



Barkham Square, Wokingham

Transport Assessment

Client: Crest Nicholson

i-Transport Ref: TH/WF/ITL11337-010F

Date: 25 March 2026

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Contents

SECTION 1	Introduction	1
SECTION 2	Policy Context	3
SECTION 3	Development Vision and Transport Strategy	10
SECTION 4	Sustainable Travel Opportunities	12
SECTION 5	Development Proposal	27
SECTION 6	Active Travel Connections	31
SECTION 7	Trip Generation	42
SECTION 8	Transport Impact Assessment	50
SECTION 9	Summary and Conclusions	66

Tables

Table 2.1 Flats owned unallocated parking demand	7
Table 2.2 Flats rented/shared unallocated parking demand	7
Table 2.3 Houses owned unallocated parking demand	8
Table 2.4 Houses rented/shared unallocated parking demand	8
Table 2.5 Cycle Parking Allocation	8
Table 4.1 Local Method of Travel to Work – Wokingham 018 MSOA	12
Table 4.2 Most Popular Work Destinations (All Modes)–Wokingham 018 MSOA as Place of Residence	13
Table 4.3 Rail Services – Wokingham Station	21
Table 4.4 Severity of Collisions	26
Table 7.1 Oak Drive Surveyed Trip Generation	44
Table 7.2 Proposed Residential Trip Rates and Trip Generation	44
Table 7.3 Proposed Elderly Care Vehicle Trip Rates and Trip Generation	45
Table 7.4 Total Proposed Development Vehicle Trip Generation	45
Table 7.5 TRICS Total Vehicle Trip Rates and Trip Generation	46
Table 7.6 WBC Total Vehicle Trip Rates and Trip Generation	47
Table 7.7 Comparison of Vehicle Trip Generations	47
Table 7.8 Adjusted Multi-Modal Trip Generation Assessment	48
Table 8.1 Proposed Site Access Junction – 2040 With Development	54
Table 8.2 B3349 / Biggs Lane Roundabout Junction Results	55

Table 8.3 B3349 / Eversley Road Roundabout Junction Results	57
Table 8.4 A327 / Observer Way / Eversley Road Roundabout Junction Results	59
Table 8.5 B3349 Barkham Road / Barkham Street mini-roundabout Junction Results	61
Table 8.6 B3349 Barkham Road / Bearwood Road mini-roundabout Junction Results	63
Table 8.7 B3349 Barkham Road / Bearwood Road mini-roundabout Junction Improvement Results	65

Figures

Figure 1.1 Site Location.....	1
Figure 3.1 Mobility Strategy Hierarchy	10
Figure 4.1 Mode of Travel by Distance	14
Figure 4.2 Arborfield Green and Greenway Walking, Cycling and Equine Routes	15
Figure 4.3 Local Facilities Plan	18
Figure 4.4 PRoW Map.....	19
Figure 4.5 Arborfield Green Bus Route	20
Figure 4.6 Local Highway Network.....	22
Figure 4.7 PIA Map.....	25
Figure 5.1 Proposed Access Strategy	28
Figure 5.2 Proposed Langley Common Road Site Access Layout	29
Figure 5.3 Proposed Commonfield Lane Access.....	29
Figure 6.1 Active Travel Routes Assessed	32
Figure 6.2 Active Travel Overview Plan	40
Figure 7.1 Oak Drive ATC Location.....	43
Figure 7.2 Oak Drive Survey Catchment.....	43
Figure 8.1 Morning peak hour development flows (left: inbound, right: outbound)	51
Figure 8.2 Evening peak hour development flows (left: inbound, right: outbound)	51
Figure 8.3 Morning peak hour change in delay	52
Figure 8.4 Evening peak hour change in delay.....	53
Figure 8.5 B3349 / Biggs Lane Roundabout Location	55
Figure 8.6 B3349 / Eversley Road Roundabout Location	57
Figure 8.7 A327 / Observer Way / Eversley Road Roundabout Location	59
Figure 8.8 B3349 Barkham Road / Barkham Street mini-roundabout Location.....	61
Figure 8.9 B3349 Barkham Road / Bearwood Road mini-roundabout Location.....	63

Appendices

APPENDIX A.	PROPOSED SITE ACCESS LAYOUTS
APPENDIX B.	PROPOSED PARAMETER PLANS
APPENDIX C.	PIA DATA
APPENDIX D.	STAGE 1 ROAD SAFETY AUDIT AND RESPONSE REPORT
APPENDIX E.	OAK DRIVE ATC DATA
APPENDIX F.	STRATEGIC MODEL OUTPUTS
APPENDIX G.	LOCAL JUNCTION MODEL OUTPUTS

SECTION 1 Introduction

1.1 Overview

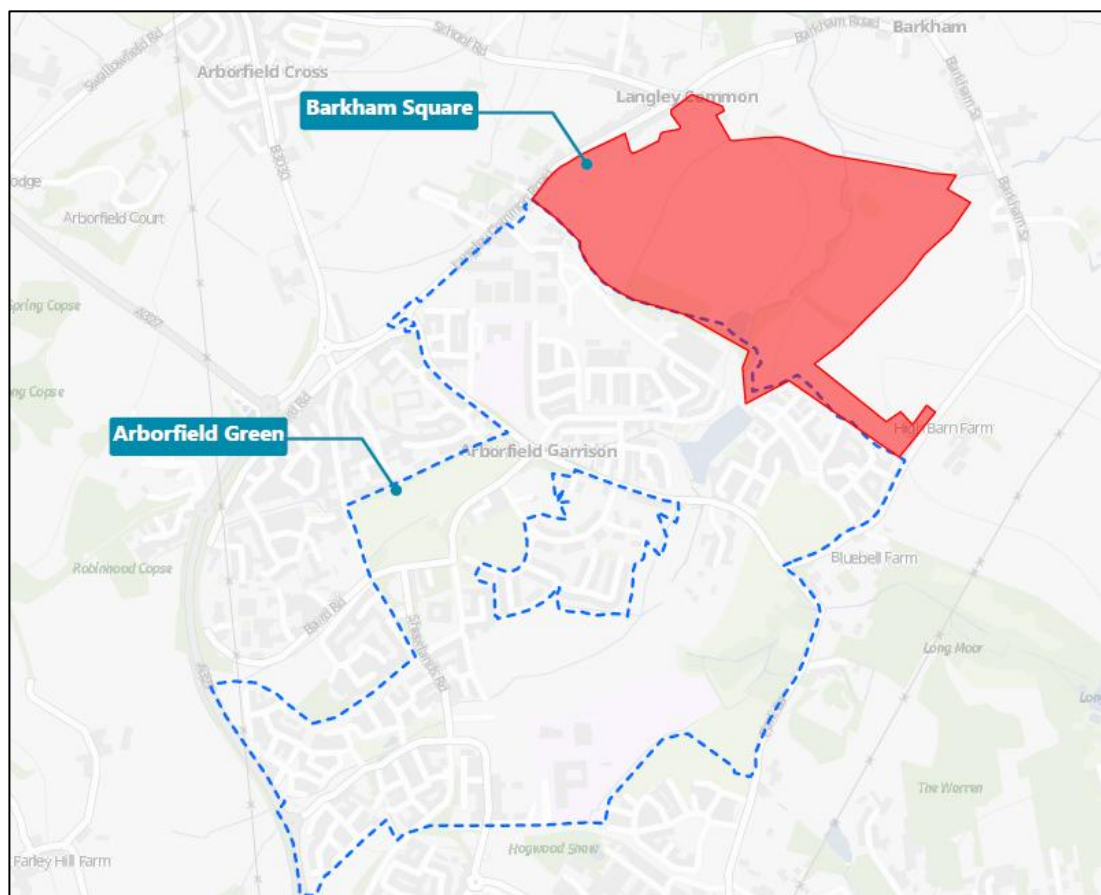
- 1.1.1 Crest Nicholson (Crest) are proposing to develop land known as Barkham Square to provide up to 660 dwellings. This Transport Assessment (TA) has been prepared to assess the transport impacts of the proposed development in support of the outline planning application. The full description of the outline planning application, for which this TA assesses, is provided below:

"Outline application (with all matters reserved except for access) including up to 660 residential dwellings (Class C3) plus elderly care dwellings (Class C2), associated open space, allotments, green and blue infrastructure including the provision of Suitable Alternative Natural Greenspace (SANG) and other associated works."

- 1.1.2 Barkham Square (the site) is located within the jurisdiction of Wokingham Borough Council (WBC) who are both the local planning authority (LPA) and local highway authority (LHA). The site is situated directly north of Arborfield Green and offers a natural extension to the strategic site, where local facilities and services can be shared, and active travel links can be maximised.

- 1.1.3 **Figure 1.1** below shows the site location in relation to Arborfield Green.

Figure 1.1 Site Location



1.2 Pre-application scoping

- 1.2.1 A Transport Assessment Scoping Note (TASN) setting out the proposed assessment methodology and structure of the TA was submitted to WBC in July 2024. The content of the note was discussed and agreed with the Transport Officer at WBC at a meeting on Thursday 29th August 2024. A Strategic Model Scoping Note (SMSN) was also prepared in line with WBC's Transport Model Protocol. This was submitted to WBC on 2nd October 2024. The SMSN was updated following comments from WBC Transport Officer. Following engagement with WBC it was agreed that the application be deferred until the WBC's Strategic Model is available for use.
- 1.2.2 Additional pre-application comments on the TASN and SMSN were received from WBC on 30th May 2025. The comments in relation to the approach to strategic modelling were addressed and agreed as part of the final version of the SMSN issued to WBC on 10th July 2025. The remaining comments relating to the proposed development and assessment of transport impacts have been taken on board, where appropriate, within this TA.

1.3 Scope and Structure of Report

- 1.3.1 The development proposals have been considered against relevant key national and local policy requirements, the remainder of this TA is structured as follows:
- Section 2 - Policy Context;
 - Section 3 - Development Vision and Transport Strategy;
 - Section 4 - Sustainable Travel Opportunities;
 - Section 5 – Development Proposal;
 - Section 6 – Trip Generation;
 - Section 7 – Transport Impact Assessment; and
 - Section 8 – Summary and Conclusions.

SECTION 2 Policy Context

2.1 Overview

- 2.1.1 This section of the TA summarises the relevant national and local transport planning policies that have been considered as part of the assessment and used to inform the proposals.

2.2 National Policy

National Planning Policy Framework (December 2024)

- 2.2.1 The NPPF details the Government's planning policies and provides information on how these are expected to be applied in relation to development proposals. The NPPF is a material consideration in determining applications for development and has recently been updated to incorporate a more 'vision-led' approach to plan-making.
- 2.2.2 The NPPF confirms (paragraph 10) that at the forefront of planning is the ***"presumption in favour of sustainable development"***.
- 2.2.3 The NPPF (paragraph 109) states that transport issues should be considered from the earliest stages of plan-making and the formation of development proposals. This is to ensure that opportunities from existing or proposed transport infrastructure and opportunities to promote walking, cycling and public transport can be identified and pursued, and transport issues addressed. As demonstrated through pre-application engagement, transport issues have been considered from the outset, particularly in relation to connectivity to Arborfield Green.
- 2.2.4 Paragraph 115 of the NPPF sets out four key transport tests, as listed below, which development proposals should be assessed against, these have been considered throughout this TA:
- 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.***
- 2.2.5 Therefore, development should provide opportunities for sustainable travel, achieve safe access for all modes, meet relevant design standards and have acceptable traffic impacts.

2.2.6 The third test primarily relates to the internal layout of the site, although the policy principles have informed the development parameters, since the application is in outline, the details of the site layout including streets and parking areas will be developed as part of reserved matters.

2.2.7 Furthermore, paragraph 116 of the NPPF goes on to state:

“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.”

2.2.8 As detailed, the NPPF sets a high-bar test in determining planning applications. Only when transport impacts are ‘severe’, or where safety impacts are ‘unacceptable’ should an application be refused, and development prevented on highway ground. This is an intentionally high-bar and acknowledges that even significant impacts of development can/should be acceptable.

2.2.9 It is also noted that at paragraph 118, it states applications for developments that will generate significant amounts of movement 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.”*** This Transport Assessment demonstrates that a vision-led approach has been applied to the site design to deliver a sustainable development which prioritises walking, wheeling, cycling and public transport use. This is set out within **Section 3**.

Planning Practice Guidance

2.2.10 Planning Practice Guidance (PPG) is a government published web-based planning guidance resource, first launched in March 2014. It is subject to ongoing updates and replaced previous guidance documents, including the DfT’s ‘Guidance for Transport Assessment’ (2007). And a refreshed version is expected imminently.

2.2.11 In relation to transport, PPG identifies that:

“Travel Plans, Transport Assessments and Statements are all ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements. (ID42 – 002)

Transport Assessments and Statements can be used to establish whether the residual transport impacts of a proposed development are likely to be “severe”, which may be a reason for refusal, in accordance with the National Planning Policy Framework. (ID42 – 005)

Travel Plans are long-term management strategies for integrating proposals for sustainable travel into the planning process They should not, however, be used as an excuse for unfairly penalising drivers and cutting provision for cars in a way that is unsustainable and could have negative impacts on the surrounding streets. (ID42 – 003)”

- 2.2.12 This TA provides a robust assessment of the development proposals and demonstrates that the transport impacts are not 'severe'.

DfT Strategic Road Network and Delivery of Sustainable Development C 01/2022

- 2.2.13 The DfT Strategic Road Network and Delivery of Sustainable Development report sets out current policies from a range of highways and planning documents relating to the strategic highway network. This report complements and follows the principles of the NPPF.
- 2.2.14 In addition, this document sets out the transition in transport planning from predicting future demand to provide sufficient highways capacity ('predict and provide') to an approach that allows designing place-based solutions to create more people-focused developments that support healthy, active and sustainable lifestyles (i.e. 'vision and validate,' or 'decide and provide'). In accordance with this approach, this TA moves towards a vision-led approach to ensure sustainable travel modes are facilitated by the site design from the outset.

2.3 Local Policy

Wokingham Borough Local Development Framework (2010)

- 2.3.1 This document sets out the development vision for the Wokingham Borough as well as several guidelines for developers. Policy CP6 - Managing Travel Demand states that planning permission will be granted for schemes that:

- a) Provide for sustainable forms of transport to allow choice;***
- b) 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;***
- c) 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;***
- d) Provide appropriate vehicular parking, having regard to car ownership;***
- e) Mitigate any adverse effects upon the local and strategic transport network that arise from the development proposed;***
- f) Enhance road safety; and***
- g) Do not cause highway problems or lead to traffic related environmental problems.***

WBC Highways Guide for Developers in Wokingham (2019)

2.3.2 This document sets out the key principles to follow when producing new highway layouts for all types of development. This document is to be followed in conjunction with Manual for Streets. Notably, the document refers to the user access hierarchy which is as follows:

- 1. Pedestrians**
- 2. Cyclists**
- 3. Public Transport**
- 4. Specialist service vehicles (emergency services and waste collection)**
- 5. Other motor traffic.**

2.3.3 The guide aims to ensure that developments are sustainable, well-designed, and integrated into the existing transport network, promoting safety, accessibility, and environmental sustainability.

Emerging Local Policy – Wokingham Borough Local Plan Update 2023-2040 Proposed Submission Plan

2.3.4 WBC's Local Plan Update: Proposed Submission Plan (Regulation 19) was published on 30th September and the invitation for representations closed on 13th November 2024, the Local Plan Update was submitted to the Planning Inspectorate for Examination on 28th February 2025. This Local Plan builds on previous local plans and outlines future development sites and associated infrastructure to complement them.

2.3.5 Barkham Square is included within the Proposed Submission Plan as part of Policy SS11: Arborfield Green Strategic Development Location. The Arborfield Green SDL is allocated to deliver 'around' 3,047 dwellings with Barkham Square expressly referenced within the policy as a location for a sustainable, well designed, mixed-use development.

2.3.6 In relation to transport, the policy sets out the requirement for a Transport Assessment to inform the transport and movement strategy for the development, including walking, cycling, public transport as well as vehicular access. The policy refers to the need to provide and prioritise pedestrian and cycle connectivity through the Strategic Development Location (SDL).

2.4 Car and Cycle Parking

Car parking

- 2.4.1 WBC's parking standards are set out within their Parking Standards Study Report (2011). This document does not set out specific requirements for allocated spaces, which are assumed to be proposed by the developer. An indication of the level of residual parking required (referred to as unallocated demand) is to be calculated based on the type of dwelling, number of bedrooms and the number of allocated parking spaces proposed. The levels of parking are determined based on what area the development is located in. The site is located within the area designated as Urban for the purposes of identifying the volume of unallocated parking spaces.
- 2.4.2 Since this application is for outline permission only, details of the car and cycle parking provision is not provided at this stage, these will be confirmed as part of subsequent reserved matters applications. However, parking will be in accordance with WBC's standards as set out below.

Table 2.1 Flats owned unallocated parking demand

No. of Allocated Spaces		0	1	2
No. of Habitable Rooms	No. of bedrooms	Urban		
1	Studio	0.7	0.0	0.0
2	1	1.0	0.2	0.0
3	1-2	0.9	0.2	0.0
4	2	1.0	0.2	0.0
5 or more	2-3	1.2	0.4	0.1

Table 2.2 Flats rented/shared unallocated parking demand

No. of Allocated Spaces		0	1	2
No. of Habitable Rooms	No. of bedrooms	Urban		
1	Studio	0.5	0.0	0.0
2	1	0.5	0.1	0.0
3	1-2	0.7	0.1	0.0
4	2	1.1	0.3	0.0
5 or more	2-3	1.1	0.3	0.1

Table 2.3 Houses owned unallocated parking demand

No. of Allocated Spaces		0	1	2
No. of Habitable Rooms	No. of bedrooms	Urban		
3 or less	1-2	1.1	0.3	0.0
4	2	1.2	0.4	0.0
5	2-3	1.4	0.5	0.1
6	3	1.6	0.7	0.1
7	3-4	1.8	0.9	0.2
8 or more	4	2.1	1.1	0.3

Table 2.4 Houses rented/shared unallocated parking demand

No. of Allocated Spaces		0	1	2
No. of Habitable Rooms	No. of bedrooms	Urban		
3 or less	1-2	0.9	0.2	0.0
4	2	1.1	0.3	0.0
5	2-3	1.2	0.4	0.1
6	3	1.3	0.5	0.1
7	3-4	1.6	0.7	0.2
8 or more	4	2.0	1.0	0.4

Cycle Parking

2.4.3 Cycle parking standards are set out in section 5.13 of WBC's Parking Standards Study Report, and, for reference, are set out in **Table 2-5** below.

Table 2.5 Cycle Parking Allocation

Accommodation Type	Cycle Parking Allocation
Flats 1-3 habitable rooms	1 per dwelling
Flats 4 or more habitable rooms	2 per dwelling
Houses 1-3 habitable rooms	1 per dwelling
Houses 4 or 5 habitable rooms	2 per dwelling
Houses 6 habitable rooms	3 per dwelling

2.5 Summary

2.5.1 The NPPF identifies four key transport tests for new development. These are reflected in local policy and can be summarised as follows:

- Has sustainable travel been prioritised?
- Will safe and suitable access be provided?
- Will the design be acceptable in design terms?
- Will the traffic impacts be acceptable after mitigation in line with a vision-led approach?

2.5.2 This TA assesses the development proposal against these tests along with any requirements set out in local policy. Much of local policy reflects the same principles within the NPPF concentrating on sustainable development with a focus on shifting travel behaviour away from private car use and towards active modes and public transport.

2.5.3 In addition, the site has been designed in accordance with the 'decide and provide' approach set out in DfT Strategic Road Network and Delivery of Sustainable Development document which seeks to deliver more people-centric developments with a focus on localised travel undertaken by active or sustainable travel modes.

2.5.4 The application is outline only, therefore does not include details of proposed car and cycle parking provision. The number and layout of car and cycle parking will be confirmed as part of subsequent reserved matters applications and will be in accordance with WBC's standards.

SECTION 3 Development Vision and Transport Strategy

3.1 Overview

3.1.1 This section details the methodology and approach to the proposed development's transport strategy. It outlines the guiding principles which have helped shape the proposed masterplan, with a focus on reducing private car use and facilitating local journeys by sustainable modes.

3.2 Transport vision and strategy principles

3.2.1 The transport mobility strategy for the proposed development aspires to encourage active travel and minimise private car use. A four-stage hierarchy will be adopted, as shown in **Figure 3.1**.

3.2.2 The access strategy will seek to encourage permeability between the neighbouring Arborfield Green community by active travel modes. To achieve this, a pedestrian, cycle and equestrian connection is proposed so that future residents of Barkham Square will be able to benefit from, and conveniently access, the range of facilities and services within Arborfield Green. This will enable most essential journeys to be fulfilled locally by active travel modes.

Figure 3.1 Mobility Strategy Hierarchy



3.2.3 Minimising the need to travel will be the starting point. The site will be served by appropriate service connections, facilitating modern ways of working and living.

3.2.4 Where journeys do need to be made, residents will be encouraged to make the most of the local offering, with connections to local shops, amenities and facilities encouraged.

- 3.2.5 Where a longer journey does need to be undertaken, public transport will aim to be the first mode choice. There are opportunities to improve bus connectivity, by routing route 3 (Leopard) along its original planned route through the adjoining Arborfield Green development or along the Langley Common Road corridor. Further detail on this is included in Section 4.
- 3.2.6 Lastly, an appropriate strategy for accommodating private cars will be developed, supported by infrastructure for electric vehicles, helping those needing to use cars to do so as sustainably as possible. Streets will be designed to accommodate all users and not be dominated by cars; a balance will be struck to suitably accommodate vehicles whilst not over-providing and subsequently encouraging car use with parking provided in accordance with standards. Car clubs will be explored to help reduce car ownership and offer an alternative for occasional car use.

3.3 WBC's Climate Emergency Action Plan (CEAP)

- 3.3.1 The need for the above approach is further demonstrated by WBC's climate emergency declaration in July 2019. Shortly after this, WBC's Climate Emergency Action Plan (CEAP) was published which outlined a series of measures and policies to reduce greenhouse gas emissions and actively address climate change. The Action Plan sets out carbon reduction goals based on local priorities and details a framework of actions to help achieve them. Progress against the identified actions and targets are reported and published each year. The sixth progress report dated September 2025 is the most recently published at the time of writing.
- 3.3.2 Reducing carbon dioxide emissions from transport is the first key priority set out in the CEAP. To help achieve this, a borough-wide target of 50% reduction in internal combustion engine (ICE) private car mileage is set. This is to be achieved by:
- 33% from EVs registration;
 - 5% from reduced travel;
 - 2% from public transport increase; and
 - 10% from active travel increase.
- 3.3.3 The above targets will feed into the vision of the scheme at Barkham Square to assist WBC in achieving its 2030 goal of reaching carbon neutrality. Development schemes such as the ones at Barkham Square and Arborfield Green can play a large role in how people travel daily. Consequently, the proposed development will be designed to encourage sustainable forms of travel as the first choice for any required journey from the outset. This has been considered as part of the trip generation methodology and is set out in more detail in Section 6.

SECTION 4 Sustainable Travel Opportunities

4.1 Overview

4.1.1 This section focuses on Stages 2 and 3 of the Mobility Strategy Hierarchy for the site. It provides a review of how and where existing residents travel before examining the existing sustainable travel opportunities surrounding the site. This first focuses on current walking and cycling infrastructure that could support active travel and then considers the available public transport services. How the site can then connect into planned infrastructure as part of the Arborfield Green site and WBC's Greenways Project as well as future bus services are also reviewed.

4.2 How do existing residents travel?

4.2.1 **Table 4.1** below presents the 2011 Census Method of Travel to Work data for the Wokingham 018 Middle Super Output Area (MSOA), which covers Arborfield and Arborfield Green. The site is located partially in this MSOA and partially in the neighbouring Wokingham 015.

4.2.2 The table shows car travel (both driving and passenger in a car or van) is the most popular mode of travel amongst existing residents for commuting trips. However, there is also a high percentage of walking at 10% with a good level of cycling trips at 5%. Thus, there is an opportunity to further encourage active travel trips in the local area.

Table 4.1 Local Method of Travel to Work – Wokingham 018 MSOA

Mode	% Split
Car Driver or Passenger	78%
On foot	10%
By Bicycle	5%
Train	4%
Bus	2%
Motorcycle	1%
TOTAL	100%

Source: NOMIS Census 2011 – WU03EW – Method of Travel to Work

4.2.3 To further understand local travel behaviours, the most popular work locations for the Wokingham 018 MSOA have also been reviewed. The data indicates that most work trips are localised within Wokingham at 43%, with the highest proportion (18%) of people staying within the same or neighbouring MSOA.

- 4.2.4 The wider Berkshire area is also an attractive area for employment with Reading and Bracknell Forest being the most popular work locations but also Windsor and Maidenhead, West Berkshire and Slough are travelled to for work purposes.

Table 4.2 Most Popular Work Destinations (All Modes) – Wokingham 018 MSOA as Place of Residence

Destinations	% Split
Wokingham Borough	43%
<i>Arborfield/Arborfield Green & Barkham</i>	18%
<i>Winnerish & Lower Earley</i>	6%
<i>Wokingham Town</i>	5%
<i>Southern Wokingham</i>	5%
<i>Woosehill & Industrial Estate</i>	5%
<i>Northern Wokingham</i>	5%
Wider Berkshire	32%
<i>Reading</i>	12%
<i>Bracknell Forest</i>	10%
<i>Windsor and Maidenhead</i>	4%
<i>West Berkshire</i>	4%
<i>Slough</i>	2%
Hampshire	8%
London	6%
Surrey	5%
Buckinghamshire	2%
Oxfordshire	1%
Other	3%

Source: NOMIS Census 2011 - WU03EW – Method of Travel to Work

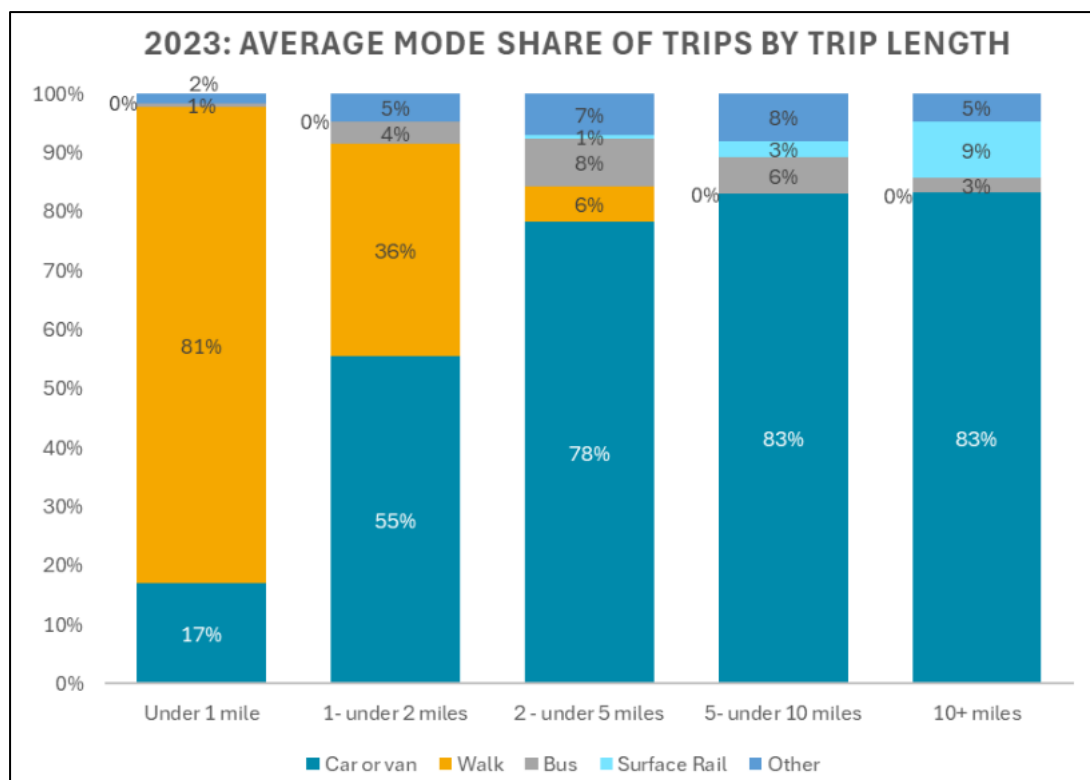
- 4.2.5 Improved bus services to Reading and Bracknell are planned as part of the Arborfield Green development and therefore there is an opportunity to increase the number of some of these trips being travelled by public transport.

4.3 Walking and Cycling Opportunities

Walking and Cycling Trip Lengths

- 4.3.1 The National Travel Survey (NTS) identifies the mode share of journeys by trip length and is presented in **Figure 4.1**. This confirms most (81%) of the trips up to one mile (1.6km) travelled last year were undertaken on foot.

Figure 4.1 Mode of Travel by Distance



Source: National Travel Survey, England 2023

4.3.2 Journeys to facilities and services within 1.6km will provide the greatest opportunity for trips to be comfortably made by walking. However, 1.6km is not the maximum walking distance. The NTS data also indicates that journeys up to 2miles (3.2km) are often made on foot, with some 36% of these journeys undertaken by walking in 2023. After 3.2km, the number of walking trips reduce significantly.

4.3.3 On this basis, it is reasonable to assume a journey of 3.2km as a 'maximum' walking distance for most day-to-day journeys. The following distances have therefore been used for assessing walking journeys in the vicinity of the site:

- Up to 1.6km – comfortable walking distance; and
- Up to 3.2km – maximum walking distance.

4.3.4 The DfT's Cycling and Walking Investment Strategy (2017) states at paragraph 1.16 that:

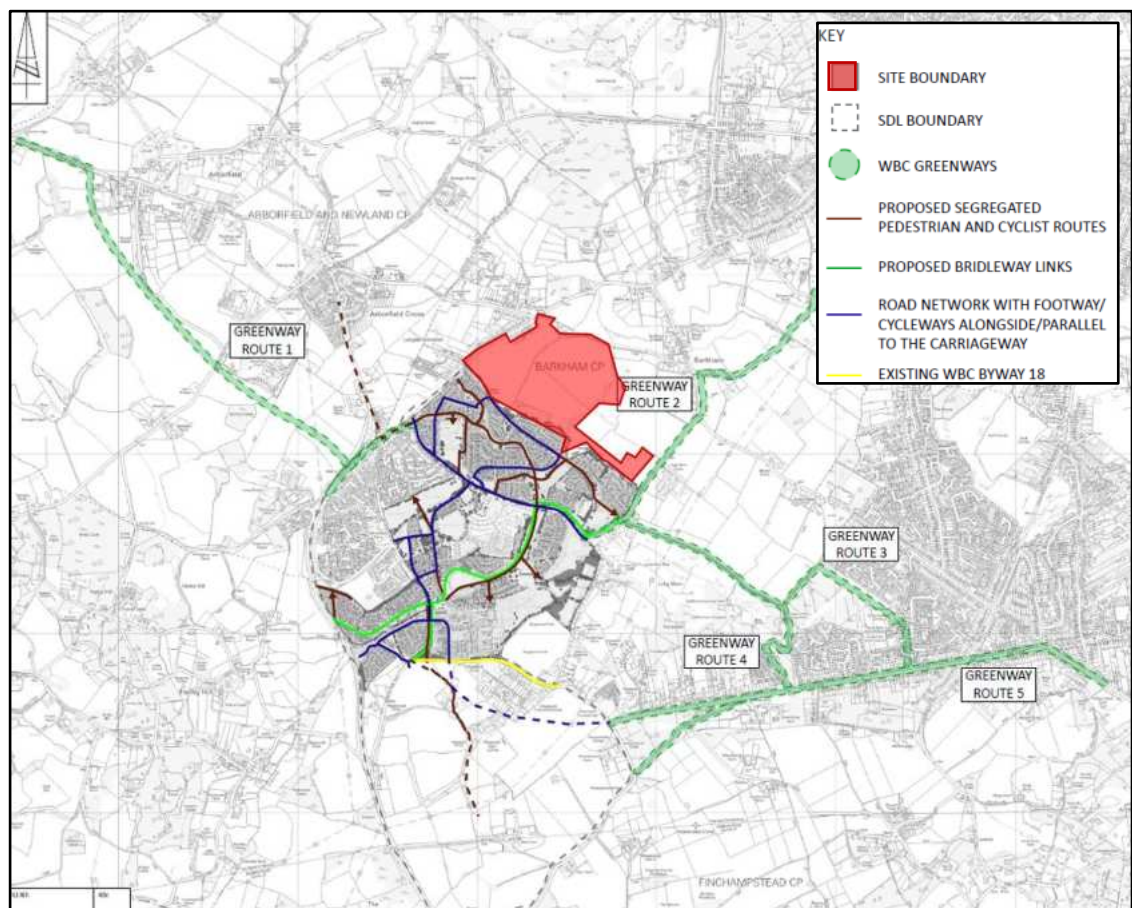
"...there is significant potential for change in travel behaviour. Two out of every three personal trips are within five miles – an achievable distance to cycle for most people, with many shorter journeys also suitable for walking."

4.3.5 Based on the above, 5 miles (8km) is a reasonable cycle distance.

Existing and Planned Walking and Cycling Provision

- 4.3.6 WBC's 'Greenways Project' will deliver several routes around Barkham and Arborfield Green. Greenways are largely traffic-free routes connecting the major Strategic Development Locations (SDLs) and key destinations in the borough for pedestrians, cyclists and, in some cases, equestrians. The first phase, known as California Way, links Arborfield Green and Finchampstead, via California Country Park, and is already built and in use.
- 4.3.7 The internal walking and cycling routes within Arborfield Green will connect to the Greenway routes. Greenway Route 2 routes along the eastern boundary of the site (Commonfield Lane), providing an opportunity for the development to link to it and extend the local network of safe walking and cycling routes. The full network of walking and cycling routes, including the links to the external Greenways (both built and proposed) to be delivered is shown in **Figure 4-2**.

Figure 4.2 Arborfield Green and Greenway Walking, Cycling and Equine Routes



- 4.3.8 The extension to Greenway Route 2 would follow the alignment of Commonfield Lane, although the detail of the route is still to be developed, it is expected that this would continue in a similar form to the existing route which is set-back from the carriageway with a landscaped buffer.

4.3.9 The site will connect to the walking and cycling network delivered as part of the Arborfield Green development, providing access to the local facilities there which include:

- District centre, including local supermarket, shops and pub/restaurant (yet to be delivered);
- Two primary schools (Farley Hill Primary and one under construction);
- A secondary school (Bohunt Wokingham);
- Youth football club;
- Green open space (Hazebrouck Meadows);
- Leisure centre;
- Community Centre;
- Play areas;
- Allotments and community gardens;
- Village Green; and
- Sports pitches.

4.3.10 The distance of these facilities from the site, along with others in the surrounding area, are set out in **Table 4.3** with the typical walking and cycling journey times. **Figure 4.3** shows the location of them in relation to the site.

Table 4.3 - Local Facilities and Services Summary

	Destination	Distance (metres)	Walking Time (minutes)	Cycling Time (minutes)
Public Transport	Proposed Bus Stop	600	7	2
	Wokingham Railway Station	4,700	-	18
Retail	Stables Speciality Coffee	480	6	2
	Co-op Food	800	10	3
	Londis	1,400	17	5
	Barkham Village Store and Post Office	1,600	19	6
	One Shop Convenience Store	3,500	-	13
	Co-op Food Finchampstead	4,200	-	16
	Sainsburys	1,900	22	7
Education	Farley Hill Primary School	320	4	1
	Poperinghe Pre-School	1,100	13	4
	Hazebrouck Day Nursery and Pre- School	1,100	13	4

	Destination	Distance (metres)	Walking Time (minutes)	Cycling Time (minutes)
	The Coombes C of E Primary School	1,300	15	5
	Bohunt School Wokingham	1,900	22	7
Leisure	Sports pitches & pavilion	630	8	2
	Get you fit	1,000	12	4
	The Bull Pub	1,100	13	4
	Arborfield Library	1,100	13	4
	Arborfield Green Community Centre	1,300	15	5
	Made2Fit Personal Training	1,400	17	5
	Barkham Village Hall	1,700	20	6
	The Combat Academy	1,700	20	6
	Arborfield Green Leisure Centre	1,700	20	6
	Ye Olde Leathern Bottel Pub	3,000	36	11
	Post Office California	4,200	-	16
	Bob's Fish and Chips	4,200	-	16
	Chef Peking Chinese Restaurant	4,300	-	16
	Swallowfield Medical Practice, Arborfield Consulting Room	1,400	17	5
Health	Forest Dental Studio	4,300	-	16
	NHS Dentistry	4,300	-	16
	Finchampstead Surgery	4,400	-	17
Employment	Hogwood Industrial Estate	2,500	30	9

Source: Estimates using Google Maps. Notes: Measurements taken from centre of developable area, at the western end of the site and using routes that will be available once full development is built out.

Key:

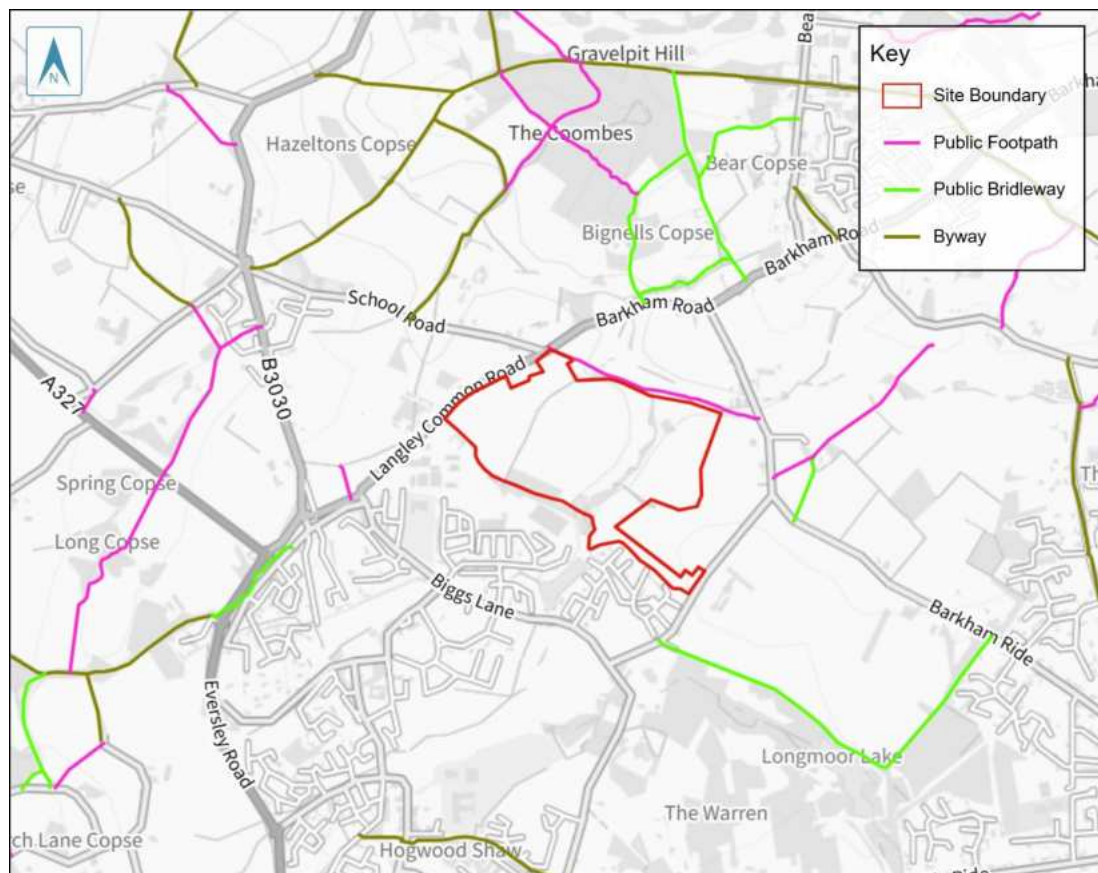
	Within 1,600m – a comfortable walking distance
	Within 3,200m – still an acceptable walking distance
	Within 8,000m – comfortable cycling distance

[illegible]

Public Rights of Way

- Date: 25 March 2026 Ref: TH/WF/ITL11337-010F Page: 18

Figure 4.4 PRoW Map



4.3.13 The proposed pedestrian and cycle access points into the site are shown in context of the concept masterplan in **Section 5.2**.

Public Transport Opportunities

4.3.14 Currently, the Leopard 3 bus offers a 15-minute service to Arborfield Green, routing from Reading, Shinfield, Arborfield Cross to Langley Common Road, Biggs Lane and then right to Princess Marina Drive southwards to Bohunt School. The Leopard 3 also offers a 30-minute service to Wokingham, Arborfield and Reading which has recently been increased from an hourly service.

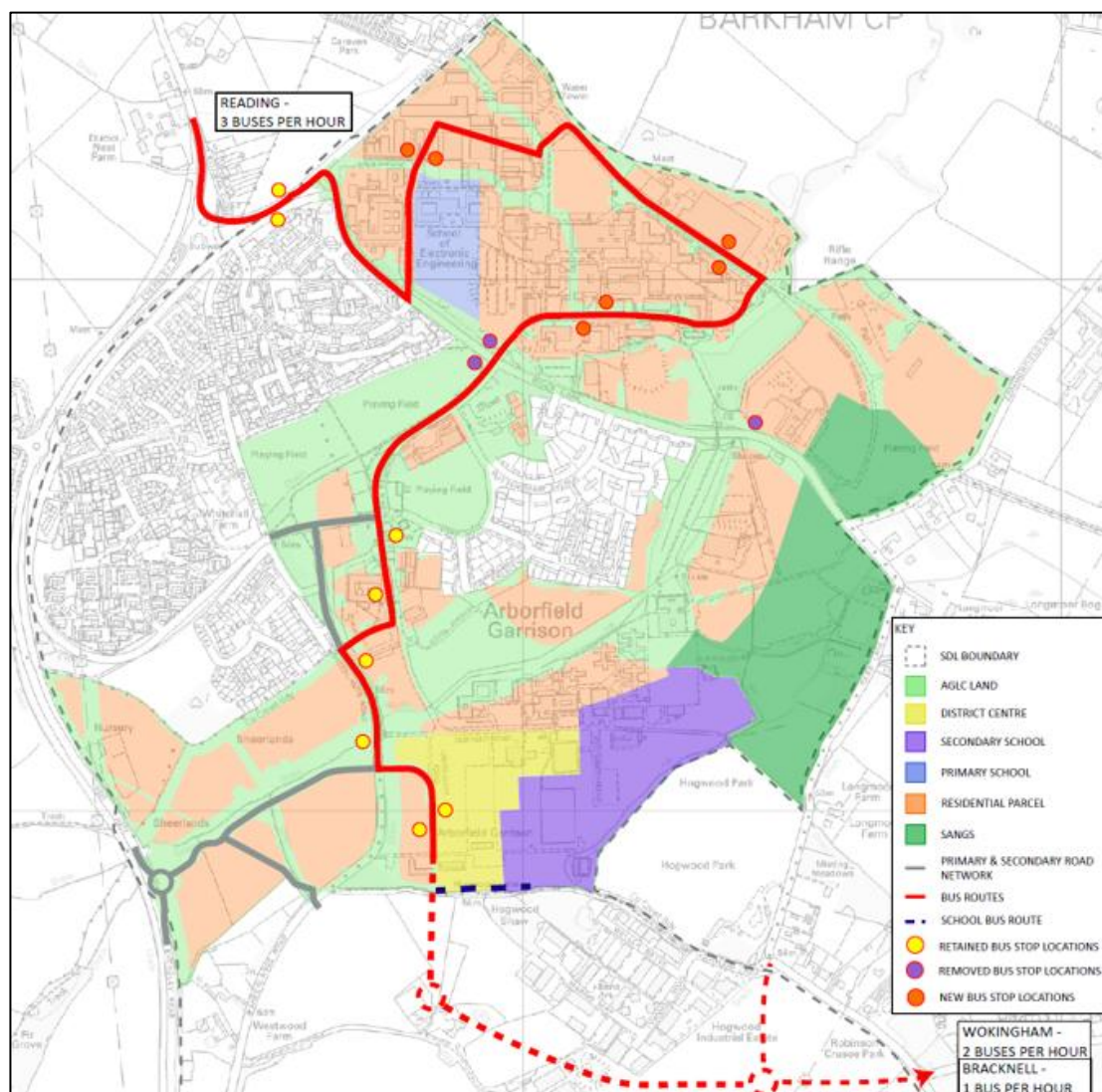
4.3.15 Bus route 145 is a Tuesday morning service between Winnersh, Arborfield and Wokingham. It also extends to Eversley, Riseley and Spencers Wood.

4.3.16 A summary of the current Leopard 3 services is provided below:

- One service per hour between Arborfield and Reading;
- Two services per hour between Reading and Wokingham via Arborfield;
- One service per hour between Reading and Bracknell via Arborfield; and

- Daily services to Bohunt Secondary school.
- 4.3.17 With buses serving Arborfield and Barkham; Wokingham town centre; Bracknell Forest and Reading, 45% of commuting journeys will be accessible by bus.
- 4.3.18 The final bus route for Arborfield Green is shown in **Figure 4.5**. Bus stops are proposed to be located along Langley Common Road and within the Arborfield Green development, close to the southern site boundary. As a result, future residents of Barkham Square will be able to benefit from access to the new and improved bus services in the area within walking distance.

Figure 4.5 Arborfield Green Bus Route



- 4.3.19 Bus route 145 operated by Horseman Coaches is the nearest public bus to the site as it runs along the Langley Common Road site frontage between Biggs Lane and School Lane. The Langley Common Road bus stops are within a walking range for the proposed development of around 50m to 700m. This is a Tuesday morning service between Winnersh, Arborfield and Wokingham. It also extends to Eversely, Riseley and Spencers Wood. This is best described as a weekly shopper service.
- 4.3.20 From conversations with the local bus operator and pre-application feedback from WBC, it is noted that Leopard 3 may not be routed along Princess Marina Drive in line with the planned service. There are alternative opportunities to route buses along Langley Common Road.
- 4.3.21 The nearest train station is Wokingham, circa 4km northeast of the site. The station can be accessed by cycling or the Leopard 3 bus service which offers two buses per hour. The rail services available from Wokingham provide direct connections to Reading and London Waterloo with typical frequencies at peak and off-peak times summarised in **Table 4.3**.

Table 4.3 Rail Services – Wokingham Station

Destination	Average Journey Times	Typical Frequency of Service	
		Peak Times	Off-Peak Times
Reading	10 minutes	4 per hour	4 per hour
London Waterloo	1 hr 10 minutes	2 per hour	1-2 per hour
Gatwick Airport	1 hr 22 minutes	2 per hour	2 per hour

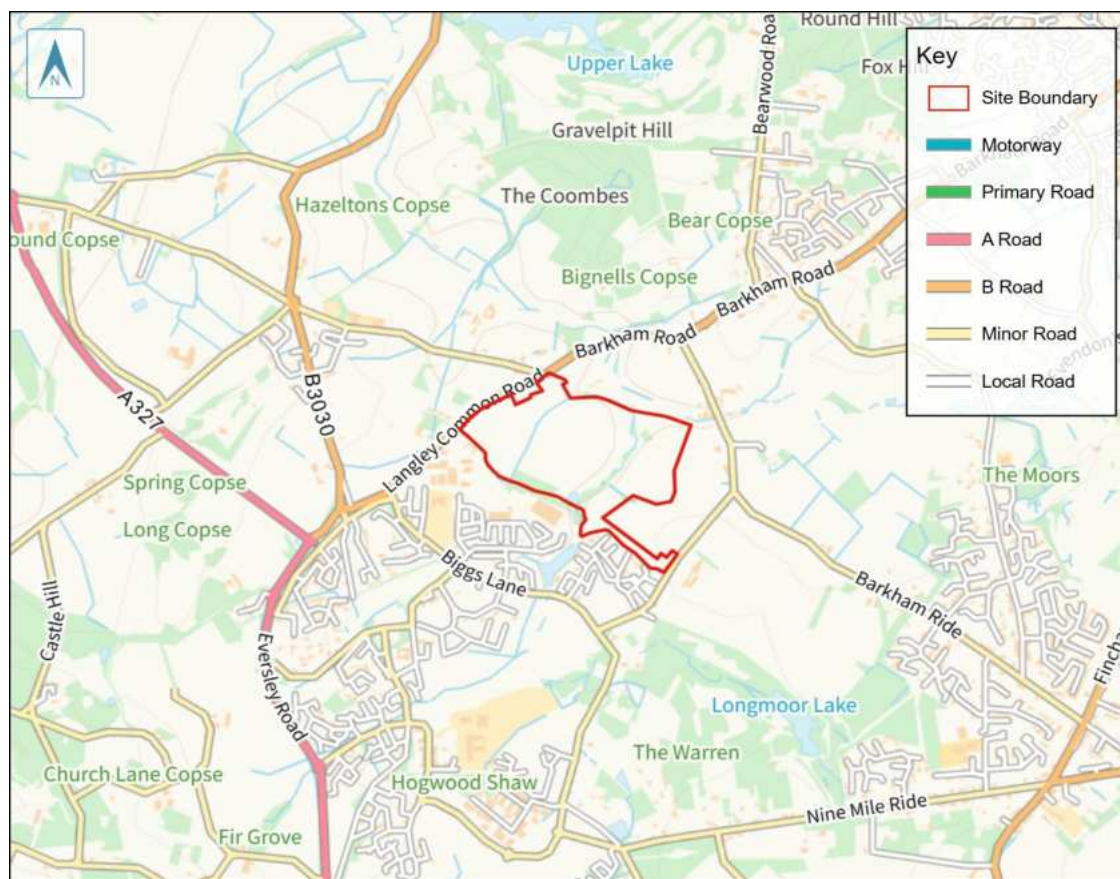
Source: National Rail (accessed October 2024)

- 4.3.22 There are good opportunities for travel via train with frequent services to key destinations, particularly Reading which is only a 10-minute journey.
- 4.3.23 As demonstrated, the site benefits from good connections to the public transport network as well as the walking and cycling networks. This will offer future residents a choice of sustainable modes of travel to reach both local and further afield destinations.

4.4 Local Highway Network

- 4.4.1 The site benefits from excellent transport links via the M4, with access from Junction 11, providing direct connections to London and the wider motorway network.
- 4.4.2 The local highway network is shown in **Figure 4.6**.

Figure 4.6 Local Highway Network



Langley Common Road

- 4.4.3 This road borders the site to the northwest and runs from the junction with Eversley Road and Baird Road to the southwest and the simple priority junction with School Road towards the northern extent of the site boundary. Beyond the junction with School Road, Langley Common Road becomes Barkham Road which continues northeast and retains a similar character.
- 4.4.4 Langley Common Road provides access to Arborfield Film Studios just south of the site. This access is opposite a couple of small businesses (vehicle sales and vehicle servicing) with short and long term onsite parking provision. The remaining accesses along Langley Common Road are to driveways for residential properties predominantly fronting the northwestern kerbside, however there is also a parcel of several properties fronting the site side of the road.

4.4.5 Footway provision runs along the full extent of Langley Common Road on the northern kerbside providing continuous access south to the Arborfield Green residential area (a pinch point along this route exists just south of the aforementioned businesses opposite the film studio). Footway provision does exist along the southern kerbside along the extent of the parcel of dwellings. There is no formal crossing provision connecting the footways however good visibility exists in both directions.

4.4.6 The speed limit increases from 30mph from the roundabout junction with Eversley Road and Baird Road and 20 Langley Common Road where it becomes 40mph. The road is in good condition with good forward visibility and is lit. There are two request bus stops for the 145 and F52 buses at the film studio and towards the junction with School Road to the north.

Barkham Road

4.4.7 This road continues from the Langley Common Road junction with School Road, and continues through Barkham and into Wokingham, joining Reading Road close to the Rail Station. Heading east a footway continues on the north side of the road and the speed limit is 40mph until it drops to 30mph just before reaching a small number of dwellings (1-6 Bridge Cottages). The road layout has been updated in the last 5 years to replace shuttle operation over a stream with two-way operation and improved pedestrian facilities.

4.4.8 The road has three mini-roundabout junctions as it arrives in Barkham. The road operates as the main distributor road within Barkham running along the southern boundary of the main settlement. The road provides access to residential driveways on both sides of the road within Barkham and footways on both sides of the road extend through Barkham. Footways on just the north kerbside continue for 350m until the road arrives at the outskirts of Wokingham. The road broadly retains its character into Wokingham although more pedestrian amenities are introduced such as signalised crossings. There are many bus stops along the extent of Barkham Road from the northern extent of the proposed development to Wokingham Town Centre.

Barkham Street

4.4.9 Barkham Street runs from the mini roundabout junction with Barkham Road in a north south orientation to a simple priority junction with Commonfield Lane, at which point the road becomes Barkham Ride which continues southeast to Finchampstead North. The road has a 40mph speed limit and 6'6" vehicle height restriction. The road is in good condition and unlike the roads detailed above is not residential in nature, serving a handful of larger residencies, farms and rural businesses.

- 4.4.10 Footway provision is present along the west side of the road from its northern extent. Footway provision ceases at the priority junction with Church Lane (which provides access to a church and village hall), from which point the road continues (in excellent condition considering its more rural nature) without footway provision and serving very little until arriving in Finchampstead North settlement. Significant resurfacing works appear to have been undertaken along this road in 2021. The road is unlit.

Commonfield Lane

- 4.4.11 This lane runs from its junction with Barkham Street south along the eastern boundary of the proposed development and ends at the junction with Biggs Lane to the south. Commonfield Lane is much more rural in nature than the roads discussed above. The carriageway appears no wider than 3.5m and does not have separate running lanes. Larger vehicles can use informal laybys that are common along its extent to pass each other. The lane is bordered on both sides by trees and shrubbery although this does not seem to impact upon the safety or amenity of the road. There are a small number of farm accesses towards the southern extent of the lane, the lane also provides access to a small number of dwellings and a small caravan park. The lane is not lit, has no pedestrian footway provision and is subject to the national speed limit.

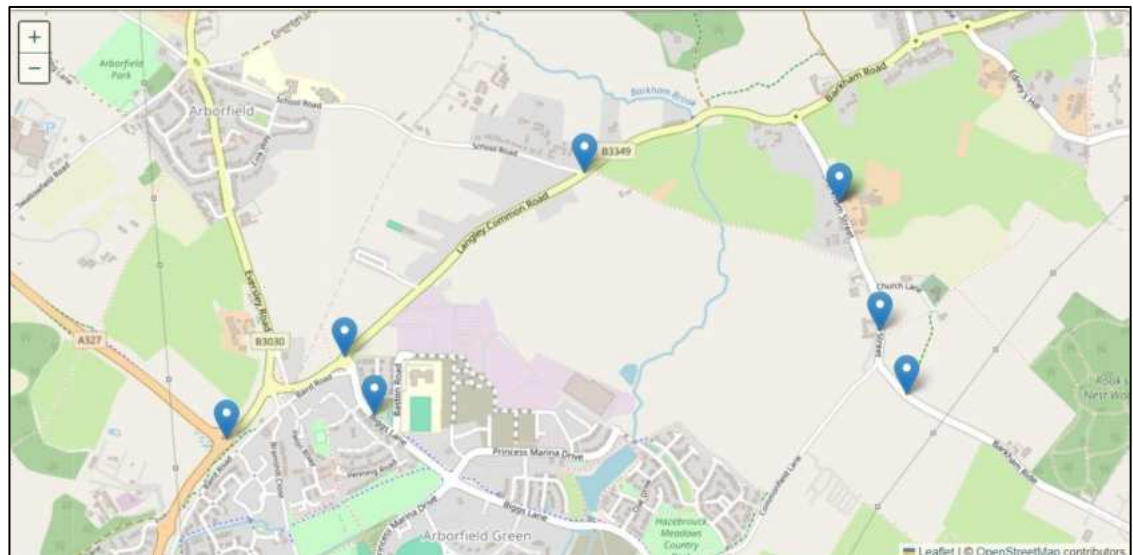
Biggs Lane

- 4.4.12 This road operates as one of the local distributor roads for Arborfield Green running from its roundabout junction with Langley Common Road to the west running east to its simple priority junction with Commonfield Lane, beyond which Biggs Lane becomes Park Lane which routes away from the Arborfield Green settlement south and provides access to the B3430 which runs east towards Bracknell.
- 4.4.13 Biggs Lane is in excellent condition, much of it having been resurfaced in the last few years. The road is subject to a 30mph speed limit, has wide footways on both sides of the road which are segregated within large and well landscaped verges creating a very pleasant pedestrian environment.
- 4.4.14 Biggs Lane provides the main distributor access route to several residential plots via simple priority junctions. There are no driveways or minor accesses along the route and there are double yellow line restrictions along its extent. Pedestrian footways on the south side of the road cease towards the junction with Oak Drive. Segregated provision continues to the junction with Commonfield Lane when Biggs Lane becomes Park Lane which is more rural in character.

Collision Summary

- 4.4.15 Personal Injury Accident (PIA) data has been obtained from WBC covering the latest available 5-year period. The locations of the collisions as provided by WBC are demonstrated in the following figure.

Figure 4.7 PIA Map



Source: WBC

- 4.4.16 This identified that there have been 7 recorded collisions within the study area during the most recent 5 year period, 6 of which were slight, and one was serious.

Barkham Street

- 4.4.17 A 'moderately serious' collision occurred on Barkham Street when a car travelling south along Barkham Street attempted to overtake and LGV and collided with an oncoming vehicle. The possible causal factors included exceeding the speeding limit and driving aggressively.
- 4.4.18 A 'slight' collision east of the Commonfield Lane junction occurred between a car and an oncoming LGV due to likely speeding/distraction and a poor manoeuvre.

Langley Common Road

- 4.4.19 A 'slight' collision occurred at the Langley Common Road/Biggs Lane roundabout with an LGV entered the roundabout and collided with a cyclist using the circulatory. At the School Road junction a 'slight' collision also occurred between a car and a cyclist.
- 4.4.20 A 'slight' collision also occurred at the Observer Way roundabout when a car collided with another car waiting at the Observer Way entry.

Biggs Lane

- 4.4.21 A 'slight' collision occurred when a car left the carriageway and collided with a bus pole along Biggs Lane. The possible causal factors listed are tiredness or illness/disability.

Table 4.4 Severity of Collisions

Fatal	Serious	Slight	Total
0	2	5	7

- 4.4.22 Whilst any accident is regrettable, the cause and locations of the accidents do not suggest a particular highway safety issue on the local highway network. Thus, there is no particular location where development traffic would generate or contribute towards highway safety issues.
- 4.4.23 Nonetheless road safety for all road users is a primary consideration when considering the potential implications of development and are considered in the context of the site access/routes further in this document. Most notably, the proposed site access roundabout will create a speed remediation feature on Langley Common Road providing a break in the long straight section encouraging lower vehicle speeds, presenting a highway safety betterment.
- 4.4.24 The full PIA data report is included as **Appendix C**.

4.5 Summary

- 4.5.1 The site is well located to enable most essential journeys to be undertaken by sustainable modes of travel with a range of facilities and services located within comfortable walking and cycling distance. Most of these facilities and services are located within Arborfield Green.
- 4.5.2 Public transport services are also easily accessible, with the final Leopard 3 bus route to be delivered as part of Arborfield Green including bus stops within a short walk of the site. It is noted that Leopard 3 may not be routed along Princess Marina Drive in line with the planned service. However, there are alternative opportunities to route services along Langley Common Road corridor. This service offers access to several key local destinations including Reading and Wokingham town centres and railway station facilitating longer distance journeys by rail.

SECTION 5 Development Proposal

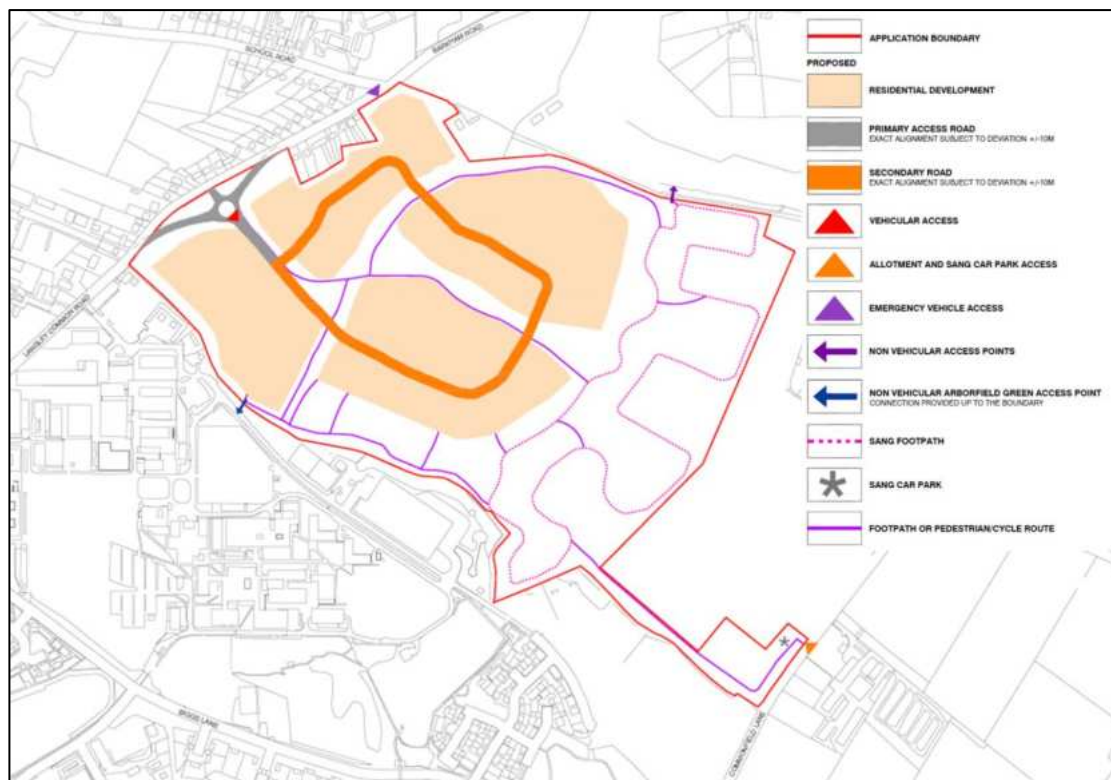
5.1 Overview

- 5.1.1 The proposed masterplan for the site is detailed in this section. It has been designed to help encourage sustainable travel by endeavouring to link to both the existing and proposed active travel infrastructure and public transport services identified in the previous section. Whilst the number of dwellings is not yet fixed, this outline application is seeking permission for up to 660 homes. This is the number of homes that has been used in later sections for the trip generation assessment, an allowance of 50 beds for elderly care has also been assumed.
- 5.1.2 Since the application is for outline permission with all matters reserved except for means of access, the detailed elements of the site layout will follow in subsequent Reserved Matters applications, at which point Stages 1 and 4 of the Mobility Strategy will be able to be considered.
- 5.1.3 The built development will mostly be located on the west side of the site, with the eastern side of the site comprising green space and an area for recreational activities, including allotments.

5.2 Access

- 5.2.1 The main access to the site is proposed from a new four-arm roundabout on Langley Common Road. A separate vehicle access is proposed from Commonfield Lane to access the allotments.
- 5.2.2 A secondary emergency vehicle access is also proposed from Langley Common Road to the north of the main roundabout access. Vehicle access will not be permitted between the site and Arborfield Green to encourage journeys between the sites to be undertaken by active modes.
- 5.2.3 A new pedestrian and cycle access is proposed up to the southern boundary. In addition, direct access to the local PRow network is proposed via BARK7 footpath along the northern boundary.
- 5.2.4 The locations of the access points and the primary and secondary road networks are demonstrated in **Figure 5.1**. A full size plan is included within **Appendix B**.

Figure 5.1 Proposed Access Strategy



- 5.2.5 As demonstrated from the access junction assessment in Section 8, the proposed roundabout will be able to suitably serve the development. The roundabout will also create a speed remediation feature on Langley Common Road providing a break in the long straight section encouraging lower vehicle speeds and realistic opportunity to reduce the speed limit.
- 5.2.6 Access to the properties to the north of Langley Common Road will be retained via a service road accessed from the roundabout. Turning heads will be provided to enable vehicles to turn.
- 5.2.7 The proposed layouts for both the Langley Common Road and Commonfield Lane accesses are shown in **Figure 5.2** and **Figure 5.3**. A Stage 1 Road Safety Audit (RSA) (as requested) has also been undertaken and is included within **Appendix D** together with the RSA Response Report.

2.4m x 43m VISIBILITY SPLAY

4.8m

High Barn Farm

EXISTING CARRIAGEWAY TO BE WIDENED TO 4.8m

2.4m x 43m VISIBILITY SPLAY

Car and Cycle Parking

- 5.2.8 Details of the car and cycle parking will be set out in a future Reserved Matters application(s). However, the design and level of provision will be in accordance with the standards set out in the Wokingham Borough Council Parking Standards Study Report, as set out in Section 2.5.
- 5.2.9 The number of allocated parking spaces will be determined by available space and then the number of residual parking spaces required will be calculated using the 'Unallocated parking demand' tables (as set out in **Tables 2-1-2-4**). The Wokingham Borough parking calculator spreadsheet will be used to ensure the most appropriate level of parking is provided.

5.3 Servicing Strategy

- 5.3.1 The road network within the site will be carefully designed so as to accommodate refuse, emergency service and other servicing vehicles whilst ensuring roads are not overengineered and vehicle dominated to not hamper pedestrian and cyclist movement across the site.

5.4 Summary

- 5.4.1 The development proposes to deliver up to 660 homes across the site as well as elderly care accommodation, with the proposed access strategy designed to enable and encourage sustainable travel modes.
- 5.4.2 A new roundabout on Langley Common Road will form the main vehicular access, a separate vehicular access is proposed from Commonfield Lane to serve the allotments. A secondary emergency vehicle access is also proposed from Langley Common Road to the north of the main roundabout access into the site. Vehicle access will not be permitted between the site and Arborfield Green to encourage journeys between the sites to be undertaken by active modes.

SECTION 6 Active Travel Connections

6.1 Overview

6.1.1 The site is well connected with the nearby Arborfield Green and enjoys convenient access to public transport and major highways, providing strong connections to Wokingham and Reading. There is an expansive network of segregated footways and cycleways and greenways permeating the Arborfield Green SDL and radiating out to local towns and villages.

6.1.2 The vision for connectivity for the SDL was described as follows:

“...an inter-connected green grid that drapes over the entire site providing a network of linear green spaces. This grid is not arbitrary but founded on tying the existing landscape assets together to create a green web.”

6.1.3 In accordance with this vision, the development will capitalise on the opportunities presented by the existing landscape assets to create and enhance attractive routes to key destinations. This includes providing an active travel connection to the site boundary enabling onward journeys.

6.2 Active Travel Desire Lines

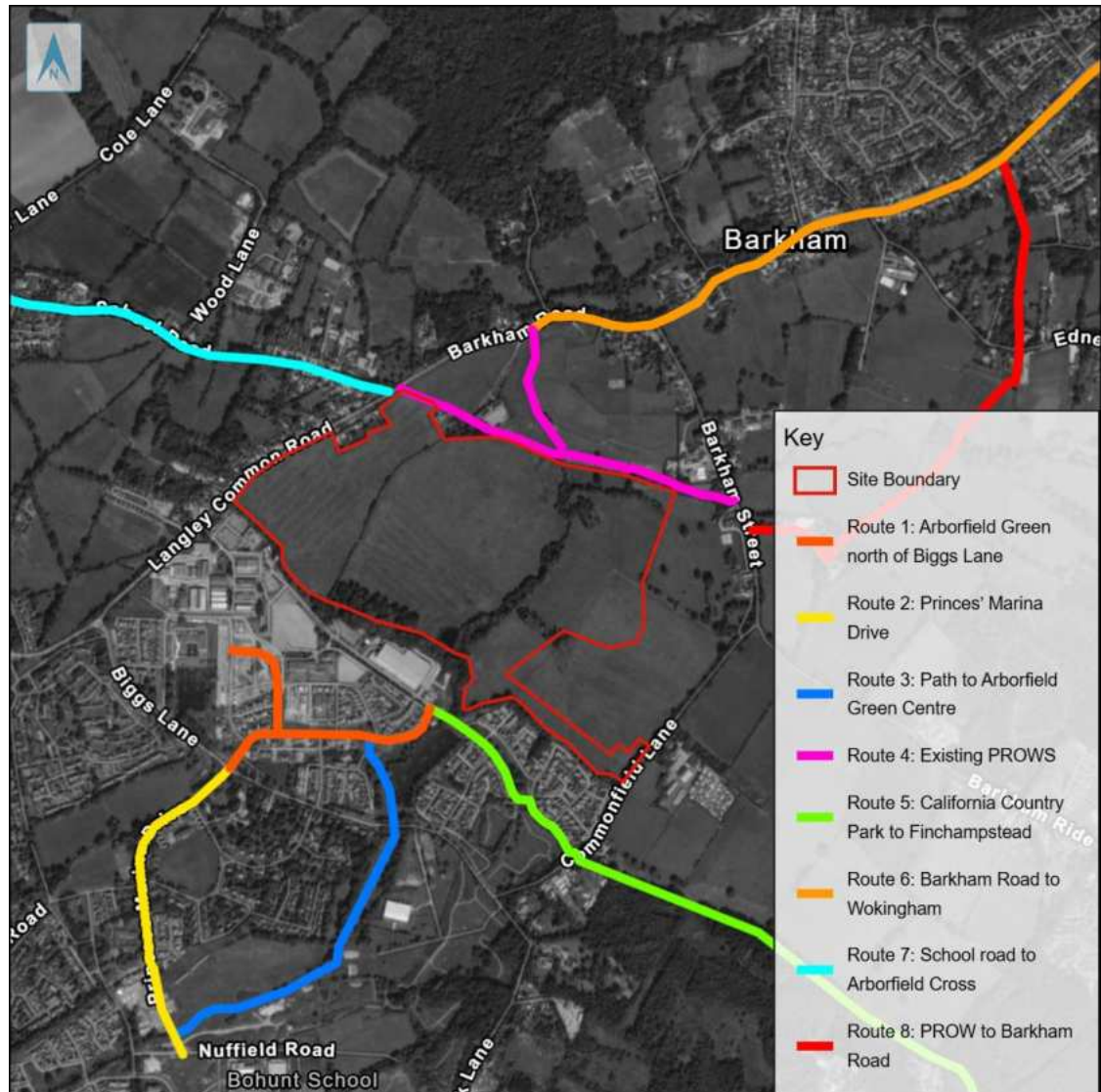
6.2.1 The most popular active travel route will be south from the site towards the centre of Arborfield Green. Arborfield Green District Centre will form a central hub for the community with much of it being pedestrian only to focus on providing an active, vibrant and safe area for people to gather, socialise, and shop. Other popular routes will include along School Road to The Coombes C Of E Primary School and Arborfield Cross as well as north towards Barkham.

6.2.2 From a review of the local facilities and services, detailed in Section 4, the following key active travel routes have been identified and reviewed in more detail within this section:

- **Route 1:** Arborfield Green north of Biggs Lane (4-min cycle, 16-min walk)
- **Route 2:** Princes' Marina Drive (2-min cycle, 11-min walk)
- **Route 3:** Linear Path to Arborfield Green Centre (5-min cycle, 19-min walk)
- **Route 4:** Existing PROWS (4-min cycle, 17-min walk)
- **Route 5:** California Country Park to Finchampstead (8-min cycle, 35-min walk)
- **Route 6:** Barkham Road to Wokingham (13-min cycle, 37-min walk)
- **Route 7:** School road to Arborfield Cross (5-min cycle, 17-min walk)
- **Route 8:** PROW to Barkham Road (8-min cycle, 17-min walk)

6.2.3 These active travel routes are shown in relation to the site in **Figure 6.1**.

Figure 6.1 Active Travel Routes Assessed



Route 1: Arborfield Green north of Biggs Lane

6.2.4 The residential access roads within Arborfield Green north of Biggs Lane including Princess Marina Drive, Saddle Place and Bridle Road offer active travel provision south from the site to important facilities for daily journeys, such as Farley Hill Primary School. There is also green space, play areas and a café within this area, a short walk from the site, north of Biggs Lane.

6.2.5 The active travel infrastructure in this area has come forward as part of the Arborfield Green development in recent years and so is good quality, designed with pedestrian and cyclist priority in mind in accordance with recent policy and guidance. This infrastructure includes a wide shared footway/cycleway on one side of the road, and a footway on the other.

- 6.2.6 The infrastructure has clear priority designed in, with safe crossings of driveways and parking courts. The footway/cycleway is uninterrupted for long sections between few side roads. The footway/cycleway is offset from the carriageway via a landscaped verge and has a balance of passive surveillance from local dwellings and visual amenity with most of the route along Princess Marina Drive bordered by parks and green spaces.
- 6.2.7 The following image shows the existing wide footway/cycleway provision along Princess Marina Drive. The image also highlights an opportunity for improvement through parking enforcement to prevent vehicles parking and subsequently obstructing the walking/ cycling route.

Image 6.1 Footway/cycleway provision along Princess Marina Drive



- 6.2.8 The active travel infrastructure south from the site joins with the east-west segregated connection along Biggs Lane. There is also controlled crossing provision over Biggs Lane at the Princess Marina Drive roundabout.

Route 2: Princess Marina Drive

- 6.2.9 The footway/cycleway continues south along Princess Marina Drive via an attractive boulevard, tree-lined on both sides with a large offset from the carriageway and the expansive recreation fields on the other side. There are seating areas along the route which offer attractive places to rest.

6.2.10 The footway/cycleway uncontrolled crossing at the Baird Road junction has good visibility and is on the desire line.

6.2.11 This is a segregated, wide and attractive route gives access to Arborfield Green Community Centre and St Eligius Church. Beyond these amenities the footway/cycleway crosses the road to continue along Princess Marina Drive onto Stable Path to access Sainsbury's, Arborfield Leisure Centre and on towards Hogwood Industrial Estate via Nine Mile Ride. It is noted that parts of this route are currently under construction. However, once completed the route will offer a good quality, safe and well-lit route which is attractive, direct and designed to current standards.

Route 3: Linear Path to Arborfield Green District Centre

6.2.12 The Arborfield Green District Centre application site comprises 10.6 hectares of land and forms part of the southern portion of the wider Arborfield Green development. It will provide new local facilities serving the site and the wider Arborfield Green development. This will be in the form of community, commercial and retail facilities such as a new commercial space within a pedestrianised high street, a community centre including library and café, a nursery and pre-school, a pub, a supermarket and a public transport interchange.

6.2.13 The linear park runs from the site in the northeast through the wider development to Eversley Road in the southwest, following part of the existing watercourse route. A new bridleway route forms part of the Arborfield Green development proposals, providing an attractive leisure route through the linear park which will be delivered in the future and provide an attractive, continuous, direct and safe off-road connection to the centre of Arborfield Green.

Image 6.2 Footway/cycleway connection between Princess Marina Drive and Biggs Lane



6.2.14 This entirely segregated route will be popular for a combination of journey purposes, including for leisure as well as education and access local amenities and facilities including retail.

Route 4: Existing PROWS

- 6.2.15 BARK7 is a footpath which routes along the northern boundary of the site, connecting Langley Common Road to Barkham Street. This PRoW includes a track connecting to Barkham Road to the west of the site. There is a footway directly opposite, although no formal crossing provision. The footpath continues beyond the existing farm buildings along the northern edge of the site via a grassed track through the field before exiting onto the footway provision on Barkham Street. This PRoW may be improved along sections that run through the development.

Image 6.3 PROW BARK7 Connection from Barkham Road

- 6.2.16 The Wokingham Rights of Way Improvement Plan (2020) features some proposed routes nearby including one from roughly the middle of BARK7 routing north to link to Barkham Road and one along Barkham Street. The plan includes proposals to change the BARK7 footpath to a bridleway allowing equestrian and cycle use. These improvements would facilitate both walking and cycling trips from the site to Barkham Road at which point they can cross to access the footway on the northern kerb. This will serve active travel trips towards Barkham and Wokingham.

Route 5: California Country Park to Finchampstead

- 6.2.17 The route through California County Park can be accessed through Hazebrouck Meadows or Archer Grove with suitable crossing provision over Commonfield Lane in the form of dropped kerbs and tactile paving.

6.2.18 The image below shows the route to California Country Park south of Commonfield Lane.

Image 6.4 California Country Park Greenway south of Commonfield Lane



6.2.19 The California County Park Greenway has a good quality surface finish, suitable for all users including equestrians, as demonstrated within the images below which show part of the route running parallel to Commonfield Lane.

Image 6.5 California Country Park Greenway



Route 6: Barkham Road to Wokingham (and alternative access to Barkham/Wokingham)

- 6.2.20 The route from the site along Barkham Road to Barkham has a continuous footway along the northern kerbline. There is a footway on both sides of the road through the village with the footway on the southern kerbline ceasing at the eastern edge of the village. Footways on both sides of the road begin again at the western edge of Wokingham and continue along Barkham Road to the town centre. The continuous footway provision allows Barkham to be accessed within a 15-minute walk and Wokingham within 40-minutes.
- 6.2.21 Barkham Road is subject to a 30mph speed limit from the northern edge of the proposed bridleway to Wokingham. The route is suitable for more experienced cyclists. The opportunities for improving cycle connections along this route are limited due to existing constraints. The existing footway (north side only) is narrow and there are few opportunities for widening.
- 6.2.22 School Road offers access to Wood Lane, a lightly trafficked rural road which gives access to a series of bridleways including Cole Lane, Ellis Hill and onto Coombes Lane which provides a predominantly traffic-free cycle connection to Barkham in less than 15-minutes from the proposed site access. Although a longer route, this provides an excellent alternative for less confident cyclists to access Barkham. Less experienced cyclists, or leisure cyclists can avoid the B3349 completely on route to Wokingham using the above byways and travelling through Barkham along the lightly trafficked Sandy Lane before crossing onto Doles Lane for the rest of the 20-minute cycle from the site into Wokingham.
- 6.2.23 This route, bypassing the B3349, has few interactions with vehicles and much visual amenity along its extent and the byways passing south of Bearwood Lakes are suitably surfaced to be usable in all weather conditions.
- 6.2.24 The large business and industrial estate in the south of Wokingham can be accessed in just a 20-minutes cycle along this route, which is just 5-minutes longer than using B3349.

Route 7: School Road to Arborfield Cross

- 6.2.25 In 2024 School Road became a no through-route for vehicles. This allows the route to be safely used by active travel users from the site to access The Coombes C Of E Primary School and other amenities within Arborfield Cross.

Image 6.6 School Road Traffic Filter



6.2.26 This recent change to School Road allows prospective school children and parents at the site to safely and conveniently access the school via active mode of travel. The proposals would allow access to the footway on Langley Common Road via the proposed pedestrian crossing facilities at the site access and walk to The Coombes C Of E Primary School along the light trafficked School Road in a 14-minute walk of 4-minute cycle. The short, largely traffic-free route to school offers an excellent opportunity for children at the site to take up active modes of travel.

Route 8: PROW to Barkham Road

6.2.27 An alternative route to Barkham is available through the fields to the east of St James Church and arrives in Barkham via Edneys Hill. This PROW route can be accessed from the site via the east-west PROW route to the north of the site which arrives at Barkham Street. Pedestrians can cross the road and access Church Lane a short walk south. Pedestrian footways cover the junction radii of Church Lane beyond which point pedestrians walk along the quiet lane. The PROW extends beyond the Village Hall, pre-school and Church across the farmlands to Barkham.

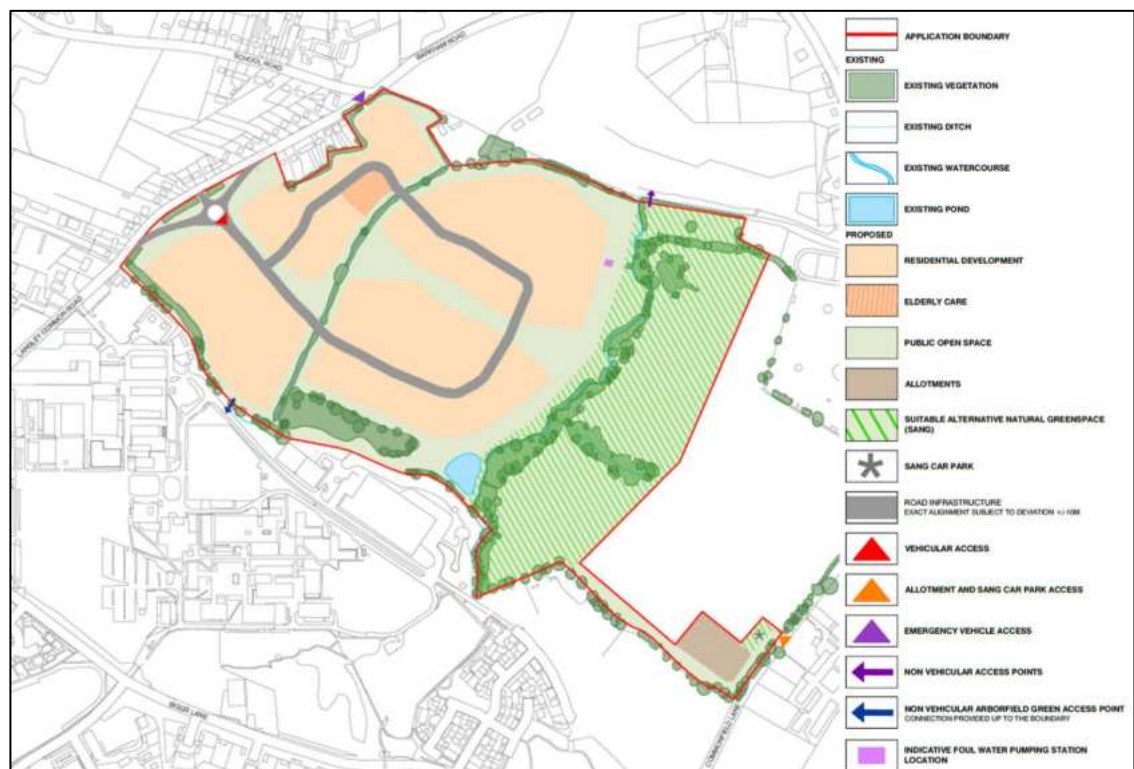
6.2.28 This route will be used as a leisure route for walkers and is suitable for this purpose with footways available at Barkham Road and good visibility for pedestrians crossing informally. St James' Church has services or community events most days of the week. Church Lane is a very lightly trafficked lane. The PROW goes through the church grounds, offering access to a point of interest for leisure walkers before using the PROWs.

Integrating into the Active Travel Network

6.2.29 The development of an integrated pedestrian/cycle network within the site is a key part of the sustainable transport vision for the development. Pedestrians are led to and from the site from a connection to the southern site boundary, facilitating movements between areas of existing and proposed residential development north of Biggs Lane. This will enable access to amenities within Arborfield Green and to the California Country Park Greenway to the east.

6.2.30 **Figure 6.2** shows an extract of the land use parameter plan, including the transport connections. A full size plan is included within **Appendix B**.

Figure 6.2 Land Use Parameter Plan Overview



6.2.31 The proposed main access roundabout on Langley Common Road will have footway crossing provision on all arms. A direct access onto the existing PROW is also proposed to the centre of the northern boundary. In addition, a connection is proposed to the southern boundary.

6.2.32 The proposals also include the extension of the linear park from Princess Marina Drive to the south of the development to the PROW BARK7 connection between Barkham Road and Barkham Street. This Linear Park extension will border the residential aspect of the development to the west and will offer a network of paths throughout. These will mainly be leisure routes but will also facilitate active travel trips through the site to access Barkham Road and School Road.

6.2.33 From the review, it is identified that the existing pedestrian and cycle crossing provision across Barkham Road between PROW BARK7 and School Road could be improved to facilitate safer access. The applicant would support a crossing provision at this location, which would complement and be in addition to the pedestrian and cycle enhancements at the site access.

6.3 Public Transport Strategy

6.3.1 Currently, the Leopard 3 offers a 15-minute service to Arborfield Green, routing from Reading, Shinfield, Arborfield Cross to Langley Common Road, Biggs Lane and then right to Princess Marina Drive southwards to Bohunt School. The Leopard 3 also offers a 30-minute service to Wokingham, Arborfield and Reading which has recently been increased from an hourly service.

6.3.2 Bus route 145 is a Tuesday morning service between Winnersh, Arborfield and Wokingham. It also extends to Eversely, Riseley and Spencers Wood.

6.3.3 A summary of the current Leopard 3 services is provided below:

- One service per hour between Arborfield and Reading;
- Two services per hour between Reading and Wokingham via Arborfield;
- One service per hour between Reading and Bracknell via Arborfield; and
- Daily services to Bohunt Secondary school.

6.3.4 There is existing good quality bus provision available within Arborfield Green which can be accessed within walking distance of the site, that provide connections to Reading, Wokingham, and other key regional destinations. There are opportunities to further improve bus accessibility by routing existing services along the route planned as part of the Arborfield Green development along Princess Marina Drive and Baston Road. From pre-application discussions, it is noted that Leopard 3 may not be routed along Princes Marina Drive in line with the planned service. There are alternative opportunities to route services along the Langley Common Road corridor.

SECTION 7 Trip Generation

7.1 Overview

7.1.1 This section details the trip generation methodology and calculations as set out in the scoping note with additional comparisons following feedback from WBC. The trip generation and impact assessment allows for up to 660 homes as well as assumption of 50 beds for elderly care.

7.1.2 The trip generation for the proposed development is based on trip rates derived from survey data of a built out and occupied section of the Arborfield Green development. To ensure robustness, these rates have then been compared to those obtained from the TRICS database at similar sites and residential trip rates calculated by WBC.

7.2 Proposed Trip Generation

7.2.1 To calculate the vehicle trip rates for the proposed development, an ATC survey has been undertaken for part of the existing Arborfield Green development. The ATC was undertaken for a two-week period from 20th June 2024 across the Oak Drive access, as shown in **Figure 7.1**. The raw data is included as **Appendix E**.

7.2.2 The survey captured arrival and departure vehicle movements from the following roads:

- Oak Drive
- Pear Tree Close
- Hornbeam Place
- Lime Grove
- Princes Marina Drive
- Sherman Avenue
- Fox Close
- Archer Grove

7.2.3 **Figure 7.2** shows the area captured which includes 250 dwellings.

Figure 7.1 Oak Drive ATC Location

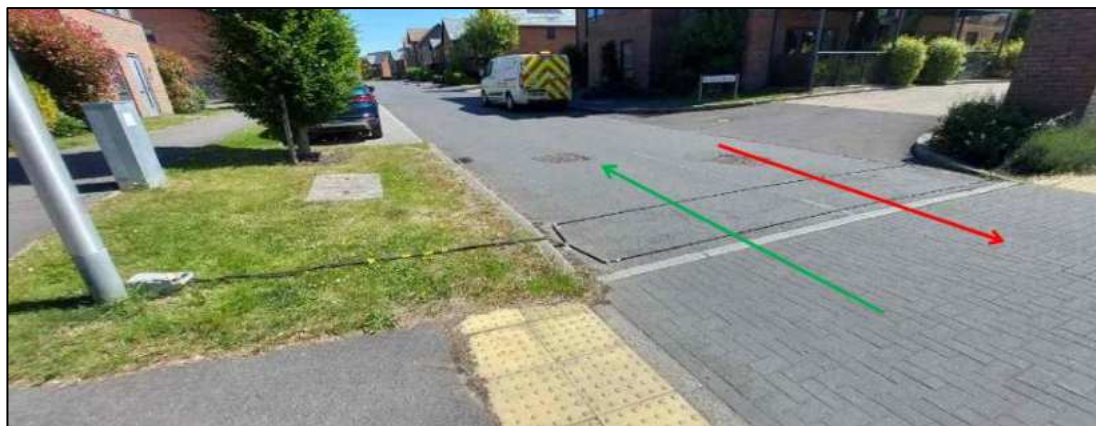


Figure 7.2 Oak Drive Survey Catchment



- 7.2.4** This provides a representative sample of the current vehicle movements generated from Arborfield Green. Not all the planned facilities and services have been delivered at Arborfield Green yet, therefore the vehicle trip generation is likely to reduce in future with more journeys made by active modes.
- 7.2.5** **Table 7.1** provides a summary of the surveyed AM peak, PM peak and daily (0700 – 1900) arrivals and departures. The subsequent trip rates have also been calculated based on the number of existing dwellings within the catchment area.

Table 7.1 Oak Drive Surveyed Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			Daily		
	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way
3-day Average (Tue to Thur)	52	111	163	84	51	135	551	588	1139
Trip Rate (per dwelling)	0.208	0.444	0.652	0.336	0.204	0.54	2.204	2.352	4.556

7.2.6 Although a robust baseline, the above trip rates are not fully reflective of the likely travel behaviour and vehicle movements associated with the development. In particular, the rates do not account for:

- Full delivery of facilities and services as part of Arborfield Green.
- Full operation of the bus route serving Arborfield Green.
- Borough wide initiatives to influence and reduce the need to travel (including MyJourney).

7.2.7 As mentioned in Section 3.2.2, the borough wide target of a 50% reduction in ICE private car milage set within WBC's CEAP, for reference, is split into the following:

- 33% from EVs registration;
- 5% from reduced travel;
- 2% from public transport increase; and
- 10% from active travel increase.

7.2.8 This includes a 17% reduction in vehicle movements. Although a 17% reduction from the 2024 surveyed baseline is likely to be ambitious, a 10% reduction is considered realistic to account for the points listed in paragraph 6.2.6. **Table 7.2** presents the adjusted vehicular trip rates accounting for a 10% reduction, as well as the proposed development trip generation based on 660 dwellings.

Table 7.2 Proposed Residential Trip Rates and Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			Daily		
	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way
Adjusted Trip Rate (per dwelling)	0.187	0.4	0.587	0.302	0.184	0.486	1.985	2.117	4.102
Trip Generation (660 dwellings)	123	264	387	199	121	320	1310	1397	2707

7.2.9 The above table demonstrates that the proposed development has the potential to result in up to 387 two-way vehicle movements in the AM peak, 320 in the PM peak and 2,707 across the day.

7.2.10 To determine the trip generation associated with the elderly care element, trip rates from surveys of similar sites have been obtained from TRICS using the following selection criteria:

- **Land use category:** Residential – Assisted Living;
- **Size range:** 20-79 dwellings (selected average 63);
- **Date range:** Only recent surveys since January 2021 were included;
- **Location:** Edge of Town locations were included.

7.2.11 The number of elderly care units has not been determined at this stage but for the purposes of the trip generation assessment, 50 have been assumed.

Table 7.3 Proposed Elderly Care Vehicle Trip Rates and Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			Daily		
	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way
Adjusted Trip Rate (per dwelling)	0.072	0.039	0.111	0.048	0.081	0.129	0.987	0.990	1.977
Trip Generation*	4	2	6	2	4	6	49	50	99

*Assumption of 50 dwellings to determine trip generation

7.2.12 As shown, the elderly care element of the development is expected to generate very low movements. **Table 7.4** below provides a summary of the total combined development vehicle trip generation.

Table 7.4 Total Proposed Development Vehicle Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)			Daily		
	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way
Total Trip Generation (660 dwellings + elderly care)	127	266	393	201	125	326	1359	1447	2806

Trip Generation Sense Check

7.2.13 To provide a sense check of the proposed trip rates a comparison against vehicular trip rates from TRICS and WBC trip rates has been undertaken, as requested following the pre-application.

TRICS Residential Trip Rates

7.2.14 Residential trip rates have been obtained from the TRICS database using the following parameters:

- **Land use category:** Residential - Privately Owned Houses;
- **Size range:** 500-800 dwellings;
- **Date range:** Only recent surveys since January 2016 were included (TRICS default), excluding surveys undertaken during Covid-19 restrictions; and
- **Location:** Edge of Town locations within the South East (excluding Greater London) and East Anglia were included.

7.2.15 **Table 7.5** presents the resultant total vehicle trip rates for the morning and evening peak hours for 660 privately owned houses, since the tenure mix is not yet known.

Table 7.5 TRICS Total Vehicle Trip Rates and Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)		
	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way
Trip Rate (per 1 dwells)	0.171	0.454	0.625	0.380	0.176	0.556
Trip Generation (660 dwellings)	113	300	413	250	116	366

Source: TRICS v.7.11.2

7.2.16 **Table 7.5** demonstrates that using trip rates for similar sites from TRICS, the proposed development has the potential to generate 413 two-way vehicle trips in the morning peak hour and 366 two-way vehicle trips in the evening peak hour.

WBC Residential Trip Rates

7.2.17 Another comparison has been made against the WBC residential trip rates set out in the Wokingham Strategic Transport Model 4 (WSTM4). The trip rates were derived using trip rates from similar sites in TRICS using the following criteria:

- **Regions:** South East (excluding Greater London), South West, East Anglia;
- **Dates:** since June 2013;
- **Survey days:** Monday, Tuesday, Wednesday, Thursday; and
- **Locations:** edge of town centre, suburban area, edge of town.

7.2.18 **Table 7.6** presents these trip rates along with the resultant trip generation for the proposed 660 dwellings.

Table 7.6 WBC Total Vehicle Trip Rates and Trip Generation

	AM Peak (0800-0900)			PM Peak (1700-1800)		
	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way
Trip Rate (per 1 dwells)	0.17	0.41	0.58	0.36	0.16	0.52
Trip Generation (660 dwellings)	112	270	382	238	106	343

Source: Table 5, WSTM4 Highway Model Forecasting Methodology

7.2.19 The above demonstrates that based on WBC trip rates, the proposed development has the potential to generate up to 382 two-way vehicle movements in the morning peak hour and 343 two-way vehicle movements in the evening peak hour.

7.2.20 **Table 7.7** compares the trip generations calculated using TRICS and WBC trip rates to the proposed trip generation derived from survey data plus a 10% reduction.

Table 7.7 Comparison of Vehicle Trip Generations

	AM Peak (0800-0900)			PM Peak (1700-1800)		
	Arr.	Dep.	2-Way	Arr.	Dep.	2-Way
A) Proposed Trip Generation	127	266	393	201	125	326
B) Trip Generation using TRICS Trip Rates	113	300	413	250	116	366
<i>Difference between A and B Trip Generations</i>	+14	-34	-20	-49	+9	-40
C) Trip Generation using WBC Trip Rates	112	270	382	238	106	343
<i>Difference between A and C Trip Generations</i>	+15	-4	+11	-37	+19	-17

Source: Table 7.5 and Table 7.6 and Consultant calculations.

7.2.21 Based on the above table, the proposed trip rates/generation are robust. Overall, they are slightly lower than TRICS and WBC trip rates but within realistic range. This is expected for the reasons as set out in paragraphs 7.2.6 and 7.2.7 and as discussed during pre-application.

7.3 Multi-modal Trip Generation

7.3.1 Using the mode share obtained from Census data (**Table 4.1**) and the proposed vehicle trip generation (**Table 7.2**), a multi-modal trip generation assessment has been undertaken for the proposed development.

7.3.2 This is a worst-case assessment in that it assumes there is no reduction in travel and instead the full 10% reduction in vehicle trips is redistributed to other modes. The 10% is redistributed across walking, cycling and bus use since these are the modes that are likely to be most positively influenced by the proposed development and the full build out of Arborfield Green.

7.3.3 **Table 7.8** below summarises the multi-modal assessment.

Table 7.8 Adjusted Multi-Modal Trip Generation Assessment

Travel Modes	Census Mode Share	Adjusted Mode Share	Number of Two-Way Trips	
			AM Peak	PM Peak
Car Driver or Passenger	78%	68%	393	326
On foot	10%	12%	69	58
By Bicycle	5%	9%	52	43
Train	4%	4%	23	19
Bus	2%	6%	35	29
Motorcycle	1%	1%	6	5
TOTAL	100%	100%	578	480

7.3.4 The above table demonstrates that there could be up to 69 two-way walking trips, 52 two-way cycling trips and 35 two-way bus trips to/from the site. The remainder of the mode share is made up of 23 two-way train trips and 6 two-way motorcycle trips.

7.4 Summary

7.4.1 The proposed development of around 660 dwellings and elderly care is estimated to generate:

- Up to 393 two-way vehicle movements in the morning peak hour;
- Around 326 two-way vehicle movements in the evening peak hour; and
- 2,806 two-way vehicle movements across a 12-hour day.

7.4.2 This trip generation accounts for a 10% reduction in private vehicle trips to assist with WBC's Climate Action Plan target of reducing ICE vehicle mileage by increasing the use of sustainable travel modes.

7.4.3 When applying Census mode share data to the trip generation, as well as the vehicle trips during the peak hours there could be up to:

- 69 two-way walking trips;
- 52 two-way cycling trips; and
- 35 two-way bus trips.

SECTION 8 Transport Impact Assessment

8.1 Overview

8.1.1 A modelling methodology has been developed to suitably assess the potential highway impacts of the development. This is set out within the Strategic Model Scoping Note which was prepared and agreed with WBC as part of pre-application.

8.1.2 This section provides a summary of the proposed approach to assessing the highway network impacts. Modelling of the access junction has also been undertaken and is included.

8.2 Model Scenarios

8.2.1 The development is expected to commence in 2027, with an 8-year build programme. Completion and occupation of the site is therefore expected to occur in 2035. Only 2032 and 2040 years are available for the strategic model, therefore 2040 has been assessed for future scenarios.

8.2.2 The following strategic model scenarios have been assessed:

- 2040 – Do Minimum (background growth not accounting for local plan or infrastructure).
- 2040 – Do Something without Development (providing local plan growth and distribution).
- 2040 – Do Something with Development (providing distribution for development trips).

8.2.3 The AM peak (08:00 – 09:00) and PM peak (17:00 – 18:00) hours are assessed.

8.3 Model Study Area

8.3.1 The model study area has been determined from the strategic model outputs. As set out within the SMSN as agreed with WBC, the following junction have been modelled:

- B3349 / Site Access;
- B3349 / Biggs Lane Roundabout;
- B3349 / Eversley Road Roundabout;
- A321 / Observer Way / Eversley Road Roundabout;
- B3349 Barkham Road / Barkham Street Roundabout; and
- B3349 Barkham Road / Bearwood Road.

8.4 Strategic Model

8.4.1 WBC maintains a Wokingham Strategic Highways Model (VISUM) based on surveyed traffic data that represents an average weekday (Tuesday to Thursday). The following model outputs have been exported for the proposed development:

- Actual and Demand Flow
- Junction Turning Flow
- Delay
- Level of Service

8.4.2 The following figures demonstrate the inbound and outbound Development trips distributing across the local network as outputted from the Strategic Model.

Figure 8.1 Morning peak hour development flows (left: inbound, right: outbound)

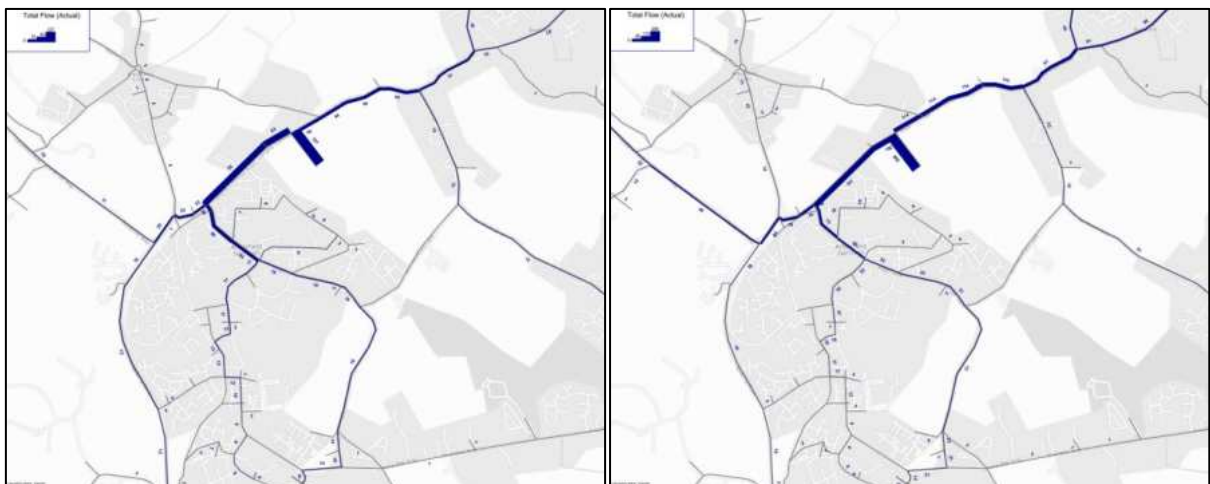


Figure 8.2 Evening peak hour development flows (left: inbound, right: outbound)



- 8.4.3 This demonstrates that the trips quickly dissipate across the network, with most routing west along the Langley Common Road corridor. The implications of the development trips on the junctions along the Langley Common Road corridor are detailed in the following section which presents the results of the individual junction modelling assessment.
- 8.4.4 The following figures show the impacts of the development on delay across the local road network.

Figure 8.3 Morning peak hour change in delay

