to the availability of future year baseline traffic flows, a 2032 design year has been used to represent a typical year during the construction period in order to assess the likely significant transport effects during the construction phase.

17.9.4 As has also been established, the initial stages of the construction at the Proposed Development will include formation of the new permanent access routes into the development from the Arborfield Road frontage. Construction access for the development parcels being promoted in the south-eastern area of the Loddon Valley Garden Village allocation site would

be achieved via Mole Road while construction access for the parcels in the north-eastern area would be undertaken via Mill Lane.

17.9.5 Taken together, it is estimated that development would typically achieve an annual build out rate of approximately 85 dwellings per annum in each of the three locations.

17.9.6 Using information obtained at other residential sites, and based on the estimated 255 annual dwelling build out rate, approximately 435 construction movements are likely to occur during a working day. The busiest peak hour occurs during the morning peak period between 08:00-09:00hrs where approximately 45 construction movements would be expected to occur.

17.9.7 Table 17.12 identities the construction trips during these time periods, including a breakdown of the quantum of light vehicles and Heavy Goods Vehicles (HGVs).

**Table 17.12 Vehicular Trips : Construction Activities (Full LVGV Scenario)**

| Time Period | Light Vehicles | | | Heavy Goods Vehicles | | | Total Vehicles | | |
|---|---|---|---|---|---|---|---|---|---|
| | In | Out | Two Way | In | Out | Two Way | In | Out | Two Way |
| AM Peak Hour | 24 | 6 | 30 | 9 | 6 | 15 | 33 | 12 | 45 |
| 24 Hour | 162 | 162 | 324 | 54 | 54 | 108 | 216 | 216 | 435 |

***Construction Traffic Assessment***

17.9.8 Table 17.13 presents an assessment of highway link flows for the construction phase by comparing the 2032 baseline flows to the additional traffic generated by the construction activities. For ease of reference, the locations of each of the road links identified are depicted on Figure 17.2. It should be noted that some links presented within the Table represent infrastructure that will be provided as part of the Proposed Development and therefore do not cater for and traffic flows during the Forecast Base scenario.

**Table 17.13 Link Flow Analysis – With Construction (Full LVGV Scenario)**

| Highway Link | | AM Peak Hour (Two Way Vehs) | | | 24 hr Daily (Two Way Vehs) | | |
|---|---|---|---|---|---|---|---|
| ID | Name | 2032 Base | Change | % Change | 2032 Base | Change | % Change |
| 1 | Wokingham Road | 2,197 | 0 | 0.0% | 21,931 | 0 | 0.0% |
| 2 | Reading Road | 1,744 | 0 | 0.0% | 18,337 | 0 | 0.0% |
| 3 | Lower Earley Way (north) | 2,808 | +22 | +0.8% | 27,247 | +217 | +0.8% |
| 4 | Hatch Farm Way (north) | 1,523 | 9 | +0.6% | 15,004 | +91 | +0.6% |
| 5 | Lower Earley Way (south) | 2,628 | +13 | +0.5% | 26,163 | +127 | +0.5% |
| 6 | Mill Lane (north of M4) | 1,137 | 0 | 0.0% | 11,359 | 0 | 0.0% |
| 7 | Hatch Farm Way (south) | 1,498 | +9 | +0.6% | 14,369 | +91 | +0.6% |
| 8 | King Street Lane | 573 | 0 | 0.0% | 6,983 | 0 | 0.0% |
| 9 | Lower Earley Way (east) | 1,947 | +13 | +0.7% | 20,519 | +127 | +0.6% |
| 10 | Link to Hatch Farm Way | - | 0 | 0.0% | - | 0 | 0.0% |
| 11 | Mill Lane (west) | 1,137 | 0 | 0.0% | 11,359 | 0 | 0.0% |
| 12 | B3270 (west) | 2,543 | +13 | +0.5% | 26,929 | +127 | +0.5% |
| 13 | Longdon Road | 1,505 | 0 | 0.0% | 14,981 | 0 | 0.0% |
| 14 | A33 (south) | 4,674 | 0 | 0.0% | 47,922 | 0 | 0.0% |
| 15 | Mill Lane (east) | 1,137 | +15 | +1.3% | 11,359 | +145 | +1.3% |
| 16 | Mole Rd (north) | 958 | +9 | +1.0% | 10,069 | +91 | +0.9% |
| 17 | New Rd | 523 | 0 | 0.0% | 5,625 | 0 | 0.0% |
| 18 | Lower Earley Way (central) | 1,709 | +13 | +0.8% | 17,540 | +127 | +0.7% |
| 19 | Internal St (M4 Bridge) | - | 0 | 0.0% | - | 0 | 0.0% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20 | Internal St (Hatch) | - | +15 | - | - | +145 | - |
| 21 | Shinfield Rd | 1,216 | 0 | 0.0% | 13,348 | 0 | 0.0% |
| 22 | Lower Earley Way (west) | 2,596 | +13 | +0.5% | 26,259 | +127 | +0.5% |
| 23 | Internal St (River Bridge) | - | 0 | 0.0% | - | 0 | 0.0% |
| 24 | Bearwood Rd | 1,495 | 0 | 0.0% | 14,239 | 0 | 0.0% |
| 25 | A33 (north) | 3,478 | 0 | 0.0% | 38,239 | 0 | 0.0% |
| 26 | Whitley Wood Lane | 822 | 0 | 0.0% | 9,433 | 0 | 0.0% |
| 27 | B3270 (east) | 2,867 | +13 | +0.5% | 29,176 | +127 | +0.4% |
| 28 | Shinfield ERR (north) | 1,743 | +26 | +1.5% | 18,514 | +253 | +1.4% |
| 29 | Internal St (north) | - | 0 | 0.0% | - | 0 | 0.0% |
| 30 | Mole Rd (south) | 1,654 | 9 | +0.6% | 16,525 | +91 | +0.5% |
| 31 | Brookers Hill | 883 | 0 | 0.0% | 8,286 | 0 | 0.0% |
| 32 | Hollow Lane | 1,135 | 0 | 0.0% | 11,870 | 0 | 0.0% |
| 33 | Shinfield ERR (south) | 1,271 | +26 | +2.1% | 13,037 | +253 | +1.9% |
| 34 | Internal St (central) | - | 0 | 0.0% | - | 0 | 0.0% |
| 35 | Church Lane | 1,191 | 0 | 0.0% | 10,969 | 0 | 0.0% |
| 36 | Arborfield Rd (west) | 723 | 0 | 0.0% | 6,470 | 0 | 0.0% |
| 37 | Arborfield Rd (east) | 1,505 | +26 | +1.7% | 16,433 | +253 | +1.5% |
| 38 | Internal St (south) | - | +15 | - | - | +145 | - |
| 39 | Internal St (Gleeson) | - | +15 | - | - | +145 | - |
| 40 | Basingstoke Rd (north) | 1,185 | 0 | 0.0% | 11,422 | 0 | 0.0% |
| 41 | Hyde End Rd | 780 | 0 | 0.0% | 7,446 | 0 | 0.0% |
| 42 | Observer Way | 1,180 | 0 | 0.0% | 12,743 | 0 | 0.0% |
| 43 | Reading Rd | 373 | +11 | +3.0% | 3,949 | +109 | +2.8% |
| 44 | Sindlesham Rd | 831 | +21 | +2.5% | 7,929 | +199 | +2.5% |
| 45 | Swallowfield Rd | 202 | 0 | 0.0% | 2,414 | 0 | 0.0% |
| 46 | Eversley Rd | 662 | +9 | +1.4% | 6,001 | +91 | +1.5% |
| 47 | School Rd | 29 | 0 | 0.0% | 248 | 0 | 0.0% |
| 48 | A33 Swallowfield Bypass | 2,455 | 0 | 0.0% | 27,396 | 0 | 0.0% |
| 49 | Basingstoke Rd (south) | 1,194 | 0 | 0.0% | 10,762 | 0 | 0.0% |
| 50 | Eversley Rd | 1,505 | +9 | +0.6% | 16,105 | +91 | +0.6% |
| 51 | Rushey Way | 1,254 | 0 | 0.0% | 12,265 | 0 | 0.0% |
| 52 | Meldreth Way | 298 | 0 | 0.0% | 3,280 | 0 | 0.0% |
| X7 | A329 | 2,254 | +11 | +0.5% | 23,782 | +109 | +0.5% |
| X8 | Wharfedale Rd | 2,148 | +11 | +0.5% | 7,169 | +109 | +1.5% |
| X9 | Lower Earley Way | 3,275 | +22 | +0.7% | 30,722 | +217 | +0.7% |

17.9.9 Table 17.13 shows that traffic flows associated with the construction traffic would not be substantially different from the 'Forecast Baseline' scenario. Indeed, traffic increases along all areas of the road network would be no greater than +3% during the peak hours and over a 24hr period. Changes of this magnitude lie well below the 10% threshold, even for sensitive links, and therefore, in accordance with the IEA guidance thresholds, would not be perceptible.

17.9.10 Whilst the changes in traffic flows along all areas of the surrounding highway network would not be discernible during the construction stage of the proposed development, the construction activities would generate HGV movements that would not occur in the baseline scenario.

17.9.11 Construction activities would be undertaken in accordance with Construction Environment Management Plans (CEMPs) that would be submitted and approved by Wokingham Borough Council prior to the commencement of any development at any areas of the Loddon Valley Garden Village allocation site. Notwithstanding, the nature of the HGV trips associated with the construction activities is such that could have the potential to create a **minor adverse effect (not significant)** in terms of non motorised user amenity along the surrounding network. The effect of the HGV trips in respect of the other assessment criteria, namely community severance, driver delay, non motorised user delay, fear & intimidation and highway safety would however be **negligible (not significant).**

***Construction of LVGV Access Junctions and Service Utility Diversions***

17.9.12 As has been established, the access proposals for the Proposed Development include the construction of new vehicular access junctions at the Arborfield Road and Lower Earley Way

frontages. In both locations, the access will take the from of the provision of an additional arm onto an existing roundabout. Access for the development parcels being promoted in the south-eastern area of the Loddon Valley Garden Village (LVGV) Strategic Development Location would be achieved via a new priority junction onto Mole Road. Access for the parcels in the north-eastern areas would be facilitated by implementing a new roundabout onto Mill Lane undertaken via Mill Lane.

17.9.13 The construction of each of the access junctions is likely to take place over a 6 to 12 month period, part of which time local traffic management measures would be introduced along the respective road corridors as required.

17.9.14 It is possible that utility diversions may need to be undertaken as part of the construction works for the access junctions. The construction works for any such service diversions would be scheduled to take place during the same period as the construction of the access junctions in order to minimise the disruption.

17.9.15 The construction of the access junctions would have limited effect on the pedestrian or cycle networks in the area. Consequently, the effects in terms of community severance, non motorised user delay, non motorised user amenity or fear & intimidation would be **negligible (not significant)**. The access junction construction works are however likely to result in a **slight adverse effect (not significant)** in terms of driver delay while the traffic management measures are in place. As the construction works for the access junctions are likely to only occur for only a 6 to 12 month duration, the adverse effects would however be short term in nature.

17.9.16 Whist the measures promoted with the CEMPs will help to alleviate the disruption during the construction of the access junctions, it is considered that there would still remain a **minor adverse effect (not significant)** in terms of driver delay along the respective road corridors.

### Operational Phase

17.9.17 The full proposals for the Loddon Valley Garden Village allocation site are likely to be fully operational by 2040. Therefore, for the purposes of assessing the transport effects, an assessment year of 2040 has been used.

17.9.18 The vehicular trip generation for the Loddon Valley Garden Village allocation site during the operational phase has been appraised based on the detailed appraisal of trip generation patterns which reflects trips generation that arises at similar land uses as well as local and national travel patterns. Details for the methodology used and resulting trip generation are set out within the Transport Assessment Report provided at Appendix 17.1.

17.9.19 The resultant vehicular trip generation for the Proposed Development is summarised in Table 17.14 for the AM and PM peak hours.

**Table 17.14 Vehicular Trip Generation – Fully Operational (Full LVGV Scenario)**

| | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | In | Out | Two Way | In | Out | Two Way |
| Trip Generation (Two Way Vehs) | 1,849 | 1,785 | 3,634 | 1,692 | 1,535 | 3,227 |

***Operational Traffic Assessment***

17.9.20 The vehicular trips that would be generated by the full Loddon Valley Garden Village (LVGV) allocation site have been assigned onto the local highway network using the WSTM traffic model.

17.9.21 Table 17.15 presents an assessment of highway link flows for the operational phase by comparing the 2040 'Forecast Baseline' flows to the additional traffic generated by the 2040 'With LVGV' scenario. For ease of reference, the locations of each of the road links identified are depicted on Figure 17.2. It should be noted that some links presented within the Table represent infrastructure that will be provided as part of the Proposed Development and therefore do not cater for and traffic flows during the Forecast Base scenario.

**Table 17.15 Link Flow Analysis –With Operational Traffic (Full LVGV Scenario)**

| Highway Link | | AM Peak Hour (Two Way Vehs) | | | PM Peak Hour (Two Way Vehs) | | | 24 hr Daily (Two Way Vehs) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ID | Name | 2040 Base | Change | % Change | 2040 Base | Change | % Change | 2040 Base | Change | % Change |
| 1 | Wokingham Road | 2,471 | +16 | +1% | 2,217 | +63 | +3% | 24,386 | +389 | +2% |
| 2 | Reading Road | 1,958 | +195 | +10% | 2,088 | +102 | +5% | 20,362 | +1,600 | +8% |
| 3 | Lower Earley Way (north) | 3,321 | +298 | +9% | 2,889 | +396 | +14% | 32,450 | +3,640 | +11% |
| 4 | Hatch Farm Way (north) | 1,730 | +375 | +22% | 1,530 | +630 | +41% | 17,038 | +5,295 | +31% |
| 5 | Lower Earley Way (south) | 3,076 | +146 | +5% | 2,787 | +176 | +6% | 30,647 | +1,700 | +6% |
| 6 | Mill Lane (north of M4) | 1,250 | -1,250 | -100% | 1,140 | -1,140 | -100% | 12,507 | -12,507 | -100% |
| 7 | Hatch Farm Way (south) | 1,726 | -351 | -20% | 1,422 | -52 | -4% | 16,438 | -2,070 | -13% |
| 8 | King Street Lane | 639 | +23 | +4% | 812 | +23 | +3% | 7,629 | +235 | +3% |
| 9 | Lower Earley Way (east) | 2,112 | +145 | +7% | 2,194 | +44 | +2% | 22,788 | +846 | +4% |
| 10 | Link to Hatch Farm Way | - | +1,127 | - | - | +1,079 | - | - | +11,475 | - |
| 11 | Mill Lane (west) | 1,250 | -124 | -10% | 1,140 | -61 | -5% | 12,507 | -971 | -8% |
| 12 | B3270 (west) | 2,715 | +317 | +12% | 2,927 | +381 | +13% | 29,562 | +3,662 | +12% |
| 13 | Longdon Road | 1,768 | -104 | -6% | 1,568 | +152 | +10% | 17,436 | +285 | +2% |
| 14 | A33 (south) | 5,113 | -146 | -3% | 4,834 | +17 | +0% | 52,031 | -648 | -1% |
| 15 | Mill Lane (east) | 1,250 | +102 | +8% | 1,140 | +122 | +11% | 12,507 | +1,170 | +9% |
| 16 | Mole Rd (north) | 1,034 | +80 | +8% | 989 | +173 | +18% | 10,584 | +1,336 | +13% |
| 17 | New Rd | 580 | +99 | +17% | 657 | -20 | -3% | 6,485 | +404 | +6% |
| 18 | Lower Earley Way (central) | 1,825 | -227 | -12% | 1,860 | -59 | -3% | 19,294 | -1,475 | -8% |
| 19 | Internal St (M4 Bridge) | - | +1,389 | - | - | +1,296 | - | - | +14,038 | - |
| 20 | Internal St (Hatch) | - | +843 | - | - | +868 | - | - | +8,965 | - |
| 21 | Shinfield Rd | 1,352 | +226 | +17% | 1,470 | +53 | +4% | 14,642 | +1,578 | +11% |
| 22 | Lower Earley Way (west) | 2,790 | -461 | -17% | 2,662 | -363 | -14% | 28,576 | -4,322 | -15% |
| 23 | Internal St (River Bridge) | - | +1,135 | - | - | +995 | - | - | +11,131 | - |
| 24 | Bearwood Rd | 1,764 | -125 | -7% | 1,485 | -54 | -4% | 16,975 | -932 | -5% |
| 25 | A33 (north) | 3,643 | +134 | +4% | 3,733 | -96 | -3% | 39,078 | +242 | +1% |
| 26 | Whitley Wood Lane | 861 | +32 | +4% | 1,140 | +63 | +6% | 10,511 | +502 | +5% |
| 27 | B3270 (east) | 3,067 | +599 | +20% | 2,988 | +603 | +20% | 31,519 | +6,468 | +21% |
| 28 | Shinfield ERR (north) | 1,814 | +767 | +42% | 1,917 | +617 | +32% | 19,539 | +7,215 | +37% |
| 29 | Internal St (north) | - | +834 | - | - | +883 | - | - | +8,994 | - |
| 30 | Mole Rd (south) | 1,771 | -23 | -1% | 1,511 | +47 | +3% | 17,146 | +134 | +1% |
| 31 | Brookers Hill | 945 | +87 | +9% | 788 | +95 | +12% | 9,045 | +954 | +11% |
| 32 | Hollow Lane | 1,228 | +5 | +0% | 1,224 | -20 | -2% | 12,824 | -82 | -1% |
| 33 | Shinfield ERR (south) | 1,358 | +395 | +29% | 1,368 | +339 | +25% | 14,266 | +3,829 | +27% |
| 34 | Internal St (central) | - | 0 | 0% | - | 0 | 0% | - | +6,965 | - |
| 35 | Church Lane | 1,269 | +35 | +3% | 986 | +44 | +4% | 11,767 | +409 | +3% |
| 36 | Arborfield Rd (west) | 866 | +226 | +26% | 598 | +359 | +60% | 7,628 | +3,080 | +40% |
| 37 | Arborfield Rd (east) | 1,678 | +405 | +24% | 1,832 | +438 | +24% | 18,389 | +4,422 | +24% |
| 38 | Internal St (south) | - | +1,032 | - | - | +860 | - | - | +9,881 | - |
| 39 | Internal St (Gleeson) | - | +324 | - | - | +449 | - | - | +4,063 | - |
| 40 | Basingstoke Rd (north) | 1,263 | +29 | +2% | 1,079 | +53 | +5% | 12,235 | +433 | +4% |
| 41 | Hyde End Rd | 892 | +212 | +24% | 738 | +219 | +30% | 8,512 | +2,252 | +26% |
| 42 | Observer Way | 1,282 | +466 | +36% | 1,360 | +433 | +32% | 13,835 | +4,707 | +34% |
| 43 | Reading Rd | 447 | +3 | +1% | 473 | -6 | -1% | 4,825 | -28 | -1% |
| 44 | Sindlesham Rd | 907 | +44 | +5% | 714 | +98 | +14% | 8,460 | +755 | +9% |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 45 | Swallowfield Rd | 242 | -2 | -1% | 274 | +5 | +2% | 2,711 | +11 | +0% |
| 46 | Eversley Rd | 704 | +45 | +6% | 504 | +114 | +23% | 6,292 | +836 | +13% |
| 47 | School Rd | 32 | +5 | +14% | 21 | +3 | +16% | 281 | +37 | +13% |
| 48 | A33 Swallowfield Bypass | 2,745 | -68 | -2% | 3,048 | +14 | +0% | 30,359 | -282 | -1% |
| 49 | Basingstoke Rd (south) | 1,275 | +210 | +16% | 982 | +220 | +22% | 11,776 | +2,252 | +19% |
| 50 | Eversley Rd | 1,650 | +136 | +8% | 1,757 | +131 | +7% | 17,854 | +1,391 | +8% |
| 51 | Rushey Way | 1,517 | +5 | +0% | 1,227 | +6 | +1% | 14,320 | +63 | +0% |
| 52 | Meldreth Way | 354 | +149 | +42% | 371 | +103 | +28% | 3,803 | +1,302 | +34% |
| X7 | A329 | 2,446 | -51 | -2% | 2,599 | +114 | +4% | 26,049 | +403 | +2% |
| X8 | Wharfedale Rd | 2,498 | +60 | +2% | 2,487 | +57 | +2% | 7,971 | -35 | -0% |
| X9 | Lower Earley Way | 3,735 | +67 | +2% | 2,827 | +168 | +6% | 34,219 | +1,259 | +4% |

17.9.22 As can be seen from Table 17.15, there are many instances where traffic flows along highway links would not increase substantially when compared to the baseline scenario. Indeed, in the cases where the magnitude of change in less than 10%, the environmental effects would not be perceptible in environmental impact assessment terms.

17.9.23 There are many links where the increase in flow lies between the 10% and 30%, indicating that there may be a need to consider the environmental effects if the highway link is deemed to be sensitive. The screening process which establishes this is set out below.

17.9.24 The potential environmental effects that could occur along highway links where flows are predicted to increase by over 30% fall within the scope of assessment, irrespective of the sensitivity of the link.

17.9.25 There are some instances where traffic flows would decrease slightly. This is due to the traffic adopting different routings in response to the different traffic flows and highway network configuration that will be in place by 2040. This is particularly evident along some highway links within and around Sindlesham, where traffic adopts different routings to utilise the new highway link connection to Hatch Farm Way instead of current routings which utilise the Hatch Farm Way / King Street Lane junction and the Mole Road / Mill Lane roundabout. Indeed, this new highway infrastructure enables the closure of Mill Lane to through traffic and thereby results in a substantial reduction in flow along this link.

17.9.26 Similarly, the creation of the new highway connections through the Loddon Valley Garden Village allocation site, which links the Arborfield Road and Lower Earley Way corridors via the new M4 overbridge and also the Mole Road and Mill Lane corridors also acts to relieve some of the traffic flows which currently route along the western section of Lower Earley Way.

Identification of Links for Further Assessment

17.9.27 The following links are predicted to experience increases in traffic flow of above 30% and hence require further assessment irrespective of the sensitivity of the link.

- Link 4 : Hatch Farm Way (north)
- Link 28 : Shinfield Eastern Relief Road (north of TVSP access)
- Link 36 : Arborfield Raod (west of Eastern Relief Road)
- Link 42 : Observer Way
- Link 52 : Meldreth Way

17.9.28 The following links are predicted to experience increases in traffic flow between 10% and 30% and are deemed to require further assessment as they are considered to be sensitive context to changes in traffic flow in the context of the approach advocated in the IEMA Guidelines.

- Link 2 : Reading Road
- Link 3 : Lower Earley Way (north)
- Link 12 : B3270 (west)
- Link 13 : Longdon Road
- Link 15 : Mill Lane (east)
- Link 16 : Mole Road (north)
- Link 17 : New Road
- Link 21 : Shinfield Road
- Link 27 : B3270 (east)
- Link 31 : Brookers Hill
- Link 33 : Shinfield Eastern Relief Road (south)
- Link 37 : Arborfield Road (east)
- Link 41 : Hyde End Road
- Link 44 : Sindlesham Road
- Link 46 : Eversley Road
- Link 47 : School Road
- Link 49 : Basingstoke Road (south)

17.9.29 The forecast increases in flows along all other links within the study area would be below 10% and hence no further assessment is required as changes in flow of this magnitude would not be perceptible in environmental impact terms.

Severance of Communities

17.9.30 Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure. In general terms, according to the IEMA Guidelines a 30% change in traffic flow is likely to produce a ‘minor’ change in severance, with ‘moderate’ and ‘substantial’ changes occurring at 60% and 90%, respectively.

17.9.31 Of the highway links identified for further assessment, the following are predicted to experience a change in AADT flow over 30% and up to 60% which equates to a minor magnitude of effect.

- Link 4 : Hatch Farm Way (north) : +41% (PM Peak)
- Link 28 : Shinfield Eastern Relief Road (north of TVSP access) : +42% (AM Peak)
- Link 36 : Arborfield Road : (west of Eastern Relief Road) : +60% (PM Peak)
- Link 42 : Observer Way : +36% (AM Peak)
- Link 52 : Meldreth Way : + 42% (AM Peak)

17.9.32 Hatch Farm Way, Shinfield Eastern Relief Road and Observer Way are deemed to be of low sensitivity which, combined with the low magnitude of change, could result in the potential for **minor adverse effects (not significant)** in terms of community severance.

17.9.33 The new crossing facilities being provided along the Hatch Farm Way, Shinfield Eastern Relief Road and Arborfield Road corridors will address the severance issues that have been identified for pedestrian and cycle movements in these locations. Indeed, it is considered that the mitigation measures would more than outweigh the negative effects of increased traffic flows, resulting in a **minor beneficial effects (not significant)** in terms of community severance for these corridors.

17.9.34 Notwithstanding the mitigation measures that would accompany the Loddon Valley Garden Village allocation site, the **minor adverse effect (not significant)** in terms of community severance that has been identified for the Observer Way and Meldreth Way corridors would remain.

Driver Delay

17.9.35 Capacity assessments have been undertaken at the proposed access junctions and neighbouring junctions along the highway network. The results, which are presented within the Transport Assessment Report within Appendix 17.1 show that the access arrangements for the Loddon Valley Garden Village allocation site would operate within capacity and with minimal queuing delays when the development is fully operational.

17.9.36 Similarly, the capacity analysis demonstrates that the off-site highway mitigation measures that are inherent within the 'With Development' scenario would ensure that queuing delay would not increase substantially along the adjacent areas of the highway network when compared to the 'Forecast Baseline' scenario.

17.9.37 The capacity results do however identify that the Mole Road / Mill Lane roundabout and the nearby King Street Lane / Hatch Farm Way signal junction would operate over capacity in the peak hour periods and that, without any mitigation, the situation would worsen when the Loddon Valley Garden Village allocation site is fully operational. The extent of additional queuing delay predicted in these locations is not substantial. However, these junctions are considered to be high sensitivity locations and accordingly, whilst the magnitude of change is low, in the absence of any mitigation there could be the potential for **moderate adverse effects (significant)** in terms of driver delay in these locations.

17.9.38 When however account is taken of the of the additional mitigation schemes that have been identified for these two junctions, which would address the increase in queuing delay that is otherwise predicted to occur, the residual effects would reduce to being **negligible (not significant).**

Non Motorised User Delay

17.9.39 The IEMA Guidelines refer to studies which indicate that two-way flow of approximately 1,400 vehicles per hour typically equates to a 10 second delay for pedestrian wishing to cross a link where there are no facilities. This is considered to represent a negligible delay and hence links where the predicted flows are lower than this threshold have been discounted from further appraisal.

17.9.40 In addition, links where there are already signal controlled crossing facilities available are unlikely to result in any discernible increase in crossing delay for pedestrians, irrespective of the increase in traffic flows. Such links include Reading Road (Link 2), Lower Ealey Way to the east of Hatch Farm Way (Link 3) and the eastern section of the B3270 (Link 27). Similarly, pedestrian connectivity across the western section of the B3270 (Link 12) is achieved via an existing pedestrian bridge, thereby fully segregating movements from the traffic flows. Accordingly, the non-motorised user delay along these links is also considered to be negligible.

17.9.41 The likely effects in terms of non motorised user delay on the remaining links are considered below.

17.9.42 Whilst Hatch Farm Way (Link 4) benefits from signal controlled crossings at its northern and southern extents, the crossing points along the remainder of the link take the form of uncontrolled crossing with central island refuges. The corridor is deemed to be of low sensitivity whilst the increase in traffic is considered to be of medium magnitude. Taken together, this could equate to the potential for a minor adverse effect (not significant) in terms of crossing delay for pedestrians and cyclists. However, the proposed improved crossing facility being promoted at the new signal junction along Hatch Farm Way will improve crossing delays and hence the residual effects would reduce to being **negligible (not significant).**

17.9.43 There are no crossing facilities along the Longdon Road corridor (Link 13). However, as the southern side of the corridor abuts the M4 motorway, there is no desire to cross the link other than at its junction with King Street Lane (where signal crossings are provided) or at the refuge island crossing at its eastern extent. The sensitivity of the link is considered to be low and the forecast increase in flow is relatively modest, only equating to a low magnitude. Taken together, this could equate to the potential for a **minor adverse effect (not significant)** in terms of crossing delay for pedestrians and cyclists.

17.9.44 Shinfield Road (Link 21) is considered to be a link of high sensitivity. There are currently signal controlled crossings at its southern interface with the Shinfield Gyratory and also at the northern end as part of the signal junction with Whitley Wood Road. There are some intermediate crossing points which take the form of uncontrolled crossings with central refuge islands. The forecast increase in flow is relatively modest and would equate to only a low magnitude. However, when combined with the high sensitivity of the link, there is a potential for a **moderate adverse effect (significant)** in terms of effect in terms of crossing delay for pedestrians and cyclists. The proposals to implement pedestrian crossings with central islands along the Shinfield Road corridor will have a positive effect. However, given the uncontrolled nature of the proposed crossing facilities, it is considered there would still be a residual **minor adverse effect (not significant)** along this corridor.

**17.9.45** Whilst Shinfield Eastern Relief Road (Links 28 and 33) is considered to be of low sensitivity, the flows increases along the corridor are considered to represent a high magnitude of change. At present there are no crossing facilities along the corridor apart from the signal junction at the northern extent. In this context, there is considered to be a potential for a **moderate adverse effect (significant)** in terms of effect in terms of crossing delay for pedestrians and cyclists. However, the new signal controlled and uncontrolled crossing point being promoted along the Shinfield Eastern Relief Road will act to substantially improve crossing delays along the corridor at these locations. Accordingly, the residual effects would reduce to being **negligible (not significant).**

17.9.46 The section of Arborfield Road (Link 37) that lies to the east of the Shinfield Eastern Relief Road is deemed to be of medium sensitivity. At present there are no crossing facilities along the corridor. The increase in traffic flows is deemed to be of medium magnitude which would result in the potential for a **moderate adverse effect (significant)** in terms of effect in terms of crossing delay for pedestrians and cyclists. Notwithstanding, the numerous crossings (including signal control) being promoted along the Arborfield Road corridor will have a positive effect meaning that the residual effects would reduce to being **negligible (not significant).**

17.9.47 The Observer Way corridor (Link 42) is deemed to be of low sensitivity. There are uncontrolled crossing points at the northern, central and southern section of the corridor. The increase in traffic flows is deemed to be of medium magnitude which would result in the potential for a

**minor adverse effect (not significant)** in terms of effect in terms of crossing delay for pedestrians and cyclists.

Non Motorised User Amenity

17.9.48 Pedestrian amenity is broadly defined as the relative pleasantness of a journey, The IEMA Guidelines set out that traffic flow would typically need to half or double for the effect on pedestrian amenity to be discernible. The forecast increases in traffic flows along all highway links lie below this threshold for all time periods that are considered. Moreover, the quantum of HGVs generated during the operational phase would be very low, which again indicates that the effects would not be discernible, even when allowing for the composition of traffic flows.

17.9.49 Of note however is that the traffic flows along Mill Lane (Link 11) to the north of the M4 motorway would reduce substantially, given that the formation of the new link road to Hatch Farm Way incorporates measures to prevent through traffic along the corridor. There would still be some residual vehicular movements along the link associated with local traffic gaining access and, on this basis, the magnitude of change is considered to be medium. Given the absence of any footways and the presence of land uses such as hotel, public house and residential properties, the link is considered to be of medium sensitivity. Taken together, there would be a **moderate beneficial effect (significant)** in terms of non motorised amenity along the link.

17.9.50 The potential effects on non motorised user amenity along all other areas of the network would be **negligible (not significant).**

Fear and Intimidation

17.9.51 The IEMA Guidelines suggest how to determine what the level of fear and intimidation of vehicle movements may be on vulnerable users, and the magnitude of impact that occur as a result of new development. The assessment applies criteria based on average traffic flows, the HGV flows, and average vehicle speeds. This approach is used to quantify the level of fear and intimidation in both base and future scenarios, and from there identify the magnitude of impact based on the overall change between scenarios.

17.9.52 Table 17.16 provides the summary of the analysis based on the 2040 'Forecast Baseline' flows while Table 17.17 presents the findings based on the 20240 'With Loddon Valley Garden Village Development' flows.

**Table 17.16 Fear & Intimidation Analysis – 2040 'Forecast Baseline'**

| ID | Name | 24hr AADT Two Way Flows | Average Hourly Flow (based on 18 hr AAWT) | 18 hour HGVs (AAWT) | Speed (mph) | A Score | B Score | C Score | Total Score | Degree of Hazzard |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Reading Road | 20,362 | 1,204 | 694 | 30 | 20 | 0 | 10 | 30 | Moderate |
| 3 | Lower Earley Way (north) | 32,450 | 1,919 | 414 | 40 | 30 | 0 | 20 | 50 | Great |
| 4 | Hatch Farm Way (north) | 17,038 | 1,007 | 399 | 40 | 10 | 0 | 20 | 30 | Moderate |
| 6 | Mill Lane (north of M4) | 12,507 | 740 | 226 | 40 | 10 | 0 | 30 | 40 | Moderate |
| 12 | B3270 (west) | 29,562 | 1,748 | 409 | 40 | 20 | 0 | 20 | 40 | Moderate |
| 13 | Longdon Road | 17,436 | 1,031 | 315 | 30 | 10 | 0 | 10 | 20 | Small |
| 15 | Mill Lane (east) | 12,507 | 740 | 226 | 60 | 10 | 0 | 30 | 40 | Moderate |
| 16 | Mole Rd (north) | 10,584 | 626 | 113 | 30 | 10 | 0 | 10 | 20 | Small |
| 17 | New Rd | 6,485 | 383 | 186 | 30 | 0 | 0 | 10 | 10 | Small |
| 21 | Shinfield Rd | 14,642 | 866 | 234 | 30 | 10 | 0 | 10 | 20 | Small |
| 27 | B3270 (east) | 31,519 | 1,864 | 470 | 40 | 30 | 0 | 20 | 50 | Great |
| 28 | Shinfield ERR (north) | 19,539 | 1,155 | 562 | 40 | 10 | 0 | 20 | 30 | Moderate |
| 31 | Brookers Hill | 9,045 | 535 | 173 | 40 | 0 | 0 | 20 | 20 | Small |
| 33 | Shinfield ERR (south) | 14,266 | 844 | 410 | 50 | 10 | 0 | 30 | 40 | Moderate |
| 36 | Arborfield Rd (west) | 7,628 | 451 | 24 | 30 | 0 | 0 | 10 | 10 | Small |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 37 | Arborfield Rd (east) | 18,389 | 1,087 | 431 | 50 | 10 | 0 | 30 | 40 | Moderate |
| 41 | Hyde End Rd | 8,512 | 503 | 36 | 30 | 0 | 0 | 10 | 10 | Small |
| 42 | Observer Way | 13,835 | 818 | 412 | 50 | 10 | 0 | 30 | 40 | Small |
| 44 | Sindlesham Rd | 8,460 | 500 | 135 | 30 | 0 | 0 | 10 | 10 | Small |
| 46 | Eversley Rd | 6,292 | 372 | 60 | 30 | 0 | 0 | 10 | 10 | Small |
| 47 | School Rd | 281 | 17 | 2 | 30 | 10 | 0 | 0 | 10 | Small |
| 49 | Basingstoke Rd (south) | 11,776 | 696 | 263 | 40 | 10 | 0 | 20 | 30 | Moderate |
| 52 | Meldreth Way | 3,803 | 225 | 12 | 30 | 0 | 0 | 10 | 10 | Small |

**Table 17.17 Fear & Intimidation Analysis – 2040 'With Full LVGV Development'**

| ID | Name | 24hr AADT Two Way Flows | Average Hourly Flow (based on 18 hr AAWT) | 18 hour HGVs (AAWT) | Speed (mph) | A Score | B Score | C Score | Total Score | Degree of Hazzard |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Reading Road | 21,962 | 1299 | 748 | 30 | 20 | 0 | 10 | 30 | Moderate |
| 3 | Lower Earley Way (north) | 36,090 | 2134 | 461 | 40 | 30 | 0 | 20 | 50 | Great |
| 4 | Hatch Farm Way (north) | 22,333 | 1321 | 523 | 40 | 20 | 0 | 20 | 40 | Moderate |
| 6 | Mill Lane (north of M4) | 0 | 0 | 0 | 40 | 0 | 0 | 30 | 30 | Moderate |
| 12 | B3270 (west) | 33,224 | 1965 | 460 | 40 | 30 | 0 | 20 | 50 | Great |
| 13 | Longdon Road | 17,721 | 1048 | 321 | 30 | 10 | 0 | 10 | 20 | Small |
| 15 | Mill Lane (east) | 13,677 | 809 | 247 | 60 | 10 | 0 | 30 | 40 | Moderate |
| 16 | Mole Rd (north) | 11,920 | 705 | 127 | 30 | 10 | 0 | 10 | 20 | Small |
| 17 | New Rd | 6,889 | 407 | 198 | 30 | 0 | 0 | 10 | 10 | Small |
| 21 | Shinfield Rd | 16,220 | 959 | 259 | 30 | 10 | 0 | 10 | 20 | Small |
| 27 | B3270 (east) | 37,987 | 2246 | 566 | 40 | 30 | 0 | 20 | 50 | Great |
| 28 | Shinfield ERR (north) | 26,754 | 1582 | 769 | 40 | 20 | 0 | 20 | 40 | Moderate |
| 31 | Brookers Hill | 9,999 | 591 | 192 | 40 | 0 | 0 | 20 | 20 | Small |
| 33 | Shinfield ERR (south) | 18,095 | 1070 | 520 | 50 | 10 | 0 | 30 | 40 | Moderate |
| 36 | Arborfield Rd (west) | 10,708 | 633 | 34 | 30 | 10 | 0 | 10 | 20 | Small |
| 37 | Arborfield Rd (east) | 22,811 | 1349 | 534 | 50 | 20 | 0 | 30 | 50 | Great |
| 41 | Hyde End Rd | 10,764 | 636 | 46 | 30 | 10 | 0 | 10 | 20 | Moderate |
| 42 | Observer Way | 18,542 | 1096 | 553 | 50 | 10 | 0 | 30 | 40 | Moderate |
| 44 | Sindlesham Rd | 9,215 | 545 | 147 | 30 | 0 | 0 | 10 | 10 | Small |
| 46 | Eversley Rd | 7,128 | 421 | 68 | 30 | 0 | 0 | 10 | 10 | Small |
| 47 | School Rd | 318 | 19 | 2 | 30 | 0 | 0 | 0 | 0 | Small |
| 49 | Basingstoke Rd (south) | 14,028 | 830 | 314 | 40 | 10 | 0 | 20 | 30 | Moderate |
| 52 | Meldreth Way | 5,105 | 302 | 16 | 30 | 0 | 0 | 10 | 10 | Small |

17.9.53 A comparison of the findings within Table 17.16 and Table 17.17 indicates that the classification of the degree of hazard will only change along the B3270 (Link 12), Arborfield Road east (Link 37) and Observer Way (Link 42). In all three instances, the classification of hazard moves up only one step which, based on the IEMA Guidelines, indicates that the magnitude of change is deemed to be low.

17.9.54 It is considered that the implementation of the new footway / cycleway along the Arborfield Road corridor along with the new crossing facilities will more than outweigh the negative effects of increased traffic flows, resulting in a **minor beneficial effect (not significant)** in terms of fear and intimidation at this location.

17.9.55 Notwithstanding the mitigation measures that would accompany the Loddon Valley Garden Village allocation site, the minor adverse effects that have been identified along the Observer Way and B3270 corridor would remain.

Highway Safety

17.9.56 The proposed access arrangements for parcels within the Loddon Valley Garven Village allocation site being promoted by the University of Reading have been designed with full compliance to highway standards and a Road Safety Auditor has been commissioned to

independently appraise the access proposals. The Road Safety Audits raise no fundamental issues with the proposed arrangements and all residual recommendations made by the Auditor have been incorporated into the proposed designs. It is understood that the designs being advanced for the accesses which serve the remaining areas of the Loddon Valley Garden Village allocation site are being advanced to demonstrate a similar level of compliance.

17.9.57 A review of the local personal injury accident data is presented in the Transport Assessment (Appendix 17.1). The analysis suggests that human error is likely to have been the primary cause in the majority of the accidents, rather than any predominant common causation factors that would otherwise indicate particular deficiencies with highway safety in the area.

17.9.58 Whilst all accidents are regrettable, based on the analysis undertaken it is not considered that there are any specific issues with highway safety in the area that would be substantially exacerbated by the traffic attributable to the development proposals. Accordingly, there would only be **minor adverse effects (not significant)** in terms of highway safety resulting from the traffic flows arising from the full proposals at the Loddon Valley Garden Village allocation site.

## 17.10 Summary

17.10.1 This chapter has assessed the potentially significant environmental effects which could arise on the local transport network and which are attributable to changes in predicted travel demand associated with the proposed construction and operation of the Proposed Development.

17.10.2 The assessment has been carried out in accordance with the Institute of Environmental Management and Assessment (IEMA) Guidelines : Environmental Assessment of Traffic and Movement (July 2023) and has focused on appraising the following potential transport related effects:

- Community Severance of Communities
- Road Vehicle Driver and Passenger Delay
- Non Motorised User Delay
- Non Motorised User Amenity
- Fear and Intimidation on and by Road Users
- Road User and Pedestrian Safety

17.10.3 A review of the baseline conditions has been undertaken along the surrounding networks that cater for active travel, public transport and vehicular trips. A summary of the detailed appraisal of personal injury accident data is also presented to establish the current position in respect of road safety.

17.10.4 Traffic data utilised in the assessment, including future year baseline flows, has been taken from Wokingham Borough Council's traffic model (WSTM). The WSTM traffic model assesses both existing traffic on the network as well as that associated with future developments which are yet to be built. This ensures that the road network has been appraised comprehensively, including accounting for the cumulative effects of committed and planned development. Indeed, as it is not possible to remove the effects of other planned development and background growth from the future year models, the resultant outputs for the future year 'Forecast Base' and 'With Development' scenarios are inherently representative of cumulative assessments. Accordingly, all assessments have therefore already been undertaken on a cumulative basis.

17.10.5 Construction access to the Site would be formed form the Arborfield Road and Lower Earley Way frontages. The construction vehicle movements along with the construction of the

Proposed Development, including the formation of the access junctions, have the potential to cause minor adverse effects in terms of pedestrian amenity and driver delay. These effects will be mitigated through the use of a Construction Environmental Management Plan (CEMP),albeit the residual adverse effects would remain as being minor in nature (not significant).

17.10.6 The transport and traffic effects during the operational phase of the Proposed Development include a potential for some **minor adverse (not significant)** and **moderate adverse effects (significant)** in terms of effects driver delay, non motorised user delay and non motorised user amenity along some areas of the surrounding network. There is also the potential for some **minor adverse effects (not significant)** in terms of community severance and fear and intimidation.

17.10.7 The Proposed development does however include a substantial package of measures aimed at encouraging journeys by active travel and public transport modes as well as highway improvement schemes aimed at mitigation the impacts of the development traffic. When account is taken of the mitigation measures, the residual adverse effects are reduced to being only **minor adverse in nature (not significant)**. Indeed, there are instances where the mitigation schemes would result in some beneficial effects, particularly resulting from the proposals to improve pedestrian and cycle connectivity along the surrounding networks.

17.10.8 The assessments within this ES chapter take fully account of committed and planned development and are therefore already inherently representative of cumulative assessments. Notwithstanding, a further scenario has been appraised which also includes the traffic flows that reflect the full build out of all areas of the Loddon Valley Garden Village allocation site. The findings of this ancillary scenario are comparable to the Proposed Development assessments; namely effects that range from minor adverse effects to moderate beneficial effects.

17.10.9 A summary of the assessment is set out in Table 17.18 overleaf.

## 17.11 References


- Institute of Environmental Management and Assessment (IEMA) Guidelines; Environmental Assessment of Traffic and Movement (July 2023)
- Environmental Impact Assessment, A Guide to Procedures, Department for Transport, Local Government and the Regions (2000)
- CLG (January 2025) National Planning Policy Framework
- CLG (March 2014) Planning Practice Guide
- Wokingham Borough Council (January 2010) Wokingham Borough Adopted Core Strategy Development Plan Document, January 2010
- Wokingham Borough Council (February 2025) Local Plan Update 2023-2040: Proposed Submission Plan
- Wokingham Borough Council (March 2011) Wokingham Borough Local Transport Plan 2011 – 2026 (LTP3)
- Shinfield Parish Council (Made version February 2017) Shinfield Parish Neighbourhood Plan
- Department for Transport (July 2020) LTN1/20 Cycle Infrastructure Design
- Department for Transport (March 2007) Manual for Streets

## 17.12 Assessor information

### Table 17.18 Assessor Information

| Chapter | Responsibility | Name | Qualifications | Assessor information |
|---|---|---|---|---|
| **Transport and Access** | Abley Letchford | Peter Jones | BSc MCIHT MTPS | An accomplished transport planner with over 25 years of experience, Peter Jones has considerable expertise of providing development planning advice for significant development projects throughout the UK. He is fully conversant with the transport and highway requirements of large scale residential and mixed use development during all stages from the feasibility and masterplanning processes through to the award of outline planning and reserved matter consents. |

**Table 17.19 Summary of effects**

| Receptor | Receptor sensitivity | Description of potential impact | Potential effect (prior to additional mitigation) | Proposed mitigation | Residual effect | Significant / not significant |
|---|---|---|---|---|---|---|
| **Construction Phase** | | | | | | |
| Formation of Access Junction onto Arborfield Road Corridor | Medium | Driver Delay | Minor Adverse | Construction Environmental Management Plan | Minor Adverse | Not Significant |
| Formation of Access Junction onto Lower Earley Way Corridor | Medium | Driver Delay | Minor Adverse | Construction Environmental Management Plan | Minor Adverse | Not Significant |
| Adjacent Road Network | Various | Non Motorised User Amenity | Minor Adverse | Construction Environmental Management Plan | Minor Adverse | Not Significant |
| **Operation Phase** | | | | | | |
| Hatch Farm Way | Low | Community Severance | Minor Adverse | New signal crossing | Minor Beneficial | Not Significant |
| Shinfield Eastern Relief Road | Low | Community Severance | Minor Adverse | New signal and uncontrolled crossings | Minor Beneficial | Not Significant |
| Arborfield Road | Medium | Community Severance | Minor Adverse | New signal and uncontrolled crossings | Minor Beneficial | Not Significant |
| Observer Way | Low | Community Severance | Minor Adverse | None | Minor Adverse | Not Significant |
| Meldreth Way | Medium | Community Severance | Minor Adverse | None | Minor Adverse | Not Significant |
| Mole Road / Mill Land Roundabout | High | Driver Delay | Moderate Adverse | Junction Improvement Scheme | Negligible | Not Significant |

| Receptor | Receptor sensitivity | Description of potential impact | Potential effect (prior to additional mitigation) | Proposed mitigation | Residual effect | Significant / not significant |
|---|---|---|---|---|---|---|
| King Street Lane/ Hatch Farm Way Signal Junction | High | Driver Delay | Moderate Adverse | Junction Improvement Scheme | Negligible | Not Significant |
| Hatch Farm Way | Low | Non Motorised User Delay | Minor Adverse | New signal crossing | Negligible | Not Significant |
| Shinfield Road | High | Non Motorised User Delay | Moderate Adverse | New uncontrolled crossings | Minor Adverse | Not Significant |
| Shinfield Eastern Relief Road | Low | Non Motorised User Delay | Moderate Adverse | New signal and uncontrolled crossings | Negligible | Not Significant |
| Arborfield Road | Low | Non Motorised User Delay | Moderate Adverse | New signal and uncontrolled crossings | Negligible | Not Significant |
| Observer Way | Low | Non Motorised User Delay | Minor Adverse | None | Minor Adverse | Not Significant |
| Mill Lane (north of M4) | Medium | Non Motorised User Amenity | Moderate Beneficial | Closure to Through Traffic | Moderate Beneficial | Significant |
| B3270 | Low | Fear & Intimidation | Minor Adverse | None | Minor Adverse | Not Significant |
| Arborfield Road | Low | Fear & Intimidation | Minor Adverse | New shared use footway / cycleway and new signal and uncontrolled crossings | Minor Beneficial | Not Significant |
| Observer Way | Low | Fear & Intimidation | Minor Adverse | None | Minor Adverse | Not Significant |
| Surrounding Road Network | Varies | Road Safety | Minor Adverse | Active Travel Network Improvements | Minor Adverse | Not Significant |

## 17.13 Mitigation commitments Summary

**Table 17.20 Summary for Securing Mitigation**

| Identified receptor | Type and purpose of additional mitigation measure (prevent, reduce, offset, enhance) | Means by which mitigation may be secured (e.g. planning condition / legal agreement) | Delivered by | Auditable by |
|---|---|---|---|---|
| **Construction Phase** | | | | |
| Adjacent Highway Network | Construction Environmental Management Plan (CEMP) : To prevent and reduce adverse effects associated with Construction activities including construction traffic. | Planning Condition | Applicant & Contractor | Contractor & Wokingham Borough Council |
| **Operation Phase** | | | | |
| Surrounding Highway Network and Active Travel Networks | Travel Plan : To reduce vehicular travel arising form the Proposed Development and enhance travel by sustainable modes. | Planning Condition and / or S106 obligation | Applicant | Wokingham Borough Council |
| Surrounding Highway Network | Off Site Highway Mitigation : To reduce adverse effects arising from additional traffic at neighbouring junctions and highway links. | Planning Condition and / or S106 obligation | Applicant / Wokingham Borough Council | Wokingham Borough Council |
| Surrounding Active Travel Networks | Off Site Active Travel Network Improvements : To enhance provision and connectivity for walking and cycling trips | Planning Condition and / or S106 obligation | Applicant / Wokingham Borough Council | Wokingham Borough Council |