PROPOSED MIXED-USE RESIDENTIAL-LED DEVELOPMENT LAND AT MERCER ROAD, HORSHAM, WEST SUSSEX

Transport Assessment

December 2024

Proposed Mixed-use Residential-led Development

Land at Mercer Road, Horsham, West Sussex

Transport Assessment

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Contents

List of Tables

List of Figures

List of Appendices

1.0 INTRODUCTION

1.1 Appointment of Connect Consultants

1.1.1 Connect Consultants Limited is a firm of transport planning and highway design consultants that have been instructed in relation to a proposed mixed-use residential-led development on land at Mercer Road, Horsham, West Sussex.

1.2 Site Location

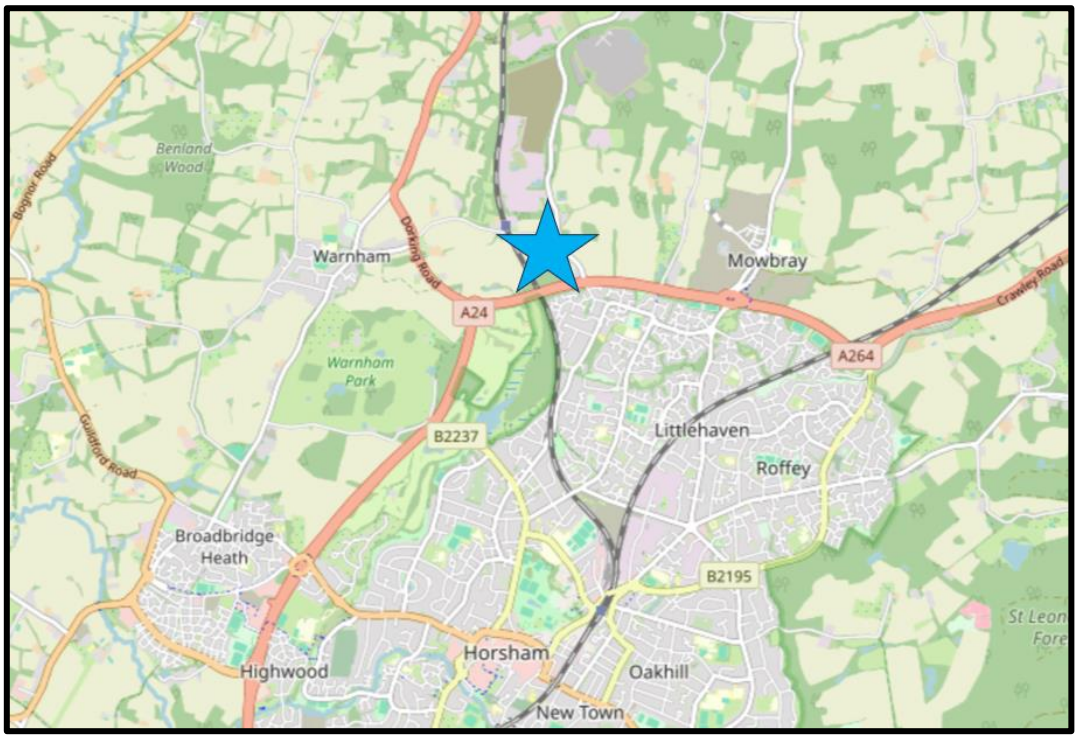
1.2.1 The proposal site (herein referred to as 'the Site') is located on a parcel of land on the northern side of the town of Horsham, West Sussex. The Site is currently occupied by undeveloped agricultural land.

1.2.2 The Site is located adjacent to a consented strategic urban extension development, known as the 'Land North of Horsham Development' (see Section 1.3 for further details).

1.2.3 The Site is bound to the north by the Warnham Brickworks, to the east by Langhurst Wood Road, to the south by the A264 and to the west by a railway line.

1.2.4 The location of the Site is shown at Figure 1.1 below.

Figure 1.1 – Site Location Plan



Source: OpenStreetMap.org. N.B. Site location indicated by blue star.

1.2.5 The Site is located on the northern edge of Horsham, with a small number of residential dwellings in close proximity.

1.2.6 Figure 1.2 below identifies the context of the Site in relation to the local area.

Figure 1.2 – Site in its Local Context

Source: Google Earth. The Site is indicated by the red boundary and the Land of North Horsham Development is indicated by the orange boundary.

1.3 Planning Background

1.3.1 As aforementioned, the Site is located adjacent to the consented 'Land North of Horsham Development', herein referred to as the 'North Horsham Development'.

1.3.2 The North Horsham Development sought permission for an *'outline planning application with all matters reserved except access for a mixed use strategic development to include housing (up to 2,750 dwellings), business park (up to 46,450m^2), retail, community centre, leisure facilities, education facilities, public open space, landscaping and related infrastructure'.*

1.3.3 Planning permission was granted by Horsham District Council on 1st March 2018 (local authority reference: DC/16/1677).

1.3.4 The North Horsham Development has been subject to numerous planning variations, the most recent being permitted by HDC in October 2024.

1.3.5 Phase III of the North Horsham Development will be the final phase of the development and is expected to be complete in *'years 10-15'* of development construction.

1.3.6 The proposed development at Pondtail Farm will ultimately be accessed via the future road network of the North Horsham Development. However, the proposed development will be delivered before the future road network is constructed, therefore, the plans include an interim access arrangement via an upgraded signal-controlled junction at the Langhurst Wood Road / A264 junction.

1.3.7 As the proposed Pondtail Farm development will integrate with the North Horsham Development, especially in terms of highway works, this assessment will follow a similar methodology to that of the North Horsham Development.

1.4 Development Proposals

1.4.1 The development proposals are shown on the plan provided at Appendix 1.

1.4.2 The proposal is for a mixed-use residential-led development to provide 304 residential dwellings, a small convenience store of 190sqm Gross Floor Area (GFA) and a car park comprising 50 spaces to serve Warnham train station.

1.4.3 The 304 residential dwellings comprise the following composition: -

- 52 private flats, of which 25 will have one bedroom and 27 will have two bedrooms
- 13 affordable flats, of which 10 will have one bedroom and 3 will have two bedrooms
- 222 private houses, of which 60 will have two bedrooms, 107 will have three bedrooms and 55 will have four bedrooms.
- 17 affordable houses, of which 10 will have two bedrooms, 7 will have 3 bedrooms and 3 will have four bedrooms.
- This equates to a total of 65 flats and 239 houses.

1.4.4 A brief description of the proposed access arrangements is set out below, which are also shown on the site layout plan at Appendix 1:-

- The Site will be accessed via four new priority junctions; three on Mercer Road and one on Langhurst Wood Road.
- A non-vehicular access (except for emergency vehicles) is proposed at the southeastern corner of the Site onto Langhurst Wood Road. This junction will provide access for pedestrians and cyclists.
- A new footway is proposed on Langhurst Wood Road.

1.4.5 The final site access arrangements include the stopping up of the A264 / Langhurst Wood Road junction so that the only point of access to the proposed development is via the Mercer Road / Langhurst Wood Road roundabout, which forms part of the North Horsham Development highway network.

1.4.6 The Local Planning Authority is Horsham District Council (HDC); the Local Highway Authority is West Sussex County Council (WSCC).

1.4.7 The applicant has been engaged in ongoing pre-application consultation with both HDC and WSCC over a number of years, starting in 2018, with the most recent taking place in May 2024.

1.4.8 The proposal and this report have been guided by the pre-application advice received.

1.5 National and Local Transport Planning Policy

National Planning Policy Framework (NPPF), December 2023

1.5.1 The National Planning Policy Framework (NPPF) was first published on the 27th March 2012. A revised NPPF was published on 12th December 2024. It sets out the Government's planning

policies for England and sets out a framework for local authorities to produce their own local plans.

1.5.2 The key purpose of the NPPF is to contribute to the achievement of sustainable development. It sets out three overarching interdependent objectives as, a) an economic objective, b) a social objective, and c) an environmental objective.

1.5.3 At its heart, the NPPF maintains its presumption in favour of sustainable development.

1.5.4 Paragraphs 115 – 118 address how development proposals are to be considered:

> *"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; and*
>
> *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, 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 transport statement or transport assessment so that the likely impacts of the proposal can be assessed and monitored."

West Sussex Transport Plan 2022-2036

1.5.5 The West Sussex County Council document titled 'West Sussex Transport Plan 2022 – 2036', also known as WSTP, was adopted in April 2022 and sets out the overarching strategy for transport in the county of West Sussex.

1.5.6 Section 3.1 of the WSTP establishes a vision for transport in West Sussex, which is as follows:

"A West Sussex transport network in 2036 that works for communities in the Coastal West Sussex, Gatwick Diamond and Rural West Sussex economic areas by helping to address the spatial economic challenges of the County, level up the coastal economy and provide access to employment and services countywide.

The transport network will be on a pathway to achieve net zero carbon emissions by 2050 through more local living, increased use of electric vehicles and reduced use of fossil-fuels. It will also be safer, more efficient and resilient overall with more walking, cycling and use of public or shared transport and less congestion on major routes that connect West Sussex towns with Gatwick Airport, London and nearby cities.

The transport network will connect communities and allow residents to live healthy lifestyles with good access to the West Sussex coast and the protected South Downs, High Weald and Chichester Harbour.

Active travel modes, public or shared transport will be more attractive options inbuilt up areas and between towns, and rural communities will have access to the services they need.

Transport impacts such as air pollution, noise and rat-running on adjacent communities and the environment will be minimised to protect a quality of life that reflects the characteristics of the County."

1.5.7 Section 6 of the WSTP identifies the thematic transport strategies and priorities. The strategies and associated objectives relating to sustainable travel and the road network are set out below: -

"1. Active Travel Strategy

Our active travel strategy is intended to address the needs of pedestrians, cyclists, equestrians, persons of reduced mobility and micro-mobility solutions which are emerging and may become more prominent during the life of the Plan. As most journeys in West Sussex are short distance, the strategy aims to increase use of active travel modes, particularly cycling and other emerging micro-mobility solutions by helping to overcome the infrastructure and skills barriers to using active travel modes.

The relevant transport objectives are:

Objective 11: Reduce the need to travel by car by enabling local living.

Objective 17: Extend and improve the network of active travel facilities so it is coherent and high quality enough to make active travel an attractive, safe option for short distance trips and to transport interchanges.

2. Shared Transport Strategy

Our shared transport strategy is intended to set out our approach to buses, community transport and mobility solutions which are emerging and may become more prominent during the life of the Plan. As most journeys in West Sussex are short distance, the strategy aims to make shared transport services a more attractive choice by providing a high quality of service. Shared transport also plays an important role in meeting the needs of those who do not have access to or do not wish to travel by car.

The relevant transport objectives are:

Objective 11: Reduce the need to travel by car by enabling local living.

Objective 15: Improve bus network efficiency and integration by reducing the effects of congestion into and within West Sussex towns, particularly where there are gaps in the rail network.

Objective 16: Ensure the bus network is customer focussed and integrated with other modes of transport to provide an attractive option for journeys to nearby towns.

3. Road Network Strategy

Travel behaviour in West Sussex is currently dominated by fossil fuel propelled car travel and in recent years, car ownership has been increasing. In the absence of viable and attractive alternatives, which are not currently available everywhere, this is expected to be the case over the Plan period, so we must plan for this. However, this does not mean planning for unmanaged traffic growth as this could exacerbate challenges. It means planning positively to minimise traffic growth through a 'vision-led' approach to design rather than designing to cater for forecast traffic growth or overproviding capacity which would have negative impacts on carbon emissions. It also means planning positively to reduce the impacts of vehicle use and using demand management measures; e.g. parking controls, in constrained areas.

The relevant transport objectives are:

Objective 11: Reduce the need to travel by car by enabling local living.

Objective 12: Improve the efficiency of the CSRN, particularly east-west routes including the A27, through targeted improvements to address congestion, pollution, rat-running and road safety issues on strategic or local routes.

Objective 15: Improve bus network efficiency and integration by reducing the effects of congestion into and within West Sussex towns, particularly where there are gaps in the rail network.

Objective 17: Extend and improve the network of active travel facilities so it is coherent and high quality enough to make active travel an attractive, safe option for short distance trips and to transport interchanges."

1.5.8 Section 5 of the WSTP establishes transport strategies for different areas within West Sussex; section 5.5 relates to Horsham and includes the following transport strategies (which are listed in no particular order): -

1. *"Deliver improvements largely within existing highway land to provide bus priority at signal-controlled junctions;*
2. *Deliver small scale 'tactical' highway improvements on the A24 and A264 as development comes forward in advance of strategic improvements in the medium and long term depending on the development strategy;*
3. *Facilitate the introduction of on-street electric vehicle charging infrastructure, initially in Horsham, Billinghurst, Southwater, Colgate and Rusper followed by other areas;*
4. *Prioritise active travel modes where development takes place;*
5. *Increase space for active travel through infrastructure improvements on priority routes;*
6. *Deliver Air Quality Action Plans in Storrington and Cowfold;*
7. *Give greater priority to shared transport services on strategically important corridors in the medium term;*
8. *Investigate an integrated approach to resolving capacity issues on the A264;*
9. *Consult on removing a section of the A272 from the PRN;*
10. *Tackle use of inappropriate rural routes using behavioural initiatives; and*
11. *Work with strategic partners to improve rail services to London and along the Arun Valley Line in the long term."*

Emerging Horsham Local Plan

1.5.9 At the time of writing, an emerging Local Plan is being prepared and is currently in the Regulation 19 phase. The new local plan is expected to be adopted by HDC in May 2025.

1.5.10 The Site is included within the draft plan as a potential allocation site for residential development.

Horsham District Planning Framework (HDPF) 2015 – 2031

1.5.11 At the time of writing, the HDPF is the most recent Local Plan document. As aforementioned, a new Local Plan is being prepared.

1.5.12 HDC adopted the Horsham District Planning Framework (HDPF) in November 2015. The HDPF serves as the overarching planning document for the district of Horsham.

1.5.13 Section 3.5 of the HDPF sets out a vision for the District of Horsham, which is as follows: -

> *"A dynamic district where people care and where individuals from all backgrounds can get involved in their communities and share the benefits of a district that enjoys a high quality of life."*

1.5.14 Section 3.12 sets out a vision relating to transport infrastructure, which is provided below: -

"The transport infrastructure, especially public transport, is continually improved to offer a high quality, reliable and frequent service and communication facilities are developed to support a sustainable, resilient economy with opportunities for living and working communities including opportunities for people to live close to where they work. Opportunities for non-car based transport including walking and cycling and community transport services will be supported."

1.5.15 Policy 40 concerns sustainable transport and states that development will be supported if it:

1. *"Is appropriate and in scale to the existing transport infrastructure, including public transport.*
2. *Maintains and improves the existing transport system (road, rail, cycle).*
3. *Is integrated with the wider network of routes, including public rights of way and cycle paths.*
4. *Includes opportunities for sustainable transport which reduce the need for major infrastructure and cut carbon emissions.*
5. *Is located in areas where there are, or will be a choice in the modes of transport available.*
6. *Minimises the distance people need to travel and minimises conflicts between traffic, cyclists and pedestrians.*
7. *Delivers better local bus and rail services in partnership with operators and increasing opportunities for interchange between the public transport network and all other modes of transport.*
8. *Develops innovative and adaptable approaches to public transport in the rural areas of the district.*
9. *Provides safe and suitable access for all vehicles, pedestrians, cyclists, horse riders, public transport and the delivery of goods.*
10. *Is accompanied by an agreed Green Travel Plan where it is necessary to minimise a potentially significant impact of the development on the wider area or as a result of needing to address an existing local traffic problem."*

1.6 Car Parking Policy

1.6.1 NPPF Chapter 9 *Promoting sustainable transport* sets out at paragraph 112 that,

"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."

1.6.2 Paragraph 113 states,

> *"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."*

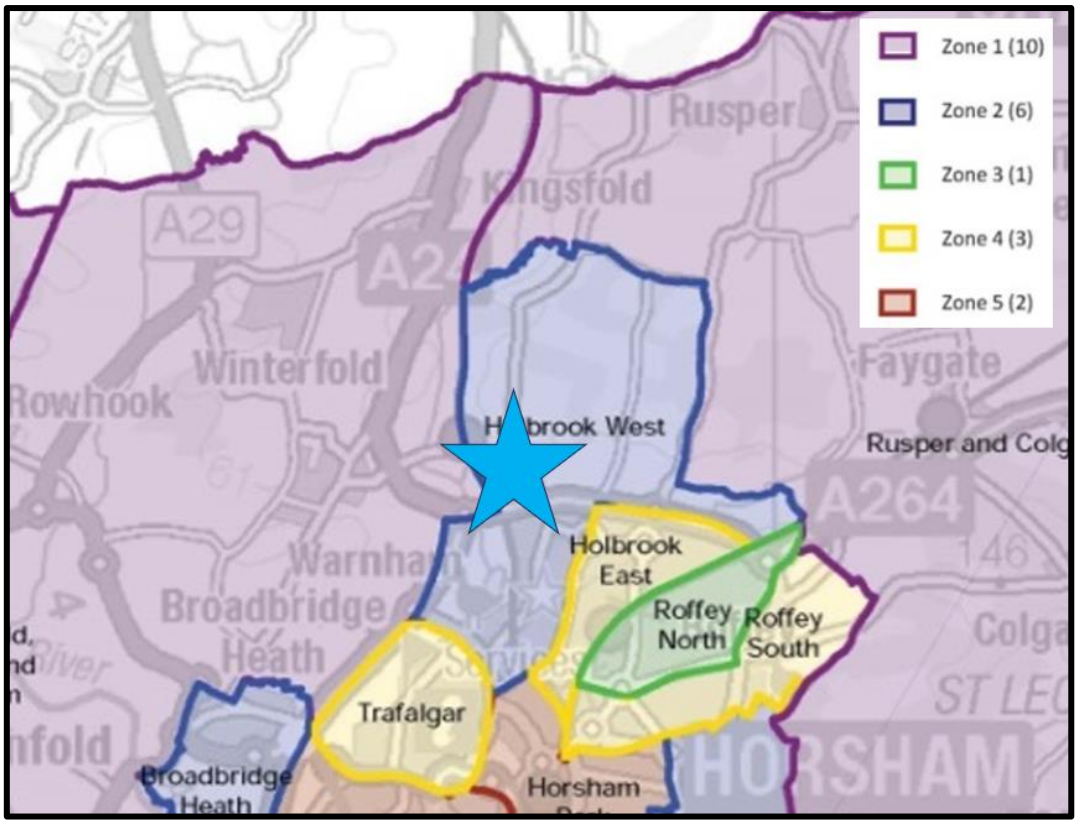
Adopted Local Parking Standards

1.6.3 The parking standards applicable to the proposed development can be found at Table 2 of Section 5 in the WSCC document titled 'Guidance on Parking at New Developments', which was adopted in September 2020.

1.6.4 The WSCC parking standards for residential developments are based on 'Parking Behaviour Zones (PBZs)'. The PBZs differ between West Sussex Districts and are found at Appendix A of the WSCC Guidance on Parking at New Developments document.

1.6.5 An extract of the PBZs for the 'Horsham District', including the Site location, is provided at Figure 1.3 below.

Figure 1.3 – PBZs for Horsham District



Source: WSCC Guidance on Parking at New Developments, September 2020.

1.6.6 As indicated at Figure 1.3 above, the Site is located within Zone 2. The parking standards for residential developments within Zone 2 of the Horsham District are shown at Figure 1.4 below.

Figure 1.4 – Parking Standards for Residential Developments within Zone 2

Table 2: Residential Parking Demand (spaces per dwelling)

Number of Bedrooms	Number of Habitable Rooms	PBZ1	PBZ2	PBZ3	PBZ4	PBZ5
1	1 to 3	1.5	1.4	0.9	0.9	0.6
2	4	1.7	1.7	1.3	1.1	1.1
3	5 to 6	2.2	2.1	1.8	1.7	1.6
4+	7 or more	2.7	2.7	2.5	2.2	2.2

Source: WSCC Guidance on Parking at New Developments, September 2020.

1.6.7 The WSCC parking guidance states that the values provided in Figure 1.4 above include provision for electric vehicles.

1.6.8 The WSCC Guidance on Parking at New Developments advises that *"developers should take an approach that is consistent with national research".* The national research suggests the following: -

> *"That no special provision should be made for visitors where at least half of the parking provision associated with the development is unallocated. In all other circumstances it may be appropriate to allow for additional demand for Visitor parking of 0.2/spaces per dwelling."*

1.6.9 The above guidance equates to 20% provision for visitor parking.

1.6.10 For the proposed retail store, one space per 14sqm is required.

1.7 Report Overview

1.7.1 The remainder of this report is divided into five further sections, which are as follows: -

Section 2.0 Site Transport Context

1.7.2 This section of the report provides details of the Site context, including its accessibility by all relevant transport modes.

Section 3.0 Proposed Development

1.7.3 The various components of the development proposal, including the Site access arrangements and parking provision, are described within this section of the report.

Section 4.0 Traffic Assessment

1.7.4 This report section provides an assessment of the vehicular attraction of the proposed development and its traffic effects.

Section 5.0 Junction Capacity Assessment

1.7.5 The results of the traffic assessment have been used to inform junction capacity assessment, and the methodology and results are outlined in this section of the report.

Section 6.0 Summary and Conclusions

1.7.6 A summary and the conclusions of the report are provided in this section.

2.0 SITE TRANSPORT CONTEXT

2.1 Introduction

2.1.1 This section of the report considers the accessibility of the Site in terms of a range of transport modes.

2.2 Pedestrian Access

2.2.1 The Department for Transport's (DfT) document titled 'Manual for Streets' dated 2007 provides guidance in relation to walk distances. Section 4.4 gives the following advice:-

> *"Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800 m) walking distance of residential areas which residents may access comfortably on foot".*

2.2.2 The CIHT document 'Planning for Walking' (April 2015) reiterates the advice presented in 'Manual for Streets', Section 6.4 of 'Planning for Walking' states the following:

> *"Walking neighbourhoods are typically characterised as having a range of facilities within 10 minutes' walking distance (around 800 metres). However, the propensity to walk or cycle is not only influenced by distance but also the quality of the experience; people may be willing to walk or cycle further where their surroundings are more attractive, safe and stimulating. Developers should consider the safety of the routes (adequacy of surveillance, sight lines and appropriate lighting) as well as landscaping factors (indigenous planting, habitat creation) in their design."*

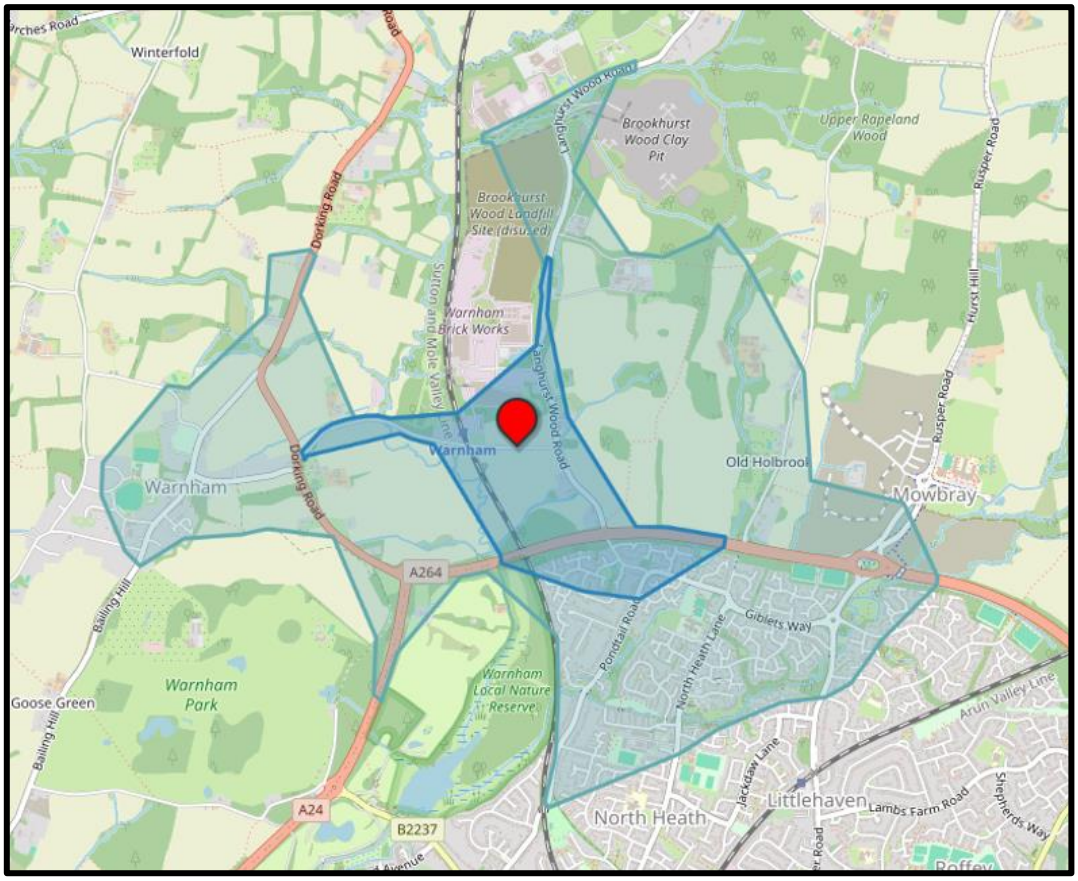
2.2.3 Furthermore, 'Planning for Walking' indicates that approximately 80% of journeys shorter than 1 mile (1.6km) are made wholly on foot.

2.2.4 Table 3.2 of The Institute of Highways and Transportation (IHT) guidance document titled 'Providing for Journeys on Foot' identifies a maximum walk distance of 2.0km for commuter, school and sightseeing walk trips, 800m for town centre walk trips and 1.2km for trips elsewhere.

2.2.5 The actual distance that people will be prepared to walk will vary depending on the trip purpose and other factors such as the presence of road crossings, terrain, and the attractiveness of the environment. For retail trips, the likely maximum walk distance is 800m due to the fact that shoppers will be carrying bags on their return journey, while for work-based / commuting trips, people are likely to be prepared to walk further.

2.2.6 Indicative walking catchments of the Site are shown at Figure 2.1 below. These have been shown as 1km and 2km isochrones.

Figure 2.1 – Indicative 1km and 2km Walking Catchments



Source: Openrouteservice.org. The red icon indicates the location of the proposed site accesses.

2.2.7 The walk catchments above indicate that the northern parts of Horsham and the eastern part of Warnham are within walking distance. While Warnham Brickworks are also within walking distance, there is no footway provision on Langhurst Wood Road.

2.2.8 The proposed development includes a new footway on the west side of Langhurst Wood Road between the Site and the A264, including signal-controlled crossing facilities, providing a pedestrian route between the Site and north Horsham.

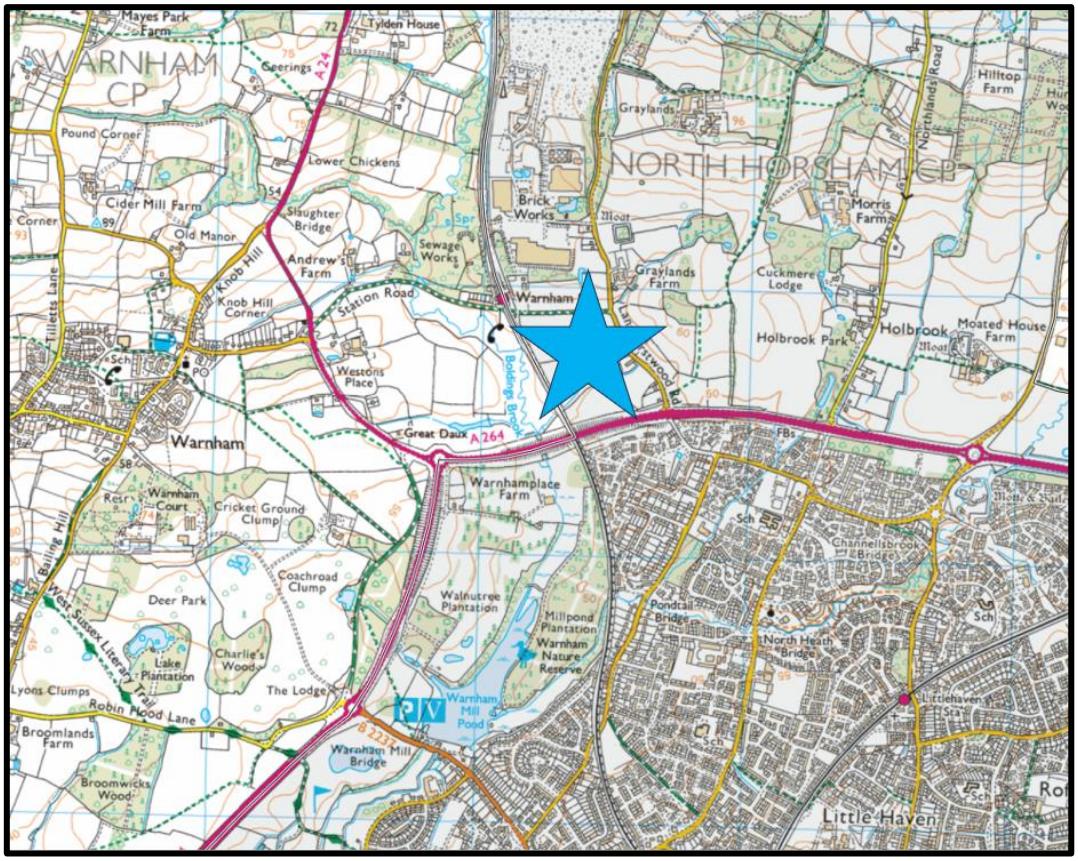
2.2.9 Warnham train station is located adjacent to the western boundary of the Site, thereby providing a non-car travel option for future residents of the Site.

2.2.10 The proposal includes a convenience retail store, so residents of the proposed development will be within walking distance of their nearest food shop.

2.2.11 In the future, the North Horsham Development will provide employment opportunities and pedestrian infrastructure, and residents of the Site will be able to walk to the North Horsham Development's business park as well as leisure, education and retail facilities.

2.2.12 As shown in Figure 2.2, there are a number of footpaths and rights of way within the vicinity of the Site. These provide a range of walking routes within the local area for the future residents of the proposed development.

Figure 2.2 – Local Footpaths and Public Rights of Way



Source: Bing / Ordnance Survey. N.B. The proposal site is denoted by a blue star.

2.2.13 The Horsham area provides a range of facilities and amenities within walking distance of the Site. Table 2.1 lists a number of key local destinations along with their approximate walk distance from the Site.

Table 2.1 – Local Facilities Summary

Destination	Walk distance from the Site	Type
Warnham Train Station	Adjacent to the proposal site	Transport
Warnham Brickworks	Adjacent to the proposal site	Employment
Horsham Bowling Club	800m	Leisure
Holbrook Primary School	1.1km	Education
The Sussex Oak Pub	1.5km	Leisure
St Mark's Church	1.5km	Leisure
The Holbrook Club	1.6km	Leisure
Holbrook Surgery and The Bartholomew Clinic	1.8km	Healthcare
North Heath Lane Industrial Estate	1.8km	Employment
Shelley's Budgens and Sub Post Office	1.8km	Retail
Bohunt Horsham	2km	Education

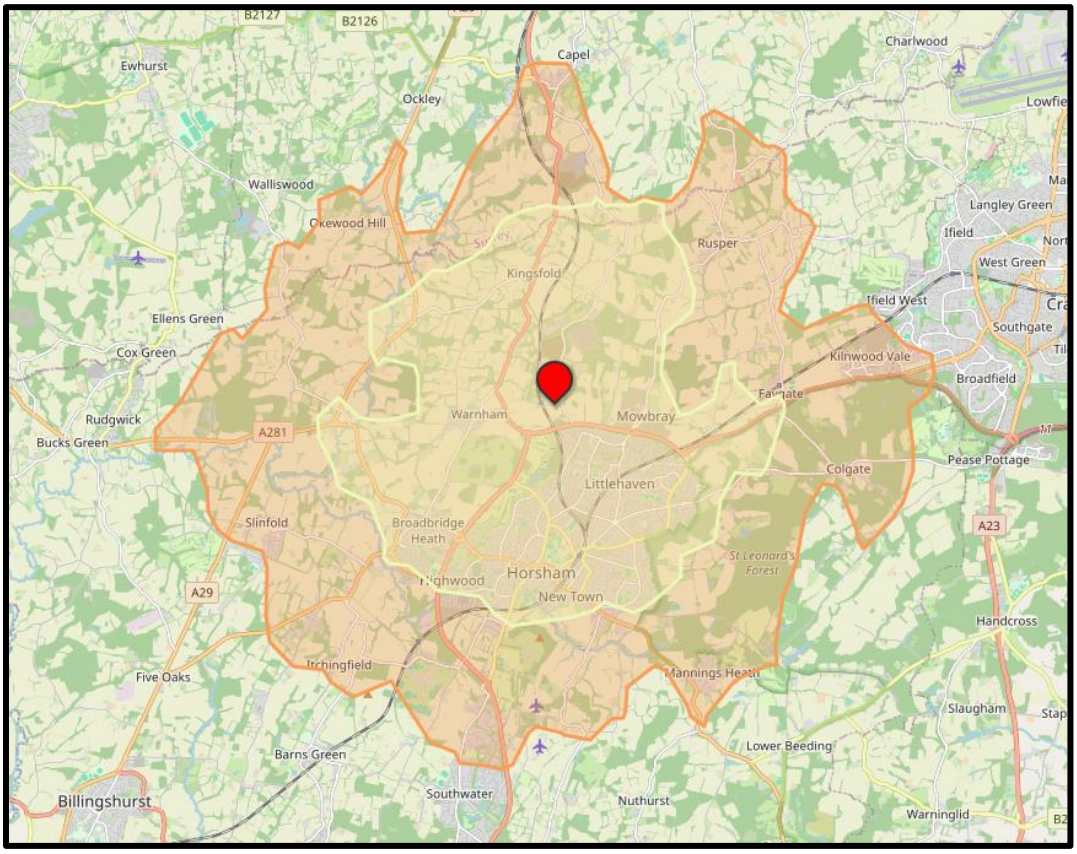
2.2.14 In light of the local pedestrian facilities, the Site is connected to the local pedestrian network with opportunities for residents to make trips by foot.

2.3 Access by Cycling

2.3.1 The 2023 National Travel Survey table NTS0303 identifies average journey lengths by cycle in England of c.4.8km. The CIHT document titled 'Planning for Cycling' (October 2014) indicates that 80% of cycling trips are up to five miles (8km) and 40% are less than two miles (3.2km). This suggests that cycling can offer an alternative to car travel particularly for trips of less than 8km.

2.3.2 Indicative cycle catchments are shown at Figure 2.3 below, being a 5km catchment (representing the 4.8km NTS average cycling distance) and an 8km catchment (being the distance of 80% of cycle trips).

Figure 2.3 – Cycle Catchment Area



Source: Openrouteservice.org. N.B. the red icon indicates the Site location. The yellow area represents the 5km cycle catchment and the orange area represents the 8km cycle catchment.

2.3.3 The 5km cycle catchment includes all of Horsham, Littlehaven, Mowbray, Broadbridge Heath, Warnham and Kingsfold. The 8km cycle catchment, in addition to the aforementioned locations, includes Faygate, Colgate, Rusper, Okewood Hill, Slinfold, Itchingfield, Mannings Heath and Kilnwood Vale, as well as parts of Southwater, Bewbush and Capel. There is therefore a significant range of destinations within cycling distance of the Site.

2.3.4 The proposed development includes on-road cycle-route markings on Langhurst Wood Road between the Site and proposed signal-controlled crossing facilities over the A264, providing a route between the Site and Horsham.

2.3.5 The proposal includes a convenience retail store, so residents of the proposed development will be within cycling distance of their nearest food shop.

2.3.6 In the future, the North Horsham Development will provide employment opportunities and residents of the Site will be able to cycle to the North Horsham Development's business park as well as leisure, education and retail facilities.

2.3.7 There are realistic and viable opportunities for residents and employees of the convenience store to make trips by cycling.

2.4 Access by Bus

2.4.1 The publication 'Planning for Public Transport in Developments' produced by the Institution of Highways and Transportation (IHT) specifies that new developments should be located within 400m of the nearest bus stop, albeit it longer walk distances are common.

2.4.2 The nearest bus stop to the Site is the 'Quarterbrass Farm Road' bus stop, located on Pondtail Road. The bus stop is c.565m walking distance from the Site. The bus stop is indicated by a flag-and-pole and benefits from timetable information.

2.4.3 Further bus stops (known as the 'Holbrook Corner' bus stops) are located on North Heath Lane, c.915m walk distance from the site. The southbound bus stop is indicated by a flag-and-pole and benefits from timetable information.

2.4.4 Additional bus stops are provided on North Heath Lane adjacent and opposite to St Mark's Lane, which are c.1.1km walk distance from the Site. Both bus stops are indicated by a flag-and-pole and benefit from timetable information.

2.4.5 The bus stops and the likely walking routes to/from the Site are shown at Figure 2.4 below.

Figure 2.4 – Bus stop locations

Source: Google. N.B All Distances, Locations and Areas approximate.

2.4.6 Table 2.2 below summarises the routes that serve the above bus stops, showing that there are regular buses within the local area.

Table 2.2 – Bus Service Details

Service	Bus Stop	Route	Approximate Peak Frequency / Period		
			Monday - Friday	Saturday	Sunday
61	North Heath opp Quarterbrass Farm Road	Wimblehurst Road to Horsham Bus Station	Every hour between 09:25 and 14:26, then one at 17:06	Once an hour between 09:26 and 17:25	No Service
89	North Heath opp Quarterbrass Farm Road	Horsham – Cuckfield	07:35, 10:51, 13:06, 16:30	No Service	No Service
200	North Heath Holbrook Corner (E-bound)	Gatwick Airport – Bewbush via Crawley and Horsham	Every hour between 01:17 and 06:58, then every 30 minutes between 06:58 and 19:54, then every hour until 00:17	Every hour between 01:17 and 08:02, then every 30 minutes between 08:43 and 18:16, then every hour until 00:16	Every hour between 01:17 and 00:17
200	North Heath Holbrook Corner (S-bound)	Bewbush to Gatwick Airport via Crawley and Horsham	Every hour between 00:56 and 06:33 then every 30 minutes between 06:33 and 20:57, then every hour between 20:57 and 23:56	Every hour between 00:56 and 07:35, then every 30 minutes between 08:11 and 17:46, then every hour between 17:46 and 23:56	Every hour between 00:56 and 23:56
71	North Heath Lane adj St Mark's Lane	Horsham Bus Station to Mowbray, Bohunt School	Every 45 minutes to an hour	Every hour	No Service

2.4.7 In the future, as part of the North Horsham Development it is intended that the 51 and 61 bus services will be diverted into the development. The new routes are expected to operate closer to the proposed development and more frequently than the existing routes, thereby providing further opportunities for residents of the proposed development to travel via public transport.

2.4.8 Having regard to the frequency of buses and the areas that the existing local buses serve, the Site is accessible by public transport.

2.5 Access by Rail

2.5.1 Warnham train station is located adjacent to the Site to the west.

2.5.2 Warnham train station is operated by Southern Railway, with hourly trains to Horsham and London Victoria. Horsham train station facilitates onward travel to Peterborough, Porstmouth & Southsea, Bognor Regis and Southampton Central.

2.5.3 The close proximity of Warnham train station provides an opportunity for residents to make longer distance journeys (commute, leisure etc) by train, with travel between the station and the Site being made by foot or cycle.

2.6 Vehicular Access

2.6.1 The proposed development will be served via four new proposed access junctions (see Section 3.0 for further details).

2.6.2 Mercer Road is a single carriageway road with a width of approximately 6m, passing east-west through the Site. It is subject to a speed limit of 40mph. It is also designated as a Public Right Of Way footpath.

2.6.3 Three of the proposed junctions serving the Site are located on Mercer Road.

2.6.4 Mercer Road extends east and west of the railway line, but is truncated by the railway line at Warnham Station. At its eastern end, on the eastern side of the Site, Mercer Road connects to Langhurst Wood Road as the minor arm of the priority-controlled T-junction.

2.6.5 Langhurst Wood Road runs north-south to the east of the Site. It is a single carriageway road with a varying width of c.5.5m, and is subject to a speed limit of 40mph in the vicinity of the Site.

2.6.6 Langhurst Wood Road connects at its southern end to the eastbound carriageway of the A264 via a priority-controlled left-in-left-out T-junction.

2.6.7 West of Langhurst Wood Road, the A264 connects to the A24 at the Great Daux roundabout. To the north of Great Daux the A24 provides a route to Kingsfold, Beare Green and Dorking; to the south the A24 serves as a Horsham bypass and provides a route to Southwater, Ashington, Findon and Worthing.

2.6.8 To the east of the Langhurst Wood Road junctiuon, the A264 leads to Crawley and connects to the A23 and M23 at the Pease Pottage Interchange.

2.6.9 Figure 2.5 below shows the site in its local highway context.

Figure 2.5 – Highway Network

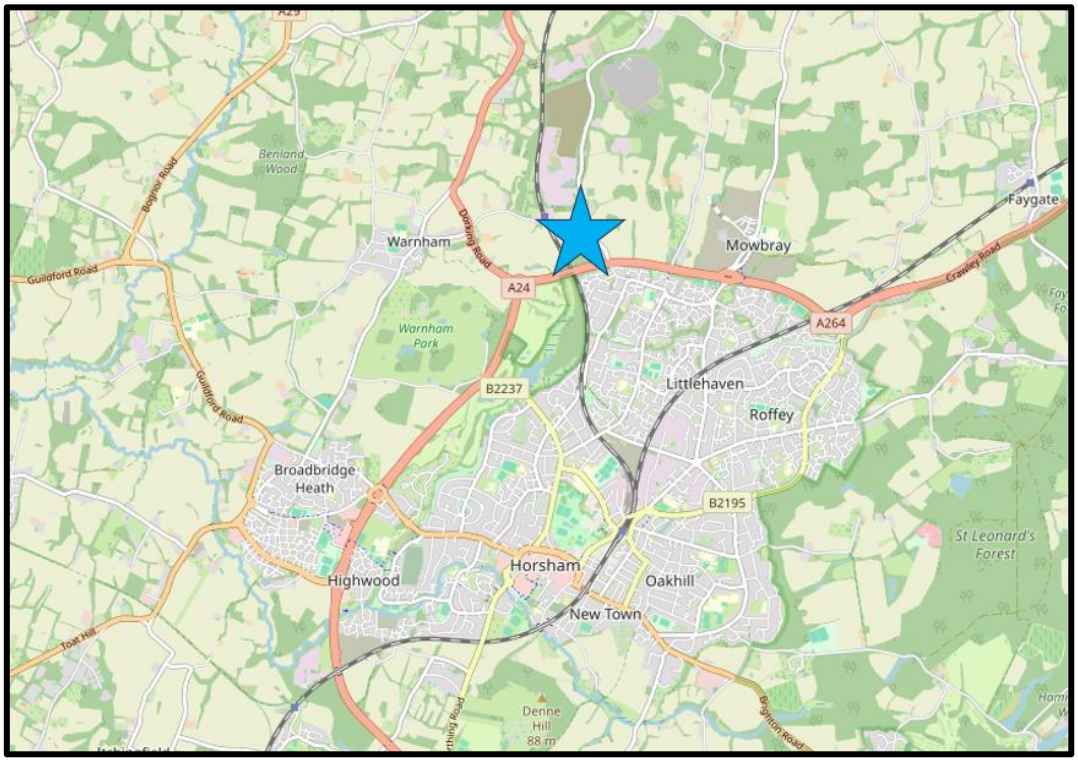


Image Source: OpenStreetMap.org

2.6.10 Overall, the Site has a prominent location in relation to the local road network from which it is readily accessible.

2.7 Access to Facilities

2.7.1 This section considers Site's accessibility to key services and facilities.

2.7.2 The Department for Transport (DfT) publish annual estimates of travel times from where people live to key local services including primary schools, secondary schools, GPs, hospitals, food stores, town centres and employment centres. These are known as the Journey Time Statistics (JTS) series, the latest set were recorded in 2019 (published in November 2021).

2.7.3 The statistics are published at national, regional, local authority and small area (Lower Super Output Area) level, for the eight key local services presented above, and for the following three modes of transport; public transport / walking, cycle and car.

2.7.4 The 2019 JTS "cycle time" has been converted to 'average distance' using the assumption that the average cycle speed is 16 km/h (the most common cycle speed input to the program used when calculating the JTS).

2.7.5 The average accessibility distance has been calculated by multiplying the average minimum cycle time (in minutes) presented at Table JTS0101 by 16 (km) and dividing by 60 (1 hour) to give the average distance.

Access to Employment

2.7.6 The national average accessibility distance to the nearest employment centre (one which provides 100-499 jobs) is 2.3km.

2.7.7 The key employment destinations close to the proposal site include the following (note: it is unknown how many staff are employed at these locations):-

- Warnham Brickworks (c.700m from the centre of the Site)
- North Heath Lane Business Park (c.2km from the centre of the Site)
- Parsonage Way Business/Industrial Park (c.3km from the centre of the Site)
- Horsham Trading Estate, Foundry Lane (c.3.2km from the centre of the Site)
- The future Business Park within the North Horsham Development (approximately 2km east of the Site)

2.7.8 Two of the above-listed employment destinations are located closer to the Site than the national average; therefore, future residents of the proposed development will benefit from being closer to their nearest employment centre than the average resident of England.

Access to Education

2.7.9 The statutory maximum walking distance for primary school pupils to their school is two miles (3.2km); for secondary school pupils, the statutory distance is three miles (4.8km).

2.7.10 Data from the National Travel Survey[1] (NTS) shows that the proportion of primary pupils who walk to school decreases sharply as trip lengths exceed one mile (1.6km). This is shown in Table 2.3 which is a summary of NTS Table 0614, "trips to school by main mode, trip length and age".

Table 2.3 – NTS 0614 Trips to School; Summary Table

Age Group	Mode \ Distance	<1 mile (%)	1-2 miles (%)	2-5 miles (%)	5+ miles (%)
5-10 years	Walk	86	18	0	0
	Bicycle	1	2	0	0
	Car/van	12	78	77	72
	Bus	1	3	22	14
	Other	0	0	1	14
11-16 years	Walk	90	62	7	0
	Bicycle	1	7	11	0
	Car/van	5	19	42	37
	Bus	4	12	38	44
	Other	0	0	2	19

2.7.11 The JTS average accessibility distance to the nearest primary school is 2.3 km, and to the nearest secondary school the JTS average accessibility distance is 3.8 km.

2.7.12 The closest primary school to the Site is Holbrook Primary School, located approximately 1.5km walking distance from the centre of the Site.

2.7.13 As shown in Table 2.3, 88% of journeys made by 5-10 year olds to schools less than one mile (1.6km) away are made by non-car modes.

2.7.14 The approved North Horsham Development contains two primary schools, the closest of which is expected to be c.700m walk distance from the Site.

2.7.15 The closest existing primary school is therefore within both the national average distance and the statutory maximum walking distance for children of primary school age.

2.7.16 When the North Horsham Development is built and complete, the nearest primary school will be closer.

2.7.17 The closest secondary school is Bohunt Horsham. It is approximately 2.6km walking distance from the centre of the Site, which is within the statutory walking distance for secondary school children, and shorter than the average accessibility distance. As shown in Table 2.3, for school journeys of two-to-five miles being undertaken by 11-16 year olds, 58% are undertaken using non-car modes.

[1] Table 0614 'trips to school by main mode, trip length and age', National Travel Survey, 2022.

Access to Other Facilities

2.7.18 The 2019 JST average accessibility distance to the nearest town centre is 4.6km. The centre of Horsham, which contains a variety of retail attractions in addition to a range of restaurants and other facilities, is closer than the national average at c.3.5km from the Site.

2.7.19 The 2019 JST average accessibility distance to the nearest food store is 2.3km. A Lidl foodstore is located c.2.5km southeast of the Site, which is approximately equal to the JST average accessibility distance.

2.7.20 The 2019 JST average accessibility distance to the nearest GP surgery is 3.0km; The Holbrook Surgery and the Bartholomew Way Clinic are located c.1.8km from the Site and are therefore below the JTS average distance.

2.7.21 The 2019 JST average accessibility distance to the nearest hospital is 10km; Horsham Hospital is approximately 2.4km from the Site and therefore within the JTS average distance.

2.7.22 Table 2.4 summarises the relevant accessibility distances set out above.

Table 2.4 – Accessibility Distance Summary

Destination / Purpose	2019 JTS	Approximate Distance from Proposal Site	Destination Name
Employment (100 – 499 Jobs)	2.3km	1. 700m 2. 2km	1. Warnham Brickworks 2. North Heath Lane Business Park
Primary School	2.3km	1.5km	Holbrook Primary School
GP Surgery	3.0km	1.8km	The Holbrook Surgery and the Bartholomew Way Clinic
Secondary School	3.8km	2.6km	Bohunt Horsham
Hospital	10km	2.4km	Horsham Hospital
Foodstore	2.3km	2.5km	Lidl
Town Centre	4.6km	3.5km	Horsham Town Centre

2.8 Existing Highway Conditions

2.8.1 Traffic turning count surveys have been undertaken at the agreed study junctions (see Section 4.1.2 for more detail) on 23rd January 2024.

2.8.2 An Automatic Traffic Counter (ATC) was installed on Langhurst Wood Road, located approximately 75m north of the existing Langhurst Wood Road / Mercer Road junction, and on the A264 (both eastbound and westbound) approximately 230m west of the Langhurst Wood Road / A254 left-in left-out junction.

2.8.3 The Langhurst Wood Road ATC was operational continuously between Tuesday 23rd January and Wednesday 21st February 2024 inclusive.

2.8.4 The A264 eastbound ATC was operational continuously between Tuesday 23rd January and Tuesday 30th January inclusive, as well as between Thursday 8th February and Tuesday 13th February inclusive.

2.8.5 The A264 westbound ATC was operational consecutively between Thursday 8th February and Wednesday 21st February inclusive.

2.8.6 All three ATCs recorded traffic flows, speeds and vehicle classification throughout the above times.

Traffic Flows

2.8.7 The turning count survey data has been used to identify the weekday AM and PM peak hours across all of the study junctions; the weekday AM peak hour was recorded as 07:45-08:45 and the weekday PM peak hour at 16:45 - 17:45.

2.8.8 Based on the observed weekday AM and PM peak hours, the ATC data from both the A264 and Langhurst Wood Road have been used to calculate the average peak hour traffic flows on both roads. This is shown in Table 2.5 alongside the 24-hour daily flows.

Table 2.5 – Summary of Weekday Peak Hour Vehicle Movements (ATC data)

Langhurst Wood Road				
Weekday Average		**Northbound**	**Southbound**	**Two-Way**
AM peak	07:45-08:45	286	57	343
PM peak	16:45-17:45	56	252	309
Daily	24hr	1,553	1,543	3,095
A264				
Weekday Average		**Eastbound**	**Westbound**	**Two-Way**
AM peak	07:45-08:45	1,541	1,458	2,999
PM peak	16:45-17:45	1,344	1,461	2,805
Daily	24hr	16,886	17,107	33,993

Traffic Speeds

2.8.9 The geometric designs of roads and junctions are based on the 85th percentile average speeds, being the speed below which 85% of traffic travels (and which is exceeded by 15% of the traffic).

2.8.10 The ATC data recorded the seven-day average speeds on the A264 and Langhurst Wood Road, as summarised in Table 2.6 and Table 2.7.

Table 2.6 – Seven-Day Average Traffic Speeds – A264

Seven-Day Average	**Mean Average**	**85th Percentile**
Westbound	59.9	69
Eastbound	61.2	69.7

Table 2.7 – Seven-Day Average Traffic Speeds – Langhurst Wood Road

Seven-Day Average	**Mean Average**	**85th Percentile**
Northbound	36.5	42.8
Southbound	37.5	44.3

2.9 Road Safety Review

2.9.1 Publicly available official collision records include collisions which resulted in a personal injury and which were reported to the police. The data does not include details of damage-only collisions or those which were not reported to the police.

2.9.2 Personal-injury collisions are classified by the police as one of either 'Slight', 'Serious' or 'Fatal'. Where more than one personal injury occurs, the classification is determined by the most serious. A description of each classification is provided in the DfT publication Instructions for the Completion of Road Accident Reports dated October 2004, summarised below:

Slight:

- Sprains, not necessarily requiring medical treatment
- Neck whiplash injury
- Bruises
- Slight cuts
- Slight shock requiring roadside attention.
- (Persons who are merely shaken and who have no other injury should not be included unless they receive or appear to need medical treatment).

Serious:

- Fracture
- Internal injury
- Severe cuts
- Crushing
- Burns (excluding friction burns)
- Concussion
- Severe general shock requiring hospital treatment
- Detention in hospital as an in-patient, either immediately or later
- Injuries to casualties who die 30 or more days after the accident from injuries sustained in that accident.

Fatal:

- 'Fatal' injury includes only those cases where death occurs in less than 30 days as a result of the accident. 'Fatal' does not include death from natural causes or suicide.

2.9.3 Personal injury collision data has been obtained from Sussex Safer Roads Partnership on behalf of Sussex Police for the area local to the site for the most recent five-year period between September 2019 and August 2024.

2.9.4 A map showing the locations of the recorded collisions and their severity is provided at Appendix 2.

2.9.5 The Rusper Road Roundabout has been improved as part of the North Horsham Development; the works were completed in November 2022. Only collisions that have occurred at this roundabout since November 2022 have been reviewed.

2.9.6 Since November 2022, a total of 5 collisions have occurred at the Rusper Road Roundabout, two of which were classified as 'slight', two of which were classified as 'serious' and one of which was 'fatal'. Details of the 'serious' and 'fatal' collisions are provided below: -

Police Reference: 231302629

- Date: 01/05/23
- Number of vehicles involved – 2 (<3.5t goods vehicle (v1) and pedal cycle (v2))
- Severity - Serious
- Police description:

  "V1 WAS STOPPED AT THE TRAFFIC LIGHTS ON THE RUSPER ROAD RA SLIP ROAD AND WHEN THEY TURNED GREEN A CYCLIST DOWN AS V2 HAS COME CROSS THE CROSSING COLLIDING WITH V1 AT A SLOW SPEED."

Police Reference: 241406630

- Date – 04/02/24
- Number of vehicles involved – 2 (motorcycle (v1) and car (v2))
- Severity – Serious
- Police description:

  "DRIVER OF VEHICLE 1 (MOTORCYCLE) WAS HEADING EAST BOUND ALONG THE A264 AND WAS MAKING THEIR WAY THROUGH TRAFFIC. DRIVER OF VEHICLE 2 WAS WAITING AT THE SET OF TRAFFIC LIGHTS ON THE ROUNDABOUT HEADING IN THE SAME DIRECTION AS VEHICLE 1. THE DRIVER OF VEHICLE 2 WAS AT THE FRONT OF THE TRAFFIC WAITING AT THE LIGHTS. WHEN THE LIGHTS HAVE TURNED GREEN, THE DRIVER OF VEHICLE 2 HAS PULLED AWAY REMAINING IN THE NEAR SIDE LANE CONTINUING EAST ALONG THE A264 TOWARDS CRAWLEY. AFTER APPROXIMATELY 40 YARDS, THE DRIVER OF VEHICLE 1 HAS MOVED ACROSS THE FRONT OF VEHICLE 2, APPEARING TO ATTEMPT TO TAKE THE EXIT FOR RUSPER ROAD. THIS MANOEUVRE MEANT THAT VEHICLE 1 WAS CLIPPED BY THE OFFSDE OF VEHICLE 2. THIS CAUSED VEHICLE 1 TO LOSE CONTROL AND HEAD INTO THE GRASS VERGE ON THE NEAR SIDE OF VEHICLE 2 AND COLLIDE WITH A STREET SIGN."

Police Reference: 231358115

- Date – 30/09/23
- Number of vehicles involved – 2 (cars)
- Severity – Fatal
- Police description:

  "V1 BMW M5 TRAVELLING WEST BOUND ALONG A264 INTERACTS WITHIN V2 BMW 1 SERIES JUST OFF RUSPER ROAD ROUNDABOUT CAUSING V1 TO FLIP SEVERAL TIMES EJECTING MALE FROM VEHICLE CAUSING FATAL INJURIES, SERIOUS INJURIED TO FEMALE OCCUPANTS."

2.9.7 Between September 2019 and August 2024, three collisions have occurred between the Rusper Road Roundabout and the Moorhead Roundabout; one 'slight' and two 'serious'. Details of the three collisions are provided below.

Police Reference: 211101434

- Date – 22/10/21
- Number of vehicles involved – 2 (cars)
- Severity – Slight
- Police description:

  "VEH2 APPROACHING QUEUE OF TRAFFIC NEAR TO THE ROFFEY ROUNDABOUT ON THE A264 TOWARDS CRAWLEY FROM THE RUSPER ROAD ROUNDABOUT WHEN VEH2 SLOWED DOWN FOR TRAFFIC. VEH1 THEN FAILED TO STOP IN TIME AND CRASHED INTO THE REAR OF VEH2."

Police Reference: 221139986

- Date – 31/01/22
- Number of vehicles involved – 3 (cars)
- Police description:

  "ON THE EAST BOUNDARY CARRIAGEWAY A VEHICLE HAD STOPPED AFTER SHE HAD REPORTED A DOG RUNNING OUT IN FRONT OF HER. ON THE WEST BOUND CARRIAGEWAY IN ROAD WORKS VEHICLES HAD SLOWED DOWN (UNSURE IF DOG HAD CROSSED THIS CARRIAGEWAY) BUT VEHICLE THREE HAD STOPPED AS A CAR HAD STOPPED IN FRONT OF HER AND VEHICLE 2 HAD COLLIDED WITH VEHICLE 3."

Police Reference: 231382625

- Date – 03/12/23
- Number of vehicles involved – 1 (car)
- Police description:

  "ON SUNDAY 3RD DECEMBER 2023 POLICE WERE CALLED TO A REPORT OF A SINGLE VEHICLE COLLISION ON THE A264 AT THE MOORHEAD ROUNDABOUT. VEHICLE HAD LEFT ROADSIDE AND GONE DOWN THE EMBANKMENT."

2.9.8 Between September 2019 and August 2024, two collisions have occurred between the Great Daux Roundabout and the A264/Langhurst Wood Road junction, both of which were classified as 'slight'. Details of these collisions are provided below.

Police Reference: 19911552

- Date – 19/12/19
- Number of vehicles involved – 2 (motorcycle (v2) and <3.5t goods vehicle (v1))
- Severity – Slight
- Police description:

"V2 WAS RIDING ALONG THE A264 TOWARDS THE GREAT DAUX ROUNDABOUT. V2 WAS ORIGINALLY IN THE LEFT HAND LANE AND V1 WAS BEHIND V2. V2 HAS CHECKED MIRRORS AND INDICATED TO MOVE TO THE RIGHT HAND LANE TO GO BACK ROUND THE ROUNDABOUT AND V1 HAS HIT V2. V1 HAS GOT A LIFT TO HIS PLACE OF WORK AND CALLED AN AMBULANCE. POSSIBLE FRACTURE TO RIGHT ELBOW."

Police Reference: 211114754

- Date – 26/11/21
- Number of vehicles involved – 1 (motorcycle)
- Severity – Slight
- Police description:

  "MOTORCYCLE SINGLE OCCUPANT TRAVELLING EASTBOUND ON A264 IN LANE 2. A FOREIGN OBJECT UNKNOWN HAS BEEN FLUNG ACROSS THE CARRIAGEWAY. THE MOTORCYCLE HIT THIS OBJECT CAUSING THE BIKE TO LOSE TRACTION AND TOPPLE LEFT. THIS FLUNG THE RIDER FROM THE BIKE WHO SLID OFF CAUSING INJURIES TO THE RIDER. NO OTHER VEHICLE INVOLVED."

2.9.9 One 'serious' collision has occurred at the Langhurst Wood Road / Mercer Road junction in January 2022, involving one pedal cyclist only – no vehicles were involved.

Summary

2.9.10 The collision data indicates that the majority of collisions that have occurred within the study area were classified as 'slight' collisions (35 of a total of 45, equating to 78%).

2.9.11 Of the collisions that have been reviewed above, there is nothing in the reports that indicates a particular pattern which can be attributed to road layout deficiency, nor one which would likely be worsened by the development proposals.

2.10 Section Conclusion

2.10.1 With the proposed new footway and signal controlled crossing facilities, the Site will be connected to the local pedestrian network and a range of services/facilities within walking distance.

2.10.2 There are also opportunities for future residents and staff of the proposed convenience store to make trips by bike.

2.10.3 The bus stops local to the Site are served by bus services which provide access to / from a variety of destinations.

2.10.4 Warnham rail station is located adjacent to the Site's western boundary providing future residents with the option to travel by train. The station can be accessed via foot or cycle.

2.10.5 The proposal site also has a prominent location relative to the local highway network, and the recent local collision records indicate that there is no existing road safety problem in the vicinity of the Site.

2.10.6 Overall, the site has a good level of accessibility by all relevant transport modes, thereby complying with national and local transport planning policy.

3.0 PROPOSED DEVELOPMENT

3.1 Development Proposals

3.1.1 The development proposals are shown on the plan provided at Appendix 1.

3.1.2 The proposal is for a mixed-use residential-led development comprising 304 residential dwellings, a convenience store of 190sqm GFA and a 50-space car park to serve Warnham train station. The proposals include the provision of four new access junctions that will serve the proposed development. A total of 682 parking spaces are provided for the residential aspect of the development, and 14 spaces are provided for the convenience store.

3.2 Proposed Site Access Arrangements

Pedestrian Access

3.2.1 The Public Right of Way footpath which currently runs along Mercer Road itself will be diverted through the Site on the south side of Mercer Road, with pedestrian access points at each end of the Site's Mercer Road boundary.

3.2.2 The internal layout includes a pedestrian network of 2m footways throughout the Site, including dropped kerbs with tactile paving at crossing points.

3.2.3 A pedestrian/cycle access is proposed on Langhurst Wood Road at the southeastern corner of the Site.

3.2.4 The proposal includes providing a new footway of 2.0m width along the western side of Langhurst Wood Road, extending between the proposed pedestrian/cycle access and a proposed signal-controlled junction with pedestrian crossing facilities over the A264.

3.2.5 Due to constraints on the width of the public highway along Langhurst Wood Road, there is a length of approximately 58m along which the proposed footway reduces from 2.0m to 1.5m.

Vehicle Access

3.2.6 The Site will be accessed by vehicles and cycles via four new priority-controlled T-junctions; three on Mercer Road and one on Langhurst Wood Road.

3.2.7 The proposed pedestrian/cycle access on Langhurst Wood Road will be available for emergency vehicles if required.

3.2.8 The proposed access junctions have been designed with 8m kerb radii, and they provide visibility splays of 2.4m x 120m in accordance with the DMRB stopping sight distance for 70kph, corresponding with the speed limit of 40mph.

3.2.9 The internal road layout comprises primary streets of 5.5m width, with localised widening on bends, and with some narrower streets and shared-use mews of 4.8m width.

3.2.10 The internal road layout has been designed to accommodate the movements of the largest vehicles that are expected to access the site. Drawings 17085-TR001 and 17085-TR002 at Appendix 3 show the swept path tracking of an 11.2m refuse truck and a 10m rigid delivery truck manoeuvring around the proposed road layout.

3.2.11 Drawing 17085-TR003, also at Appendix 3, shows the tracking of a 10m rigid delivery truck accessing the delivery bay of the proposed convenience store.

Road Safety Audit

3.2.12 The proposed Site access junctions have been subject to a Stage 1 Road Safety Audit (RSA), completed by an independent, qualified Road Safety Auditor.

3.2.13 The RSA Report identifies one safety problem relating to the proposed access junctions, as follows:

> *Location: Extent of the site frontage with Mercer Road and Langhurst Wood Road*
>
> *Summary: Site boundary planting may affect driver visibility*
>
> *It is unclear from the information provided what boundary treatments are to be used on Mercer Road and Langhurst Wood Road, however appears that the frontage is to be retained as open space with trees. There is the potential for driver visibility envelop to be compromised by the location of the existing trees and / or as foliage within the area grows. Reduced driver visibility can lead to inappropriate decision making with the potential for side impact and shunt type collisions. This is of particular concern at the pedestrian and cycle access between Pondtail House and Pondtail Cottage.*
>
> *Recommendation*
>
> *As part of the detailed design ensure that visibility envelops for all junction and crossing locations are maintained clear and maintained.*

3.2.14 The full RSA Report is provided at Appendix 4.

3.2.15 By way of response to the RSA recommendation, the issue is noted, and it is anticipated that a planning permission for the proposed development would include a planning condition securing the ongoing maintenance of the junction visibility splays.

3.3 Off-Site Access Arrangements – Interim

3.3.1 It is proposed that the existing A264 / Langhurst Wood Road left-in-left-out priority-controlled junction will be upgraded to a signal-controlled junction, allowing for all movements except the right-turn out of Langhurst Wood Road. The upgraded junction will incorporate signal-controlled pedestrian crossings over the A264.

3.3.2 This will be an interim arrangement until the implementation of the North of Horsham development's western A264 roundabout and the associated road infrastructure which includes the stopping-up of the southern end of Langhurst Wood Road.

3.3.3 The proposed interim arrangements are shown on the sketch drawing 17085 – 011 at Appendix 1.

3.3.4 DMRB CD123 Geometric design of at-grade priority and signal-controlled junctions states at paragraph 2.27:

> *"Where the 85th percentile speed on the approach roads is greater than or equal to 104 kph (65 mph), a signal-controlled junction shall not be provided."*

3.3.5 The speed limit on the A264 in this location is 70mph, and the 85th percentile speeds have been recorded at between 69mph and 70mph. Therefore, the proposal includes a reduction of the speed limit to 50mph.

3.3.6 It is noted that the North of Horsham development infrastructure includes signal-controlled junctions on the A264, with an associated reduction in speed limit to 50mph, so the principle of this in this location is evidently acceptable.

3.3.7 A tree survey has identified a veteran tree located just south of the development site's southern boundary. The associated veteran tree buffer zone encircles the tree, spanning the land between the development site and the eastbound carriageway of the A264.

3.3.8 The design of the proposed signal-controlled junction is affected by the presence of the veteran tree buffer, which is partially covered by the existing metalled carriageway of the A264.

3.3.9 NPPF policy will not permit development which results in the loss or deterioration of irreplaceable habitats, including veteran trees (paragraph 193 part c), so the proposed junction design must avoid creating any larger area of metalled carriageway within the veteran buffer zone than exists at present. This specifically affects the left-turn deceleration lane of the proposed junction.

3.3.10 For the proposal to have no impact within the veteran tree buffer zone, the left-turn deceleration lane can be a maximum of 58m in length, which broadly equates to the deceleration length of 55m for a design speed of 85kph (50mph speed limit).

3.3.11 In this case, the left-turn deceleration lane would be effectively the same length as it is at present. The only difference in this regard is that the proposal introduces traffic signal controls where vehicles presently turn left freely.

3.3.12 Left-turning vehicles arriving while the signals are on green will make the left turn at the same speed as they do at present, and will have the same deceleration distance as they do at present (albeit the present speed limit is 70mph).

3.3.13 The left-turn traffic movement will be under the same control as the straight-ahead traffic, so when the eastbound carriageway traffic signals are red, all traffic on the eastbound carriageway will be decelerating at the same time, and the left-turning traffic will not queue back into free-flowing eastbound traffic.

Road Safety Audit

3.3.14 The proposed signal-controlled junction has been subject to a Stage 1 RSA, completed by an independent, qualified Road Safety Auditor.

3.3.15 The RSA Report identifies two safety problems relating to the proposed junction, as follows:

Problem 1

Location: *A264 junction with Langhurst Wood Road*

Summary: *No indication of reduced speed limit as part of design of signal junction.*

While a reduction in speed limit for the proposed signal junction and its approaches is intimated in the email brief it is not shown on the drawings provided. The introduction of a signal-controlled junction in a national speed limit area is against the requirements of the design standards and is inherently dangerous. Lower vehicle approach speeds allow for drivers to make appropriate decisions in terms of the operation of the signals allowing vehicles to slow and comply with the signals in an appropriate manners. Conversely high vehicle speeds increase the risk of late braking / shunt / loss of control type collisions particular on the dual carriageway approaches to the junction.

Recommendation

As part of the detailed design implement a maximum 50mph speed limit on the approaches to and for the proposed signal junction.

Problem 2

Location: A264 junction with Longhurst Wood Road

Summary: Short left turn deceleration lane from south to Longhurst Wood Road.

No information has been provided to the audit team in terms of the operation of the proposed signal and in particular queue development for the approaches. The dedicated left turn lane to Langhurst Wood Road is far shorter than the other dedicated turning lanes and as such is the most likely to show queue development issues. Depending on the phasing of the signal control, this could lead to queue development in the left turn lane to impact on the through carriageway leading to an increased risk of shunt type / late lane type collisions at the end of the queue.

Recommendation

As part of the detailed design provide queue detection loops on all junction approaches. Also based on modelling of the operation of the signals investigate the need for high level signals as well as improved carriageway surface frictional properties on the approaches to the signals.

3.3.16 The full RSA Report is provided at Appendix 4.

3.3.17 By way of response to the RSA recommendation for Problem 1, the latest drawing of the proposed interim signal-controlled junction (drawing 17085 – 011 at Appendix 1) now indicates the intention to reduce the speed limit to 50mph, as also noted at paragraph 3.3.5 above.

3.3.18 In response to the RSA Problem 2, and as noted at paragraph 3.3.13, the left-turn traffic movement from the A264 to Langhurst Wood Road will be under the same control as the straight-ahead traffic, so when the eastbound carriageway traffic signals are red, all traffic on the eastbound carriageway will be decelerating at the same time, and the left-turning traffic will not queue back into free-flowing eastbound traffic. In other words, there will be no instances when the left-turn lane is on a red signal while the ahead-movement is on green.

3.4 Off-Site Access Arrangements – Final

3.4.1 The interim signal-controlled junction will be removed upon delivery of the North of Horsham development western A264 roundabout and its associated infrastructure and stopping-up of Langhurst Wood Road.

3.4.2 Vehicles to/from the proposed development will subsequently use the approved North of Horsham development road layout, via the proposed North of Horsham 'western' roundabout.

3.4.3 The proposed signal-controlled pedestrian / cycle crossing over the A264 (part of the 'interim' arrangement) will be retained via temporary arrangements throughout the construction process, to be ultimately replaced by proposed new signal-controlled crossing facilities on the western approach to the North of Horsham 'western' roundabout.

3.4.4 Drawing 17085 – 012, showing how the North of Horsham 'western' roundabout could be modified to provide additional pedestrian crossing facilities, is provided at Appendix 1. The developers of the proposal site will coordinate with the North of Horsham Development developers and WSCC to ensure that any modifications/additional works to the North Horsham 'western' roundabout will be provided.

Road Safety Audit

3.4.5 The proposed modifications to the forthcoming 'western' roundabout have been subject to a Stage 1 RSA, completed by an independent, qualified Road Safety Auditor.

3.4.6 The RSA Report concludes that the audit team did not identify any areas of concern in terms of highway safety associated with the proposed works.

3.4.7 The full RSA Report is provided at Appendix 4.

3.5 Deliveries / Servicing

3.5.1 Delivery and service vehicles will access the proposed development the proposed new access junctions described above.

3.5.2 The proposed site layout has been assessed for goods and refuse vehicle manoeuvres based on the 10m rigid goods vehicle and 11.2m refuse vehicle. Drawings of the swept path assessment are provided at Appendix 3.

3.6 Car and Cycle Parking

Car Parking

3.6.1 Based on the standards provided at Section 1.6, the following number of parking spaces are required:

- 35 x 1 bedrooms = 35 x 1.4 = 49 parking spaces
- 97 x 2 bedrooms = 97 x 1.7 = 164.9 = 165 parking spaces
- 114 x 3 bedrooms = 114 x 2.1 = 239.4 = 239 parking spaces
- 58 x 4+ bedrooms = 58 x 2.7 = 156.6 = 157 parking spaces
- 304 x 20% (visitor) = 60.8 = 61 visitor parking spaces

3.6.2 Based on local standards, 671 parking spaces are required for the residential element of the proposed development.

3.6.3 A parking plan for the Site, separated into the northern and southern parts of the proposed development, is provided at Appendix 1, which shows a proposed provision of 682 parking spaces for the residential development, comprising the following: -

- 285 on-plot parking spaces
- 146 allocated parking spaces
- 129 unallocated parking spaces

- 110 garages; parking spaces provided at 50%, equating to 55 spaces
- 67 visitor spaces

3.6.4 The proposed parking arrangements include provision for disabled motorists and electric vehicles (each plot will provide an electric vehicle charging point).

3.6.5 Parking for bicycles are also accounted for within the proposed parking arrangements, either in the parking spaces or within the garages.

3.6.6 For the proposed convenience store, 14 spaces are required (190sqm / 14 = 13.6); 14 spaces have been provided, therefore according with WSCC standards.

3.6.7 50 spaces are proposed to serve Warnham train station – the use of these spaces will be monitored and managed by Automatic Number Plate Recognition (ANPR) to ensure they are used by Warnham train station customers only.

3.7 Section Conclusion

3.7.1 Pedestrian movements are accommodated within the proposed internal site layout via a network of footways including dropped kerbs with tactile paving at crossing points.

3.7.2 A pedestrian/cycle access is proposed on Langhurst Wood Road at the southeastern corner of the Site, leasing to a proposed new footway of 2.0m width along the western side of Langhurst Wood Road, extending between the proposed pedestrian/cycle access and a proposed signal-controlled junction with pedestrian crossing facilities over the A264.

3.7.3 The Site will be accessed by vehicles and cycles via four new priority-controlled T-junctions; three on Mercer Road and one on Langhurst Wood Road.

3.7.4 The proposed pedestrian/cycle access on Langhurst Wood Road will be available for emergency vehicles if required.

3.7.5 Residential and retail parking is proposed in accordance with the adopted local standards.

3.7.6 The proposed site access junctions have been designed in accordance with the DMRB standards for a 40mph speed limit.

3.7.7 Swept path analysis shows that the access arrangements and layout of the proposed development are suitable for the largest vehicles that are expected to use the site.

3.7.8 It is proposed that the existing A264 / Langhurst Wood Road left-in-left-out priority-controlled junction will be upgraded to a signal-controlled junction, incorporating signal-controlled pedestrian crossings over the A264.

3.7.9 The proposal includes a reduction of the speed limit to 50mph on the A264.

3.7.10 The interim signal-controlled junction will be removed upon delivery of the North of Horsham development western A264 roundabout and its associated infrastructure and stopping-up of Langhurst Wood Road.

3.7.11 At that stage, it is proposed to install new signal-controlled crossing facilities on the western approach to the North of Horsham 'western' roundabout.

3.7.12 All of the proposed junctions have been subject to a Stage 1 Road Safety Audit.

4.0 TRAFFIC ASSESSMENT

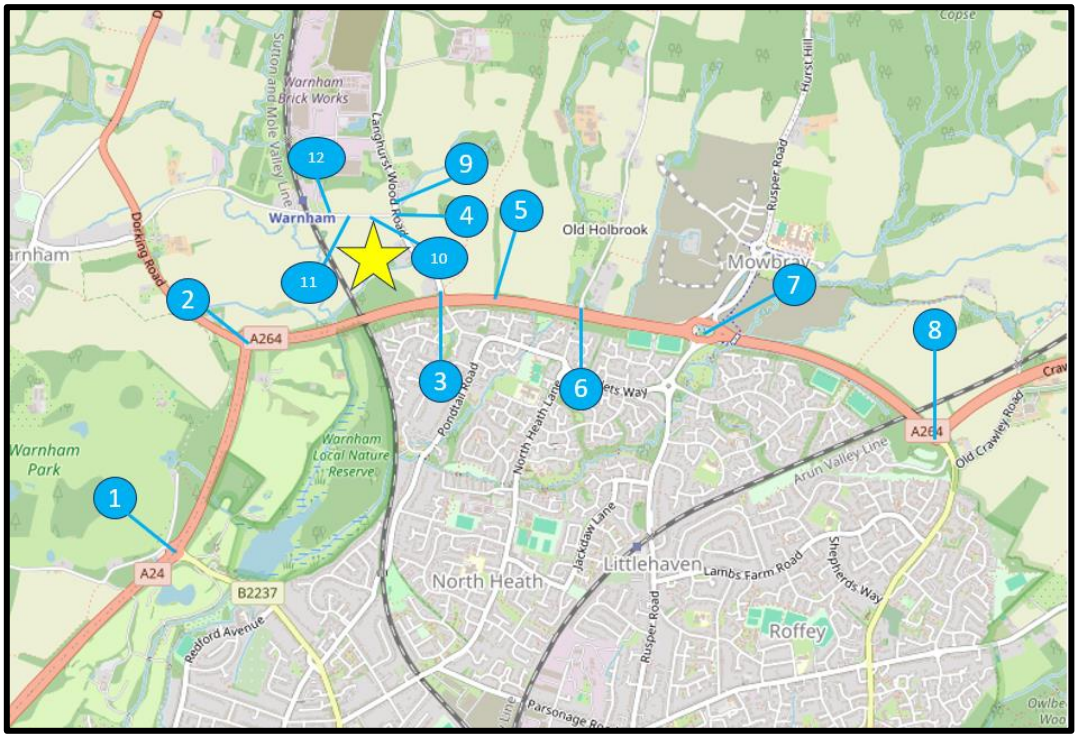
4.1 Introduction

4.1.1 The following traffic analysis considers the traffic generation of the proposed development.

4.1.2 This section of the report provides details of the traffic data used for the assessment of the study area junctions. The assessment considers the effect of the proposed development traffic on the following junctions, indicated at Figure 4.1 below:

1) The A24 / Warnham Road / Robin Hood Lane Roundabout ('Robin Hood Roundabout')
2) The A24 / A24 Dorking Road / A264 Roundabout ('Great Daux Roundabout')
3) Proposed A264 / Langhurst Wood Road Signal Junction
4) Langhurst Wood Road / Mercer Road Junction
5) The future North Horsham Development / A264 Roundabout ('Future North Horsham West Roundabout')
6) The A264 / Old Holbrook Road Junction
7) The A264 / Rusper Road Roundabout ('Rusper Road Roundabout')
8) The A264 / Crawley Road Roundabout ('Moorhead Roundabout')
9) Proposed Site Access 1 / Langhurst Wood Road Junction
10) Proposed Site Access 2 / Mercer Road Junction
11) Proposed Site Access 3 / Mercer Road Junction
12) Proposed Site Access 4 / Mercer Road Junction

Figure 4.1 – Transport Assessment Study Area



Source: OpenStreepMap.org. Site location indicated by yellow star.

4.2 Existing Traffic Flows

4.2.1 Vehicle turning-count surveys were undertaken at study junctions 1, 2, 3, 4, 7 and 8 on Tuesday 23rd January 2024 which is a 'neutral' time of year.

4.2.2 The turning-count surveys recorded the vehicle movements at the junctions between the hours of 07:00-10:00 and 16:00-19:00 in order to capture the AM and PM peak periods.

4.2.3 The turning-count surveys recorded the weekday AM peak hour of total vehicle movements as 07:45-08:45, and the weekday PM peak hour as 16:45-17:45.

4.2.4 By way of validating the turning-count survey data, the recorded turning count survey AM and PM peak-hour vehicle movements on Langhurst Wood Road (south of Mercer Road) have been compared to the average weekday ATC data for the same location (summarised in section 2.8) for the same time period. The comparison is shown in Table 4.1.

Table 4.1 – Comparison of Turning-Count data with ATC data

Peak	Dataset	Northbound	Southbound	Two-way
AM 07:45 – 08:45	Tuesday 23rd January	318	58	376
	Average Weekday	286	57	343
	% Difference	+10.8%	+1.2%	+9.2%
PM 16:45 – 17:45	Tuesday 23rd January	59	287	347
	Average Weekday	56	252	309
	% Difference	+5.0%	+13.0%	+11.6%

4.2.5 The Institute of Environmental Assessment (IEMA) "Guidelines for the Environmental Assessment of Road Traffic" states at paragraph 3.16 that 'the day-to-day variation of traffic on a road is frequently at least some + or – 10%'.

4.2.6 During the AM peak, the recorded southbound and two-way flows on Tuesday 23rd January are within the 10% IEMA variation based on the average weekday flows. The recorded northbound flows on Tuesday 23rd January were higher than the average weekday flows by 10.8%.

4.2.7 During the PM peak, the recorded northbound flows on Tuesday 23rd January were within the 10% IEMA variation based on the average weekday flows. The recorded southbound and two-way flows on Tuesday 23rd January were higher than the average weekday flows by 13.0% and 11.6%.

4.2.8 Therefore, it is considered that the turning count surveys were undertaken during a period which is robustly representative of the typical peak-hour traffic conditions and the data is suitable to use in a comparative assessment of junction operation.

4.2.9 Schematic diagrams showing the local road network, study junctions, and the observed baseline weekday AM and PM peak-hour traffic flows, are provided at Appendix 5.

4.3 Assessment Scenarios

4.3.1 The site lies directly to the west of the permitted North of Horsham development. Phase III of the North of Horsham development includes the construction of a new four-arm roundabout to the east of the existing A264 / Langhurst Wood Road junction, and a new four-arm roundabout at the existing Langhurst Wood Road / Mercer Road junction.

4.3.2 Phase III is to be the final phase of the North of Horsham development and is expected to be built in "years 10 – 15" of development construction.

4.3.3 The proposed development will ultimately be accessed via the future road network of the North of Horsham development.

4.3.4 However, the proposed development is expected to be delivered before the future North of Horsham development road network is constructed, and therefore the plans include an interim access arrangement via an upgraded signal-controlled junction of Langhurst Wood Road with the A264.

4.3.5 The signal-controlled junction will be removed concurrently with the completion of the North of Horsham development's new road infrastructure and the stopping-up of Langhurst Wood Road.

4.3.6 The following scenarios will be assessed:

Assessment Scenario 1 – 2029 "interim scenario" with proposed development.

4.3.7 This scenario will assess the study area with the predicted 2029 traffic levels plus the proposed development traffic.

Assessment Scenario 2 – 2031 "final scenario" with full North of Horsham development.

4.3.8 This scenario will assess the effect of the proposed development traffic accessing the site via the future North of Horsham development, including the predicted North of Horsham development traffic.

4.3.9 The assessment will be based upon the scenario after the removal of the interim signal-controlled Langhurst Wood Road junction and the stopping-up of the southern end of Langhurst Wood Road, whereby all of the proposed development traffic will route via the new North of Horsham development road network.

4.3.10 This scenario will be based on a 2031 assessment year, consistent with the North of Horsham TA, and will include the full North of Horsham development traffic flows as per the North of Horsham TA.

4.3.11 We understand that it has been confirmed by Network Rail that there will not be a new train station within the North of Horsham development, so this assessment uses the relevant traffic flows for that scenario.

4.4 Assessment Year Traffic Flows

4.4.1 The TEMPRO database (Version 8.0) has been used to derive traffic growth factors to apply to the 2024 baseline traffic data to forecast the background traffic levels in two assessment years: 2029 and 2031.

4.4.2 The growth factors for the 2029 assessment year have been derived by adjusting the output for car drivers to the geographical area of "Horsham 001" and "Horsham 002", as the majority of the Site is located within Horsham 002 and the remainder of the Site lies within Horsham 001, with area type as "All" and road type as "All". An average of the two resultant growth factors has been calculated and used for the assessment.

4.4.3 The TEMPRO Alternative Assumptions function has been used, as the North Horsham Development will represent a large proportion of the forecast growth to 2031.

4.4.4 The Alternative Assumptions function requires the user to subtract the number of households and jobs associated with the specific committed development(s) from the default growth assumptions, which are subsequently accounted for elsewhere in the traffic analysis. The resultant growth calculations are automatically adjusted within TEMPRO to remove the corresponding traffic from the future scenario.

4.4.5 In this instance, the forecast housing and employment growth associated with the North Horsham Development has been removed from the 2031 TEMPRO growth, and then the development traffic flows from the approved North Horsham Transport Assessment have been manually added to the traffic analysis.

4.4.6 The North Horsham Development Environmental Statement sets out that there will be 2,900 full-time equivalent jobs at the business park, plus 710 full-time equivalent jobs within the local centre and schools, totalling 3,610 full time jobs within the development. The North Horsham Development Planning Statement states that there will be a total of 2,750 homes.

4.4.7 Using the above figures, the 2029 TEMPRO growth factors and the 2031 'Alternative Assumptions' TEMPRO growth factors are presented at Table 4.2 below. The Alternative Assumptions calculations are provided at Appendix 6.

Table 4.2 – TEMPRO Growth Rates

Growth Period	Average of Horsham 001 and Horsham 002	
	Weekday AM Peak	Weekday PM Peak
2024 – 2029	1.0533	1.0535
2024 – 2031	0.6901	0.7016

4.4.8 As the 2031 Alternative Assumptions calculations result in a growth rate of less than 1.0 (which implies a negative growth rate), the analysis simply adds the North Horsham Development traffic flows to the recorded 2024 baseline traffic flows.

4.4.9 The resultant 2029 baseline traffic flows and the 2031 baseline flows including the North Horsham development traffic can be seen at Appendix 7.

4.5 Committed Development

4.5.1 Local committed developments (developments with planning permission but not yet constructed or occupied) will have a future traffic impact on the local highway network, but the traffic will not have been picked up in the baseline traffic surveys.

4.5.2 The TEMPRO growth factors account for local development forecasts, in particular the traffic associated with developments that are identified in Local Plans.

4.5.3 Other than the North Horsham Development (that is accounted for within the 2031 Alternative Assumptions TEMPRO growth factors calculations), no further committed developments have been identified for specific inclusion in this report.

4.6 Existing Site Trip Attraction

4.6.1 As the Site is currently occupied by undeveloped agricultural land, it is assumed that the existing trip attraction associated with the Site is zero.

4.7 Proposed Development Trip Generation

Convenience Retail Unit

4.7.1 Given the small size of the proposed retail unit and its location within the proposed development, it will serve as a local convenience store attracting visits from the development's residents. It is very unlikely to attract any vehicular traffic in its own right, and is therefore excluded from the traffic analysis. This has been agreed by WSCC through pre-application discussions.

Warnham Station Car Park

4.7.2 The development proposals include a 50-space car park adjacent to Warnham station to serve as a station car park in order to alleviate the on-street parking with is noted at peak times. The inclusion of the car park is in response to pre-application advise from HDC.

4.7.3 To ensure a robust assessment, it will be assumed that all 50 spaces will be occupied, and that 50 vehicles will arrive during the weekday AM peak hour and 50 vehicles will depart during the weekday PM peak hour. This has been agreed by WSCC through pre-application discussions.

Residential Development

4.7.4 The industry-standard TRICS database (version 7.11.3) has been used to identify the average trip generation of residential developments with comparable characteristics to the proposed residential aspect of the development.

4.7.5 The TRICS database is an industry-standard collection of traffic surveys, detailing hourly trip arrivals and departures, recorded from a variety of existing development sites using a standardised methodology.

4.7.6 To represent the proposed mix of residential units, the following TRICS categories have been used:

1-2-bedroom flats	FLATS PRIVATELY OWNED	65no.
2-5-bedroom houses	HOUSES PRIVATELY OWNED	239no.

4.7.7 Table 4.3 sets out the key filtering criteria which have been used to obtain a dataset of comparable sites.

Table 4.3 – TRICS Database Key Selection Criteria

TRICS version 7.11.3		
Land use and trip rate selection		
Select Land Use By:	Full list Of Active Main/Sub Land Uses	
Main Land Use:	03 - RESIDENTIAL	
Sub Land Use:	A - HOUSES PRIVATELY OWNED	C - FLATS PRIVATELY OWNED
Calculation Options:	Multi Modal Trip Rates	
Regions:	All England excluding Greater London	
Primary filtering		
Trip Rate Parameters:	No. of Dwellings	
Range:	6 – 800	6 – 184
Selected Dates:	01/01/16 to 14/05/24	01/01/16 – 02/10/23
Week days to include:	Weekdays	
Location Types to include:	Suburban Area, Edge of Town, Neighbourhood Centre	
Secondary filtering		
Population < 1 Mile:	1,001 to 10,000	1,001 to 15,000
Population < 5 Miles:	5,001 - 50,000	5,001 - 75,000

4.7.8 The full TRICS outputs are provided at Appendix 8; summaries of the resultant 'total person' trip rates (per dwelling) during the weekday AM and PM peak hours are set out at Table 4.4, alongside the equivalent 'total person' trip numbers for the proposed development.

Table 4.4 – TRICS Total Person Trip Rate Data

	Average Total Person Trip Rates (per unit)			Total Person Trip Numbers (239 houses, 65 flats)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Houses Privately Owned (Total Person Trips) (239no. units)						
AM 07:45 – 08:45	0.178	0.575	0.753	42	137	180
PM 16:45 – 17:45	0.470	0.258	0.728	112	62	174
Daily	3.316	3.412	6.728	793	815	1608
Flats Privately Owned (Total Person Trips) (65no. units)						
AM 07:45 – 08:45	0.120	0.559	0.679	8	36	44
PM 16:45 – 17:45	0.350	0.180	0.530	23	12	34
Daily	2.732	2.897	5.629	178	188	366
Combined Total Development Total Person Trips						
AM 07:45 – 08:45				50	174	224
PM 16:45 – 17:45				135	73	208
Daily				970	1004	1974

N.B. Some of the figures include mathematical rounding.

Census Data

4.7.9 2021 Census dataset *TS061 - Method used to travel to work* has been used to identify the travel mode share for the Littlehaven area of Horsham (2021 super output area - middle layer: E02006589: Horsham 002).

4.7.10 During pre-application discussions with WSCC, the highway officer recommended the 'walk to work' percentage (10%) be reduced so as to account for the fact that the Littlehaven area is closer to central Horsham than the Site. For this assessment, the percentage of walk trips has been reduced to 0%. The 10% has been redistributed to other methods of travel to work: 4% assigned to 'driving a car or van', 3% assigned to 'passenger in a car or van' and 3% assigned to 'train'.

4.7.11 The travel-to-work mode shares are set out in Table 4.5. The adjusted figures are shown in under 'Adjusted % of travel to work' with the percentage change from the original shown in brackets.

Table 4.5 – Census Travel-to-Work Mode Data

Method of Travel to Work – 2021	Value	Percentage	% of travel to work	Adjusted % of travel to work
Work mainly at or from home	2,496	43%	n/a	n/a
Underground, metro, light rail, tram	4	0%	0%	0%
Train	137	2%	4%	7% (+3%)
Bus, minibus or coach	45	1%	1%	1%
Taxi	7	0%	0%	0%
Motorcycle, scooter or moped	13	0%	0%	0%
Driving a car or van	2,514	43%	76%	80% (+4%)
Passenger in a car or van	156	3%	5%	8% (3%)
Bicycle	70	1%	2%	2%
On foot	333	6%	10%	0% (-10%)
Other method of travel to work	38	1%	1%	1%
TOTAL	5,813	100%	100%	100%

4.7.12 The 2021 Census data shows that 43% of the residents of the Littlehaven area of Horsham work from home. It also shows that 76% of those who travel to a workplace do so by driving a car or van, which has been adjusted up to 80%.

4.7.13 On the assumption that all of the AM and PM peak hour trips in the TRICS data are commuting trips, the adjusted figure of 80% car/van mode share has been applied to the 'total person' trip numbers from TRICS, to derive the number of vehicle trips during the weekday AM and PM peak hours, and the whole day. The results are shown in Table 4.6.

Table 4.6 – Development Trip Generation – Vehicle Trips (TRICS & Census)

	Total Person Trip Numbers (TRICS data)			Vehicle Trip Numbers (Census 2021 data: 80% of total)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Houses Privately Owned (239no. units)						
AM 07:45 – 08:45	42	137	180	34	110	144
PM 16:45 – 17:45	112	62	174	90	49	139
Daily	793	815	1608	633	651	1285
Flats Privately Owned (65no. units)						
AM 07:45 – 08:45	8	36	44	6	29	35
PM 16:45 – 17:45	23	12	34	18	9	28
Daily	178	188	366	142	150	292
Combined Total Development						
AM 07:45 – 08:45	50	174	224	40	139	179
PM 16:45 – 17:45	135	73	208	108	59	166
Daily	970	1004	1974	775	802	1577

4.8 Development Traffic Distribution

4.8.1 The North Horsham Development TA used Census journey-to-work statistics to derive the distribution of all external residential-borne peak-hour trips as well as the external employment-based trips.

4.8.2 The same approach has been used for the proposed development's residential-borne peak hour trips.

4.8.3 There is no newer data available within the 2021 Census, therefore, the 2011 Census journey-to-work data has been used to identify the main employment locations of the existing residents of the northern Horsham area.

4.8.4 The resultant trip distribution is assumed to be applicable for non-work based residential trips, as per the North Horsham Development TA.

4.8.5 This assessment uses this approach as the distribution of the residential non-work-related trips is likely to be broadly the same as the work related trips, on account of the Site's geographical location

4.8.6 The resultant proposed development traffic distribution over the study network in both the 2029 scenario and the 2031 scenario can be seen at Appendix 9.

4.8.7 The trip distributions have been agreed by WSCC during pre-application discussions.

4.8.8 The proposed development traffic flows have been added to both the 2029 and 2031 base traffic scenarios so produce the traffic flow scenarios "2029 base plus Proposed Development" and "2031 Base with North of Horsham Plus Proposed Development". These are shown on diagrams at Appendix 10.

4.8.9 Table 4.7 below presents the baseline traffic and proposed development traffic flows through junctions 1 to 6, with the development traffic effect in percentage terms shown alongside.

Table 4.7 – 2029 Interim Scenario Traffic Effect

Junction	2029 AM (Vehicles)			2029 PM (Vehicles)		
	Baseline	Development	Percentage Effect	Baseline	Development	Percentage Effect
1. A24/Warnham Road/Robin Hood Lane roundabout	4087	84	2%	4219	79	2%
2. A24/A264 Great Daux roundabout	3992	87	2%	4030	83	2%
3. A264/Langhurst Wood Road	3550	249	7%	3506	226	6%
4. Langhurst Wood Road/Mercer Road	375	227	61%	388	215	55%
5. A264/Rusper Road roundabout	4984	161	3%	4225	144	3%
6. A264/B2195 Moorhead Roundabout	4559	76	2%	4265	72	2%

4.8.10 Table 4.8 presents the baseline traffic and proposed development traffic flows through the study junctions in the 2031 scenario, showing the vehicle numbers with the development traffic effect in percentage terms shown alongside.

Table 4.8 – Final Scenario Traffic Effect

Junction	2031 AM (Vehicles)			2031 PM (Vehicles)		
	Baseline	Development	Percentage Effect	Baseline	Development	Percentage Effect
1. A24/Warnham Road/Robin Hood Lane roundabout #	4174	84	2%	4310	79	2%
2. A24/A264 Great Daux roundabout	4442	87	2%	4534	83	2%
3. A264/Langhurst Wood Road	*will not exist in scenario*					
5. A264/Rusper Road roundabout	6252	108	2%	5444	102	2%
6. A264/B2195 Moorhead Roundabout	5016	76	2%	4837	72	1%
a. Future North Horsham development A264 west roundabout	4357	196	4%	4562	185	4%
b. Future North Horsham development Langhurst Wood Road / Mercer Road roundabout #	383	227	59%	396	215	54%

 # Baseline traffic based upon standard TEMPRO growth to 2031 because the North Horsham TA does not include its own traffic flows at these junctions.

4.9 Parking Assessment

4.9.1 The proposed site layout plan at Appendix 1 shows a total of 304 dwellings with a total of 615 residential parking spaces, plus 67 spaces for visitors.

4.9.2 The 2021 Census data for car ownership in the local area has been analysed to understand the prevailing conditions that is it reasonable to assume will be reflected in the proposed development.

4.9.3 Dataset 'RM001 – Accommodation type by car or van availability by number of usual residents aged 17 years or over in household' has been extracted for the 2021 lower-layer super output area Horsham 002F, in which the Site is located. The dataset shows the availability of cars or vans per household disaggregated into 'whole house or bungalow' and 'flat maisonette or apartment…'.

4.9.4 The data is provided at Table 4.9 below.

Table 4.9 – Census car-ownership data: Horsham 002F

Number of cars or vans Wiltshire	Total	Whole house or bungalow		Flat, maisonette, apartment	
Total	215,081	188,579		26,502	
No cars or vans in household	28,198	18,084	10%	10,114	38%
1 car or van in household	84,809	71,793	38%	13,016	49%
2 or more cars or vans in household	102,074	98,702	52%	3,372	13%
Number of cars or vans Horsham 002F	Total	Whole house or bungalow		Flat, maisonette, apartment	
Total	497	476		21	
No cars or vans in household	3	3	1%	0	0%
1 car or van in household	160	152	32%	8	38%
2 or more cars or vans in household	334	321	67%	13	62%

4.9.5 Table 4.10 shows the same data applied to the proposed numbers of houses and flats, along with the expected numbers of cars associated with each.

Table 4.10 – Anticipated Parking Demand of Proposal

	Whole house or bungalow			Flat, maisonette, apartment		
Number of proposed dwellings	239			65		
	Census data	Number of proposed dwellings	Expected numbers of cars	Census data	Number of proposed dwellings	Expected numbers of cars
No cars or vans	1%	1.5	0	0%	0.0	0
1 car or van	32%	76.3	76	38%	24.8	25
2 or more cars or vans	67%	161.2	322	62%	40.2	80
Total			**399**			**105**

4.9.6 Based on the recent local census data, 1% or 1-2 of the proposed 239 houses would be expected to have no cars, 32% or 76 of them would be expected to have 1 car, and 67% or 161 houses would have 2 or more cars, therefore, there would likely be a total of 399 cars associated with the proposed 239 houses.

4.9.7 None of the proposed 7 flats would be expected to have no cars, 38% or 25 flats would be expected to have 1 car, and 62% or 40 flats would have 2 or more cars; therefore, there would likely be a total of 105 cars associated with the proposed 65 flats.

4.9.8 This equates to a demand (based on Census data) for 504 residential car parking spaces across the whole of the proposed development.

4.9.9 The above assessment does not include anticipated parking demand for visitors.

4.9.10 Overall, the expected demand is within the proposed provision of 615 spaces for residents.

4.10 Section Conclusions

4.10.1 The traffic analysis has been based on traffic surveys undertaken in January 2024. The turning count surveys were undertaken during a period which is robustly representative of the typical peak-hour traffic conditions.

4.10.2 The industry-standard TEMPRO database (Version 8.0) has been used to derive traffic growth factors to apply to the 2024 baseline traffic data to forecast the background traffic levels in two assessment years: 2029 and 2031, taking into account the traffic flows associated with the adjacent North Horsham Development.

4.10.3 The industry-standard TRICS database, combined with a robust assumption of travel modes based on Census data, has been used to identify the average vehicle trip rates for the proposed residential development.

4.10.4 To ensure a robust assessment, it is assumed that all 50 spaces of the proposed Warnham Station car park will be occupied, and that 50 vehicles will arrive during the weekday AM peak hour and 50 vehicles will depart during the weekday PM peak hour.

4.10.5 The TRICS data shows that the proposed development could attract an average of 179 vehicle movements in the weekday AM peak hour, and 166 vehicle movements in the weekday PM peak hour.

4.10.6 The distribution of the proposed development traffic on the surrounding road network is based on Census journey-to-work data.

4.10.7 The anticipated car parking demand has been calculated using Census data, and is shown to be within the proposed level of residential car parking provision.

5.0 JUNCTION CAPACITY ASSESSMENT

5.1 Introduction

5.1.1 Junction capacity tests and analysis have been undertaken for the following junctions: -

- Existing Langhurst Wood Road / Mercer Road Priority junction
- Langhurst Wood Road / Proposed Site Access 1 Priority Junction
- Mercer Road / Proposed Site Access 2 Priority Junction
- Mercer Road / Proposed Site Access 3 Priority Junction
- Mercer Road / Proposed Site Access 4 Priority Junction
- Moorhead Roundabout (as existing and as committed to be modified)
- Committed Future Langhurst Wood Road / Mercer Road Roundabout
- Robin Hood Roundabout
- Great Daux Roundabout (with committed improvements)
- Interim A264 Signal Junction
- Future North Horsham West Roundabout
- Rusper Road Roundabout

5.2 Computer Modelling Software

5.2.1 Industry-standard junction capacity modelling software, appropriate to the specific study junction/s, has been used to assess the development traffic effect on their capacity and operation.

5.2.2 The PICADY9 module of the Junctions9 package is an industry standard computer package for modelling the operation of priority (give-way) junctions. PICADY uses the geometry of the junction combined with traffic flow information to predict capacity. The software provides a number of results in its output, the most meaningful of which is the Ratio of Flow to Capacity (RFC), where an RFC of 1.00 on any approach to the junction reflects a traffic demand equal to the theoretical capacity of that approach.

5.2.3 The ARCADY9 computer program is an industry standard computer package for modelling the operation of roundabouts. ARCADY uses the geometry of the junction combined with traffic flow information to predict capacity. The software provides a number of results in its output, the most meaningful of which is the Ratio of Flow to Capacity (RFC), where an RFC of 1.00 on any approach to the junction reflects a traffic demand equal to the theoretical capacity of that approach.

5.2.4 Both ARCADY and PICADY are typically operated using 'One Hour' mode which estimates the traffic profile for an hour-long period based a bell-shaped curve with a 15-minute 'Warm Up' period before, and a 15-minute 'Cool Down' period either side of the 60-minute peak-hour. This simulates the robust scenario of a peak within the peak hour. Queue lengths are reported in units of vehicles (Veh).

5.2.5 LinSig v3 is an industry standard tool for assessing signalised junction layouts. The most useful outputs from the software are the Degree of Saturation (DoS) and the Mean Maximum Queue (MMQ) values. A DoS of 100.0% represents a situation where a link is operating at its theoretical capacity. The results are reported in terms of passenger car units (PCUs).

5.2.6 The model output reports can be provided upon request.

5.3 Capacity Analysis

Existing Langhurst Wood Road / Mercer Road Priority Junction

5.3.1 The PICADY9 computer program has been used to assess the operation of the Langhurst Wood Road / Mercer Road priority junction (as existing).

5.3.2 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks, based on the junction geometry:

- 2029 Base
- 2029 Base + Proposed Development

5.3.3 The results of the PICADY tests are set out at Table 5.1.

Table 5.1 – PICADY Summary – Langhurst Wood Road / Mercer Road Priority Junction

Movement	AM Period			PM Period		
	RFC	Queue (veh)	Delay (sec)	RFC	Queue (veh)	Delay (sec)
	2029 Base					
Mercer Road – Left	0.00	0.0	0.00	0.00	0.0	0.00
Mercer Road – Right	0.00	0.0	0.00	0.02	0.0	8.62
Langhurst Wood Road N – Ahead and Right	0.00	0.0	6.10	0.00	0.0	0.00
	2029 Base + Proposed Development					
Mercer Road – Left	0.04	0.0	6.43	0.02	0.0	5.42
Mercer Road – Right	0.29	0.4	11.55	0.23	0.3	10.12
Langhurst Wood Road N – Ahead and Right	0.03	0.0	6.43	0.03	0.0	4.63

5.3.4 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

5.3.5 Based on this and on the recent collision records, the effect of the proposed development is not likely to have a detrimental effect on highway safety at this junction.

Proposed Langhurst Wood Road / Site Access 1 Priority Junction

5.3.6 The PICADY9 computer program has been used to assess the operation of the Langhurst Wood Road / Site Access 1 Priority Junction.

5.3.7 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks, based on the proposed junction geometry:

- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.8 The results of the PICADY tests are set out at Table 5.2.

Table 5.2 – PICADY Summary – Proposed Langhurst Wood Road / Site Access 1 Priority Junction

Movement	AM Period			PM Period		
	RFC	Queue (veh)	Delay (sec)	RFC	Queue (veh)	Delay (sec)
	2031 Base + Committed Development					
Site Access – Left	0.0	0.0	0.0	0.0	0.0	0.0
Site Access – Right	0.0	0.0	0.0	0.0	0.0	0.0
Langhurst Wood Road N – Ahead and Right	0.0	0.0	0.0	0.0	0.0	0.0
	2031 Base + Committed Development + Proposed Development					
Site Access – Left	0.00	0.0	5.27	0.00	0.0	4.62
Site Access – Right	0.02	0.0	8.62	0.01	0.0	7.96
Langhurst Wood Road N – Ahead and Right	0.00	0.0	0.00	0.00	0.0	4.75

5.3.9 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

Proposed Mercer Road / Site Access 2 Priority Junction

5.3.10 The PICADY9 computer program has been used to assess the operation of the Mercer Road / Site Access 2 Priority Junction.

5.3.11 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks, based on the proposed junction geometry:

- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.12 The results of the PICADY tests are set out at Table 5.3.

Table 5.3 – PICADY Summary – Proposed Mercer Road / Site Access 2 Priority Junction

Movement	AM Period			PM Period		
	RFC	Queue (veh)	Delay (sec)	RFC	Queue (veh)	Delay (sec)
	2031 Base + Committed Development					
Site Access – Left	0.0	0.0	0.0	0.0	0.0	0.0
Site Access – Right	0.0	0.0	0.0	0.0	0.0	0.0
Mercer Road W – Ahead and Right	0.0	0.0	0.0	0.0	0.0	0.0
	2031 Base + Committed Development + Proposed Development					
Site Access – Left	0.00	0.0	0.00	0.00	0.0	0.00
Site Access – Right	0.17	0.2	8.91	0.07	0.1	7.97
Mercer Road W – Ahead and Right	0.00	0.0	0.00	0.00	0.0	0.00

5.3.13 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

Proposed Mercer Road / Site Access 3 Priority Junction

5.3.14 The PICADY9 computer program has been used to assess the operation of the Mercer Road / Site Access 3 Priority Junction.

5.3.15 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks, based on the proposed junction geometry:

- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.16 The results of the PICADY tests are set out at Table 5.4.

Table 5.4 – PICADY Summary – Proposed Mercer Road / Site Access 3 Priority Junction

Movement	AM Period			PM Period		
	RFC	Queue (veh)	Delay (sec)	RFC	Queue (veh)	Delay (sec)
	2031 Base + Committed Development					
Site Access – Left	0.0	0.0	0.0	0.0	0.0	0.0
Site Access – Right	0.0	0.0	0.0	0.0	0.0	0.0
Mercer Road W – Ahead and Right	0.0	0.0	0.0	0.0	0.0	0.0
	2031 Base + Committed Development + Proposed Development					
Site Access – Left	0.00	0.0	0.00	0.00	0.0	0.00
Site Access – Right	0.06	0.1	8.01	0.03	0.0	7.63
Mercer Road W – Ahead and Right	0.00	0.0	0.00	0.00	0.0	0.00

5.3.17 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

Proposed Mercer Road / Site Access 4 Priority Junction

5.3.18 The PICADY9 computer program has been used to assess the operation of the Mercer Road / Site Access 4 Priority Junction.

5.3.19 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks, based on the proposed junction geometry:

- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.20 The results of the PICADY tests are set out at Table 5.5.

Table 5.5 – PICADY Summary – Proposed Mercer Road / Site Access 4 Priority Junction

Movement	AM Period			PM Period		
	RFC	Queue (veh)	Delay (sec)	RFC	Queue (veh)	Delay (sec)
	2031 Base + Committed Development					
Site Access – Left	0.0	0.0	0.0	0.0	0.0	0.0
Site Access – Right	0.0	0.0	0.0	0.0	0.0	0.0
Mercer Road E – Ahead and Right	0.0	0.0	0.0	0.0	0.0	0.0
	2031 Base + Committed Development + Proposed Development					
Site Access – Left	0.05	0.0	5.83	0.10	0.1	6.23
Site Access – Right	0.00	0.0	0.00	0.00	0.0	0.00
Mercer Road E – Ahead and Right	0.10	0.1	6.38	0.04	0.0	6.00

5.3.21 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

Moorhead Roundabout (as existing)

5.3.22 The ARCADY9 computer program has been used to assess the operation of the Moorhead Roundabout (as existing).

5.3.23 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks, based on the junction geometry:

- 2029 Base
- 2029 Base + Proposed Development

5.3.24 The results of the ARCADY tests are set out at Table 5.6.

Table 5.6 – ARCADY Summary – Moorhead Roundabout (as existing)

Movement	AM Period			PM Period		
	RFC	Queue (veh)	Delay (sec)	RFC	Queue (veh)	Delay (sec)
	2029 Base					
A264 Crawley Road	0.96	17.7	28.56	0.84	4.9	8.72
B2195	1.04	26.1	109.64	0.71	2.4	12.15
A264 West	0.83	4.7	9.31	0.88	6.9	13.85
	2029 Base + Proposed Development					
A264 Crawley Road	0.98	22.3	35.19	0.85	5.4	9.55
B2195	1.07	34.2	137.40	0.74	2.7	13.59
A264 West	0.85	5.3	10.39	0.90	8.2	16.15

5.3.25 The capacity analysis indicates that the junction is predicted to operate with an RFC of more than 1.0 on the B2195 arm during the AM peak hour without the development in place, and that the development adds a small amount of demand to this arm. The junction is predicted to operate within absolute capacity during the PM peak hour with the development in place.

Moorhead Roundabout (as committed)

5.3.26 The Moorhead Roundabout, as per the committed improvements under the North Horsham Development) has been assessed using the latest version of the LinSig (v3) computer program.

5.3.27 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks:

- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.28 The results of the LinSig tests are set out at Table 5.7.

Table 5.7 – LinSig Summary – Moorhead Roundabout (as committed)

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development			
1/1 - A264 E Circ Ahead	34.20%	0.3	43.7%	0.4
1/2 - A264 E Circ Right Ahead	36.30%	0.3	45.9%	0.4
2/1 - A264 W Circ Ahead	41.70%	0.6	55.7%	0.7
2/2 - A264 W Circ Right Ahead	39.80%	0.4	54.2%	0.7
3/1 - B2195 Circ Right	73.30%	4.1	66.3%	3.1
3/2 - B2195 Circ U-Turn Right	72.80%	4.7	64.6%	3.0
4/2+4/1 - A264 East Ahead Left	76.5 : 76.5%	15.4	67.4 : 67.4%	12.5
4/3 - A264 East Ahead	68.30%	14	60.4%	11.3
7/1+7/2 - B2195 Right Ahead	76.4 : 76.4%	7.5	73.8 : 73.8%	6.6
9/1 - A264 West Left	69.80%	13.6	70.2%	13.6
9/2+9/3 - A264 West Ahead Left	75.8 : 75.8%	12.6	77.5 : 77.5%	11.0
	PRC:	17.7%	PRC:	16.1%
	2031 Base + Committed Development + Proposed Development			
1/1 - A264 E Circ Ahead	36.1%	0.3	42.6%	0.4
1/2 - A264 E Circ Right Ahead	38.2%	0.3	44.4%	0.4
2/1 - A264 W Circ Ahead	49.3%	0.8	59.0%	0.9
2/2 - A264 W Circ Right Ahead	47.6%	0.6	57.8%	0.8
3/1 - B2195 Circ Right	69.3%	3.9	65.9%	3.1
3/2 - B2195 Circ U-Turn Right	69.9%	6.7	64.2%	3.0
4/2+4/1 - A264 East Ahead Left	76.7 : 76.7%	13.9	68.1 : 68.1%	12.5
4/3 - A264 East Ahead	65.7%	12.8	60.1%	11.3
7/1+7/2 - B2195 Right Ahead	86.8 : 86.7%	9.4	79.0 : 79.0%	7.1
9/1 - A264 West Left	67.5%	12.4	69.7%	13.2
9/2+9/3 - A264 West Ahead Left	73.7 : 74.2%	10.8	78.0 : 78.0%	11.0
	PRC:	3.7%	PRC:	13.9%

5.3.29 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

5.3.30 Based on this and on the recent collision records, the effect of the proposed development is not likely to have a detrimental effect on highway safety at this junction.

Committed Future Langhurst Wood Road / Mercer Road Roundabout

5.3.31 The ARCADY9 computer program has been used to assess the operation of the committed future Langhurst Wood Road / Mercer Road Roundabout, as per the North Horsham Development.

5.3.32 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks, based on the proposed junction geometry:

- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.33 The results of the ARCADY tests are set out at Table 5.8.

Table 5.8 – ARCADY Summary – Committed Future Langhurst Wood Road / Mercer Road Roundabout

Movement	AM Period			PM Period		
	RFC	Queue (veh)	Delay (sec)	RFC	Queue (veh)	Delay (sec)
	2031 Base + Committed Development					
Langhurst Wood Road N	0.06	0.1	4.62	0.28	0.4	4.04
Site Access Road	0.26	0.4	3.75	0.04	0.0	2.90
Langhurst Wood Road S	0.00	0.0	0.00	0.00	0.0	0.00
Mercer Road	0.00	0.0	0.00	0.01	0.0	4.76
	2031 Base + Committed Development + Proposed Development					
Langhurst Wood Road N	0.08	0.1	4.44	0.31	0.4	4.42
Site Access Road	0.33	0.5	4.09	0.12	0.1	3.04
Langhurst Wood Road S	0.00	0.0	0.00	0.00	0.0	0.00
Mercer Road	0.20	0.3	6.23	0.14	0.2	4.87

5.3.34 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

Robin Hood Roundabout

5.3.35 The Robin Hood Roundabout has been assessed using the latest version of the LinSig (v3) computer program, based on the existing (recently-completed) layout of the junction.

5.3.36 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks:

- 2029 Base
- 2029 Base + Proposed Development
- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.37 The results of the LinSig tests are set out at Table 5.9.

Table 5.9 – LinSig Summary – Robin Hood Roundabout

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2029 Base			
1/2+1/1 - A24 North Left Ahead	45.2 : 45.2%	2.8	56.1 : 56.1%	4.0
1/3+1/4 - A24 North Ahead	49.0 : 48.7%	3.5	61.1 : 61.0%	4.9
2/2+2/1 - Warnham Road Left	44.3 : 44.3%	2.0	44.1 : 44.3%	2.0
2/3+2/4 - Warnham Road Ahead	25.9 : 25.9%	1.2	20.0 : 20.0%	0.9
3/1 - A24 South Left Ahead	62.0%	5.1	54.7%	4.2
3/2+3/3 - A24 South Ahead	78.5 : 66.4%	8.0	72.5 : 59.0%	6.9
4/1+4/2 - Robin Hood Lane Left Ahead	10.2 : 10.2%	0.2	8.1 : 8.1%	0.2
9/1 - Internal North Ahead	49.4%	2.9	41.3%	2.4
9/2 - Internal North Ahead Right	50.0%	2.9	41.9%	2.3
10/1 - Internal East Ahead	41.3%	1.0	53.4%	1.4
10/2 - Internal East Ahead	47.6%	1.2	59.1%	1.7
10/3 - Internal East Ahead Right	46.8%	1.2	58.7%	1.6
11/1 - Internal South Ahead Right	26.5%	0.7	20.3%	0.5
11/2 - Internal South Right	26.2%	0.5	20.4%	0.4
	PRC:	14.6%	PRC:	24.1%

Table 5.9 – LinSig Summary – Robin Hood Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2029 Base + Proposed Development			
1/2+1/1 - A24 North Left Ahead	46.7 : 46.7%	2.9	58.0 : 58.0%	4.1
1/3+1/4 - A24 North Ahead	50.1 : 49.7%	3.6	61.5 : 61.4%	4.9
2/2+2/1 - Warnham Road Left	44.3 : 44.3%	2.0	44.1 : 44.3%	2.0
2/3+2/4 - Warnham Road Ahead	27.2 : 27.2%	1.3	21.2 : 21.4%	1.0
3/1 - A24 South Left Ahead	63.0%	5.3	55.8%	4.3
3/2+3/3 - A24 South Ahead	79.4 : 66.9%	8.1	73.8 : 59.7%	7.1
4/1+4/2 - Robin Hood Lane Left Ahead	10.4 : 10.4%	0.2	8.2 : 8.2%	0.2
9/1 - Internal North Ahead	49.4%	2.9	41.3%	2.4
9/2 - Internal North Ahead Right	50.0%	2.9	41.9%	2.3
10/1 - Internal East Ahead	42.5%	1.0	54.9%	1.5
10/2 - Internal East Ahead	48.6%	1.3	59.5%	1.7
10/3 - Internal East Ahead Right	47.6%	1.2	59.2%	1.6
11/1 - Internal South Ahead Right	27.7%	0.7	21.9%	0.5
11/2 - Internal South Right	27.6%	0.5	21.9%	0.4
	PRC:	14.6%	PRC:	21.9%

Table 5.9 – LinSig Summary – Robin Hood Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development			
1/2+1/1 - A24 North Left Ahead	47.6 : 47.6%	3.0	63.7 : 63.7%	4.9
1/3+1/4 - A24 North Ahead	51.3 : 50.9%	3.8	67.9 : 67.8%	6.0
2/2+2/1 - Warnham Road Left	42.1 : 42.1%	1.9	41.8 : 42.1%	1.9
2/3+2/4 - Warnham Road Ahead	28.1 : 28.1%	1.4	20.7 : 20.7%	1.0
3/1 - A24 South Left Ahead	75.7%	7.4	61.4%	5.0
3/2+3/3 - A24 South Ahead	84.2 : 68.0%	9.1	72.6 : 58.0%	6.9
4/1+4/2 - Robin Hood Lane Left Ahead	10.6 : 10.6%	0.3	7.8 : 7.8%	0.2
9/1 - Internal North Ahead	47.3%	2.6	39.2%	2.2
9/2 - Internal North Ahead Right	47.1%	2.7	39.8%	2.2
10/1 - Internal East Ahead	43.7%	1.1	60.6%	1.8
10/2 - Internal East Ahead	49.7%	1.3	65.6%	2.0
10/3 - Internal East Ahead Right	48.8%	1.2	65.4%	1.9
11/1 - Internal South Ahead Right	28.8%	0.7	21.3%	0.5
11/2 - Internal South Right	28.5%	0.5	21.2%	0.4
	PRC:	6.8	PRC:	24.0

Table 5.9 – LinSig Summary – Robin Hood Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development + Proposed Development			
1/2+1/1 - A24 North Left Ahead	49.2 : 49.2%	3.1	65.7 : 65.7%	5.0
1/3+1/4 - A24 North Ahead	52.1 : 51.9%	3.9	68.2 : 68.2%	6.0
2/2+2/1 - Warnham Road Left	42.1 : 42.1%	1.9	41.8 : 42.1%	1.9
2/3+2/4 - Warnham Road Ahead	29.4 : 29.4%	1.4	22.4 : 22.4%	1.1
3/1 - A24 South Left Ahead	76.7%	7.8	62.3%	5.3
3/2+3/3 - A24 South Ahead	85.1 : 68.5%	9.5	74.0 : 58.7%	7.1
4/1+4/2 - Robin Hood Lane Left Ahead	10.8 : 10.8%	0.3	8.0 : 8.0%	0.2
9/1 - Internal North Ahead	47.3%	2.6	39.2%	2.2
9/2 - Internal North Ahead Right	47.1%	2.7	39.8%	2.2
10/1 - Internal East Ahead	44.8%	1.1	62.4%	1.9
10/2 - Internal East Ahead	50.6%	1.3	65.8%	2.0
10/3 - Internal East Ahead Right	49.8%	1.2	65.8%	2.0
11/1 - Internal South Ahead Right	30.0%	0.7	22.7%	0.5
11/2 - Internal South Right	29.8%	0.6	22.9%	0.4
	PRC:	5.8	PRC:	21.6

5.3.38 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

5.3.39 Based on this and on the recent collision records, the effect of the proposed development is not likely to have a detrimental effect on highway safety at this junction.

Great Daux Roundabout

5.3.40 The Great Daux Roundabout has been assessed using the latest version of the LinSig (v3) computer program. The roundabout is committed to undergo an improvement scheme as part of the West Horsham and Broadbridge Heath development, based on a junction layout drawn by WSP. Following the North Horsham Development, a further improvement scheme has been committed, based on a junction layout drawn by PBA on top of the WSP scheme.

5.3.41 This assessment is based on the assumption that the WSP scheme will be in place by the 2029 scenario, and that the PBA scheme will be in place by the 2031 scenario.

5.3.42 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks:

- 2029 Base, WSP layout
- 2029 Base + Proposed Development, WSP layout

- 2031 Base + Committed Development, PBA layout
- 2031 Base + Committed Development + Proposed Development, PBA layout

5.3.43 The results of the LinSig tests are set out at Table 5.10.

Table 5.10 – LinSig Summary – Great Daux Roundabout

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2029 Base, WSP layout			
1/2+1/1 - A24 South Left Ahead	74.7 : 74.7%	10.1	70.8 : 70.8%	9.2
1/3 - A24 South Ahead	73.2%	10.2	67.9%	8.9
2/1 - Internal @ A24 (South) Ahead	72.0%	5.8	54.3%	2.9
2/2 - Internal @ A24 (South) Ahead Right	71.1%	5.2	51.2%	2.2
4/2+4/1 - A24 Dorking Road Ahead Right	72.1 : 72.2%	5.0	69.3 : 69.4%	5.9
4/3 - A24 Dorking Road Right	55.7%	3.6	55.9%	4.6
6/1 - Internal @ A24 Dorking Road Right	50.6%	0.8	53.8%	0.9
6/2 - Internal @ A24 Dorking Road Right	48.6%	0.7	50.4%	0.8
8/2+8/1 - A264 Left	63.6 : 63.6%	6.7	68.2 : 68.2%	8.7
8/3+8/4 - A264 Ahead	48.8 : 48.8%	4.4	30.6 : 30.6%	2.1
9/1 - Internal @ A264 Right	35.8%	1.6	54.0%	2.2
9/2 - Internal @ A264 Right	56.1%	2.5	56.2%	1.9
	PRC:	20.4%	PRC:	27.2%

Table 5.10 – LinSig Summary – Great Daux Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2029 Base + Proposed Development, WSP layout			
1/2+1/1 - A24 South Left Ahead	76.4 : 76.4%	10.6	73.1 : 73.1%	9.8
1/3 - A24 South Ahead	75.4%	10.8	69.7%	9.4
2/1 - Internal @ A24 (South) Ahead	72.2%	5.8	54.7%	2.9
2/2 - Internal @ A24 (South) Ahead Right	71.3%	5.2	51.6%	2.2
4/2+4/1 - A24 Dorking Road Ahead Right	72.5 : 72.2%	5.0	68.7 : 69.0%	5.9
4/3 - A24 Dorking Road Right	55.7%	3.6	57.1%	4.8
6/1 - Internal @ A24 Dorking Road Right	51.8%	0.8	55.7%	0.9
6/2 - Internal @ A24 Dorking Road Right	49.9%	0.7	51.9%	0.8
8/2+8/1 - A264 Left	66.1 : 66.1%	7.0	70.2 : 70.2%	9.2
8/3+8/4 - A264 Ahead	49.0 : 49.0%	4.4	30.8 : 30.8%	2.1
9/1 - Internal @ A264 Right	35.8%	1.6	52.7%	2.1
9/2 - Internal @ A264 Right	56.1%	2.5	57.5%	2.0
	PRC:	17.8%	PRC:	23.0%

Table 5.10 – LinSig Summary – Great Daux Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development, PBA layout			
1/2+1/1 - A24 South Left Ahead	79.0 : 64.1%	8.8	64.1 : 60.6%	6.6
1/3+1/4 - A24 South Ahead	76.4 : 76.1%	9.1	66.3 : 65.8%	7.2
2/1 - Internal @ A24 (South) Ahead	51.8%	1.4	47.9%	1.1
2/2 - Internal @ A24 (South) Ahead Right	51.6%	1.4	47.9%	1.1
4/2+4/1 - A24 Dorking Road Ahead Right	80.1 : 79.8%	6.1	63.0 : 62.9%	5.9
4/3 - A24 Dorking Road Right	59.7%	3.9	50.7%	4.7
6/1 - Internal @ A24 Dorking Road Right	40.7%	0.6	40.0%	0.6
6/2 - Internal @ A24 Dorking Road Right	38.4%	0.6	40.8%	0.6
6/3 - Internal @ A24 Dorking Road Right	38.6%	0.6	40.9%	0.6
8/2+8/1 - A264 Left	68.3 : 68.3%	7.5	57.1 : 57.1%	7.0
8/3+8/4 - A264 Ahead Left	0.0 : 78.8%	11.0	49.0 : 64.2%	6.1
9/1 - Internal @ A264 Right	26.7%	1.2	34.7%	1.0
9/2 - Internal @ A264 Right	60.1%	2.9	51.0%	1.4
	PRC:	12.4%	PRC:	35.8%

Table 5.10 – LinSig Summary – Great Daux Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development + Proposed Development, PBA layout			
1/2+1/1 - A24 South Left Ahead	81.4 : 64.3%	9.2	63.0 : 58.0%	6.6
1/3+1/4 - A24 South Ahead	77.8 : 77.5%	9.4	64.7 : 64.1%	7.1
2/1 - Internal @ A24 (South) Ahead	51.9%	1.4	48.2%	1.1
2/2 - Internal @ A24 (South) Ahead Right	51.8%	1.4	48.2%	1.1
4/2+4/1 - A24 Dorking Road Ahead Right	80.1 : 80.1%	6.1	67.0 : 67.0%	6.2
4/3 - A24 Dorking Road Right	59.7%	3.9	54.0%	4.9
6/1 - Internal @ A24 Dorking Road Right	41.9%	0.6	40.4%	0.6
6/2 - Internal @ A24 Dorking Road Right	39.1%	0.6	40.7%	0.6
6/3 - Internal @ A24 Dorking Road Right	39.3%	0.6	40.7%	0.6
8/2+8/1 - A264 Left	70.8 : 70.8%	8.1	57.3 : 57.3%	6.8
8/3+8/4 - A264 Ahead Left	0.0 : 79.1%	11.1	49.5 : 64.6%	6.1
9/1 - Internal @ A264 Right	26.7%	1.2	36.6%	1.2
9/2 - Internal @ A264 Right	60.1%	2.9	54.4%	1.6
	PRC:	10.6%	PRC:	34.3%

5.3.44 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

5.3.45 Based on this and on the recent collision records, the effect of the proposed development is not likely to have a detrimental effect on highway safety at this junction.

Interim A264 Signal Junction

5.3.46 The interim signal junction been assessed using the latest version of the LinSig (v3) computer program.

5.3.47 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks:

- 2029 Base + Proposed Development

5.3.48 The results of the LinSig tests are set out at Table 5.11.

Table 5.11 – LinSig Summary – Interim A264 Signal Junction

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2029 Base + Proposed Development			
1/2+1/1 - A264 West entry Ahead Left	58.5 : 58.5%	8.1	72.1 : 72.1%	9.6
1/3 - A264 West entry Ahead	56.7%	9.0	71.3%	10.0
2/1 - Langhurst Wood Road entry Left	41.5%	3.5	72.3%	6.9
3/1 - A264 East entry Ahead	68.7%	11.7	69.7%	9.4
3/2+3/3 - A264 East entry Right Ahead	74.1 : 74.1%	12.1	71.9 : 71.9%	10.4
4/1 - A264 East exit	38.7%	0.3	41.9%	0.4
4/2 - A264 East exit	42.9%	0.4	55.0%	0.6
5/1 - Langhurst Wood Road exit	21.6%	0.1	7.6%	0.0
6/1 - A264 West exit	47.4%	0.5	40.8%	0.3
6/2 - A264 West exit	45.8%	0.4	42.0%	0.4
	PRC:	21.5%	PRC:	24.4%

5.3.49 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

Future North Horsham West Roundabout

5.3.50 The future Horsham West Roundabout has been assessed using the latest version of the LinSig (v3) computer program.

5.3.51 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks:

- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.52 The results of the LinSig tests are set out at Table 5.12.

Table 5.12 – LinSig Summary – Future North Horsham West Roundabout

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development			
1/1 - A264 East Ahead	48.9%	5.5	56.4%	6.9
1/2+1/3 - A264 East Ahead	68.4 : 68.4%	6.0	76.5 : 76.5%	7.5
2/1 - A264 East Circ Ahead Right	18.5%	0.9	28.0%	0.8
2/2 - A264 East Circ Right	25.1%	1.3	38.4%	0.6
5/1 - Bus Gate Circ Ahead	56.8%	3.6	66.8%	5.4
5/2 - Bus Gate Circ Ahead	55.5%	3.6	62.5%	4.5
5/3 - Bus Gate Circ Ahead Right	54.7%	3.4	62.0%	4.3
6/1 - Bus Gate Ahead	2.4%	0.2	2.4%	0.2
8/1 - A264 West Circ Ahead	31.0%	2.1	20.5%	1.4
8/2 - A264 West Circ Right Ahead	35.4%	2.4	22.8%	1.8
9/2+9/1 - A264 West Ahead Ahead2	69.8 : 69.8%	8.1	59.4 : 59.4%	5.8
9/3 - A264 West Ahead	50.3%	6.7	42.1%	5.2
10/1 - Site Access Circ Ahead	31.0%	0.4	41.6%	1.4
10/2 - Site Access Circ Ahead	48.4%	1.6	47.9%	1.8
10/3 - Site Access Circ Ahead	51.8%	0.9	47.7%	1.8
11/1 - Site Access Exit Ahead	33.3%	2.2	14.2%	0.7
11/2 - Site Access Exit Ahead	9.0%	0.0	5.8%	0.0
12/1+12/2 - Site Access Ahead Left	46.7 : 46.7%	3.3	73.3 : 73.3%	7.5
	PRC:	29.0%	PRC:	17.6%

Table 5.12 – LinSig Summary – Future North Horsham West Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development + Proposed Development			
1/1 - A264 East Ahead	50.8%	5.7	61.4%	8.5
1/2+1/3 - A264 East Ahead	69.1 : 69.1%	6.1	77.2 : 77.2%	8.4
2/1 - A264 East Circ Ahead Right	14.0%	0.2	3.3%	0.1
2/2 - A264 East Circ Right	51.4%	0.8	62.1%	1.4
5/1 - Bus Gate Circ Ahead	58.3%	3.7	65.6%	3.7
5/2 - Bus Gate Circ Ahead	58.4%	4.4	66.6%	5.6
5/3 - Bus Gate Circ Ahead Right	57.6%	4.1	66.0%	5.1
6/1 - Bus Gate Ahead	2.4%	0.2	2.4%	0.2
8/1 - A264 West Circ Ahead	36.8%	2.6	27.3%	2.0
8/2 - A264 West Circ Right Ahead	40.8%	3.2	29.2%	2.3
9/2+9/1 - A264 West Ahead Ahead2	70.8 : 70.8%	8.5	60.9 : 60.9%	6.1
9/3 - A264 West Ahead	51.3%	7.0	42.8%	5.3
10/1 - Site Access Circ Ahead	29.7%	0.4	40.4%	1.2
10/2 - Site Access Circ Ahead	48.7%	2.2	48.3%	1.8
10/3 - Site Access Circ Ahead	52.8%	0.9	48.5%	2.2
11/1 - Site Access Exit Ahead	37.2%	2.5	18.9%	0.9
11/2 - Site Access Exit Ahead	10.4%	0.1	7.5%	0.0
12/1+12/2 - Site Access Ahead Left	61.2 : 42.1%	4.5	73.0 : 73.0%	7.4
	PRC:	27.1%	PRC:	16.6%

5.3.53 The capacity analysis indicates that the junction is predicted to operate within capacity in the future scenarios with the development in place.

Rusper Road Roundabout

5.3.54 The Rusper Road Roundabout has been assessed using the latest version of the LinSig (v3) computer program.

5.3.55 The operation of the junction has been assessed for the following scenarios in the weekday AM/PM peaks:

- 2029 Base

- 2029 Base + Proposed Development
- 2031 Base + Committed Development
- 2031 Base + Committed Development + Proposed Development

5.3.56 The results of the LinSig tests are set out at Table 5.13.

Table 5.13 – LinSig Summary – Rusper Road Roundabout

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2029 Base			
1/2+1/1 - A264 East Ahead Left	68.6 : 68.6%	11.3	54.3 : 54.3%	7.8
1/3 - A264 East Ahead	48.9%	8.5	36.9%	5.8
2/1 - A264 East Circ Ahead	41.3%	4.3	48.2%	4.3
2/2 - A264 East Circ Right Ahead	57.6%	6.0	52.6%	4.5
2/3 - A264 East Circ Right	40.1%	4.0	35.6%	2.4
4/2+4/1 - Rusper Rd South Left Ahead	78.3 : 78.3%	14.7	54.8 : 54.8%	7.2
5/1 - Rusper Rd South Circ Ahead	70.3%	8.0	26.5%	3.0
5/2 - Rusper Rd South Circ Ahead	77.3%	10.4	45.4%	3.7
5/3 - Rusper Rd South Circ Ahead Right	78.1%	11.5	45.1%	5.0
5/4 - Rusper Rd South Circ Right	22.8%	2.2	2.2%	0.1
7/1 - A264 West Circ Ahead	53.7%	6.3	28.7%	0.9
7/2 - A264 West Circ Right Ahead	45.1%	6.9	37.6%	1.4
7/3 - A264 West Circ Right	39.0%	3.5	38.5%	0.9
8/2+8/1 - A264 West Ahead Left	54.4 : 54.4%	8.6	59.8 : 59.8%	6.8
8/3 - A264 West Ahead	39.0%	6.9	40.5%	6.4
9/1 - Rusper Rd North Circ Ahead	37.5%	3.4	43.7%	4.3
9/2 - Rusper Rd North Circ Ahead	48.2%	3.9	46.3%	3.4
9/3 - Rusper Rd North Circ Right Ahead	45.6%	3.3	48.4%	2.7
10/2+10/1 - Rusper Rd North Ahead Left	44.5 : 44.5%	4.2	26.2 : 27.1%	1.9
10/3+10/4 - Rusper Rd North Ahead	39.5 : 39.5%	4.2	31.2 : 30.5%	2.5
11/1 - Rusper Rd South Exit Ahead	29.9%	1.3	38.0%	2.0
11/2 - Rusper Rd South Exit Ahead	12.2%	0.1	10.1%	0.1
	PRC:	14.9%	PRC:	50.6%

Table 5.13 – LinSig Summary – Rusper Road Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2029 Base + Proposed Development			
1/2+1/1 - A264 East Ahead Left	71.8 : 71.8%	13.0	55.7 : 55.7%	8.3
1/3 - A264 East Ahead	53.5%	10.0	39.2%	6.4
2/1 - A264 East Circ Ahead	44.0%	2.8	48.7%	4.6
2/2 - A264 East Circ Right Ahead	49.5%	2.7	53.2%	4.8
2/3 - A264 East Circ Right	36.0%	1.8	39.6%	3.2
4/2+4/1 - Rusper Rd South Left Ahead	80.0 : 80.0%	15.2	57.0 : 57.0%	7.4
5/1 - Rusper Rd South Circ Ahead	73.1%	8.5	28.0%	3.2
5/2 - Rusper Rd South Circ Ahead	78.1%	14.7	47.4%	4.4
5/3 - Rusper Rd South Circ Ahead Right	79.1%	12.4	45.8%	4.5
5/4 - Rusper Rd South Circ Right	22.2%	1.8	2.4%	0.1
7/1 - A264 West Circ Ahead	57.2%	6.6	25.8%	0.7
7/2 - A264 West Circ Right Ahead	48.5%	7.2	36.2%	1.3
7/3 - A264 West Circ Right	41.9%	3.8	36.5%	0.8
8/2+8/1 - A264 West Ahead Left	58.0 : 58.0%	9.0	62.8 : 62.8%	7.6
8/3 - A264 West Ahead	41.2%	7.3	43.1%	7.1
9/1 - Rusper Rd North Circ Ahead	37.9%	3.4	45.7%	4.2
9/2 - Rusper Rd North Circ Ahead	48.6%	3.9	48.3%	3.4
9/3 - Rusper Rd North Circ Right Ahead	47.1%	3.3	50.6%	2.5
10/2+10/1 - Rusper Rd North Ahead Left	31.8 : 53.4%	4.3	27.2 : 27.1%	2.0
10/3+10/4 - Rusper Rd North Ahead	38.2 : 37.4%	3.6	31.5 : 29.9%	2.5
11/1 - Rusper Rd South Exit Ahead	33.0%	1.4	38.9%	2.0
11/2 - Rusper Rd South Exit Ahead	10.4%	0.1	10.1%	0.1
	PRC:	12.5%	PRC:	43.4%

Table 5.13 – LinSig Summary – Rusper Road Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development			
1/2+1/1 - A264 East Ahead Left	78.0 : 78.0%	15.7	66.5 : 66.5%	11.8
1/3 - A264 East Ahead	73.2%	17.5	54.8%	10.6
2/1 - A264 East Circ Ahead	30.2%	4.1	57.7%	3.8
2/2 - A264 East Circ Right Ahead	62.8%	1.3	57.1%	5.5
2/3 - A264 East Circ Right	55.3%	0.8	51.8%	0.7
4/2+4/1 - Rusper Rd South Left Ahead	90.9 : 90.9%	25.0	65.9 : 65.9%	10.1
5/1 - Rusper Rd South Circ Ahead	85.1%	13.1	53.1%	7.2
5/2 - Rusper Rd South Circ Ahead	85.7%	17.0	64.5%	6.8
5/3 - Rusper Rd South Circ Ahead Right	84.3%	15.9	58.9%	9.0
5/4 - Rusper Rd South Circ Right	71.0%	7.3	25.2%	1.4
7/1 - A264 West Circ Ahead	61.1%	5.5	52.9%	3.7
7/2 - A264 West Circ Right Ahead	67.7%	11.8	51.1%	6.9
7/3 - A264 West Circ Right	57.5%	9.3	36.2%	2.0
8/2+8/1 - A264 West Ahead Left	67.7 : 67.7%	13.8	65.9 : 65.9%	11.1
8/3 - A264 West Ahead	53.1%	10.4	47.1%	8.9
9/1 - Rusper Rd North Circ Ahead	58.8%	8.8	42.5%	3.1
9/2 - Rusper Rd North Circ Ahead	68.4%	6.8	56.7%	6.1
9/3 - Rusper Rd North Circ Right Ahead	66.7%	6.7	56.4%	3.1
10/2+10/1 - Rusper Rd North Ahead Left	71.5 : 71.5%	9.3	48.2 : 47.1%	5.6
10/3+10/4 - Rusper Rd North Ahead	59.2 : 59.2%	7.4	66.5 : 66.5%	8.7
11/1 - Rusper Rd South Exit Ahead	28.5%	1.3	45.3%	1.7
11/2 - Rusper Rd South Exit Ahead	17.9%	0.1	10.0%	0.1
	PRC:	-1.0%	PRC:	35.3%

Table 5.13 – LinSig Summary – Rusper Road Roundabout *continued*:

Junction Approach	AM		PM	
	DoS	MMQ	DoS	MMQ
	2031 Base + Committed Development + Proposed Development			
1/2+1/1 - A264 East Ahead Left	78.0 : 78.0%	15.7	67.8 : 67.8%	12.3
1/3 - A264 East Ahead	73.0%	17.5	56.2%	11.0
2/1 - A264 East Circ Ahead	35.7%	4.7	56.9%	4.0
2/2 - A264 East Circ Right Ahead	64.6%	1.4	56.6%	5.1
2/3 - A264 East Circ Right	58.0%	0.9	50.0%	0.7
4/2+4/1 - Rusper Rd South Left Ahead	92.9 : 92.9%	26.8	67.5 : 67.5%	10.5
5/1 - Rusper Rd South Circ Ahead	84.2%	12.4	52.5%	7.1
5/2 - Rusper Rd South Circ Ahead	85.3%	17.3	65.3%	6.3
5/3 - Rusper Rd South Circ Ahead Right	83.3%	15.6	58.7%	9.0
5/4 - Rusper Rd South Circ Right	68.1%	6.6	24.7%	1.3
7/1 - A264 West Circ Ahead	63.7%	6.7	54.8%	3.3
7/2 - A264 West Circ Right Ahead	69.0%	12.2	53.0%	6.8
7/3 - A264 West Circ Right	59.1%	9.6	38.0%	2.0
8/2+8/1 - A264 West Ahead Left	69.5 : 69.5%	14.0	67.6 : 67.6%	11.2
8/3 - A264 West Ahead	54.6%	10.9	47.4%	8.9
9/1 - Rusper Rd North Circ Ahead	59.2%	8.8	42.6%	3.1
9/2 - Rusper Rd North Circ Ahead	68.9%	7.0	56.0%	5.5
9/3 - Rusper Rd North Circ Right Ahead	67.3%	6.6	58.2%	4.1
10/2+10/1 - Rusper Rd North Ahead Left	74.7 : 74.7%	9.7	50.4 : 49.5%	5.7
10/3+10/4 - Rusper Rd North Ahead	60.1 : 60.1%	7.5	68.3 : 68.3%	8.8
11/1 - Rusper Rd South Exit Ahead	29.9%	1.3	45.8%	1.7
11/2 - Rusper Rd South Exit Ahead	17.6%	0.1	10.4%	0.1
	PRC:	-3.2%	PRC:	31.8%

5.3.57 The Rusper Road south approach is shown to have a DOS of 90.9 in 2031 AM peak without the proposed development, which increases to 92.9 with the addition of the proposed development traffic.

5.3.58 Nonetheless, the capacity analysis indicates that the junction is predicted to operate within absolute capacity in the future scenarios with the development in place.

5.3.59 Based on this and on the recent collision records, the effect of the proposed development is not likely to have a detrimental effect on highway safety at this junction.

5.4 Section Conclusions

5.4.1 Industry-standard junction capacity modelling software, appropriate to the specific study junction/s, has been used to assess the development traffic effect on their capacity and operation.

5.4.2 The analysis shows than all of the study junctions will operate within capacity in all relevant assessment scenarios with the exception of the following junctions:

5.4.3 Moorhead Roundabout in its existing form: The capacity analysis indicates that the junction is predicted to operate with an RFC of more than 1.0 on the B2195 arm during the 2029AM peak hour without the proposed development in place, and that the proposed development adds a small amount of demand to this arm. The junction is predicted to operate within absolute capacity during the 2029 PM peak hour with the development in place. The junction is shown to operate within capacity in all 2031 scenarios based on the committed improvement (signalised) scheme associated with the North Horsham Development.

5.4.4 Rusper Road Roundabout: The Rusper Road south approach is shown to have a DOS of 90.9 in 2031 AM peak without the proposed development, which increases to 92.9 with the addition of the proposed development traffic. Nonetheless, the capacity analysis indicates that the junction is predicted to operate within absolute capacity in the future scenarios with the development in place.

5.4.5 Overall therefore, the traffic effect of the proposed development is acceptable.

6.0 SUMMARY AND CONCLUSIONS

6.1 Summary

6.1.1 Connect Consultants Limited is a firm of transport planning and highway design consultants that have been instructed by Riverdale in relation to a proposed mixed-use residential-led development on land at Mercer Road, Horsham, West Sussex.

6.1.2 The Site is included within the draft Horsham Local Plan as a potential allocation site for residential development.

6.1.3 The proposal is for a mixed-use residential-led development to provide 304 residential dwellings comprising 65 flats and 239 houses, a small convenience store of 190sqm Gross Floor Area (GFA) and a car park comprising 50 spaces to serve Warnham train station.

6.1.4 The Site will be accessed via four new priority junctions; three on Mercer Road and one on Langhurst Wood Road.

6.1.5 A non-vehicular access (except for emergency vehicles) is proposed for pedestrians and cyclists at the southeastern corner of the Site onto Langhurst Wood Road.

6.1.6 A new footway is proposed on Langhurst Wood Road.

6.1.7 With the proposed new footway and signal controlled crossing facilities over the A264, the Site will be connected to the local pedestrian network and a range of services/facilities within walking distance.

6.1.8 There are also opportunities for future residents and staff of the proposed convenience store to make trips by bike.

6.1.9 The bus stops local to the Site are served by bus services which provide access to / from a variety of destinations.

6.1.10 Warnham rail station is located adjacent to the Site's western boundary providing future residents with the option to travel by train. The station can be accessed via foot or cycle.

6.1.11 The proposal site also has a prominent location relative to the local highway network, and the recent local collision records indicate that there is no existing road safety problem in the vicinity of the Site.

6.1.12 Overall, the site has a good level of accessibility by all relevant transport modes, thereby complying with national and local transport planning policy.

6.1.13 Residential and retail parking is proposed in accordance with the adopted local standards.

6.1.14 The proposed site access junctions have been designed in accordance with the DMRB standards for a 40mph speed limit.

6.1.15 Swept path analysis shows that the access arrangements and layout of the proposed development are suitable for the largest vehicles that are expected to use the site.

6.1.16 It is proposed that the existing A264 / Langhurst Wood Road left-in-left-out priority-controlled junction will be upgraded to a signal-controlled junction, incorporating signal-controlled pedestrian crossings over the A264.

6.1.17 The proposal includes a reduction of the speed limit to 50mph on the A264.

6.1.18 The interim signal-controlled junction will be removed upon delivery of the North of Horsham development western A264 roundabout and its associated infrastructure and stopping-up of Langhurst Wood Road.

6.1.19 At that stage, it is proposed to install new signal-controlled crossing facilities on the western approach to the North of Horsham 'western' roundabout.

6.1.20 All of the proposed junctions have been subject to a Stage 1 Road Safety Audit.

6.1.21 The traffic analysis has been based on traffic surveys undertaken in January 2024. The turning count surveys were undertaken during a period which is robustly representative of the typical peak-hour traffic conditions.

6.1.22 The industry-standard TEMPRO database (Version 8.0) has been used to derive traffic growth factors to apply to the 2024 baseline traffic data to forecast the background traffic levels in two assessment years: 2029 and 2031, taking into account the traffic flows associated with the adjacent North Horsham Development.

6.1.23 The industry-standard TRICS database, combined with a robust assumption of travel modes based on Census data, has been used to identify the average vehicle trip rates for the proposed residential development.

6.1.24 To ensure a robust assessment, it is assumed that all 50 spaces of the proposed Warnham Station car park will be occupied, and that 50 vehicles will arrive during the weekday AM peak hour and 50 vehicles will depart during the weekday PM peak hour.

6.1.25 The TRICS data shows that the proposed development could attract an average of 179 vehicle movements in the weekday AM peak hour, and 166 vehicle movements in the weekday PM peak hour.

6.1.26 The distribution of the proposed development traffic on the surrounding road network is based on Census journey-to-work data.

6.1.27 The anticipated car parking demand has been calculated using Census data, and is shown to be within the proposed level of residential car parking provision

6.1.28 Industry-standard junction capacity modelling software, appropriate to the specific study junction/s, has been used to assess the development traffic effect on their capacity and operation.

6.1.29 The analysis shows than all of the study junctions will operate within capacity in all relevant assessment scenarios with the exception of two junctions:

6.1.30 Moorhead Roundabout in its existing form – the capacity analysis indicates that the junction is predicted to operate slightly overcapacity on the B2195 arm during the 2029 AM peak hour without the proposed development in place, and that the proposed development adds a small amount of demand to this arm. However, the junction is shown to operate within capacity in all 2031 scenarios based on the committed improvement (signalised) scheme associated with the North Horsham Development.

6.1.31 Rusper Road Roundabout: The Rusper Road south approach is shown to have a DOS of 90.9 in 2031 AM peak without the proposed development, which increases to 92.9 with the addition of the proposed development traffic. Nonetheless, the capacity analysis indicates that the junction is predicted to operate within absolute capacity in the future scenarios with the development in place.

6.1.32 Based on the capacity assessment results and on the recent collision records within the study area, the effect of the proposed development is not likely to have a detrimental effect on highway safety.

6.2 Conclusions

6.2.1 The proposal is shown to accord with Policy 40 of the Horsham District Planning Framework and with Paragraphs 115 and 117of the NPPF.

6.2.2 Overall, the scale of residual impact cannot be considered to be severe when viewed in the context of the NPPF planning test (NPPF paragraph 116).

6.2.3 There are therefore no highways and transport reasons to refuse this planning application.

APPENDIX 1 – PROPOSED SITE LAYOUT

Warnham
Station
Tuckhurst
Lower Lane House
Northlands Cottage
Middlemead Barn
Meadowview Cottage
Southlands Cottage
Station Cottage
Dryplatts Cottages
Farm
Ponsbet Farm
Ponsbet House
Ponsbet Cottage
Abbotsbea
Home Farm