

Client:
Richborough

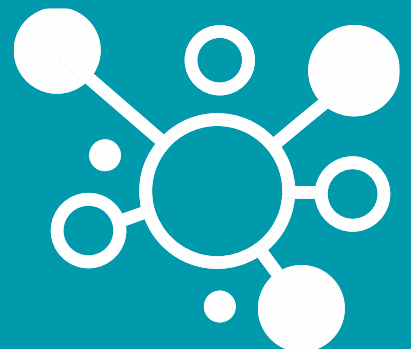
Project:
**Land off Basingstoke Road
Spencers Wood**

Project No:
T23591
Report Title:
Transport Assessment

Prepared by:
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1.0 Introduction

Background

- 1.1 Hub Transport Planning Ltd has been commissioned by Richborough to provide transport advice for a proposed residential-led mixed use development off Basingstoke Road, Spencers Wood.
- 1.2 The applicant is applying for a “Hybrid planning application (part outline/ part detailed) comprising: Outline planning permission is sought with all matters reserved for future determination, save for the means of access via Basingstoke Road, for: up to 420 dwellings (Use Class C3), an 80 bed care home (Use Class C2), 1ha of employment land (Use Class E(g), primary school (Use Class F1), local centre (Use Classes E(a), (b), (c), (f)), GP Surgery (Use Class E(e), sports pitch and changing facility, public open space and a full application for the proposed Suitable Alternative Natural Greenspace (SANG), associated landscaping/car park”. The site location is shown on **Figure 1.1**.
- 1.3 This Transport Assessment (TA) has been prepared to support a planning application for the proposed development.
- 1.4 The TA is supported by a Framework Travel Plan (FTP), which has been provided for the employment land, primary school and local centre. The FTP does not include the residential dwellings because the applicant is seeking to contribute to the ‘MyJourney’ travel planning initiative that is run by Wokingham Borough Council (WBC), who have initially requested a contribution of £612 per dwelling.

Transport Assessment Scoping Report

- 1.5 Pre-application advice was provided by WBC during December 2024, which included a response from WBC highways. This set out the following key points:
 - Any future planning application for the proposed development will need to be supported by a TA and FTPs for different land uses;
 - The borough’s parking calculator would need to be submitted whether or not the application is proposed to be outline or full. For an outline application, the calculator would need to be based on the illustrative masterplan and housing mix;
 - There should be a good distribution of visitor spaces across the development;
 - The level of vehicular and cycle parking for each land use would need to be in accordance with WBC’s Managing Development Delivery document. Where departures are proposed, full evidence in support of each departure would need to be submitted;
 - Electric Vehicle charging spaces would need to be in line with Building Control Regulations Approved Document S;
 - The principle of two vehicular accesses is welcome by WBC; however the council defers any further comments until the details and modelling is submitted. Visibility splays for the proposed accesses would need to be provided and based on 85th percentile speeds;
 - Segregated walking and cycling accesses should be provided across the site and demonstrate how they tie into existing routes;
 - Strategic modelling work has already been undertaken based on an approved model briefing note and the TA should include outputs from the modelling. The borough’s approved trip rates were used to inform the

modelling. No work has been undertaken for internalising trips or changes to work practises; if required then a further scope of work would need to be agreed;

- The following junctions should be modelled using local junction modelling software:
 - B3349 Basingstoke Road/Back Lane priority roundabout (new site access);
 - B3349 Basingstoke Road/Site Access priority junction (new junction);
 - B3349 Basingstoke Road/Hyde End Road traffic signal junction;
 - B3349 Basingstoke Road/Church Lane mini roundabout; and
 - A33/Basingstoke Road traffic signal junction.
- For M4 Junction 11, WBC recommends that an assessment of changes in traffic flows would be acceptable and no local junction modelling is required. While this is welcome by the applicant, this is subject to confirmation from National Highways who will be consulted on this application;
- Even for an outline application, WBC request that the applicant confirms whether the site roads will be offered for adoption (and extent of adoption);
- The development should be governed by a hierarchy of roads in line with WBC's Highway Design Guidance and be built to WBC standards;
- A full walking and cycling assessment to local services, employment, retail and schools not included within the development should be undertaken, with the starting point being the centre of the site. An Active Travel assessment should also be undertaken along with suggested improvements where required;
- WBC will be seeking a contribution to improving the existing 600 bus service and whether it is feasible for the bus service to directly serve the development;
- Bus stops north of the proposed site access roundabout may be affected and, if so, acceptable locations for these bus stops would need to be identified;
- Swept path analysis should include a refuse vehicle and fire tender in line with the vehicle dimensions provided in the pre-application response. This should include tracking of the new site access junctions and the internal layout using the illustrative masterplan (including a refuse vehicle passing a large car);
- WBC recommends that walking and cycling connections across the development is paramount and that the Public Right of Way in close proximity to the site should be linked to as part of the masterplan;
- All pavements need to be two metres wide and shared pedestrian/cycle routes should be at least three metres wide. Any cycle routes would need to be LTN 1/20 compliant;
- A Stage 1 Road Safety Audit and designers comments should be submitted for the proposed accesses. WBC recommends that this is undertaken once the design of the accesses has been agreed;
- Guidance set out in Manual for Streets regarding carrying distances for refuse collection will need to be adopted;
- Separate FTPs for the dwellings, school and employment uses will need to be submitted in support of any planning application; and
- WBC recommends a contribution of £612 per dwelling for MyJourney in lieu of a full travel plan for the dwellings. The response also notes that bus stop improvement contributions of £25,000 per stop would be requested and that other contributions may be requested once the TA has been reviewed.

1.6 This TA has assessed the impact of the proposed development in line with pre-application response from WBC.

Changes from Previous Transport Assessment

- 1.7 A TA (rev B) was submitted to support the planning application in March 2025, which included a sustainability appraisal, highway safety appraisal, access strategy and results from the strategic modelling undertaken using the Wokingham Strategic Transport Model (WSTM 4).
- 1.8 Formal consultation responses were provided by WBC Highways Development Management Team (**Appendix A1**), Active Travel England (**Appendix A2**) and National Highways (**Appendix A3**) to the application. This latest TA responds to the comments, with the following main changes included in this latest version:
- Access:
 - The designs have been updated to show visibility splays based on observed 85th percentile speeds.
 - Forward visibility splays have been provided for the proposed priority junction. The plan also shows pedestrians having priority across the proposed priority junction in line with LTN 1/20.
 - At the roundabout, the geometry has been updated to accommodate HGV movements to/from the commercial units. Other updates include providing zebra crossings on the site access and Basingstoke Road North approaches and increasing the size of the overrun area.
 - Vehicle tracking for all movements has been provided at the proposed priority roundabout.
 - Active Travel:
 - Confirmation that proposed improvements to the PRowWs are acceptable to WBC.
 - Figure added that shows facilities overlaid onto the walking distances plan and confirmed the distance from the centre of the site to the existing network.
 - Clarified why routes subject to the LTN 1/20 route audit have been selected.
 - Inclusion of a mobility hub, which is proposed in the vicinity of the local centre.
 - Public Transport:
 - Provided a plan showing walking distances (catchment mapping) to the bus stops for all dwellings;
 - Trip Generation:
 - Trip generation is provided by mode to allow walking and cycling trips to be forecast.
 - Local Junction Modelling:
 - Junctions requested by WBC have been modelled and the TA includes full model outputs and plans showing geometries used as requested.
 - A numerical assessment has been undertaken for the A33/Basingstoke Road junction and M4 Junction 11 as requested by WBC.
 - FTP:
 - ATE state that the Travel Plan should be vision-led and also requested clarification on whether the applicant intended to adopt WBC's My Journey initiative.
 - Indicative targets and baseline mode shares have been added to the latest FTP.

Structure of the Report

- 1.9 This report considers the transport impact of the proposed development and how accessible the site is via sustainable and active modes of transport. Site visits have been undertaken to assess existing conditions and these observations inform this TA.

1.10 Following this introduction, the report is set out as follows:

- Section 2.0 – Policy Review;
- Section 3.0 – Baseline Conditions;
- Section 4.0 – Development Proposals;
- Section 5.0 – Trip Generation, Distribution and Assignment;
- Section 6.0 – Traffic Impact Assessment;
- Section 7.0 – Mitigation; and
- Section 8.0 – Summary and Conclusion.

Limitations of the Report

- 1.11 This report has been undertaken at the request of Richborough, thus should not be entrusted to any third party without written permission from Hub Transport Planning Ltd. However, should any information contained within this report be used by any unauthorised third party, it is done so entirely at their own risk and shall not be the responsibility of Hub Transport Planning Ltd.
- 1.12 This report has been compiled using data from a number of external sources (such as TRICS, Census data, traffic count data and public transport information); these sources are considered to be trustworthy and therefore the data provided is considered to be accurate and relevant at the time of preparing this report.

2.0 Policy Review

- 2.1 A review of key national, regional and local policy that is relevant to the proposed development has been undertaken and is presented in this section.

National Planning Policy Framework

- 2.2 The National Planning Policy Framework (NPPF) was last updated in December 2024. It sets out the government's planning policies for England and provides a framework for delivering housing and other development in a sustainable manner.
- 2.3 The most relevant paragraphs to the proposed development are 109 to 113 and 115 to 118 inclusive, which are detailed in **Table 1**.

Table 1 – Relevant paragraphs from the NPPF relating to the proposed development

Paragraph Ref	Description
109	Transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places. This should involve: a) making transport considerations an important part of early engagement with local communities b) ensuring patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places; c) understanding and addressing the potential impacts of development on transport networks; d) realising opportunities from existing or proposed transport infrastructure, and changing transport technology and usage – for example in relation to the scale, location or density of development that can be accommodated; e) identifying and pursuing opportunities to promote walking, cycling and public transport use; and f) identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains.
110	The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.
111	Planning policies should: a) support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities; b) be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned; c) identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development; d) provide for attractive and well-designed walking and cycling networks with supporting facilities such as secure cycle parking (drawing on Local Cycling and Walking Infrastructure Plans); e) provide for any large scale transport facilities that need to be located in the area, and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy. In doing so they should take into account whether such development is likely to be a nationally significant infrastructure project and any relevant national policy statements; and f) recognise the importance of maintaining a national network of general aviation airfields, and their need to adapt and change

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Paragraph Ref	Description
	over time – taking into account their economic value in serving business, leisure, training and emergency service needs, and the General Aviation Strategy.
112	If setting local parking standards for residential and non-residential development, policies should take into account: a) the accessibility of the development; b) the type, mix and use of development; c) the availability of and opportunities for public transport; d) local car ownership levels; and e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.
113	Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists.
115	In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that: a) sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location; b) safe and suitable access to the site can be achieved for all users; c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision-led approach.
116	Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.
117	Within this context [related to paragraph 116], applications for development should: a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use; b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport; c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards; d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.
118	All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a vision-led transport statement or transport assessment so that the likely impacts of the proposal can be assessed and monitored.

Wokingham Borough Council Core Strategy

2.4 WBC adopted their Core Strategy in January 2010. It sets out the strategy for managing development over the period between 2010 and 2026.

- 2.5 It sets out a vision that by 2026, the strategy will “*deliver the development necessary to sustain the area’s economic growth and ensure the needs of all groups, including children, the young, the elderly and the vulnerable have been met*”.
- 2.6 The vision also recognises that transport is key to delivering the Core Strategy and that increasing the use of non-car based transport is important to contributing towards climate change targets.
- 2.7 The transport related policies relevant to the proposed development are set out in **Table 2**.

Table 2 – Relevant transport-related policies from the WBC Core Strategy relating to the proposed development

Policy Ref	Key Points
CP1 – Sustainable Development	Planning permission will be granted for development proposals that: Demonstrate how they support opportunities for reducing the need to travel, particularly by private car in line with CP6.
CP4 – Infrastructure Requirements	Planning permission will not be granted unless appropriate arrangements for the improvement or provision of infrastructure, services, community and other facilities required for the development taking account of the cumulative impact of schemes are agreed. Arrangements for provision or improvement to the required standard will be secured by planning obligations or condition if appropriate.
CP6 – Managing Travel Demand	Planning permission will be granted for schemes that: - Provide for sustainable forms of transport to allow choice; - Are located where there are or will be at the time of development choices in the mode of transport available and which minimise the distance people need to travel; - Improve the existing infrastructure network, including road, rail and public transport, enhance facilities for pedestrians and cyclists, including provision for those with reduced mobility, and other users; - Provide appropriate vehicular parking, having regard to car ownership; - Mitigate any adverse effects upon the local and strategic transport network that arise from the development proposed; - Enhance road safety; and - Do not cause highway problems or lead to traffic related environmental problems.
CP15 – Employment Development	All proposals for employment development will include mitigation commensurate with the impact of the development on the demand for housing, labour, skills, traffic and highways.

- 2.8 Under Policy CP6, the Local Plan defines good public transport service as:
- During peak times (07:00 – 09:00 and 16:00 – 19:00, Monday to Saturday), services run at least every 30 minutes; and
 - During off-peak hours (09:00 – 16:00 and 19:00 – 22:00, Monday to Saturday and 07:00 – 22:00 on Sundays), services run at least every hour.

Parking Standards

- 2.9 WBC adopted their Managing Development Delivery (MDD) on 21st February 2014, which builds on the Core Strategy and sets out more detailed policies for managing development.
- 2.10 Appendix 2 of the MDD sets out the parking standards by use class; those relevant to the proposed development are provided in **Table 3**. As the parking standards for flats and houses are based on a number of factors, they have been extracted from the MDD and are set out in **Appendix A**.

Table 3 – Parking standards by use class

Use Class	Car Parking Allocation	Cycle Parking Allocation	Powered Two Wheeler Parking	Disabled Parking	Visitor Parking
C2 Residential Care Homes (does not include independent units)	One space per full time equivalent staff member + one visitor space per three residents	One LT space per five members of staff	One space per 20 car parking spaces up to 100 car parking spaces. One space per 40 car parking spaces thereafter	Less than 10 bays – to be confirmed by WBC officers 10 to 50 bays – two to four Blue Badge bays 51 to 200 bays – five to nine Blue Badge bays	N.A.
C3 Dwellings* (Flats Owned)	See Appendix A	One space per flat with one to three habitable rooms		N.A.	0.2 spaces per dwelling with one or more allocated spaces
C3 Dwellings* (Flats Rented/Shared)		Two spaces per flat with four or more habitable rooms			
C3 Dwellings* (House Owned)		One space per house with one to three habitable rooms			
C3 Dwellings* (House Rented/Shared)		Two spaces per house with four or five habitable rooms Three spaces per house with six habitable rooms			
D1 GP Surgery**	One space per full time staff and three spaces per consulting room	One LT space per five staff		Less than 10 bays – to be confirmed by WBC officers 10 to 50 bays – two to four Blue Badge bays 51 to 200 bays – five to nine Blue Badge bays	One ST cycle space per five staff for visitors
Employment Land (B1)***	Less than 2,500m ² = one space per 25m ²	One LT space per 150m ²			N.A.
Employment Land (B2)	More than 2,500m ² = one space per 30m ²	One LT space per 200m ²			N.A.
D1 Primary School****	One space per full time member of staff	One LT space per three pupils and one LT space per five staff			N.A.
Local Centre	Final uses unknown, TBC as part of a reserved matters application				
D2 Outdoor Pitches*****	20 spaces per pitch + one space per 10 spectator seats	One space per pitch + 10 spaces	1 space per 40 car parking spaces	See C2 Residential Care Homes	N.A.

*Based on standards for villages based on Figure 1 in Appendix 2.

**Land use category for GP Surgery now E(e)

***Land use category for Employment Land (B1) is now E(g)

****Land use category for Primary School is now F1

*****Land use category for Outdoor Pitches is now F2(c)

Electric Vehicle Parking Standards

- 2.11 Appendix E of WBC's MDD sets out the standards for providing Electric Vehicle (EV) charging points within new developments in line with Building Control Regulations Approved Document S. It states that WBC has been adopting a phased approach to increase provision on new developments over a period between 2019 and 2030 to encourage drivers to switch to EVs.

- 2.12 The standards set out a minimum proportion of parking spaces on residential developments that require either active (i.e., a fully functioning charge point) or passive (power supply to a space that can be fitted with a charging point at a later date). These are set out in **Table 4**; it is assumed that the 2026 standards would apply to this proposed development.

Table 4 – Proportion of EV charging spaces that are required to be passive and active

Year	Spaces on-plot		Spaces off-plot	
	Passive	Active	Passive	Active
2019	35%	5%	25%	5%
2026	50%	20%	40%	10%
2030+	70%	30%	60%	20%

- 2.13 The standards also note that on-street EV charging spaces are supported and should be provided in addition to visitor spaces.
- 2.14 Each EV charging space must be provided to the specification set out in Appendix E of the MDD (e.g., power supply for a minimum of a 7.4kWh charger). Off-plot charging spaces also require an individual payment system via a metered connection.
- 2.15 For non-residential land uses including employment, leisure, education and retail, EV charging points will also be required. Land uses that promote shorter stays should consider rapid chargers. Active spaces will need to be marked out and signed. If car parking is provided, all non-residential land uses must provide:
- One passive and one active charging point for up to 20 parking spaces; or
 - 5% of parking spaces to be passive and 5% active for proposals of more than 20 spaces.

Wokingham Borough Council Managing Development Delivery Local Plan

- 2.16 In February 2014, the Managing Development Delivery (MDD) Local Plan document was adopted, which is a supplementary document to the adopted Core Strategy above.
- 2.17 The objectives in the MDD take forward and develop those provided within the Core Strategy and the earlier version (Draft Options) of the MDD (June 2011). Specifically, the purpose of the MDD is to:
- Allocate sites for residential development. The Core Strategy already seeks to concentrate the majority of residential development (circa 9,900 dwellings) in four key locations called Strategic Development Locations (SDLs). However, it is also necessary to allocate further sites outside the SDLs to meet overall housing requirements set out in the Core Strategy;
 - Allocate sites for other uses, including commercial development such as retail development;
 - Set boundaries, which can be seen on the Policies Map for issues such as development limits (settlement boundaries); and
 - Provide additional detailed policies to use when considering development proposals.
- 2.18 Policies referred to as “Cross Cutting Policies” are generic policies that will apply to most, if not all types of development. They take forward the principles and policies set out in the Core Strategy.

2.19 A transport related policy relevant to the proposed development is CC03 – Green Infrastructure, Trees and Landscaping: Development proposals should demonstrate how they have considered and achieved the following criteria within scheme proposals:

- Provide new or protect and enhance the Borough's Green Infrastructure networks, including the need to mitigate potential impacts of new development
- Promote accessibility, linkages and permeability between and within existing green corridors including public rights of way such as footpaths, cycleways and bridleways
- Promote the integration of the scheme with any adjoining public open space or countryside

Wokingham Borough Council Local Plan Update

2.20 WBC recently published their Local Plan Update: Proposed Submission Plan on the 30th September 2024 as part of a public consultation that finished on the 13th November 2024.

2.21 The Local Plan Update (LPU) sets out the planning policies proposed to manage development across the borough to 2040. The LPU builds on the Wokingham Borough Council Local Transport Plan 4 and Local Cycling and Walking Infrastructure Plan by improving the opportunity for active travel, as well as reducing car and vehicle dependency for local and unnecessary journeys. This will be achieved by improving community infrastructure and services amongst rural settlements with dispersed catchment populations whilst aiming to maintain the viability and vitality of services in villages.

2.22 These principles are supported by some transport related policies relevant to the proposed development that are set out in **Table 5**.

Table 5 – Policies identified within the WBC LPU

Policy Ref	Key Points
SS15 – Securing Infrastructure	Development proposals will only be supported where the impacts are mitigated through the timely provision of necessary local or strategic infrastructure. Development proposals must: - Secure necessary new, and/or improvements to existing, infrastructure via direct provision or an appropriate contribution that makes the development acceptable; and - Ensure appropriate arrangements are in place to secure the future management and maintenance of infrastructure that is or will be provided.
C1 - Active and sustainable transport and accessibility	Development proposals must support the delivery of active and sustainable transport measures. Development proposals should prioritise travel by active means (including walking, cycling and wheeling), public transport, and incorporate inclusive infrastructure which provides connections to and within the development. This should focus on making the most efficient use of existing highway, including, where appropriate, reallocation of space to more sustainable modes. Development proposals should support the increased uptake of electric and zero emissions vehicles, in accordance with Policies C4 and C5. Development proposals must contribute to the delivery of an integrated transport system that is safe and accessible to all by implementing a proportionate package of measures that: - Ensure development is located where people of all ages and level of physical ability are able, or will be able, to access a wide range of essential social, community, and cultural facilities; - Optimise accessibility and connectivity both within the proposed development and in the surrounding area, which includes having regard to schemes identified in cycling and walking strategies;

Policy Ref	Key Points
	c) Make active travel (including walking, cycling and wheeling) the mode of choice for shorter journeys, both within and outside the site, including safe and attractive links to new and existing facilities, services, bus stops, train stations and existing non-motorised routes; d) Ensure buildings and spaces are inclusively designed to be legible and permeable for all, and provide for the delivery of, and improvement to, walking and cycling routes that serve the site, the wider area and adjoining development parcels; e) Reduce reliance on single occupancy car trips and prioritise and increase the use of sustainable transport modes; f) Maximise opportunities to provide improved and viable public and community transport and other mobility services and routes, including through active engagement with providers as appropriate; g) Maximise integration of, and interchange between, sustainable transport modes; h) Embrace opportunities to minimise congestion and delay, as part of an effective strategy to manage harmful emissions and improve air quality; and i) Facilitate transport innovations and solutions which reduce greenhouse gas emissions.
C2 - Mitigation of transport impacts and highways safety and design	Development proposals must fully assess the transport impacts of the development and provide for appropriate mitigation to minimise the adverse effects. Specifically, development proposals are required to: a) Ensure that any material adverse impacts on existing and forecast traffic conditions are mitigated; b) Provide, or make reasonable contributions towards providing, the transport infrastructure necessary to address the needs arising from the proposal, having regard to the cumulative impacts of development, secured either as a requirement of planning conditions or by the payment of financial contributions through planning obligations, and/or the Community Infrastructure Levy; c) Prepare and submit Transport Assessments or Statements alongside development proposals in accordance with the council's Local Validation requirements; and d) Implement measures to promote and improve sustainable travel through agreed travel plans or through making an appropriate contribution to the borough wide My Journey initiative or any successor scheme. Travel plans should include appropriate monitoring to ensure targets are met. With regards to highways safety and design, all development proposals must implement a proportionate package of measures that: a) Ensure safe and suitable access to the site for all users; b) Contribute towards a high quality public realm designed in accordance with Living Streets (or any successor document), user access hierarchy and demonstrate how the relevant principles of Healthy Streets have been incorporated; c) Prioritise pedestrian, cycling and sustainable transport in accordance with Policy C1; d) Design roads to optimise traffic flows to avoid adverse environmental impacts; and e) Provide effective, convenient and safe delivery, collection, servicing and refuse, and recycling collection arrangements. Proposals for new roads should be tracked for larger vehicles and, if served by bus routes, would need to accommodate bus stop infrastructure to an agreed standard with the local highway authority.
C3 – Active Travel	Development proposals must promote sustainable transport by prioritising active travel, including walking, wheeling, and cycling. Development proposals should: a) Prioritise and improve the pedestrian environment and contribute towards achieving a high-quality public realm, including the provision of facilities for pedestrians to rest and relax (including seating) and high-quality and safe road environment (including safe crossings, where needed); b) Be permeable, easy and safe to walk and wheel through, and enhance existing routes which are adequately lit, create step-free legible access and entrance points whilst providing direct links to other pedestrian movement corridors; c) Avoid severance and, where necessary, provide for routes and crossings close to desire lines, particularly those to everyday facilities;

Policy Ref	Key Points
	d) Maintain and enhance walking and wheeling routes identified in the most up to date walking and cycling strategy and create high quality links to connect to these routes where appropriate; e) Provide or contribute towards improved wayfinding, including signposted links to key infrastructure, public transport hubs, green spaces, Green Routes and Greenways networks, where appropriate; and f) Consider the needs of all users through inclusive design. Development proposals should also: a) Contribute towards the improvement of the public realm to support cycling, including the provision of facilities to support cyclists. Care should be taken to ensure the safety of cyclists and avoid conflict with other users of the public realm; b) Maintain and enhance the quality of cycle routes as appropriate, including those identified in the most up-to-date walking and cycling strategy, as well as maximising opportunities to add to or extend these, in order to support a high quality integrated cycle network; c) Provide supporting facilities including pick-up points, secure and sheltered cycle parking (for both occupiers and visitors), electric bike charging facilities, and shower changing and storage facilities to support target mode shares as appropriate; d) Provide or contribute towards, improved wayfinding, including signposted links to key infrastructure, public transport hubs, green spaces, Green Routes and Greenways networks, where appropriate; and e) Consider the needs of all users through inclusive design.
C4 - Green and blue infrastructure and public rights of way	Development proposals must integrate with the Public Rights of Way network to promote connectivity and contribute towards the delivery of prioritised routes in the council's rights of way improvement plan where appropriate. New Public Rights of Way will be supported where they are designed to be safe, inclusive and inviting spaces.
C5 - Parking and electric vehicle charging	Development proposals should provide and retain vehicle parking (including motorcycles) and cycle parking that caters for the needs of all users (including people with disabilities and visitors) that is appropriate to the location and the scale of development. The assessment of requirements will have particular regard to the following factors: a) The accessibility of the proposed development; b) The type, mix, occupancy and use of the proposed development; c) The availability of and opportunities for public transport; d) The level of car ownership in the area; and e) Other locally specific issues including availability of parking and enforcement nearby. All development proposals should provide electric vehicle charging points in line with adopted standards. Proposals to retrofit charging points into existing areas will be encouraged providing this would not result in any adverse impact on highway, pedestrian or cycle safety.

- 2.23 Policy ER5 on the hierarchy of centres identifies the B3349 Basingstoke Road near the junction for Beech Hill Road, Spencers Wood as a Local Centre for employment and commerce.

Wokingham Borough Council Local Transport Plan 4

- 2.24 WBC is currently developing their fourth Local Transport Plan (LTP4), which will replace their third LTP (LTP3). The draft LTP4 is due to be adopted in spring 2025.
- 2.25 The draft LTP4 sets out a simple vision to “connect people and places” and identifies three key themes to support local priorities, which are:

- Create healthy and safe spaces;
- Develop the economy; and
- Reduce environmental impacts.

2.26 These themes are supported by the objectives, outcomes, measures and actions. Those relevant to the proposed development are set out in **Table 6**.

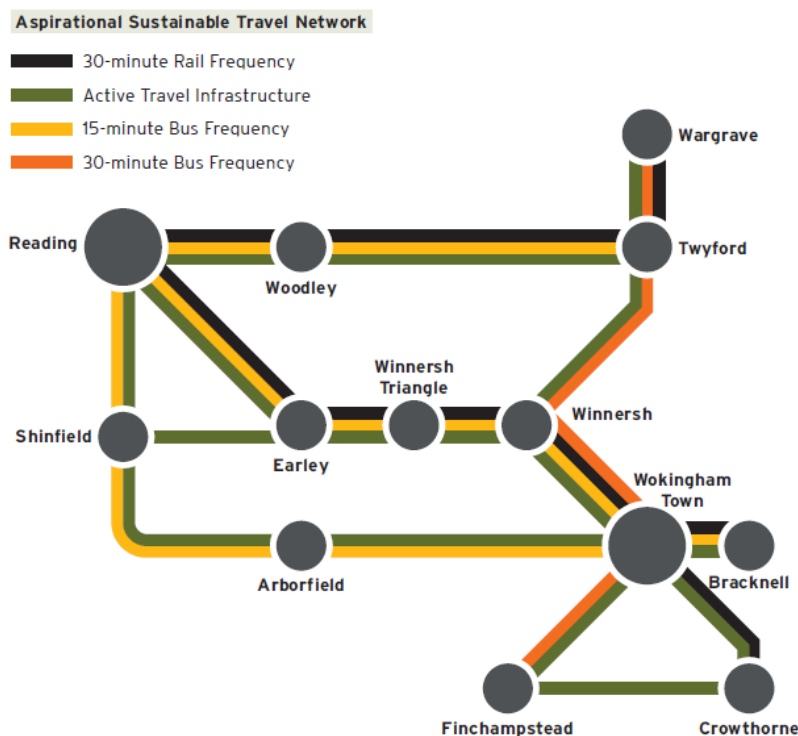
Table 6 – Objectives, outcomes, measures and actions identified within the WBC LTP4

Objective	Outcome	Relevant Measures and Actions
Safer streets for all	Safer environment for all road users, with a reduction in serious injuries from road traffic collisions.	• Increase the network of quieter rural roads and residential streets.
50% Active Travel in Towns by 2030	Healthier and more active towns that prioritise the movement of people with 50% of trips being made by foot or cycle.	• Consider e-scooter hire schemes to improve door-to-door transport options. • Increase the engagement through My Journey and expand its support and promotion of road safety, public transport and active travel.
Thriving villages and rural centres	Villages and local centres that support local communities through a transport system that works for them.	• Delivery of Greenways, to create safer and more attractive environment for pedestrians, cyclists, wheeling and, where appropriate, horse riding.
Support sustainable development	Attractive transport connections and sustainable communities.	• Development layouts in accordance with Wokingham 'Living Streets' design guide to provide streets that are attractive to and permeable for pedestrians and cyclists. • Continue to promote contributions to My Journey for all new developments as an option instead of Travel Plans. • Provide and retain appropriate levels of secure cycle parking, vehicular parking and electric vehicle charging provision. • High quality sustainable travel options to/from all strategic development locations. • Delivery of off-site infrastructure required to support new strategic development.
Net zero carbon emissions	Reduced impact on the environment of transport and new innovative measures to support the transition to net zero emissions.	• Support improved digital accessibility for residents and businesses

2.27 The draft LTP4 sets out a 'Hierarchy of Transport' in line with national policy, placing the most sustainable forms of travel and access at the top, and less sustainable modes at the bottom (in terms of priority). The hierarchy is:

- Digital Access;
- Walking and Wheeling;
- Cycling;
- Public and Shared Transport;
- Freight and Specialist Service vehicles;
- Electric Vehicles and Car Sharing;

- Diesel and Petrol Vehicles; and
 - Air Travel.
- 2.28 Promoting digital access means that more people can access fast and reliable broadband which will allow them to adopt fully remote or hybrid working patterns. This significantly reduces the need to travel, which means less vehicles generated by development and improved carbon emissions.
- 2.29 Walking, Wheeling and Cycling are next in terms of priority. By delivering schemes that encourage more people to walk, wheel and cycle, this will help to achieve the objective set out in the draft LTP4 to ensure 50% of trips in towns across the borough are made by active modes.
- 2.30 To support prioritising public transport, an 'Aspirational Sustainable Travel Network' (shown below) is set out within the draft LTP4 that seeks to connect Shinfield, located approximately 3km north-east of Spencers Wood, with Reading via active travel infrastructure and a 15-minute bus frequency.



Wokingham Borough Council Local Cycling and Walking Infrastructure Plan

- 2.31 WBC published their Local Cycling and Walking Infrastructure Plan (LCWIP) in March 2023. The LCWIP has been developed to identify active travel infrastructure schemes for incorporating into local transport policy and capital investment programmes across the borough.
- 2.32 The LCWIP sets out a vision where the borough will be “supporting walking, cycling and wheeling as the natural choice for shorter distance journeys, or as part of a longer distance journey, facilitating access to key destinations. The borough will benefit from high quality investment in active travel infrastructure, supporting active and healthy lifestyles amongst residents, employees and visitors”.

2.33 The objectives relevant to the proposed development are to:

- Establish strategic active travel infrastructure for integration with future planned development locations and to complement related investment programmes;
- Support an increase in cycling and walking as an alternative to vehicle trips, consistent with WBC's Climate Emergency declaration; and
- Support positive health and wellbeing outcomes by facilitating greater levels of physical activity through active travel.

2.34 The LCWIP identifies the following routes in Spencers Wood that are included within the infrastructure improvement plans, which aims to increase the number of walking and cycling trips:

- Alternative Shinfield Link running between Basingstoke Road and Deardon Way (via Ryeish Green Sports Hub); this includes:
 - Widening and resurfacing the existing off-road paths and Public Rights of Way;
 - Providing wayfinding markings through the sports hub;
 - Improving lighting on off-road sections;
 - Removing bollards and access restrictions; and
 - Providing a new shared use path to Alder Grove Primary School.
- Consider introducing cycle priority features or bypasses on all arms of the Basingstoke Road/Hyde End Road junction as part of a wider scheme on Basingstoke Road.
- Hyde End Road between Basingstoke Road and Grovelands Road:
 - Reduce the speed limit to 20mph; and
 - Add cycle friendly traffic calming features.
- Hyde End Road junctions with Montgomery Drive, Appletree Lane, Grovelands Road and Croft Road:
 - Build out footways to reduce crossing distances and slow turning vehicles.
- Consider resurfacing the carriageway on Grovelands Road between Hyde End Road and Croft Road.
- Croft Road between Grovelands Road and Fulbrook Avenue:
 - Introduce lighting on the off-road section;
 - Allow contraflow cycling; and
 - Manage vegetation to increase the usable width of the cycle path.
- Fullbrook Avenue (from Croft Road) and Bolton Drive:
 - Consider local controls on pavement parking;
 - Route flows low traffic bus segment;
 - Promote cycling on Bolton Drive through signage;
 - Introduce street lighting on the bus link; and
 - Consider introducing light segregation on the bus link to separate buses and cyclists.

3.0 Baseline Conditions

Site Location

- 3.1 The proposed development is located off the B3349 Basingstoke Road to the south of Spencers Wood, and c.4.0km to the south of M4 Junction 11.
- 3.2 The site currently comprises agricultural land and is surrounded by the B3349 Basingstoke Road to the west, further agricultural land to the south and east, and existing residential dwellings to the north.

Local Highway Network

- 3.3 The B3349 Basingstoke Road is a single carriageway road with a width of c.6.8m along the site frontage and is subject to a 40mph speed limit; the road runs through Spencers Wood, connecting with Reading and the M4 to the north, and with the M3 (via Swallowfield, Riseley and Hook) to the south.
- 3.4 Footway provision exists on both sides of the carriageway, measuring c.1.2m in width; to the south, the footway along the western side of the carriageway leads into Back Lane, whilst the eastern footway extends further along Basingstoke Road towards Swallowfield.

Existing Traffic Flows

- 3.5 To obtain initial traffic flows and speeds, Automatic Traffic Count (ATC) surveys were commissioned at two locations along B3349 Basingstoke Road; these were undertaken over a seven day period from Friday 1st December to Thursday 7th December 2023.
- 3.6 The ATC data is provided in **Appendix B** and has been used to help inform the access junction design.

Sustainable Transport Accessibility

- 3.7 Walking and cycling provide important alternatives to cars and should also be encouraged to form part of longer trips via public transport. The Institute of Highways and Transportation (IHT) has prepared several guidance documents that provide advice for sustainable travel infrastructure provision within new developments. The suggested walking distances to key facilities (e.g. healthcare, shops) are presented in **Table 7**.

Table 7 – Suggested Walking Distances (IHT Guidelines)

	Town Centre (m)	Commuting/Schools/ Sightseeing (m)	Elsewhere (m)
Desirable	200	500	400
Acceptable	400	1,000	800
Preferred Maximum	800	2,000	1,200

- 3.8 In addition to the IHT guidance, Manual for Streets (MfS) and the National Design Guide (2021) state that 'walkable neighbourhoods' are typically characterised by having a range of facilities within 10 minutes (up to about 800m) walking distance of residential areas which may be accessed comfortably on foot.
- 3.9 MfS also states that the 800m walking distance is not an upper limit and references the former Planning Policy Guidance Note 13: Transport (PPG13) guidance in respect of walking replacing short car trips, particularly those under 2km.

- 3.10 Although the proposed development is not a permanent residential area, the principles set out in MfS and former PPG13 guidance are still considered appropriate.
- 3.11 Table NTS0303 from the 2023 National Travel Survey (released August 2024) indicates that the national average walk trip distance in 2023 was 0.7 miles or 1.12km. The average walking trip distance is the same as the 2022 National Travel Survey.
- 3.12 The 2023 National Travel Survey (Table NTS0308) also shows that walking was the most frequent mode used for short trips, with 81% of trips under one mile (1.6km) being completed by foot in 2023, which is very similar to 2022 (83%) and 2021 (82%).

Local Facilities

- 3.13 The local facilities in the vicinity of the proposed development, including a 390m walking distance from the centre of the residential parcels of the development, are listed in **Table 8** and shown in **Figure 3.1**.

Table 8 – Local Facilities

Facility (ID)	Distance from Site
Community	
Century Drive Park (C1)	390m
Beatty Rise Park (C2)	600m
Clares Green Road Allotments (C3)	980m
Spencers Wood Library (C4)	1.0km
Orchard Close Allotments (C5)	1.3km
Spencers Wood Pavilion Hall & Recreation Ground (C6)	1.3km
Spencers Wood Village Hall (C7)	1.3km
St Michael's & All Angels Church (C8)	1.4km
Education	
Lambs Lane Primary School (E1)	540m
Spencers Wood Day Nursery (E2)	820m
Farm View Day Nursery (E3)	1.5km
Oakbank Secondary School (E4)	2.1km
Employment	
Heron Industrial Estate (EMP1)	540m
Wellington Industrial Estate (EMP2)	700m
Lambs Farm Business Park (EMP3)	800m
Healthcare	
Day Lewis Pharmacy (H1)	590m
Leisure	
Miah's (L1)	990m
The Farriers Arms (L2)	1.3km
Ryeish Green Sports Hub (L3)	2.1km

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Facility (ID)	Distance from Site
Retail	
Convenience Store (R1)	500m
One Stop & Post Office (R2)	650m
Jackson Garage (R3)	650m
Warings Bakery (R4)	700m
Dobbies Garden Centre (R5)	1.2km

NB: Measurements taken from centre of the site.

- 3.14 **Table 8** shows that the key facilities in Spencers Wood are generally within a comfortable walking distance of the proposed development.
- 3.15 During the public consultation, many comments were made about Oakbank Secondary School not operating at full capacity. Additionally, Lambs Lane Primary School was reported to be operating at capacity. This means that some school children residing in Spencers Wood travel by bus to nearby schools, such as in Shinfield, and are reliant on commercial bus services.
- 3.16 To reduce the number of journeys made off-site, the proposed development would provide a 2FE primary school and a local centre comprising a convenience store and a GP surgery. These facilities would help provide additional capacity for primary education and also improve access to healthcare for new and existing residents.
- 3.17 Overall, the location of the proposed development, along with the facilities that are proposed to be provided on site, is highly sustainable in terms of accessing services that are likely to be required on daily basis.

Pedestrian Accessibility

- 3.18 The B3349 Basingstoke Road has street-lit footways on both sides of the carriageway which are c.1.8m to 2.0m wide. Between Back Lane and Hyde End Road, there is one standalone pedestrian crossing located south of Beech Hill Road and crossing facilities at the B3349 Basingstoke Road/Hyde End Road traffic signal junction.
- 3.19 The site is bounded by two separate Public Rights of Way (PRoW); one to the north which creates a 'v' shape along Hyde End Road and another route that runs north/south from Simonds Grove to Kingsbridge Hill (via Basingstoke Road). There are also PRoWs to the west of B3349 Basingstoke Road, starting on Beech Hill Road (PRoW ref: SHIN24) and opposite Spring Gardens (PRoW ref: SHIN23) respectively, which provide access to the countryside and small settlements located to the west of Spencers Wood.
- 3.20 The existing PRoW network is likely to be predominantly used for leisure purposes and may only be accessible during certain periods of the year when it is light and dry.
- 3.21 **Figure 3.2** shows the 800m, 1.2km and 2.0km walking distance from the site, along with the Public Rights of Way network.

Cycling Accessibility

National Guidelines

- 3.22 There is potential for short car trips to be substituted for cycle trips, and for longer trips to be substituted by a combination of cycle and public transport trips.

- 3.23 The Chartered Institute of Highways and Transportation (CIHT) Planning for Cycling document (2014) states that *“The majority of cycling trips are for short distances, with 80% being less than five miles and with 40% being less than two miles. However, the majority of trips by all modes are also short distances (67% are less than five miles, and 38% are less than two miles); therefore, the bicycle is a potential mode for many of these trips (Department for Transport (DfT), 2014a).”*
- 3.24 The DfT Cycling and Walking Investment Strategy (2017) also refers to the threshold of five miles (or 8km), stating that *“two out of every three personal trips are within five miles - an achievable distance to cycle for most people, with many shorter journeys also suitable for walking.”*
- 3.25 The second cycling and walking investment strategy published by DfT in 2022 does not specifically reference the statement in paragraph 3.24, however one of the main objectives is to increase the percentage of short journeys (i.e. those under five miles) in towns and cities that are walked or cycled from 41% in 2018/2019 to 46% in 2025.
- 3.26 The 2023 National Travel Survey also shows that the average cycle trip distance (for all purposes) was 3.0 miles or 4.8km. Therefore, it is reasonable to consider cycling as a viable mode of travel for distances up to 8.0km.

Analysis

- 3.27 **Figure 3.3** shows the 5.0km and 8.0km cycling distance from the site alongside the National Cycle Network (NCN).
- 3.28 This shows that neighbouring settlements including Shinfield and Swallowfield, as well as southern Reading, are within a 5km cycling distance (equivalent to a c. 15-minute cycle ride). This provides great potential for cycling trips for different journey purposes, including employment (a lot of business and industrial parks along the A33 corridor in south Reading, and the Shinfield Studios, are within a 5km cycling distance), education and leisure.
- 3.29 **Figure 3.3** also shows that Reading City Centre, AWE Burghfield, Arborfield, Heckfield and Mortimer are all within an 8km cycling distance, which is the equivalent to a c. 30-minute cycle ride.
- 3.30 For cyclists travelling to/from Reading, on-road cycling would be required along the B3349 Basingstoke Road. However, there is an alternative route that is still reasonably direct that would utilise much lower trafficked roads and traffic free routes via Hyde End Road, Appletree Lane, Ryeish Lane, the PRow travelling between Ryeish Lane and Grazeley Road and Caribou Walk/Tabby Drive.
- 3.31 From the A33/B3349 Basingstoke Road traffic signal junction there is cycle infrastructure (predominantly shared footways) along the A33 corridor that provides some segregation from traffic for cyclists travelling into Reading.
- 3.32 To the west, south and east of Spencers Wood, there is very limited segregated infrastructure and cyclists would be required to travel on-road. However, there is a network of low trafficked streets via Fulbrook Avenue and Bolton Drive between Spencers Wood and Shinfield (as the nearest settlement, particularly for education purposes) that can be utilised by cyclists for different journey purposes.
- 3.33 Based on the above, the local network is considered to be appropriate for cycling.

LTN 1/20 Route Audit

- 3.34 A Local Transport Note (LTN) 1/20 route audit has been undertaken using the assessment framework provided in Appendix A of LTN 1/20. The routes were selected because they form key routes (or key sections of a route) to local facilities in the area from the site.

3.35 **Figure 3.4** overlays the local facilities from **Figure 3.1** with walking distances from **Figure 3.2**, this identifies several key routes to local facilities within walking distance from the site. Therefore, the scope of the route audit was identified as:

- Route 1: The existing PRoW to the north of the site;
- Route 2: Basingstoke Road between Lambs Farm Business Park and Stanbury Gate;
- Route 3: Grovelands Road to the A33/Basingstoke Road junction via Clares Green Road, the PRoW route to Basingstoke Road, Caribou Walk and Elk Path to the PRoW that runs in parallel with the A33 and its junction with Basingstoke Road;
- Route 4: Grovelands Road to Oakbank School via Croft Road, Fullbrook Avenue and Hyde End Lane;
- Route 5: Appletree Lane to Basingstoke Road via Clares Green Road; and
- Route 6: Century Drive to Hyde End Lane via Simonds Road, Marlow Place and Croft Road.

3.36 A summary of the route audit is provided in **Table 9** alongside potential improvements that could be made from proposals in the LCWIP and/or improvements made by the developer, with the full output assessment provided in **Appendix C**. A map of the six audited routes is shown in **Figure 3.5**.

Table 9 – LTN 1/20 Route Audit

Key Requirement	Score	Key Comments	Potential Improvements
Route 1: The existing PRoW to the north of the site			
Cohesion	3	Opportunity at either end of the PRoW to connect to other routes and bus stops on Hyde End Road.	The LCWIP proposes to build out footways to reduce crossing distances and slow turning vehicles along Hyde End Road at its junctions with Montgomery Drive, Appletree Lane, Grovelands Road and Croft Road. It also proposes a parallel crossing at the junction. This will improve connectivity with routes to the north of Hyde End Road. On Hyde End Road between Basingstoke Road and Grovelands Road, the LCWIP contains proposals to reduce the speed limit to 20mph and add cycle friendly traffic calming features, which will make it easier to cross the road and improve safety for cyclists.
Directness	6	Route is direct between both accesses on Hyde End Road to/from the site.	-
Safety	3	Route is away from traffic on a PRoW therefore, no kerbs or road markings.	-
Comfort	0	Surface is an unpaved mud track.	As part of the development proposals, the surface would be upgraded to an all-weather surface to improve usage all year around.
Attractiveness	0	Route is unlit with no signs and is generally away from activity.	As part of the development proposals, street lighting would be provided and the vegetation cut back to provide more natural light to allow the PRoW to be used at all times of day.
Overall Score	12		
Route 2: Basingstoke Road between Lambs Farm Business Park and Stanbury Gate			
Cohesion	3	Cyclists share space with motor traffic.	-
Directness	5	Route is direct and follows Basingstoke Road.	-

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Key Requirement	Score	Key Comments	Potential Improvements
Safety	2	Basingstoke Road is subject to a 40mph speed limit and a high Annual Average Daily Traffic (AADT). Road markings and road layout are clear.	LCWIP proposals include cycle priority features or bypasses on all arms of the Basingstoke/Hyde End Road junction, which could come forward prior to the development being fully built out, and improve cycle facilities through this junction.
Comfort	3	Highway quality road surface throughout.	-
Attractiveness	5	Route is mostly overlooked.	-
Overall Score	18		
Route 3: Grovelands Road to the A33/Basingstoke Road junction			
Cohesion	3	Route is a mixture of sharing space with motor traffic and off-carriageway right of way paths.	-
Directness	6	Route is fairly direct.	-
Safety	5	Large proportion of the route is off the carriageway; however, cyclists are required to share space with motor traffic along short sections of Wilders Crescent (low trafficked), Basingstoke Road, Grovelands Road and Clares Green Road. Crossing facilities are provided at the A33/Basingstoke Road junction.	-
Comfort	3	Paved surface along majority of the route.	-
Attractiveness	5	Route is unlit/partially unlit along some off-road sections. Route is mostly overlooked.	Part of the route could be upgraded with better surfacing and improved lighting as part of the Alternative Shinfield link proposals in the LCWIP, which would increase its attractiveness.
Overall Score	22		
Route 4: Grovelands Road to Oakbank School via Croft Road, Fullbrook Avenue and Hyde End Lane			
Cohesion	3	Route is a mixture of sharing space with motor traffic and off-carriageway right of way paths.	-
Directness	7	Route deviates from shortest line; and cyclists are required to give-way at several points; however route primarily contains links with low traffic flows.	-
Safety	6	Cyclists share space with motor traffic; however, this is mostly on roads within residential developments and is low trafficked and low vehicular speeds.	LCWIP proposals include local controls on pavement parking along Fullbrook Avenue, which will improve visibility and increase usable carriageway width.
Comfort	3	Paved road surface along route.	LCWIP proposals include the management of vegetation along Croft Road to improve usable cycle path.
Attractiveness	2	Route is unlit and only partially overlooked.	LCWIP proposals include streetlighting on off-road section of Croft Road.
Overall Score	21		
Route 5: Appletree Lane to Basingstoke Road via Clares Green Road			
Cohesion	3	Cyclists share space with motor traffic	LCWIP proposals include built out footways at Appletree Lane/Hyde End Road junction to reduce crossing distances and slow turning vehicles. This will improve connectivity with the route to the north.

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Key Requirement	Score	Key Comments	Potential Improvements
Directness	5	Cyclists are required to give way at Appletree Lane/Clares Green Road and Claes Green Road/Basingstoke Road junctions; however, this is mostly on roads within residential developments and is low trafficked and low vehicular speeds.	-
Safety	5	Cyclists share space with motor traffic; however, this is mostly on residential roads.	-
Comfort	3	Paved road surface along route.	-
Attractiveness	5	Route is overlooked throughout, and majority of route is lit.	-
Overall Score	21		
Route 6: Century Drive to Hyde End Lane via Simonds Road, Marlow Place and Croft Road			
Cohesion	3	Route is a mixture of sharing space with motor traffic and off-carriageway right of way paths	-
Directness	5	Cyclists are required to give way at several junctions; however, this is mostly on roads within residential developments and is low trafficked and low vehicular speeds.	-
Safety	5	Cyclists share space with motor traffic along part of the route, Hyde End Road is subject to a 40mph speed limit.	LCWIP proposals include reducing the speed limit to 20mph on Hyde End Road and to provide cycle friendly traffic calming measures LCWIP proposals include built out footways at Grovelands Road/Hyde End Road junction
Comfort	3	Paved road surface along route	-
Attractiveness	5	Route is partially lit and overlooked, and no cycle parking provision is available	-
Overall Score	21		

Bus Accessibility

- 3.37 There are bus stops situated along the B3349 Basingstoke Road either side of Barracks Lane, which is c. 300m north of the proposed pedestrian/cyclist access onto the B3349 Basingstoke Road (Northbound Bus Stop ID: wokatdm and Southbound Bus Stop ID: wokatdj).
- 3.38 The northbound stop provides a shelter, flagpole and timetable information. The southbound stop is marked with a flagpole and has timetable information.
- 3.39 There are also bus stops on Hyde End Road between Grovelands Road and Elizabeth Rout Close. These stops are located c.250m from the northern boundary of the site via the existing PRow. Both bus stops provide a flagpole and timetable information.
- 3.40 **Table 10** provides a summary of the destinations and frequencies of local bus services.

Table 10 – Local Bus Services

Service No.	Bus Stop	Stop Direction	Operator	Route	Frequency (approx.)		
					Monday - Friday	Saturday	Sunday
145*	B3349 Basingstoke Road (Post Office)	Northbound	Horseman Coaches	Winnersh – Wokingham – Three Mile Cross	One service per day (13:03)**	No service	No service
145*	B3349 Basingstoke Road (Post Office)	Southbound	Horseman Coaches	Three Mile Cross – Wokingham - Winnersh	One service per day (09:48)	No service	No service
600	B3349 Basingstoke Road (Post Office)	Northbound	Reading Buses	TVSP/ Swallowfield/ Riseley via Mere oak Park & Ride – Reading	Hourly First Service: 06:28 Last Service: 23:12	Hourly First Service: 07:28 Last Service: 23:12	No service
600	B3349 Basingstoke Road (Post Office)	Southbound	Reading Buses	Reading – TVSP/ Swallowfield/ Riseley via Mere oak Park & Ride	Hourly First Service: 06:07 Last Service: 22:57	Hourly First Service: 07:01 Last Service: 22:57	No service
600	Hyde End Road (Grovelands Road)	Eastbound	Reading Buses	Reading – TVSP/ Swallowfield/ Riseley via Mere oak Park & Ride	Hourly First Service: 06:33 Last Service: 23:35	Hourly First Service: 07:29 Last Service: 23:25	No service
600	Hyde End Road (Grovelands Road)	Westbound	Reading Buses	TVSP/ Swallowfield/ Riseley via Mere oak Park & Ride – Reading	Hourly First Service: 07:01 Last Service: 23:43	Hourly First Service: 07:58 Last Service: 23:33	No service

*Only operates on a Tuesday.

** This is a 'set down only' stop, which means the bus will only drop passengers off at the bus stop. No alighting is permitted.

- 3.41 **Table 10** shows that Spencers Wood is served by an hourly bus service, which provides a return service between Reading, Swallowfield, Riseley, Spencers Wood, Shinfield and Mere oak Park & Ride. The buses alternate between the two loops that the route covers. The first bus travels between Reading and Riseley, travelling north/south along the B3349 Basingstoke Road in Spencers Wood. The second bus travels between Reading and Shinfield, using the B3349 Basingstoke Road and Hyde End Road in Spencers Wood.
- 3.42 This is why the 600 is shown for the separate bus stops on B3349 Basingstoke Road and Hyde End Road.
- 3.43 Journey times for users travelling to the following key destinations by bus are:
- Swallowfield – 5 minutes;
 - Riseley – 10 minutes;
 - Shinfield – 10 minutes; and
 - Reading – 25 to 30 minutes.
- 3.44 The bus services in Reading often terminate on St Marys Butts, which is approximately 650 metres (c. 10-minute walk) from Reading Railway Station. Buses travelling from Reading to Spencers Wood always depart from the bus stops on Station Road which are within 200 metres of Reading Railway Station. Therefore, there is potential for multi-modal trips to/from the site by rail and bus for commuting and leisure trips.
- 3.45 The bus services start during the morning peak and run until late evening. This makes buses an attractive option for commuting and leisure trips. The current £3 cap on single fares also makes buses very competitive

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with other modes of transport, particularly when considering the cost of car parking in Reading City Centre is £11 for 24 hours¹.

Rail Accessibility

- 3.46 Reading Railway Station is the nearest major station with connections across the country. Reading can be accessed via bus (c.44-minute journey when incorporating walking and bus journey), cycling (c.31 minutes via Basingstoke Road and the B3031) and by car (c.17-minute journey).
- 3.47 The railway station has 344 cycle spaces, which are sheltered. It also has 1,387 car parking spaces (multi-storey) with 14 accessible spaces.
- 3.48 Services from Reading Railway Station to key destinations within the region are summarised in **Table 11**.

Table 11 – Railway Services from Reading Station

Destination	Approx. Frequency	Approx. Journey Time	First and Last Services					
			Monday to Friday		Saturday		Sunday	
			Departures	Arrivals	Departures	Arrivals	Departures	Arrivals
London Paddington	Every 5 mins Every 10 mins to half hourly on Sundays throughout the day	24 mins to 1 hour based on the service	First service: 03:54 Last service: 02:24 (next day)	First service: 04:23 Last service: 02:29 (next day)	First service: 04:13 Last service: 00:19 (next day)	First service: 04:21 Last service: 01:29 (next day)	First service: 06:20 Last service: 01:43 (next day)	First service: 07:20 Last service: 02:21 (next day)
Abbey Wood (Elizabeth Line)	Every 15 mins at peak hours and every 30 mins throughout the day Half hourly on Sundays throughout the day	1 hour 27 mins	First service: 05:45 Last service: 22:58	First service: 06:02 Last service: 23:10	First service: 05:59 Last service: 22:58	First service: 07:40 Last service: 23:41	First service: 08:53 Last service: 21:29	First service: 11:42 Last service: 23:05
Taunton	Half hourly	1 hour 31 mins	First service: 06:27 Last service: 00:48 (next day)	First service: 03:58 Last service: 23:10	First service: 08:29 Last service: 20:56	First service: 03:57 Last service: 23:45	First service: 08:21 Last service: 21:28	First service: 08:57 Last service: 23:40
London Waterloo (via Wokingham and Staines)	Half hourly	1 hour 27 mins	First service: 05:39 Last service: 23:09	First service: 06:51 Last service: 01:07 (next day)	First service: 05:39 Last service: 23:09	First service: 06:48 Last service: 01:41 (next day)	First service: 07:23 Last service: 22:54	First service: 09:01 Last service: 01:31 (next day)

¹ Car Parks, Reading Borough Council 2024. URL: <https://www.reading.gov.uk/vehicles-roads-and-transport/parking/car-parks/>. Last accessed 27/09/2024.

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Destination	Approx. Frequency	Approx. Journey Time	First and Last Services					
			Monday to Friday		Saturday		Sunday	
			Departures	Arrivals	Departures	Arrivals	Departures	Arrivals
Cardiff Central (via Didcot Parkway and Swindon)	Half hourly Hourly on Saturdays and Sundays	1 hour 31 mins	First service: 05:49 Last service: 23:27	First service: 06:49 Last service: 22:43	First service: 07:13 Last service: 21:13	First service: 06:48 Last service: 21:49	First service: 09:00 Last service: 22:10	First service: 10:46 Last service: 23:10
Bristol Temple Meads	Half hourly Hourly on Sundays	1 hour 9 mins	First service: 05:49 Last service: 00:04 (next day)	First service: 05:58 Last service: 23:52	First service: 06:55 Last service: 00:05 (next day)	First service: 06:55 Last service: 23:45	First service: 08:30 Last service: 01:26 (next day)	First service: 08:54 Last service: 23:40
Bournemouth (via Basingstoke and Southampton)	Hourly	1 hour 35 mins	First service: 08:53 Last service: 20:49	First service: 09:07 Last service: 21:07	First service: 08:52 Last service: 21:52	First service: 09:07 Last service: 21:06	First service: 09:52 Last service: 20:52	First service: 11:06 Last service: 21:06
Gatwick Airport (via Wokingham and Guildford)	Half hourly	1 hour 29 mins	First service: 04:32 Last service: 23:33	First service: 06:52 Last service: 00:43 (next day)	First service: 04:32 Last service: 23:35	First service: 07:01 Last service: 00:44 (next day)	First service: 06:10 Last service: 23:05	First service: 07:40 Last service: 00:40 (next day)
Cheltenham Spa (via Swindon and Gloucester)	Hourly Daily on Sundays	1 hour 33 mins	First service: 06:56 Last service: 21:56	First service: 07:26 Last service: 22:32	First service: 07:58 Last service: 19:58	First service: 08:32 Last service: 22:41	First service: 17:59 Last service: 17:59	First service: 16:28 Last service: 18:29
Manchester Piccadilly (via Didcot Parkway and Birmingham New Street)	Hourly	3 hours 14 mins	First service: 06:15 Last service: 20:15	First service: 08:45 Last service: 23:38	First service: 06:15 Last service: 20:15	First service: 08:41 Last service: 22:39	First service: 10:15 Last service: 20:15	First service: 11:40 Last service: 22:39
Worcester Foregate Street (via Oxford and Evesham)	Hourly	1 hour 48 mins	First service: 06:18 Last service: 21:18	First service: 07:54 Last service: 00:37 (next day)	First service: 06:19 Last service: 20:19	First service: 07:57 Last service: 23:04	First service: 08:14 Last service: 20:14	First service: 10:00 Last service: 22:48

- 3.49 Reading Station also provides regular direct services to more regional and local centres, either enroute or through entirely separate services, such as Basingstoke, Newbury, Oxford, Didcot Parkway, Bristol Parkway, Bath Spa, Swansea, Penzance, Plymouth, Swindon, Evesham, Staines, and Wokingham.
- 3.50 Reading sits at the end of the Elizabeth Line, which provides residents of the proposed development with good access to High Speed 2 (HS2) at Old Oak Common once it is completed.

Reading Green Park and Mortimer Railway Stations

- 3.51 Reading Green Park and Mortimer Railway Stations are c.6km north-west and c.9km south-west of the proposed development respectively. Residents of the proposed development could access these stations via cycling (c.20-25 minutes) or by car as an alternative to Reading Railway Station.

Sustainable Transport Summary

- 3.52 The above review demonstrates that the proposed site is accessible by different modes of transport that have the potential to reduce reliance on the private car, particularly as there is a good range of public transport as well as facilities located within walking and cycling distance.
- 3.53 It is therefore considered that residents have a real choice about how they travel to and from the proposed site and that the proposals therefore accord with the guiding principles of the NPPF.

Personal Injury Accident Data

- 3.54 Personal Injury Accident (PIA) data has been obtained from WBC to provide an initial indication of the volume and severity of accidents recorded in the vicinity of the proposed development over the most recent five-year period available (1st July 2019 and 30th June 2024 inclusive).
- 3.55 The data and reports are provided in **Appendix D**.
- 3.56 The PIAs by year and severity are presented in **Table 12**.

Table 12 – Total PIAs in the vicinity of the site between 1st July 2019 and 30th June 2024

Year	Severity			
	Slight	Serious	Fatal	Total
01/06/2019 to 31/05/2020	4	0	0	4
01/06/2020 to 31/05/2021	7	1	0	8
01/06/2021 to 31/05/2022	9	0	0	9
01/06/2022 to 31/05/2023	22	1	0	23
01/06/2023 to 31/05/2024	5	1	0	6
Total	47	3	0	50

- 3.57 Table 12 shows that there have been 50 PIAs across the study area during the most recent five-year period. Of the 50 PIAs, three were serious and the remaining 47 were slight. No fatal PIAs were recorded.
- 3.58 Five PIAs included pedestrians and cyclists; further context is provided below:
- One PIA involved a car and a pedal cycle, in which the car, whilst turning right across the flow of traffic, collided with the cyclist travelling in the same direction, causing slight injuries. The causation was concluded to be that the driver did not look properly.
 - Another PIA involved a car and two pedal cycles, in which the car turned left from Norman Rise onto Beech Hill Road to face north-east and did not give way to the cyclists also travelling north eastbound on Beech Hill Road. One cyclist received minor injuries; the other was seriously injured. The road surface was wet, and it was raining without strong winds, and the causation was concluded to be that the driver did not look properly.

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- Another PIA involved a car and a pedal cycle, in which the car, exiting a driveway opposite Anvil Close, turned right to travel north and collided with the cyclist travelling southbound. The drivers vision was obscured by parked cars. Slight injuries were recorded.
- Another PIA involved a car and a pedestrian, in which the car travelling westbound on Church Lane collided with the pedestrian crossing Church Lane from the northbound side. There was no street lighting, and slight injuries were recorded.
- Another PIA involved a car and a mobility scooter, in which the car travelling southbound on Basingstoke Road, collided with the mobility scooter crossing over the road to the north, at the junction with Sentinel End. The mobility scooter user was seriously injured.

3.59 In addition, another PIA was recorded as serious, in which one car overtaking another collided with oncoming traffic, on the B3270 to the east of the M4 Junction 11 roundabout. Three people were slightly injured and one person seriously injured.

3.60 To provide greater context for analysis, **Table 13** summarises the total PIA's by junction and link. The road name/number may reference either the road the PIA was on, or which exit of the gyratory it was at. At locations with a collision cluster, which were defined as four or more PIAs within a 50m radius of each other, further analysis was conducted.

Table 13 – Total PIAs by junction and link between 1st June 2019 and 31st May 2024

Approach	Slight	Serious	Fatal	Total
A33/B3031/B3270				
A33 (NB, North of Junction)/CAMPUS Access	5	0	0	5
A33 (SB, North of Junction)	2	0	0	2
A33 (NB, South of Junction)	1	0	0	1
A33 (SB, South of Junction)	0	0	0	0
B3031	1	1	0	2
B3207 (NB, South of Junction)	0	0	0	0
M4 Junction 11				
A33 (NB, South of Gyratory)	2	0	0	2
A33 (SB, South of Gyratory)	0	0	0	0
A33/B3270 (SB, North of Gyratory)	2	0	0	2
B3270 (NB, North of Gyratory)	0	0	0	0
B3270 (NB, East of Gyratory)	2	0	0	2
B3270 (EB/WB, East of Gyratory)	2	1	0	3
B3270 (SB, East of Gyratory)	1	0	0	1
A33 (NB)/M4 Off Slip – North West of Gyratory	4	0	0	4
M4 On Slip (East of Gyratory)	1	0	0	1
M4 Off Slip (East of Gyratory)	4	0	0	4
B3349 Basingstoke Road/Barracks Lane/Beech Hill Road				
B3349 (North of Barracks Lane)	1	0	0	1
B3349/Barracks Lane	2	0	0	2
B3349/Anvil Close	2	0	0	2
B3349/Beech Hill Road	1	0	0	1

Approach	Slight	Serious	Fatal	Total
Other				
A33/Basingstoke Road/Mereoak Lane	1	0	0	1
Basingstoke Road/Church Lane	1	0	0	1
Church Lane/Hyde End Lane	1	0	0	1
Basingstoke Road/Sevenoaks Drive/Mayflower Meadow	2	0	0	2
Montgomery Drive/Magill Close	1	0	0	1
B3349 Hyde End Road/Century Drive	1	0	0	1
B3349 Hyde End Road/Croft Road	1	0	0	1
Beech Hill Road/Norman Rise	1	1	0	2
Beech Hill Road/White House Lane/Lambs Lane	5	0	0	5
Total	47	3	0	50

3.61 **Table 13** shows that PIA's clustered around three junctions. Causation patterns and baseline information for each have been summarised below.

A33/B3031/CAMPUS Site Access

3.62 This junction is an exit to the roundabout between the A33, B3031, and the access road to CAMPUS International Commercial Estate. The northbound section of the A33 on the gyratory comprises three lanes and a separate dedicated lane into the industrial park.

3.63 Five PIAs have been recorded at this junction within the latest five year period. Typically, the PIAs were due to unexpected lane changes and failing to check blind spots, with one caused by a driver failing to stop for a red ATS.

3.64 These PIAs were not linked, and usually down to driver error or lack of due care, not pointing out any inherent flaws in the road layout, so this doesn't leave any undue cause for concern.

A33 (NB)/M4 Off Slip – North West of Gyratory

3.65 This junction is where the M4 southbound exit meets the gyratory at Junction 11.

3.66 The exit slip road is made up of four lanes. Lane one and two from the left are designated for drivers heading into Reading via the A33 northbound. Lane three is designated for drivers for the A33 in both directions, and for the B3270 for Whitley Wood and Shinfield. Lane four is designated for drivers for Basingstoke via the A33 southbound.

3.67 The main gyratory up to the junction is also made up of four lanes. The three left hand lanes are designated for drivers heading into Reading via the A33 northbound. Lane three is also designated for drivers for the M4 eastbound, and the B3270 for Whitley Wood and Shinfield. Lane four is designated for drivers for the M4 eastbound.

3.68 These PIAs were not linked, and usually down to driver error or lack of due care, one PIA was an isolated incident of a motorcyclist losing control and falling off. These PIAs do not highlight any inherent issues with the road layout and therefore doesn't leave any undue cause for concern.

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Beech Hill Road/White House Lane/Lambs Lane Crossroads

- 3.69 This junction is the four-way crossroads between Beech Hill Road, White House Lane, and Lambs Lane. Beech Hill Road is subject to a 40mph limit and is the major road. White House Lane is subject to the national speed limit. Lambs Lane is subject to a 30mph limit. All three roads are single carriageway country lanes.
- 3.70 All five PIAs that occurred at this junction were recorded as slight in severity and was caused by a lack of due care and attention due to excessive speed or lack of visibility. One PIA report noted that the driver may have been impacted by obscured signs/road markings due to vegetation.
- 3.71 These PIAs were not linked, and usually down to driver error (excessive speed) and failing to look properly. These PIAs do not highlight any inherent issues with the road layout and therefore doesn't leave any undue cause for concern.

4.0 Development Proposals

Site Access Junction Proposals

- 4.1 It is proposed that the site will be accessed via two junctions.
- 4.2 The main site access for vehicular traffic is proposed as a new four-arm roundabout junction with the B3349 Basingstoke Road and Back Lane, designed in accordance with DMRB CD 116.
- 4.3 The initial access road width proposed is c.8.5m (with appropriate widening on bends), with 2.0m wide footways on both sides of the carriageway which will connect to the existing footway network on Basingstoke Road. Within the site, the carriageway width narrows to 6.0m, and will then narrow to 5.5m or less at appropriate locations to ensure slow traffic speeds in line with MfS principles. To the north of the commercial access, a shared pedestrian/cycle footway will be provided along the eastern side of the carriageway, which users can access via the proposed zebra crossing.
- 4.4 The proposed roundabout is shown on **Drawing T23591.001 rev B**; this also shows a 115m forward visibility splay along Basingstoke Road (southbound) and a 113m forward visibility splay along Basingstoke Road (northbound) in line with observed speeds. 43m forward visibility splays along the site access and Back Lane approach arms are also shown. The visibility calculations are shown in **Appendix E**.
- 4.5 Additionally, the access to the proposed commercial/industrial land is shown on **Drawing T23591.001 rev B**.
- 4.6 **Drawings T23591.002 rev B, T23591.003 rev B and T23591.006** demonstrate that a large refuse vehicle and an articulated vehicle can enter and exit the junction and the access to the commercial/industrial units in a forward gear without any issues.
- 4.7 A secondary site access for vehicular traffic is proposed via a new priority junction with B3349 Basingstoke Road, c.300m north of the proposed roundabout junction. The proposed access road width is 6.0m with 2.0m wide footways on both side of the carriageway, which will connect to the existing footway network on B3349 Basingstoke Road.
- 4.8 Right-turn movements into the junction from B3349 Basingstoke Road south will be prohibited, on the basis that vehicles approaching the development from the south would be able to turn into the site at the proposed roundabout junction instead, and this will ensure that through-traffic is not unnecessarily delayed at the priority junction further north. The junction is also designed so that pedestrians have priority over vehicular traffic entering and exiting the site.
- 4.9 The proposed priority junction, along with visibility splays of 116m to the north and south (based on speed surveys), and forward visibility splays of 17m are shown on **Drawing T23591.004 rev B**. The drawing also shows that the proposed priority junction would be over 11m south of the driveway to the north.
- 4.10 **Drawing T23591.005 rev B** demonstrates that a large refuse vehicle, which is the vehicle with the most onerous swept path that is anticipated to use this access regularly, can enter and exit the junction in a forward gear without any issues.

Segregated Pedestrian and Cycle Access

- 4.11 To the north of the priority access, a shared pedestrian/cycle route is proposed, measuring 3.0m wide and connecting to existing footway provision along the Basingstoke Road; this pedestrian/cycle access is also shown on **Drawing T23591.004 rev B**. Visibility splays of 2.4m x 17m are shown in both directions.

- 4.12 As cyclists approach the junction from the site, they can transition onto the southbound carriageway or give way to traffic and enter the northbound carriageway via a dropped kerb. Cyclists arriving from the north are proposed to use the transition onto the footway and cyclists from the south can access the site via the dropped kerb (after giving way to traffic travelling southbound).
- 4.13 Additionally, there would be segregated pedestrian/cycle accesses connecting to the existing PRow off Hyde End Road and the park via Century Drive to make the site as permeable as possible for pedestrians and cyclists. These accesses would connect with land that has been adopted by WBC (either as public open space or adopted highway) and are therefore deliverable.
- 4.14 The PRow to the north of the site that connects with Hyde End Road will be improved to provide all-weather surfacing and lighting; the PRow officer at WBC has not raised any objections with this proposal. Vegetation will also be cut back where required to ensure that a consistent footway width is retained and for visibility. The proposals will address deficiencies identified within the LTN 1/20 audit. It is envisaged that the improvements will be secured via a s106 contribution.
- 4.15 The proposed connection with the existing PRow ensures the proposed development aligns with the requirements of Policy C4 (Emerging Local Plan) from Table 5 and Policy CC03 (Adopted Managing Development Delivery Local Plan), set out in paragraph 2.19.
- 4.16 The segregated accesses are shown on the Development Framework Plan submitted as part of the planning application.

Mobility Hub

- 4.17 It is proposed to provide a mobility hub within the site which includes, provision of cycle storage lockers, pavement mounted cycle tools and pumps, cycle hire schemes, the provision of parcel storage lockers and car club spaces. Wayfinding signage would also be provided for pedestrians and cyclists to navigate through the development.
- 4.18 At this stage, it is envisaged that the mobility hub would be provided close to the local centre, which is a central location within the site and ties in with the internal footway/cycle network.

Change of Speed Limit along B3349 Basingstoke Road

- 4.19 As part of formal responses to the planning application, both WBC and Active Travel England requested that the scheme includes reducing the speed limit from 40mph to 30mph along the site because pedestrian and cycling activity would increase.
- 4.20 Recently, WBC has consulted on a proposed Traffic Regulation Order (TRO) to reduce the speed limit on B3349 Basingstoke Road, Hyde End Road and Beech Hill Road from 40mph to 30mph² through Spencers Wood. This order was 'made' and came into effect from 01 February 2024, which means that the speed limit on B3349 Basingstoke Road is 30mph from the B3349 Basingstoke Road/Back Lane junction to the A33/B3349 Basingstoke Road junction.
- 4.21 This recently made TRO, along with the fact that the visibility splays for both access junctions are based on observed speeds from ATC data when the speed limit was 40mph, is considered to address the queries raised by WBC and Active Travel England.

² Shinfield Area 30mph Speed Limit (DWG no: WBC-TM-AK-2022-15), Wokingham Borough Council (2024). URL: <https://www.wokingham.gov.uk/sites/wokingham/files/2024-01/Shinfield%2030%20mph%20speed%20limit%20plan.pdf>. Last accessed 06/08/2025

Internal Layout

- 4.22 The internal layout of the proposed development will be subject to reserved matters but designed in accordance with the guidelines of MfS, MfS2 and WBC's highways design guidance. Cycle routes would be designed in accordance with LTN 1/20.
- 4.23 It is proposed that the primary, secondary and tertiary site access roads and all footways/cycleways would be offered to WBC for adoption, which would be secured via a s106 contribution and delivered through a Section 38 agreement with WBC in due course. The final extents for adoption would be confirmed as part of a reserved matters application.

Parking

- 4.24 Sufficient car parking for the dwellings on site will be provided through on-plot parking for each dwelling in line with the parking standards in Table 3 and dimensions within WBC's MDD.
- 4.25 On-plot cycle parking will also be provided for each dwelling of the development, which will be sheltered and secure, and in the form of private garages or sheds where appropriate.
- 4.26 For other proposed land uses, parking for cyclists, vehicles (cars (including disabled spaces), vans and Heavy Goods Vehicles (HGVs) depending on land use) and service vehicles will be in line with the parking standards set out in Table 3 and dimensions within WBC's MDD. The final location and type of cycle parking will be confirmed as part of a future reserved matters application.
- 4.27 EV charging points will be provided for each plot in line with Building Control Regulations Approved Document S.
- 4.28 The number of parking spaces for each land use has been calculated using WBC's parking standards in Table 3 based on the housing mix from the illustrative masterplan and is shown in **Appendix G**. It should be noted that the finalised parking provision will be subject to a reserved matters application.
- 4.29 A Framework Car Park Management Plan is also provided in **Appendix H**.

On-Site Facilities

- 4.30 The development proposes light commercial/industrial space, a new local centre, GP Surgery, two form entry primary school and care home. This is in addition to multi-functional open green space, a sports pitch, community orchards and Suitable Alternative Natural Greenspace (SANG).

Internal Active Travel Network

- 4.31 The proposed internal network of shared footways has been designed to make the site as permeable as possible for walking and cycling, ensuring that direct routes are provided between all access points (vehicular and pedestrian/cyclist only), on-site facilities, open space and residential dwellings.
- 4.32 The main walking route runs east/west through the site, which forms the spine of the internal pedestrian and cycling network. This provides a relatively direct connection between residents on Century Drive and Hyde End Road with B3349 Basingstoke Road via a segregated pedestrian/cycle route.

- 4.33 From the main east/west spinal route, there is a proposed network of traffic free shared footways, which connect to the south of the site where most of the on-site facilities are proposed, as well as areas of open space and play, the SANG, community orchards, residential streets and segregated pedestrian/cycle access points to the north, east and west of the site.
- 4.34 The internal pedestrian/cycle network aims to provide users with direct traffic-free routes through the development to encourage walking and cycling for shorter journeys, and connectivity with bus services on B3349 Basingstoke Road and Hyde End Road.

Bus Accessibility

- 4.35 Catchment mapping has been undertaken for bus stops closest to the proposed development to show the proportion of dwellings that would be within 300m, 400m and 500m of the existing bus stops in line with CIHT's 'Buses in Urban Development' guidance. It should be noted, catchment mapping for a 250m walking distance has not been undertaken as the location of the proposed development is not in a town or city centre. The catchment mapping is route-based rather than 'as the crow flies' and shows walking distances to the Back Lane, Post Office, The Square and Grovelands Road bus stops.
- 4.36 **Figure 4.1 to Figure 4.4** present the catchment mapping for the above four bus stops. Based on the current location of bus stops, these show that for residents accessing the bus network from the proposed development:
- c.95% of dwellings are located within a 500m walk of a bus stop;
 - c.80% of dwellings are located within a 400m walk of a bus stop; and
 - c.25% of dwellings are located within a 300m walk of a bus stop.
- 4.37 Hub will discuss the potential changes to bus services with WBC's Public Transport team and bus operators. These discussions will aim to agree Section 106 (s106) contributions to deliver improvements to the existing 600 bus service (greater frequency) and infrastructure (e.g., bus stops) where required.
- 4.38 WBC has confirmed through their formal response to the application that they are seeking a contribution of £368 per dwelling (c.£160k) and £25k per bus stop (4 in total, a total of £100k) to enhance the existing bus service and improve bus stops close to the site.
- 4.39 While the applicant is willing to contribute towards enhancing the bus service and improving bus stops in the immediate vicinity of the site, further information is required from WBC before agreeing to this contribution. This includes confirmation of whether the contribution for the bus service enhancement is a one off payment or over a certain period of time and more detailed information on the cost for replacing a bus stop.

Summary

- 4.40 The proposed improvements to walking and cycling infrastructure, as well as potential enhancements to existing bus services, would significantly improve accessibility to the proposed development by sustainable and active modes of transport.
- 4.41 In line with the NPPF, the proposed improvements are considered to introduce and provide genuine travel choices to the proposed development via active travel and sustainable transport modes which are not currently available.

5.0 Trip Generation, Distribution, and Assignment

- 5.1 A model brief was prepared and agreed with WBC and National Highways in July 2024, which was based on a scheme of 480 dwellings, a local centre, 1Ha of Light Industrial/Commercial employment land and a 1FE primary school. At the time of the modelling, this comprised the latest development proposals for the site.
- 5.2 WBC's Wokingham Strategic Transport VISUM Model (WSTM) was used to assign development traffic and to assess the impact of the development based on the proposals described above.

Trip Generation

- 5.3 The trip generation for all the proposed land uses was based on the trip rates within Appendix 4 of WBC's modelling protocol, which is set out in **Appendix H**.
- 5.4 Trips to/from the local centre were assumed to be fully internalised because they will either be made from within the development, or by active travel modes from residential areas immediately adjacent to the site. This approach was agreed with WBC.
- 5.5 The agreed trip rates for residential dwellings, Light Industrial/Commercial employment land and the 1FE primary school are summarised in **Table 14**.

Table 14 – Agreed trip rates (total vehicles)

Land Use	Peak Period	Trip Rate		Per	Vehicle Trips		Total
		In	Out		In	Out	
Residential (420 dwellings)	AM	0.170	0.410	Dwelling	71	172	244
	PM	0.360	0.160		151	67	218
Industrial/Commercial Development (B2/B8) (1ha @ 40% coverage = 4,000 sqm)	AM	0.292	0.126	100 sqm	12	5	17
	PM	0.090	0.300		4	12	16
1FE Primary School (210 pupils)	AM	0.700	0.580	Pupil	147	122	269
	PM	0.040	0.080		8	17	25
Total Trips (AM Peak – 08:00 to 09:00)					230	299	530
Total Trips (PM Peak – 17:00 to 18:00)					163	96	259

- 5.6 **Table 14** shows that the proposed development is forecast to generate up to 530 two-way trips during the AM Peak and 259 two-way vehicle trips during the PM Peak.
- 5.7 The trips above were used to model the impact of the proposed development during the AM and PM peak hours. No internalisation was applied to any of the trips in **Table 14** for the purposes of the model assessment, which means that all trips on the network were treated as new. This was considered robust, particularly as (for example) primary school trips that are already on the network (e.g., those travelling to Shinfield) would divert to the site, potentially with modal shift.
- 5.8 The local journey modal split data for all trip purposes was derived from TEMPro 8.1 using the Wokingham 017 MSOA, which is listed below:
- Driving a Car or Van – 54%

- Bicycle – 2%
- On Foot – 10%
- Passenger in a Car or Van – 28%
- Train – 2%
- Bus, Minibus, or Coach – 4%

5.9 As WBC's modelling protocol does not include non-vehicular trip rates, person trip rates for the residential dwellings were derived from TRICs and are presented in **Table 15**, with full outputs included in **Appendix I**. The primary school and local centre were not included because the majority of trips would be internalised.

Table 15 – Person Trip Rates and People Trips

Peak Period	Trip Rate		Trips (480 Dwellings)		Total
	In	Out	In	Out	
AM	0.238	0.698	114	335	449
PM	0.589	0.274	283	132	415
Daily (weekday)	3.703	3.738	1,777	1,794	3,571

5.10 The mode share percentages above have then been applied to the total number of people trips to ascertain the number of trips likely to be generated by the residential development within the site for the various modes. This trip generation is presented in **Table 16**.

Table 16 – People Trips by Mode

Mode	Modal share	AM peak		PM peak		Daily	
		Trips in	Trips out	Trips in	Trips out	Trips in	Trips out
Driving a car or van	54%	62	181	153	71	960	969
Bicycle	2%	2	7	6	3	36	36
On foot	10%	11	34	28	13	178	179
Passenger in a car or van	28%	32	94	79	37	498	502
Train	2%	2	7	6	3	36	36
Bus, minibus or coach	4%	5	13	11	5	71	72

5.11 Therefore, using this methodology, the proposed development is forecast to generate the following on a daily basis: 72 two-way bicycle trips, 357 two-way walking trips, 143 two-way bus trips, 72 two-way rail trips and 1,000 two-way trips as a car passenger.

Scheme Evolution

5.12 Since the model brief was agreed (and subsequent modelling undertaken), the scheme has evolved and the applicant is now applying for "Outline planning permission is sought with all matters reserved for future determination, save for the means of access via Basingstoke Road, for: up to 420 dwellings (Use Class C3), an 80 bed care home (Use Class C2), 1ha of employment land (Use Class E(g), primary school (Use Class F1), local centre (Use Classes E(a), (b), (c), (f)), GP Surgery (Use Class E(e)), sports pitch and changing facility, public open space, SANG provision and associated infrastructure".

- 5.13 The number of trips generated by the latest development proposals for all modes of transport are not anticipated to be significantly different to the scenario that was assessed within the WSTM, particularly as no trips were discounted or internalised for the original scheme. Additionally, the proposed GP Surgery and Care Home are unlikely to generate significant volumes of new trips during the peak hours.
- 5.14 Therefore, the modelling supporting this TA is considered to be representative of the traffic impact from the latest development proposals. Further modelling will be undertaken in due course to assess the impact of the latest development proposals to support the analysis in this TA.

Development Traffic Distribution and Assignment

- 5.15 The WSTM was used to assign development traffic to the local highway network. The development flow bundles produced from the WSTM show the forecast inbound and outbound 2032 and 2038 development flows for both the AM and PM peaks. The 2032 and 2038 inbound and outbound flows are provided in **Appendix J**.
- 5.16 Across both peak hours, the majority of development traffic (c.70%) is forecast to travel to/from the north of the site via the B3349 Basingstoke Road, Hyde End Road and Church Lane. The majority of traffic travelling north along the B3349 Basingstoke Road is forecast to use the B3349 Basingstoke Road/A33 junction before dispersing at M4 Junction 11.
- 5.17 Around 15-20% of all development traffic from the site is also expected to use the B3349 Basingstoke Road to the south across each development scenario.
- 5.18 The remainder of development traffic is forecast to use local roads such as Beech Hill Road and Back Lane.

6.0 Traffic Impact Assessment

- 6.1 WSP was commissioned to undertake the modelling that has informed this TA. The key sections of the WSTM model network that informed this assessment are presented in **Figure 6.1**, which comprises the following key links and junctions from a transport perspective:
- The B3349 corridor between the A327 at Shinfield in the north and Swallowfield in the south;
 - Basingstoke Road between the B3349 and the A33;
 - The A33 Swallowfield Bypass;
 - The B3270 to the east of M4 Junction 11;
 - B3349 Basingstoke Road/Back Lane priority roundabout (new site access);
 - B3349 Basingstoke Road/Site Access priority junction (new junction);
 - B3349 Basingstoke Road/B3349 Hyde End Road traffic signal junction;
 - Basingstoke Road/Church Lane mini roundabout;
 - A33/Basingstoke Road traffic signal junction;
 - M4 Junction 11; and
 - Local roads in Spencers Wood and Shinfield.
- 6.2 The WSTM comprises three peak periods; 08:00 to 09:00 (AM Peak), 10:00 to 16:00 (Interpeak), and 17:00 to 18:00 (PM Peak).

Assessed Scenarios

- 6.3 The TA considered the following scenarios for the AM (08:00 – 09:00) and PM (17:00 – 18:00) peak hours, which were agreed with WBC and National Highways:
- 2032 Core;
 - 2032 Core + Development;
 - 2038 Core; and
 - 2038 Core + Development.
- 6.4 These scenarios assess the impact that the proposed development would have on the network without any mitigation.

Committed Development and Highway Schemes

- 6.5 The 2032 and 2038 Core models include background traffic growth and all relevant committed developments and committed highway schemes.

Link Demand Flows

- 6.6 Demand Flows for key links within the WSTM model network were used to establish changes in link flows for total vehicles between the 'with development' and 'without development' scenarios in 2032 and 2038. This analysis focused on key links along the A33, B3349 Basingstoke Road and Hyde End Road, which are the routes that the majority of development traffic is forecast to use.

- 6.7 The demand flows and flow difference plots for 2032 and 2038 are in **Appendix K** and **Appendix L** respectively.

2032 Core Scenario

- 6.8 Changes in link demand flows for 2032 are presented in **Table 17** and **Table 18** for the AM and PM peaks respectively.

Table 17 – WSTM 2032 results, changes to link flows during the AM Peak

Link	Direction	AM Peak (08:00 to 09:00)			
		2032 Ref Case (veh)	2032 Ref + Dev (veh)	Absolute change from Ref Case (veh)	% change from Ref Case
B3349 Basingstoke Road between the A33 and Church Lane	SB	937	1,034	97	9%
	NB	1,313	1,405	92	7%
B3349 Basingstoke Road between Church Lane and Clares Green Road	SB	426	530	104	20%
	NB	636	746	110	15%
B3349 Basingstoke Road between Clares Green Road and Hyde End Road	SB	311	428	117	27%
	NB	492	545	53	10%
B3349 Basingstoke Road between Hyde End Road and Beech Hill Road	SB	863	1,009	146	14%
	NB	850	982	132	13%
B3349 Basingstoke Road between two site entrances	SB	426	516	90	17%
	NB	575	613	38	6%
B3349 Basingstoke Road south of the site access roundabout	SB	529	578	49	8%
	NB	782	745	-37	-5%
Hyde End Road between B3349 Basingstoke Road and Grovelands Road	EB	635	610	-25	-4%
	WB	726	652	-74	-11%
Hyde End Road east of Grovelands Road	EB	803	782	-21	-3%
	WB	717	714	-3	0%
Beech Hill Road west of the B3349 Basingstoke Road	SB	499	497	-2	0%
	NB	341	327	-14	-4%
Church Lane east of Basingstoke Road	EB	617	666	49	7%
	WB	737	776	39	5%

- 6.9 During the AM Peak, **Table 17** shows that the largest increase in link flows is along the B3349 Basingstoke Road between Beech Hill Road and Hyde End Road in both directions with an increase in SB flows of 146 vehicles and an increase in NB flows of 132 vehicles. Increases in link flow are generally seen all along the B3349 Basingstoke Road to the north but the increases are smaller, further away from the site.
- 6.10 **Table 17** also shows that link flows on the Hyde End Road in both directions between B3349 Basingstoke Road and Grovelands Road are forecast to decrease by c.4% (EB) and 11% (WB) when comparing the 2032 Ref + Dev scenario with the 2032 Reference Case scenario.

- 6.11 This is due to congestion at the B3349 Basingstoke Road/Hyde End Road signalised junction that causes traffic to re-route along Clares Green Road. Wider re-routing is also forecast from Hyde End Road to Church Lane, which is reflected by link flows on Church Lane increasing by c.7% for EB traffic and c.5% for WB traffic.
- 6.12 Similar re-routing is forecast along Beech Hill Road where NB traffic is forecast to decrease by c.4% to avoid congestion at the B3349 Basingstoke Road/Beech Hill Road junction. The traffic is forecast to re-route via Lambs Lane/Back Lane where it joins Basingstoke Road at the proposed roundabout site access.

Table 18 – WSTM 2032 results, changes to link flows during the PM Peak

Link	Direction	PM Peak (17:00 to 18:00)			
		2032 Ref Case (veh)	2032 Ref + Dev (veh)	Absolute change from Ref Case (veh)	% change from Ref Case
B3349 Basingstoke Road between the A33 and Church Lane	SB	1,040	1,084	44	4%
	NB	997	1,035	38	4%
B3349 Basingstoke Road between Church Lane and Clares Green Road	SB	518	587	69	12%
	NB	435	507	72	14%
B3349 Basingstoke Road between Clares Green Road and Hyde End Road	SB	365	434	69	16%
	NB	321	389	68	17%
B3349 Basingstoke Road between Hyde End Road and Beech Hill Road	SB	698	807	109	14%
	NB	793	871	78	9%
B3349 Basingstoke Road between two site entrances	SB	290	350	60	17%
	NB	661	684	23	3%
B3349 Basingstoke Road south of the site access roundabout	SB	392	404	12	3%
	NB	825	834	9	1%
Hyde End Road between B3349 Basingstoke Road and Grovelands Road	EB	568	571	3	1%
	WB	380	411	31	8%
Hyde End Road east of Grovelands Road	EB	556	556	0	0%
	WB	409	437	28	6%
Beech Hill Road west of the B3349 Basingstoke Road	SB	438	428	-10	-2%
	NB	248	250	2	1%
Church Lane east of Basingstoke Road	EB	674	689	15	2%
	WB	754	759	5	1%

- 6.13 During the PM Peak, **Table 18** shows that, like the AM Peak, the largest increases in link flows are forecast in both directions along the B3349 Basingstoke Road between Beech Hill Road and Hyde End Road; SB flows are forecast to increase by 109 vehicles and NB flows are forecast to increase by 78 vehicles. Increases in link flow are generally seen all along B3349 Basingstoke Road to the north but the increases are smaller, further away from the site.
- 6.14 **Table 18** shows that link flows on Hyde End Road between Basingstoke Road and Grovelands Road are forecast to marginally increase; no traffic is forecast to re-route because the Basingstoke Road/Hyde End Road junction is forecast to operate within capacity.

2038 Core Scenario

- 6.15 Changes in link demand flows for 2038 are presented in **Table 19** and **Table 20** for the AM and PM peaks respectively.

Table 19 – WSTM 2038 results, changes to link flows during the AM Peak

Link	Direction	AM Peak (08:00 to 09:00)			
		2038 Ref Case (veh)	2038 Ref + Dev (veh)	Absolute change from Ref Case (veh)	% change from Ref Case
B3349 Basingstoke Road between the A33 and Church Lane	SB	972	1,061	89	9%
	NB	1,323	1,387	64	5%
B3349 Basingstoke Road between Church Lane and Clares Green Road	SB	447	553	106	24%
	NB	629	738	109	17%
B3349 Basingstoke Road between Clares Green Road and Hyde End Road	SB	269	385	116	43%
	NB	421	535	114	27%
B3349 Basingstoke Road between Hyde End Road and Beech Hill Road	SB	897	1,050	153	17%
	NB	825	954	129	16%
B3349 Basingstoke Road between two site entrances	SB	442	538	96	22%
	NB	567	607	40	7%
B3349 Basingstoke Road south of the site access roundabout	SB	549	591	42	8%
	NB	816	788	-28	-3%
Hyde End Road between B3349 Basingstoke Road and Grovelands Road	EB	635	628	-7	-1%
	WB	687	696	9	1%
Hyde End Road east of Grovelands Road	EB	812	805	-7	-1%
	WB	748	763	15	2%
Beech Hill Road west of the B3349 Basingstoke Road	SB	523	522	-1	0%
	NB	330	300	-30	-9%
Church Lane east of Basingstoke Road	EB	630	675	45	7%
	WB	753	770	17	2%

- 6.16 Similarly to the 2032 AM peak scenario, **Table 19** shows that the largest increases in link flows are forecast in both directions along the B3349 Basingstoke Road between Beech Hill Road and Hyde End Road; SB flows are forecast to increase by 153 vehicles and NB flows are forecast to increase by 129 vehicles. Increases in link flow are generally seen all along B3349 Basingstoke Road to the north but the increases are smaller, further away from the site.
- 6.17 **Table 19** shows a smaller forecast reduction in link flows on the Hyde End Road EB between Basingstoke Road and Grovelands Road with a decrease of c.1% when comparing the 2038 Ref + Dev scenario with the 2038 Reference Case scenario.
- 6.18 This is due to congestion at the B3349 Basingstoke Road/Hyde End Road signalised junction that causes traffic to re-route along Clares Green Road. Wider re-routing is also forecast from Hyde End Road to Church Lane, which is reflected by link flows on Church Lane increasing by c.7% for EB traffic and c.2% for WB traffic.

- 6.19 Similar re-routing is forecast along Beech Hill Road where NB traffic is forecast to decrease by c.9% to avoid congestion at the B3349 Basingstoke Road/Beech Hill Road junction. The traffic is forecast to re-route via Lambs Lane/Back Lane where it joins Basingstoke Road at the proposed roundabout site access.

Table 20 – WSTM 2038 results, changes to link flows during the PM Peak

Link	Direction	PM Peak (17:00 to 18:00)			
		2038 Ref Case (veh)	2038 Ref + Dev (veh)	Absolute change from Ref Case (veh)	% change from Ref Case
B3349 Basingstoke Road between the A33 and Church Lane	SB	1,099	1,146	47	4%
	NB	1,015	1,035	20	2%
B3349 Basingstoke Road between Church Lane and Clares Green Road	SB	534	608	74	14%
	NB	445	507	62	14%
B3349 Basingstoke Road between Clares Green Road and Hyde End Road	SB	379	453	74	20%
	NB	332	389	57	17%
B3349 Basingstoke Road between Hyde End Road and Beech Hill Road	SB	716	828	112	16%
	NB	817	871	54	7%
B3349 Basingstoke Road between two site entrances	SB	309	363	54	17%
	NB	676	687	11	2%
B3349 Basingstoke Road south of the site access roundabout	SB	418	430	12	3%
	NB	847	847	0	0%
Hyde End Road between B3349 Basingstoke Road and Grovelands Road	EB	585	577	-8	-1%
	WB	386	416	30	8%
Hyde End Road east of Grovelands Road	EB	571	560	-11	-2%
	WB	415	444	29	7%
Beech Hill Road west of the B3349 Basingstoke Road	SB	439	437	-2	0%
	NB	257	252	-5	-2%
Church Lane east of Basingstoke Road	EB	718	729	11	2%
	WB	762	758	-4	-1%

- 6.20 During the PM Peak, **Table 20** shows that, like the AM Peak, the largest increases in link flows are forecast in both directions along the B3349 Basingstoke Road between Beech Hill Road and Hyde End Road; SB flows are forecast to increase by 112 vehicles and NB flows are forecast to increase by 54 vehicles. Increases in link flow are generally seen all along B3349 Basingstoke Road to the north with the larger increases shown in SB flows.
- 6.21 **Table 20** shows that link flows on Hyde End Road between Basingstoke Road and Grovelands Road are forecast to marginally increase; no traffic is forecast to re-route because the Basingstoke Road/Hyde End Road junction is forecast to operate within capacity.

Volume over Capacity

- 6.22 This section sets out the Volume over Capacity ('V/C') results from the WSTM for the 2032 and 2038 AM and PM peak scenarios (with and without development).

- 6.23 Within the model outputs, junctions are only provided a V/C value where they operate at, or above, 70% capacity. Any junction with a V/C of more than 85% is considered congested and a V/C of over 100% is considered to be over capacity.
- 6.24 Where applicable, the analysis focuses on the key junctions highlighted in **Figure 6.2**. This is because development flows are not expected to be as high further afield (as shown in the Link Demand Flows section).
- 6.25 In some instances, junctions are forecast to operate below 70% V/C in the Reference Case and over 70% during the with development scenarios. Where a junction is forecast to operate below 70% in one scenario, this is shown with an 'N/A' in the results table.

2032 Core Scenario

- 6.26 Changes in V/C for 2032 are presented in **Table 21** and **Table 22** for the AM and PM peaks respectively. The V/C plots are presented in **Appendix M**.

Table 21 – WSTM 2032, changes to V/C during the AM Peak

Junction	AM Peak (08:00 to 09:00)		
	2032 Ref Case	2032 Ref + Dev	Absolute change from Ref Case
M4 Junction 11, A33 Southern Approach	101%	103%	2%
A33/Basingstoke Road	N/A	71%	N/A
Basingstoke Road/Tabby Drive	103%	110%	7%
Basingstoke Road/Church Lane	107%	112%	5%
Basingstoke Road/Hyde End Road	103%	105%	2%
Basingstoke Road/Beech Hill Road	N/A	N/A	N/A
Basingstoke Road/Site Access Priority Junction	N/A	N/A	N/A
Site Access/B3349/Back Lane Roundabout	N/A	N/A	N/A

- 6.27 During the 2032 AM Peak, **Table 21** shows that the A33 southern approach to M4 Junction 11 and the Hyde End Road, Church Lane and Tabby Drive junctions are already forecast to operate over capacity in the Reference Case scenario.
- 6.28 The V/C is forecast to marginally increase as a result of development traffic at these junctions; with the largest increase shown to be 7% at the Tabby Drive junction.
- 6.29 The A33/Basingstoke Road junction V/C is shown to increase to over 70% as a result of development traffic but is still well below the threshold of 85% that is considered as congested.

Table 22 – WSTM 2032, changes to V/C during the PM Peak

Junction	PM Peak (17:00 to 18:00)		
	2032 Ref Case	2032 Ref + Dev	Absolute change from Ref Case
M4 Junction 11, A33 Southern Approach	99%	99%	0%
A33/Basingstoke Road	N/A	N/A	N/A
Basingstoke Road/Tabby Drive	78%	81%	3%

Junction	PM Peak (17:00 to 18:00)		
	2032 Ref Case	2032 Ref + Dev	Absolute change from Ref Case
Basingstoke Road/Church Lane	97%	97%	0%
Basingstoke Road/Hyde End Road	95%	99%	4%
Basingstoke Road/Beech Hill Road	N/A	N/A	N/A
Basingstoke Road/Site Access Priority Junction	N/A	N/A	N/A
Site Access/B3349/Back Lane Roundabout	N/A	72%	N/A

- 6.30 During the 2032 PM Peak, **Table 22** shows that no junctions in the local area are forecast to operate over capacity (i.e., 100%). However, the A33 southern approach to M4 Junction 11 and the Hyde End Road and Church Lane junctions are already congested in the Reference Case scenario and are forecast to operate over 85%.
- 6.31 The V/C is forecast to marginally increase as a result of development traffic at these junctions with the largest increase shown to be 4% at the Hyde End Road junction. All junctions are forecast to continue operating within capacity during the 'with development' scenario.

2038 Core Scenario

- 6.32 Changes in V/C for 2038 are presented in **Table 23** and **Table 24** for the AM and PM peaks respectively. The V/C plots are presented in **Appendix N**.

Table 23 – WSTM 2038, changes to V/C during the AM Peak

Junction	AM Peak (08:00 to 09:00)		
	2032 Ref Case	2032 Ref + Dev	Absolute change from Ref Case
M4 Junction 11, A33 Southern Approach	102%	104%	2%
A33/Basingstoke Road	71%	72%	1%
Basingstoke Road/Tabby Drive	104%	109%	5%
Basingstoke Road/Church Lane	111%	111%	0%
Basingstoke Road/Hyde End Road	104%	109%	5%
Basingstoke Road/Beech Hill Road	N/A	N/A	N/A
Basingstoke Road/Site Access Priority Junction	N/A	71%	N/A
Site Access/B3349/Back Lane Roundabout	N/A	N/A	N/A

- 6.33 During the 2038 AM Peak, **Table 23** shows that the A33 southern approach to M4 Junction 11 and the Hyde End Road, Church Lane and Tabby Drive junctions are forecast to operate over capacity in the Reference Case scenario.
- 6.34 The V/C is forecast to marginally increase as a result of development traffic at these junctions, with the exception of the Basingstoke Road/Church Lane junction where capacity is forecast to remain unchanged. The junctions with 5% increases are the Basingstoke Road/Hyde End Road junction and the Basingstoke Road/Tabby Drive junction.

Table 24 – WSTM 2038, changes to V/C during the PM Peak

Junction	PM Peak (17:00 to 18:00)		
	2032 Ref Case	2032 Ref + Dev	Absolute change from Ref Case
M4 Junction 11, A33 Southern Approach	100%	100%	0%
A33/Basingstoke Road	N/A	N/A	N/A
Basingstoke Road/Tabby Drive	80%	81%	1%
Basingstoke Road/Church Lane	80%	81%	1%
Basingstoke Road/Hyde End Road	99%	101%	2%
Basingstoke Road/Beech Hill Road	N/A	N/A	N/A
Basingstoke Road/Site Access Priority Junction	N/A	N/A	N/A
Site Access/B3349/Back Lane Roundabout	N/A	73%	N/A

6.35 During the 2038 PM Peak, **Table 24** shows that the A33 southern approach to M4 Junction 11 is forecast to operate at capacity in the Reference Case scenario. The Basingstoke Road/Hyde End Road junction is also forecast to be congested and operate at 99%.

6.36 The V/C is forecast to marginally increase as a result of development traffic at these junctions, with the exception of the Basingstoke Road/Church Lane junction and the A33 southern approach to M4 Junction 11. The junction with the largest increase is the Basingstoke Road/Hyde End Road junction where it is forecast to operate at 101% capacity with the development in place.

Strategic Modelling Summary

6.37 The model results show:

Link Demand Flows

6.38 Overall, the WSTM model forecasts that the proposed development would exacerbate existing congestion experienced at the B3349 Basingstoke Road/Hyde End Road Junction and the B3349 Basingstoke Road/Beech Hill Road Junction during the 2032 and 2038 AM Peak scenarios, with the following implications:

- Some traffic will re-route via Clares Green Road to avoid congestion at the B3349 Basingstoke Road/Hyde End Road Junction;
- Due to congestion at the B3349 Basingstoke Road/Hyde End Road Junction, some wider re-routing takes place between Hyde End Road and Church Lane;
- Some traffic is forecast to re-route from Beech Hill Road to Lambs Lane/Back Lane and join the B3349 Basingstoke Road at the proposed site access roundabout; and

6.39 During the 2032 and 2038 PM peak scenarios, link flows are forecast to remain stable between the 'without development' and 'with development' scenarios.

Volume over Capacity

6.40 Overall, the V/C analysis shows:

- During the 2032 and 2038 AM peak scenarios, the A33 southern approach to M4 Junction 11 and the Hyde End Road, Church Lane and Tabby Drive junctions are already forecast to operate over capacity in the Reference Case scenario. Adding development traffic to these junctions decreases capacity further; and
- During the 2032 and 2038 PM peak scenarios, all junctions are forecast to operate within capacity (i.e., 100%). The only exception is the B3349 Basingstoke Road/Hyde End Road traffic signal junction, which is forecast to increase from 99% in the 2038 Reference Case to 101% in the 2038 Ref Case + Dev scenario.

Local Junction Modelling Assessment

- 6.41 As part of the formal response to the application, WBC requested that the following junctions are assessed:
- B3349 Basingstoke Road/Back Lane priority T junction (existing junction);
 - B3349 Basingstoke Road/Back Lane priority roundabout (new site access);
 - B3349 Basingstoke Road/Site Access priority junction (new junction);
 - B3349 Basingstoke Road/B3349 Hyde End Road traffic signal junction; and
 - B3349 Basingstoke Road/Church Lane proposed signalised junction.
- 6.42 Within the response, WBC confirmed that a numerical assessment of the changes in traffic flows for the A33/Basingstoke Road traffic signal junction and M4 Junction 11 would be acceptable.
- 6.43 Therefore, on Thursday 19th June 2025, Classified Turning Counts (CTCs) and queue length surveys were commissioned at the following junctions:
- B3349 Basingstoke Road/Back Lane priority T junction;
 - B3349 Basingstoke Road/B3349 Hyde End Road traffic signal junction; and
 - B3349 Basingstoke Road/Church Lane mini roundabout (including Grazeley Road to the south).
- 6.44 The CTC data and queue length surveys are provided in **Appendix O**.
- 6.45 2025 Surveyed Base models have been created and calibrated against observed queue data. 2032 Base, 2038 Base, 2032 + Development and 2038 + Development scenarios using the outputs from the WSTM have been used to assess the junctions; and the capacity results are summarised below.
- 6.46 Traffic movements for all junctions during the 2025 Base, 2032 Base, 2038 Base, 2032 + Development and 2038 + Development AM and PM peaks are shown in **Figures 6.2 to 6.11** respectively.

B3349 Basingstoke Road/Back Lane Existing Priority T-Junction

- 6.47 The B3349 Basingstoke Road/Back Lane Existing Priority T-Junction has been modelled using the PICADY module of Junctions 11. The full output file for the junction, showing the geometry and capacity calculations, are included in **Appendix P**.
- 6.48 **Table 25** summarises how the junction currently operates and how it is forecast to operate in the future year scenarios.

Table 25 – B3349 Basingstoke Road/Back Lane Existing Priority T-Junction – PICADY Analysis

Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2025 Base						
Back Lane (left turn)	0.13	0	7	0.10	0	7
Back Lane (right turn)	0.17	0	12	0.17	0	11
B3349 Basingstoke Road (North)	0.19	0	7	0.04	0	6
2032 Base						
Back Lane (left turn)	0.00	0	9	0.00	0	0
Back Lane (right turn)	0.39	1	21	0.38	1	20
B3349 Basingstoke Road (North)	0.00	0	0	0.00	0	0
2038 Base						
Back Lane (left turn)	0.00	0	0	0.00	0	0
Back Lane (right turn)	0.42	1	22	0.42	1	22
B3349 Basingstoke Road (North)	0.00	0	0	0.00	0	0

6.49 **Table 25** shows that the junction currently operates and is forecast to operate with spare capacity and short queues and delays.

B3349 Basingstoke Road/Back Lane/Site Access Priority Roundabout

6.50 The proposed site access roundabout has been modelled using the ARCADY module of Junctions 11. The geometric parameters were based on **Drawing T23591.001 rev B**. The full output file for the junction, showing the geometry and capacity are included in **Appendix Q**.

6.51 **Table 26** presents the results for the proposed roundabout.

Table 26 – B3349 Basingstoke Road/Back Lane/Site Access Priority Roundabout – ARCADY Analysis

Approach	AM Peak 07:30-08:30			PM Peak 17:00-18:00		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2032 + Development						
Site Access	0.22	0	5	0.07	0	4
B3349 Basingstoke Road (South)	0.70	2	10	0.74	3	11
Back Lane	0.21	0	6	0.20	0	7
B3349 Basingstoke Road (North)	0.47	1	6	0.31	0	4
2038 + Development						
Site Access	0.23	0	5	0.07	0	4
B3349 Basingstoke Road (South)	0.74	3	12	0.75	3	12
Back Lane	0.22	0	6	0.22	0	7
B3349 Basingstoke Road (North)	0.49	1	6	0.32	1	4

6.52 **Table 26** shows that the junction is forecast to operate with spare capacity and short queues and delays.

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B3349 Basingstoke Road/ Site Access Priority Junction

6.53 The secondary site access priority junction has been modelled using the PICADY module of Junctions 11. The geometric parameters were based on **Drawing T23591.004 rev B**. The full output file for the junction, showing the geometry and capacity are included in **Appendix R**.

6.54 **Table 27** presents the results for the proposed priority junction.

Table 27 – B3349 Basingstoke Road/Site Access Priority Junction – PICADY Analysis

Approach	AM Peak 07:30-08:30			PM Peak 17:00-18:00		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2032 + Development						
Site Access	0.44	1	18	0.13	0	11
2038 + Development						
Site Access	0.44	1	19	0.13	0	11

6.55 **Table 27** shows that the junction is forecast to operate with spare capacity and short queues and delays.

B3349 Basingstoke Road/Hyde End Road Existing Traffic Signal Junction

6.56 The B3349 Basingstoke Road/Hyde End Road existing traffic signal junction has been modelled using LinSig. The full output file for the junction, showing the geometry and capacity calculations, are included in **Appendix S**.

6.57 **Table 28** presents the results for the existing traffic signal junction.

Table 28 – B3349 Basingstoke Road/Hyde End Road Existing Traffic Signal Junction – LinSig Output

Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	DoS (%)	MMQ (PCU)	Delay (s)	DoS (%)	MMQ (PCU)	Delay (s)
2025 Base						
Hyde End Road	83.9	8	54	78.6	6	40
B3349 Basingstoke Road South	83.1	7	37	77.9	8	21
B3349 Basingstoke Road North	67.2	7	35	79.3	7	39
PRC (%)	7.3			13.4		
Delay (PCU/Hr)	13.46			11.30		
2032 Base						
Hyde End Road	109.3	57	232	120.9	41	392
B3349 Basingstoke Road South	201.1	292	1033	125.1	93	410
B3349 Basingstoke Road North	51.4	9	37	119.2	48	365
PRC (%)	-123.4			-39.0		
Delay (PCU/Hr)	326.88			172.50		
2032 + Development						
Hyde End Road	184.7	155	924	132.2	59	526
B3349 Basingstoke Road	183.7	280	883	130.3	119	470

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Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	DoS (%)	MMQ (PCU)	Delay (s)	DoS (%)	MMQ (PCU)	Delay (s)
South						
B3349 Basingstoke Road North	114.9	43	307	130.5	74	500
PRC (%)	-105.2			-46.9		
Delay (PCU/Hr)	459.32			239.46		
2038 Base						
Hyde End Road	167.8	147	817	122.7	44	413
B3349 Basingstoke Road South	169.1	219	800	128.3	106	449
B3349 Basingstoke Road North	153.5	73	718	123.5	57	419
PRC (%)	-87.9			-42.6		
Delay (PCU/Hr)	423.08			194.87		
2038 + Development						
Hyde End Road	171.9	154	845	133.6	61	542
B3349 Basingstoke Road South	179.5	267	863	132.4	125	493
B3349 Basingstoke Road North	165.5	108	803	130.1	77	494
PRC (%)	-99.5			-48.5		
Delay (PCU/Hr)	512.25			249.32		

- 6.58 **Table 28** shows that the existing traffic signal junction currently operates within capacity with short queues and delays of under one minute on each approach.
- 6.59 However, during all future year scenarios (with and without development), all approaches are forecast to operate over capacity with large queues and delays. Therefore, a mitigation scheme is required and this is presented in **Section 7.0**.

B3349 Basingstoke Road/Church Lane Traffic Signal Junction

- 6.60 A proposed traffic signal junction has been modelled as the Base scenario for the B3349 Basingstoke Road/Church Lane junction, by request of WBC, as this scheme will be in place by the time the proposed development will be implemented.
- 6.61 The B3349 Basingstoke Road/Church Lane traffic signal junction has been modelled using LinSig and was produced based on publicly available information from the Land at Church Lane, Hyde End Lane and Hyde End Road planning application (reference: 130162). The full output file for the junction, showing the geometry and capacity calculations, are included in **Appendix T**.
- 6.62 **Table 29** presents the results for the traffic signal junction modelled with a pedestrian stage every cycle.

Table 29 – B3349 Basingstoke Road/Church Lane Traffic Signal Junction – LinSig Analysis – With Pedestrians

Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	DoS	MMQ (PCU)	Delay (s)	DoS	MMQ (PCU)	Delay (s)
2032 Base						
B3349 Basingstoke Road Northbound (Stop line)	115.2	78	292	117.6	57	348
B3349 Basingstoke Road Southbound (Stop line)	94.2	31	44	148.6	215	686
Church Lane	289.2	295	1350	123.1	102	415
B3349 Basingstoke Road Southbound to Grazeley Road	23.7	0	1	23.8	0	1
Grazeley Road	26.6	0	5	12.0	0	4
PRC (%)	-221.3			-65.1		
Delay (PCU/Hr)	358.53			334.54		
2032 + Development						
B3349 Basingstoke Road Northbound (Stop line)	164.1	214	811	175.7	147	889
B3349 Basingstoke Road Southbound (Stop line)	92.5	33	36	147.2	220	672
Church Lane	415.6	362	1582	130.0	121	503
B3349 Basingstoke Road Southbound to Grazeley Road	28.6	0	1	26.1	0	1
Grazeley Road	28.4	0	5	12.5	0	4
PRC (%)	-361.7			-95.2		
Delay (PCU/Hr)	558.87			449.60		
2038 Base						
B3349 Basingstoke Road Northbound (Stop line)	116.4	82	310	119.2	61	367
B3349 Basingstoke Road Southbound (Stop line)	94.7	34	46	160.8	257	787
Church Lane	290.5	307	1371	121.5	99	394
B3349 Basingstoke Road Southbound to Grazeley Road	24.3	0	1	23.8	0	1
Grazeley Road	26.4	0	5	12.1	0	4
PRC (%)	-222.8			-78.6		
Delay (PCU/Hr)	372.95			377.11		
2038 + Development						
B3349 Basingstoke Road Northbound (Stop line)	171.9	225	867	174.2	146	879
B3349 Basingstoke Road Southbound (Stop line)	93.5	35	38	152.4	247	717
Church Lane	434.3	364	1604	133.4	129	542
B3349 Basingstoke Road Southbound to Grazeley Road	29.5	0	1	26.1	0	1
Grazeley Road	28.3	0	5	12.5	0	4
PRC (%)	-382.6			-93.5		
Delay (PCU/Hr)	573.16			482.19		

6.63 **Table 29** shows that the traffic signal junction is forecast to operate well over theoretical capacity in all future scenarios (with and without development). Church Lane in particular is forecast to have significantly long

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queues and delays in the AM peak periods. With B3499 Basingstoke Road Northbound forecast to see increases in queues and delays with development traffic.

- 6.64 In the PM peak periods, significantly long queues and delays are forecast on all signalised approaches in all future scenarios.
- 6.65 **Table 30** presents the results for the traffic signal junction modelled without a pedestrian stage. The results would likely be somewhere between these two outputs.

Table 30 – B3349 Basingstoke Road/Church Lane Traffic Signal Junction – LinSig Analysis – No Pedestrians

Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	DoS	MMQ (PCU)	Delay (s)	DoS	MMQ (PCU)	Delay (s)
2032 Base						
B3349 Basingstoke Road Northbound (Stop line)	103.3	36	124	106.9	31	187
B3349 Basingstoke Road Southbound (Stop line)	111.2	75	231	115.1	105	293
Church Lane	109.8	57	219	111.9	68	262
B3349 Basingstoke Road Southbound to Grazeley Road	24.5	0	1	28.4	0	1
Grazeley Road	26.7	0	5	12.2	0	4
PRC (%)	-23.5			-27.9		
Delay (PCU/Hr)	133.27			166.09		
2032 + Development						
B3349 Basingstoke Road Northbound (Stop line)	108.5	66	193	139.4	102	580
B3349 Basingstoke Road Southbound (Stop line)	85.3	24	21	95.8	36	43
Church Lane	218.5	261	1129	166.9	190	846
B3349 Basingstoke Road Southbound to Grazeley Road	29.8	0	1	32.7	0	1
Grazeley Road	28.4	0	5	12.8	0	4
PRC (%)	-142.8			-85.5		
Delay (PCU/Hr)	303.97			283.70		
2038 Base						
B3349 Basingstoke Road Northbound (Stop line)	106.3	48	166	108.3	34	205
B3349 Basingstoke Road Southbound (Stop line)	112.9	87	259	119.6	129	354
Church Lane	113.0	70	271	116.2	81	324
B3349 Basingstoke Road Southbound to Grazeley Road	24.3	0	1	28.1	0	1
Grazeley Road	26.2	0	5	12.2	0	4
PRC (%)	-25.5			-32.9		
Delay (PCU/Hr)	134.82			206.56		
2038 + Development						
B3349 Basingstoke Road Northbound (Stop line)	110.5	72	222	158.3	127	750
B3349 Basingstoke Road Southbound (Stop line)	86.2	25	21	121.2	141	375
Church Lane	227.1	267	1164	118.0	86	351

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Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	DoS	MMQ (PCU)	Delay (s)	DoS	MMQ (PCU)	Delay (s)
B3349 Basingstoke Road Southbound to Grazeley Road	30.7	0	1	30.9	0	1
Grazeley Road	28.3	0	5	12.7	0	4
PRC (%)	-152.3			-75.9		
Delay (PCU/Hr)	316.56			311.97		

6.66 **Table 30** shows that during the AM peak periods, Church Lane is forecast to see large increases in queues and delays with the addition of development traffic. However, the junction is already forecast to be over capacity in the Base scenarios. In the PM peak periods, all approaches are forecast to have long queues and delays in all future scenarios. Therefore, a mitigation scheme is required, and this is presented in **Section 7.0**.

6.67 The reason the Church Lane approach suffers significantly with the proposed development traffic on the network is because the overall junction is so significantly over capacity in the base scenario, and thus the timings within LinSig (on a fixed cycle) can fluctuate to prioritise certain approach arms, as appears to have happened.

A33/B3349 Basingstoke Road Traffic Signal Junction

6.68 WSTM outputs have been analysed to show the Reference Case and With Development forecast AM and PM peak hour flows for the approaches to the A33/Basingstoke Road traffic signal junction during 2032 and 2038.

Table 31 – A33/Basingstoke Road 2032 WSTM Outputs AM Peak

Link	AM Peak (08:00 to 09:00)			
	2032 Ref Case	2032 + Dev	Absolute change from Ref Case	% change from Ref Case
Basingstoke Road NB	1,313	1,405	92	7%
Basingstoke Road SB	937	1,034	97	10%
A33 South SB	2,329	2,350	21	1%
A33 South NB	2,815	2,806	-9	0%
A33 North SB	2,454	2,534	80	3%
A33 North NB	3,315	3,362	47	1%

6.69 **Table 31** shows the 2032 AM peak forecast flows on the approaches to the A33/Basingstoke Road traffic signal junction. This shows a maximum increase of 10%, equivalent to 97 vehicles, is expected between the 2032 Reference Case and 2032 + Development scenarios. This is equivalent to less than two vehicles a minute, and therefore not considered a severe impact.

Table 32 – A33/Basingstoke Road 2032 WSTM Outputs PM Peak

Link	PM Peak (17:00 to 18:00)			
	2032 Ref Case	2032 + Dev	Absolute change from Ref Case	% change from Ref Case
Basingstoke Road NB	997	1,035	38	4%
Basingstoke Road SB	1,040	1,084	44	4%
A33 South SB	2,803	2,803	0	0%

Link	PM Peak (17:00 to 18:00)			
	2032 Ref Case	2032 + Dev	Absolute change from Ref Case	% change from Ref Case
A33 South NB	2,241	2,200	-41	-2%
A33 North SB	3,271	3,321	50	2%
A33 North NB	2,667	2,668	1	0%

6.70 **Table 32** shows the 2032 PM peak forecast flows on the approaches to the A33/Basingstoke Road Signal Junction. This shows a maximum increase of 4%, equivalent to 44 vehicles, is expected between the 2032 Reference Case and 2032 + Development scenarios. This is equivalent to less than one vehicle a minute, and therefore not considered a severe impact.

Table 33 – A33/Basingstoke Road 2038 WSTM Outputs AM Peak

Link	AM Peak (08:00 to 09:00)			
	2038 Ref Case	2038 + Dev	Absolute change from Ref Case	% change from Ref Case
Basingstoke Road NB	1,323	1,387	64	5%
Basingstoke Road SB	972	1,061	89	9%
A33 South SB	2,414	2,428	14	1%
A33 South NB	2,877	2,896	19	1%
A33 North SB	2,539	2,622	83	3%
A33 North NB	3,353	3,415	62	2%

6.71 **Table 33** shows the 2038 AM peak forecast flows on the approaches to the A33/Basingstoke Road Signal Junction. This shows a maximum increase of 9%, equivalent to 89 vehicles, is expected between the 2038 Reference Case and 2038 + Development scenarios. This is equivalent to less than two vehicles a minute, and therefore not considered a severe impact.

Table 34 – A33/Basingstoke Road 2038 WSTM Outputs PM Peak

Link	PM Peak (17:00 to 18:00)			
	2038 Ref Case	2038 + Dev	Absolute change from Ref Case	% change from Ref Case
Basingstoke Road NB	1,015	1,035	20	2%
Basingstoke Road SB	1,099	1,146	47	4%
A33 South SB	2,873	2,872	-1	0%
A33 South NB	2,291	2,256	-35	-2%
A33 North SB	3,350	3,415	65	2%
A33 North NB	2,684	2,687	3	0%

6.72 **Table 34** shows the 2038 PM peak forecast flows on the approaches to the A33/Basingstoke Road Signal Junction. This shows a maximum increase of 4%, equivalent to 47 vehicles, is expected between the 2038 Reference Case and 2038 + Development scenarios. This is equivalent to less than one vehicle a minute, and therefore not considered a severe impact.

M4 Junction 11

6.73 WSTM outputs have been analysed to show the Reference Case and With Development forecast AM and PM peak hour flows for the M4 Junction 11 slip roads during 2032 and 2038.

Table 35 – M4 Junction 11 Slip Road 2032 WSTM Outputs AM Peak

Link	AM Peak (08:00 to 09:00)			
	2032 Ref Case	2032 + Dev	Absolute change from Ref Case	% change from Ref Case
M1 WB On Slip	1,778	1,772	-6	0%
M1 EB Off Slip	2,102	2,141	39	2%
M1 WB Off Slip	2,649	2,700	51	2%
M1 EB On Slip	1,818	1,851	33	2%

6.74 **Table 35** shows the 2032 AM peak forecast flows on the M4 Junction 11 slip roads. This shows a maximum increase of 2%, equivalent to 51 vehicles, is expected between the 2032 Reference Case and 2032 + Development scenarios. This is equivalent to less than one vehicle a minute, and therefore not considered a severe impact.

Table 36 – M4 Junction 11 Slip Road 2032 WSTM Outputs PM Peak

Link	PM Peak (17:00 to 18:00)			
	2032 Ref Case	2032 + Dev	Absolute change from Ref Case	% change from Ref Case
M1 WB On Slip	1,786	1,786	0	0%
M1 EB Off Slip	1,893	1,898	5	0%
M1 WB Off Slip	2,460	2,490	30	1%
M1 EB On Slip	2,020	2,014	-6	0%

6.75 **Table 36** shows the 2032 PM peak forecast flows on the M4 Junction 11 slip roads. This shows a maximum increase of 1%, equivalent to 30 vehicles, is expected between the 2032 Reference Case and 2032 + Development scenarios. This is equivalent to one vehicle every two minutes, and therefore not considered a severe impact.

Table 37 – M4 Junction 11 Slip Road 2038 WSTM Outputs AM Peak

Link	AM Peak (08:00 to 09:00)			
	2038 Ref Case	2038+ Dev	Absolute change from Ref Case	% change from Ref Case
M1 WB On Slip	1,837	1,847	10	1%
M1 EB Off Slip	1,970	1,984	14	1%
M1 WB Off Slip	2,885	2,946	61	2%
M1 EB On Slip	1,797	1,816	19	1%

6.76 **Table 37** shows the 2038 AM peak forecast flows on the M4 Junction 11 slip roads. This shows a maximum increase of 2%, equivalent to 61 vehicles, is expected between the 2038 Reference Case and 2038 + Development scenarios. This is equivalent to one vehicle a minute, and therefore not considered a severe impact.

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Table 38 – M4 Junction 11 Slip Road 2038 WSTM Outputs PM Peak

Link	PM Peak (17:00 to 18:00)			
	2038 Ref Case	2038 + Dev	Absolute change from Ref Case	% change from Ref Case
M1 WB On Slip	1,906	1,892	-14	-1%
M1 EB Off Slip	1,983	1,985	2	0%
M1 WB Off Slip	2,702	2,723	21	1%
M1 EB On Slip	2,161	2,163	2	0%

- 6.77 **Table 38** shows the 2038 PM peak forecast flows on the M4 Junction 11 slip roads. This shows a maximum increase of 2%, equivalent to 21 vehicles, is expected between the 2038 Reference Case and 2038 + Development scenarios. This is equivalent to one vehicle every 3 minutes, and therefore not considered a severe impact.

7.0 Mitigation

B3349 Basingstoke Road/Hyde End Road Traffic Signal Junction Mitigation Scheme

- 7.1 As identified above, the B3349 Basingstoke Road/Hyde End Road traffic signal junction will require mitigation to accommodate development traffic on the network.
- 7.2 It is proposed that the right turn movement from Hyde End Road to B3349 Basingstoke Road is banned. It is likely that right turning vehicles would use Appletree Lane and Clares Green Road to travel northbound on the B3349 Basingstoke Road. As the number of right turning vehicles is low (less than one per minute), it is not considered that this proposal will have a material impact on other roads/junctions.
- 7.3 However, by banning the right turn out of Hyde End Road, Hyde End Road and the B3349 Basingstoke Road South approaches can run together in the same stage. The waiting environment for pedestrians would also be improved as the footway on Hyde End Road can be built out. The proposed design is shown in **Drawing T23591.007**.
- 7.4 The B3349 Basingstoke Road/Hyde End Road mitigation scheme has been modelled using LinSig.
- 7.5 **Table 39** presents the results for the proposed mitigation scheme. The full output file for the junction, showing the geometry and capacity calculations, are included in **Appendix U**.

Table 39 – B3349 Basingstoke Road/Hyde End Road Traffic Signal Junction Mitigation – LinSig Output

Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	DoS (%)	MMQ (PCU)	Delay (s)	DoS (%)	MMQ (PCU)	Delay (s)
2032 + Development						
Hyde End Road	65.3	22	41	67.9	8	30
B3349 Basingstoke Road South	91.0	25	29	90.2	12	28
B3349 Basingstoke Road North	64.4	20	57	71.5	8	24
PRC (%)	-1.1			-0.2		
Delay (PCY/Hr)	22.27			12.99		
2038 + Development						
Hyde End Road	70.1	24	45	70.6	7	31
B3349 Basingstoke Road South	94.1	30	37	91.4	13	30
B3349 Basingstoke Road North	67.0	21	55	73.1	10	25
PRC (%)	-4.6			-1.5		
Delay (PCY/Hr)	25.79			14.08		

- 7.6 **Table 39** shows the proposed mitigation scheme will improve the junction operation drastically in all future scenarios, with the longest forecast delay of 57 seconds on B3349 Basingstoke Road North in the 2032 + Development AM peak period.

B3349 Basingstoke Road/Church Lane Traffic Signal Junction Mitigation Scheme

- 7.7 As identified in **Section 6**, B3349 Basingstoke Road/Church Lane Traffic Signal Junction will require further mitigation to accommodate future forecast traffic on the network.
- 7.8 It is proposed that the right turn from B3349 Basingstoke Road South to Church Lane is banned. This would prevent blocking back on the northbound lane and increase capacity on this approach. This would require a maximum of 147 PCUs in the AM peak and 115 PCUs in the PM peak, to reroute, the equivalent of between 2 to 3 PCUs a minute. This proposal would require further liaison and discussions with the local authority in order to determine potential impacts across the wider highway network and whether this level of reassignment requires more detailed analysis and consideration of other junctions.
- 7.9 The junction has been modelled in LinSig using fixed-time signals; however, the junction would be controlled by MOVA, and therefore would adapt the assignment of time to each stage within each cycle to cater for the build-up of queues where necessary, thus would likely operate with shorter queues than are modelled here.
- 7.10 **Table 40** presents the results for the proposed mitigation scheme. The full output file for the junction, showing the geometry and capacity calculations, are included in **Appendix V**.

Table 40 – B3349 Basingstoke Road/Church Lane Traffic Signal Junction Mitigation – LinSig Analysis

Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	DoS	MMQ (PCU)	Delay (s)	DoS	MMQ (PCU)	Delay (s)
2032 Base						
B3349 Basingstoke Road Northbound (Stop line)	74.6	21	29	46.1	10	20
B3349 Basingstoke Road Southbound (Stop line)	104.2	60	142	113.0	103	271
Church Lane	110.1	68	245	111.7	72	270
B3349 Basingstoke Road Southbound to Grazeley Road	25.7	0	1	28.7	0	1
Grazeley Road	26.7	0	5	12.2	0	4
PRC (%)	-22.4			-25.6		
Delay (PCU/Hr)	95.20			138.63		
2032 + Development						
B3349 Basingstoke Road Northbound (Stop line)	84.4	27	34	52.7	12	20
B3349 Basingstoke Road Southbound (Stop line)	111.8	97	254	115.0	116	299
Church Lane	118.2	97	365	114.5	81	312
B3349 Basingstoke Road Southbound to Grazeley Road	29.0	0	1	31.5	0	1
Grazeley Road	28.4	0	5	12.7	0	4
PRC (%)	-31.4			-27.8		
Delay (PCU/Hr)	162.96			160.56		
2038 Base						
B3349 Basingstoke Road Northbound (Stop line)	75.0	21	30	46.5	10	19
B3349 Basingstoke Road Southbound (Stop line)	111.6	91	254	117.8	129	339
Church Lane	108.6	64	220	115.5	85	326
B3349 Basingstoke Road Southbound to Grazeley Road	24.9	0	1	28.4	0	1

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Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	DoS	MMQ (PCU)	Delay (s)	DoS	MMQ (PCU)	Delay (s)
Grazeley Road	26.5	0	5	12.2	0	4
PRC (%)	-24.1			-30.9		
Delay (PCU/Hr)	122.9			176.62		
2038 + Development						
B3349 Basingstoke Road Northbound (Stop line)	83.3	26	33	51.2	12	19
B3349 Basingstoke Road Southbound (Stop line)	114.6	111	295	118.1	136	341
Church Lane	117.3	94	352	119.5	96	383
B3349 Basingstoke Road Southbound to Grazeley Road	29.3	0	1	31.4	0	1
Grazeley Road	28.3	0	5	12.7	0	4
PRC (%)	-30.4			-32.7		
Delay (PCU/Hr)	173.19			193.89		

7.11 **Table 40** shows that, although the junction is forecast to operate over theoretical capacity in all future scenarios, the overall operation of the junction will improve, and the impact of the development traffic is not considered to be severe.

8.0 Summary and Conclusion

- 8.1 Hub Transport Planning Ltd has been commissioned by Richborough to provide transport advice for a proposed residential-led mixed use development off Basingstoke Road, Spencers Wood.
- 8.2 The applicant is applying for a *“Hybrid planning application (part outline/ part detailed) comprising: Outline planning permission is sought with all matters reserved for future determination, save for the means of access via Basingstoke Road, for: up to 420 dwellings (Use Class C3), an 80 bed care home (Use Class C2), 1ha of employment land (Use Class E(g), primary school (Use Class F1), local centre (Use Classes E(a), (b), (c), (f)), GP Surgery (Use Class E(e), sports pitch and changing facility, public open space and a full application for the proposed Suitable Alternative Natural Greenspace (SANG), associated landscaping/car park”*.
- 8.3 It is considered that safe and suitable vehicular access can be provided to the proposed development for all modes of transport via two new vehicular accesses from the B3349 Basingstoke Road.
- 8.4 There are also proposed to be four segregated pedestrian/cycle accesses (in addition to the two vehicular access points) to provide new and existing residents with the ability to access on-site facilities, or other facilities in Spencers Wood, easily via walking and cycling, as follows:
- A shared pedestrian/cycle route connecting to existing footway provision along the Basingstoke Road;
 - The existing PRoW off Hyde End Road, which will be improved to provide all-weather surfacing and lighting; and
 - The park via Century Drive, which will connect directly with the east/west active travel corridor through the site.
- 8.5 The PIA analysis has not highlighted any inherent issues with the road layout and therefore doesn't give any undue cause for concern.
- 8.6 The proposed development is considered to be highly sustainable because:
- It will be accessible by different modes of transport and close to bus services and local facilities that are accessible via walking and cycling routes; and
 - The proposed development would provide a 2FE primary school and a local centre comprising a convenience store and a GP surgery. These facilities would help provide additional capacity for primary education and also improve access to healthcare.
- 8.7 Modelling has been undertaken using the WSTM4. Overall, the WSTM model forecasts that the proposed development would exacerbate existing congestion experienced at the B3349 Basingstoke Road/Hyde End Road Junction and the B3349 Basingstoke Road/Beech Hill Road Junction during the 2032 and 2038 AM Peak scenarios.
- 8.8 The proposed site access junctions have been modelled and are forecast to operate well within capacity, with short queues and delays.
- 8.9 Local junction modelling was undertaken for the following junctions:
- B3349 Basingstoke Road/Back Lane priority T junction (existing junction);
 - B3349 Basingstoke Road/Back Lane priority roundabout (new site access);
 - B3349 Basingstoke Road/Site Access priority junction (new junction);

- B3349 Basingstoke Road/B3349 Hyde End Road traffic signal junction; and
- B3349 Basingstoke Road/Church Lane proposed signalised junction.

8.10 B3349 Basingstoke Road/B3349 Hyde End Road traffic signal junction and B3349 Basingstoke Road/Church Lane proposed signalised junction were forecast to operate over capacity in future scenarios and therefore mitigation improvements have been proposed which help to alleviate the impacts of future forecast traffic flows at these locations.

Conclusion

- 8.11 The assessment work undertaken and detailed in this report demonstrates that, in NPPF terms, the proposed development will not have a severe impact on the operation of the local highway network, nor an unacceptable impact on highway safety.
- 8.12 As such, there are no reason why the proposed development should be resisted on traffic or transportation grounds.

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Land off Basingstoke Road, Spencers Wood



Figures



Legend

- Site Location
- 🚌 Bus Stops

Figure 1.1 - Site Location

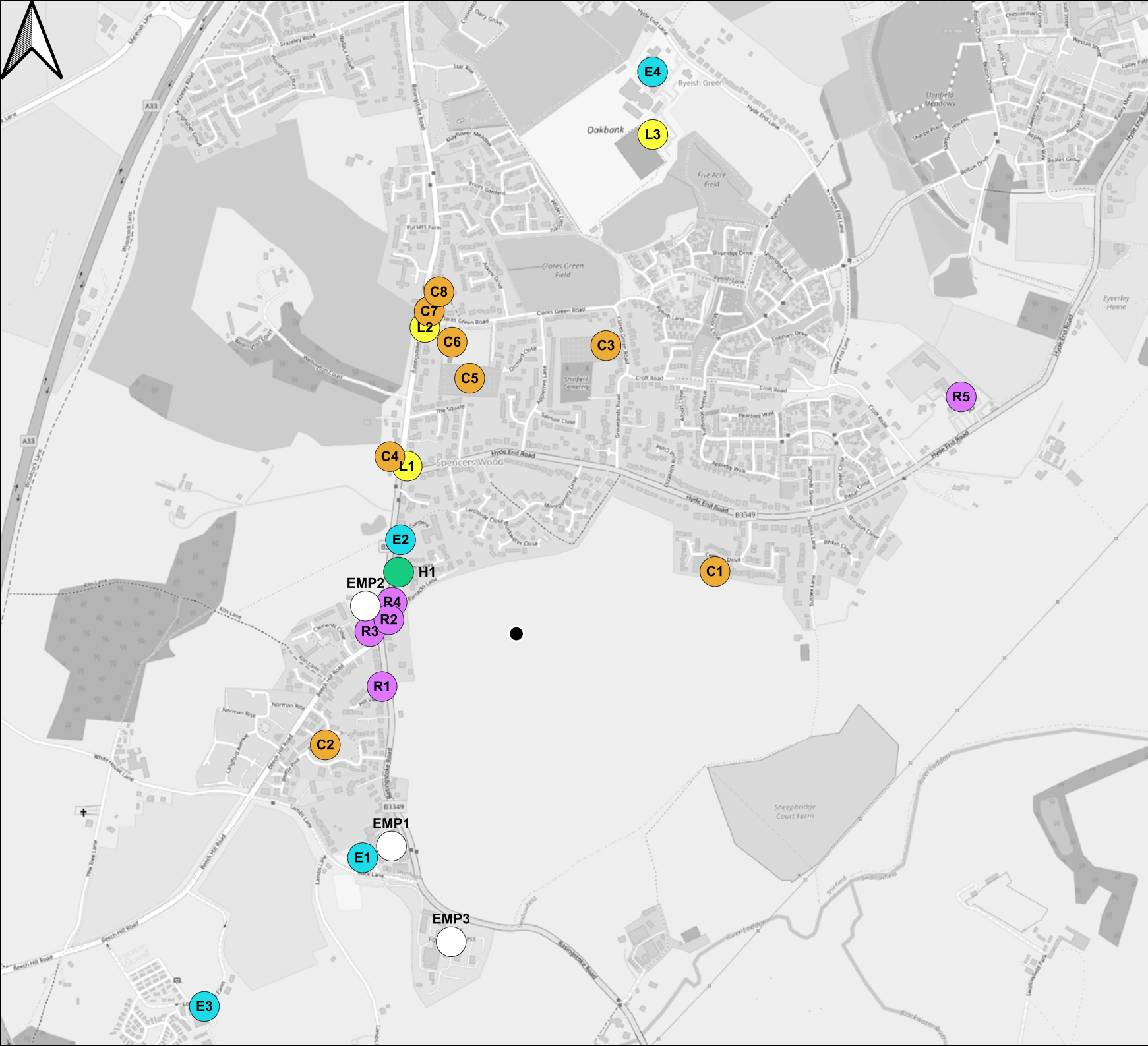
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0 200 400 m





Legend

- Community Facilities
- Education
- Employment
- Healthcare
- Leisure
- Retail
- Site Location

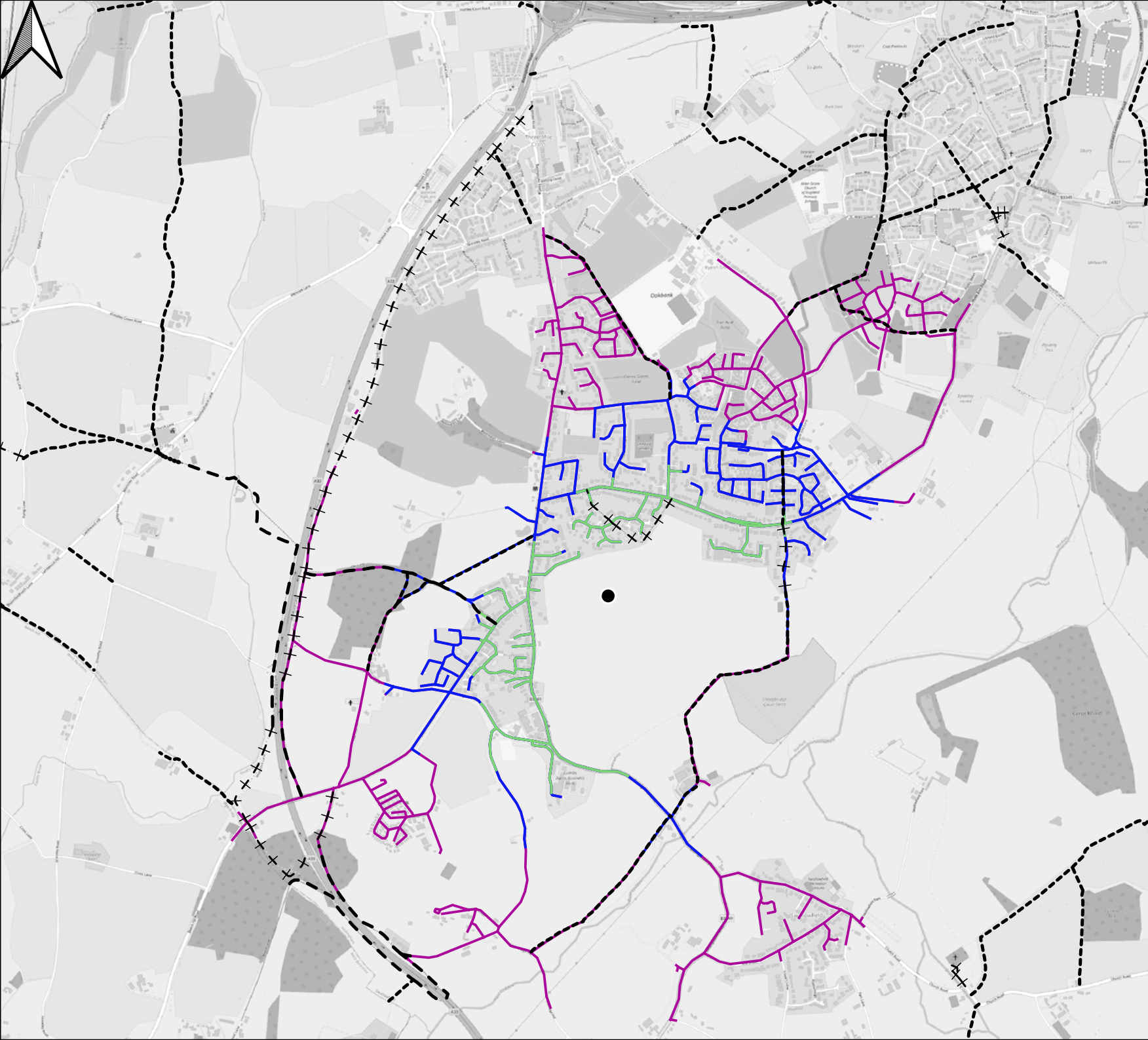
Figure 3.1 - Local Services

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hub
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0 250 500 m



Legend

- Site Location
- 800m
- 1.2km
- 2.0km

Public Rights of Way

- ++ Byway open to all traffic
- - Public Bridleway
- ... Public Footpath
- · - Restricted Byway

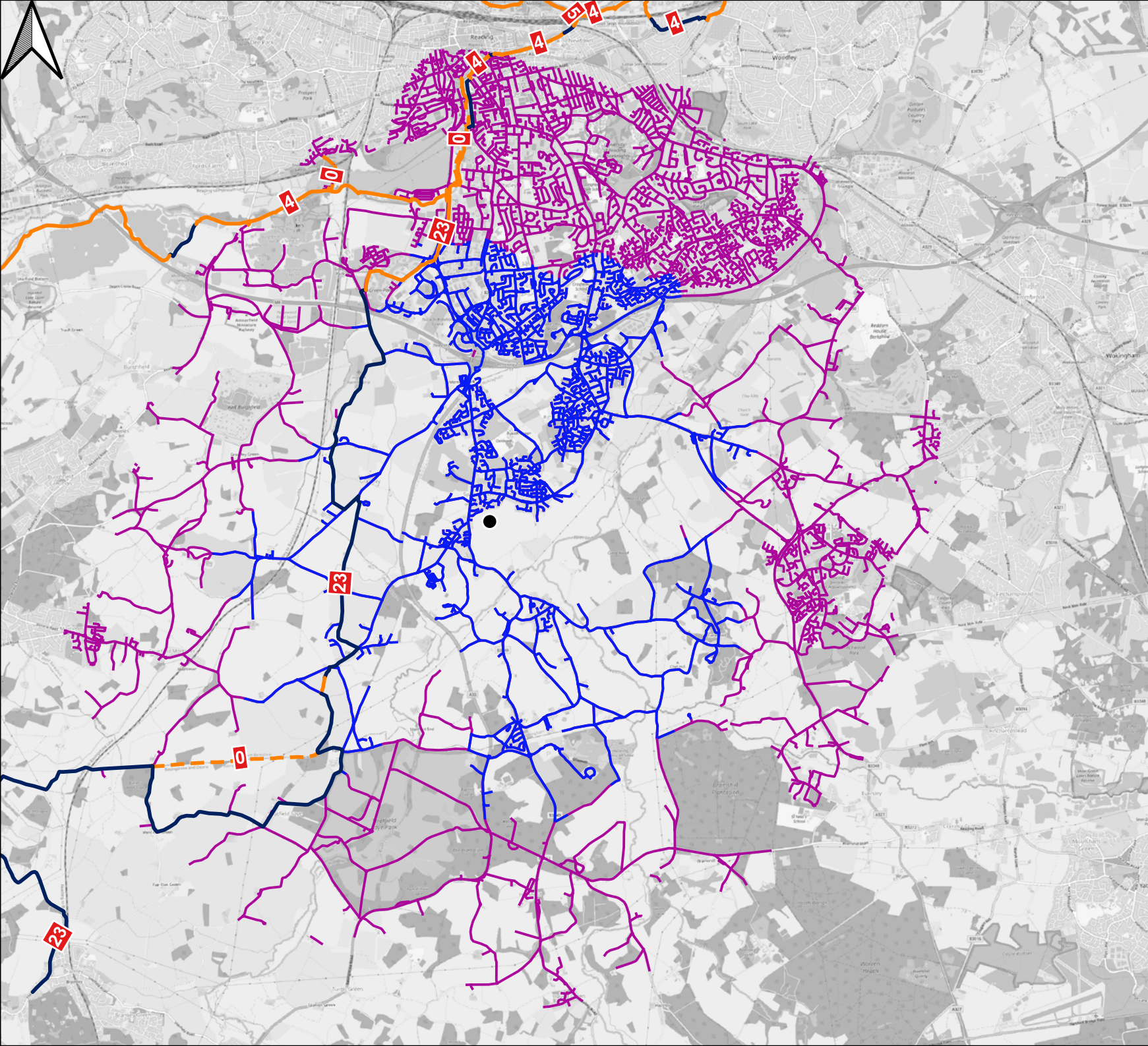
Figure 3.2 - Walking Distances



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0 0.5 1 km





Legend

- 5km
- 8km
- On-Road Route on NCN
- On-Road Route not on NCN
- Traffic-Free Route on NCN
- Traffic-Free Route not on NCN

Figure 3.3 - Cycling Distances

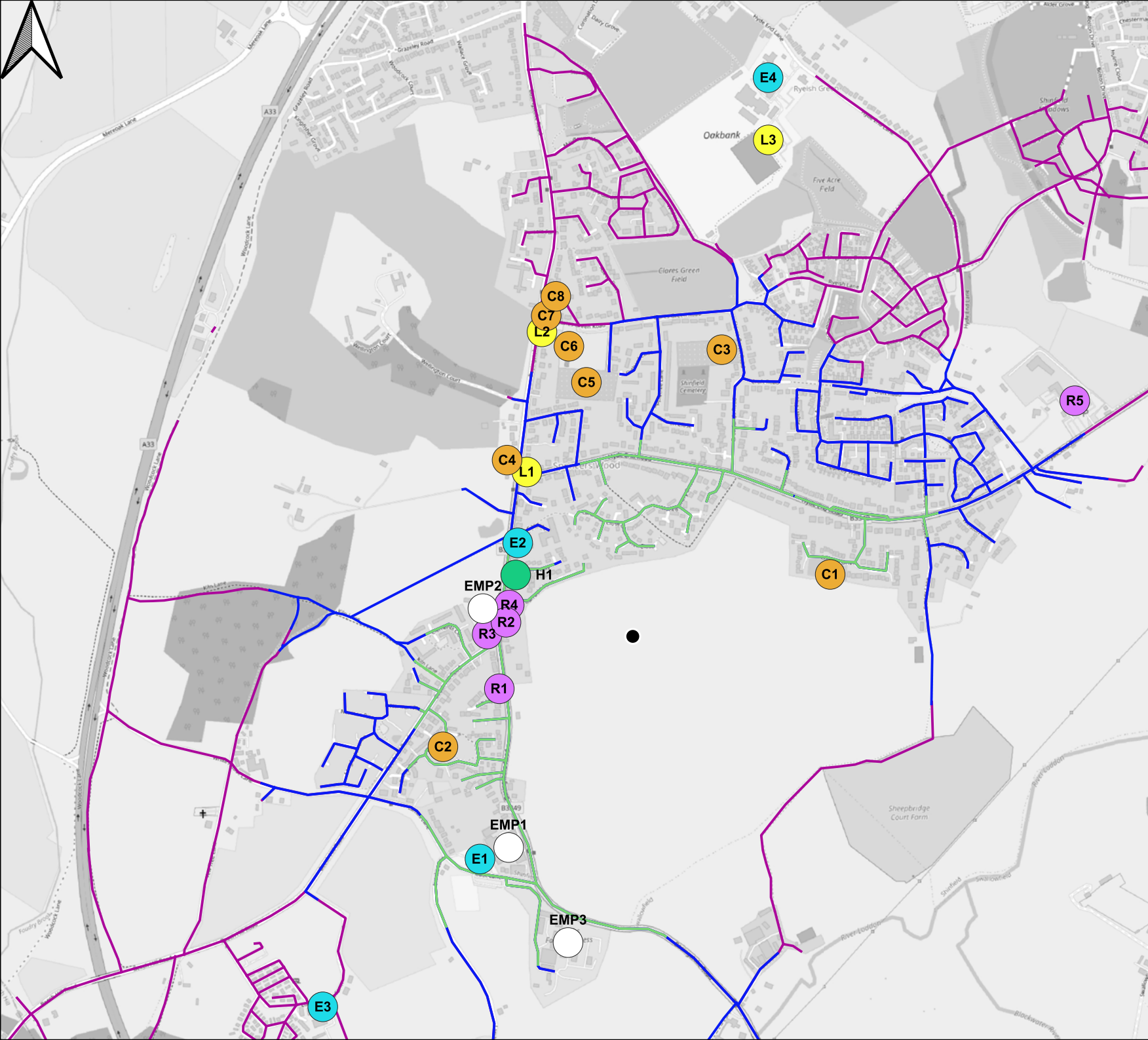
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0 1.5 3 km





Legend

- Site Location
- Community Facilities
- Education
- Employment
- Healthcare
- Leisure
- Retail
- 800m
- 1.2km
- 2.0km

Figure 3.4 - Walking Distances and Local Facilities

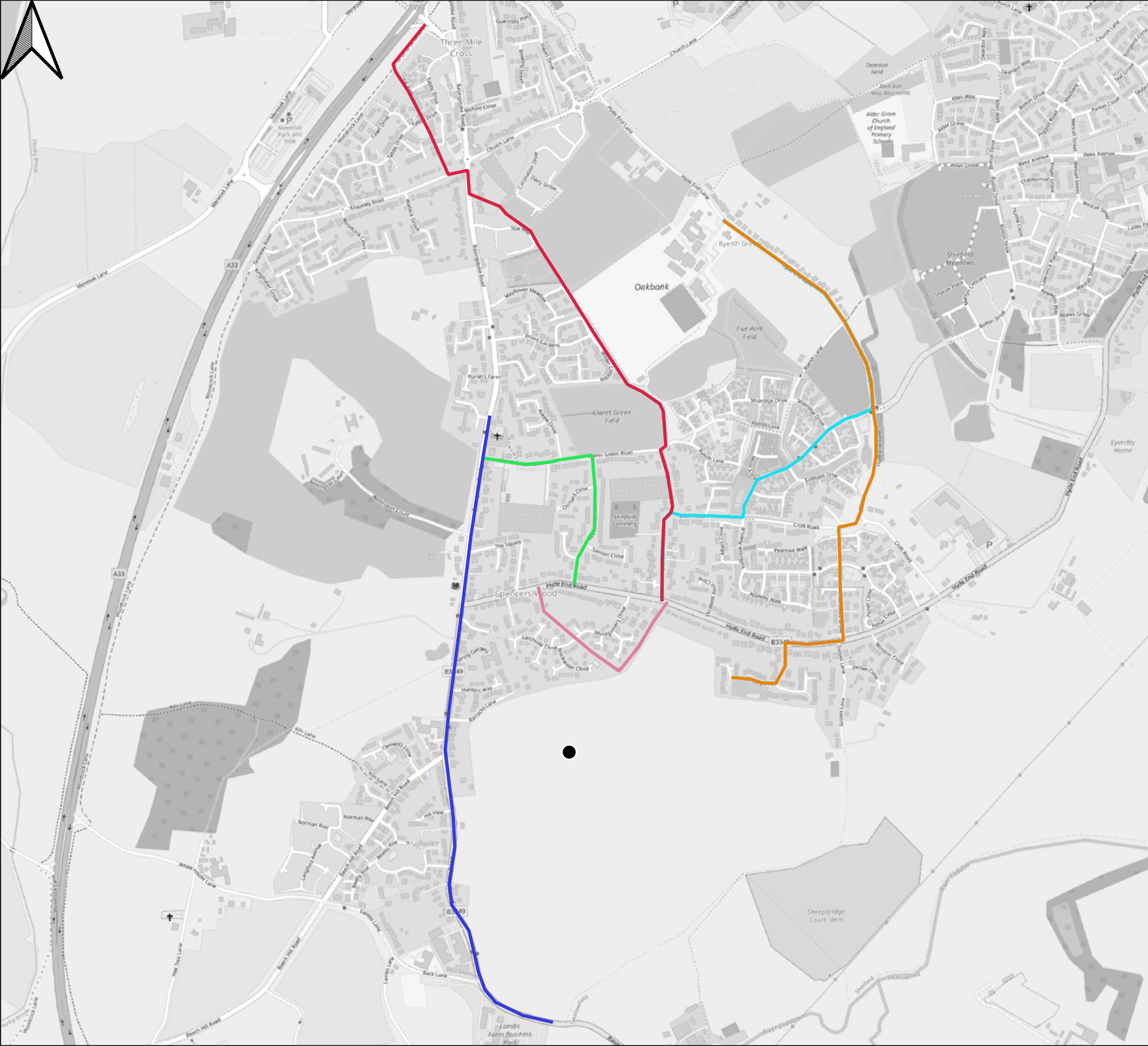
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0 0.25 0.5 km





Legend

- Site Location
- Route 1
- Route 2
- Route 3
- Route 4
- Route 5
- Route 6

Figure 3.5 - LTN 1/20 Audit Routes



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0 0.25 0.5 km





Legend

-  300m Walking Distance
-  400m Walking Distance
-  500m Walking Distance
-  Bus Stops

Figure 4.1 - Back Lane Bus Stop Walking Catchment

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0 100 200 m





Legend

- 300m Walking Distance
- 400m Walking Distance
- 500m Walking Distance
- Bus Stops

Figure 4.2 - Post Office Bus Stop Walking Catchment

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0 75 150 m





Legend

- 300m Walking Distance
- 400m Walking Distance
- 500m Walking Distance
- Bus Bus Stops

Figure 4.3 - The Square Bus Stop Walking Catchment

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0 75 150 m





Legend

- 300m Walking Distance
- 400m Walking Distance
- 500m Walking Distance
- B Bus Stops

Figure 4.4 - Grovelands Road Bus Stop Walking Catchment

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 **hub**
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0 75 150 m





Legend

- 1: B3349 Basingstoke Road/ Site Access Roundabout
- 2: B3349 Basingstoke Road/ Site Access Junction
- 3: B3349 Basingstoke Road/ Hyde End Road Junction
- 4: B3349 Basingstoke Road/ Church Lane Junction
- 5: A33/B3349 Basingstoke Road Junction
- 6: M4 Junction 11
- Site Location

Figure 6.1 - Key Sections of the WSTM4 Model Network & Junctions

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0 0.5 1 km



