Transport Assessment

Land at Kings Copse Avenue

Client: Eastleigh Borough Council

i-Transport Ref: SJ/OT/SG/DG/ITS19785-003

Date: 25 September 2025

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Quality Management

Report No.	Comments	Date	Author	Authorised
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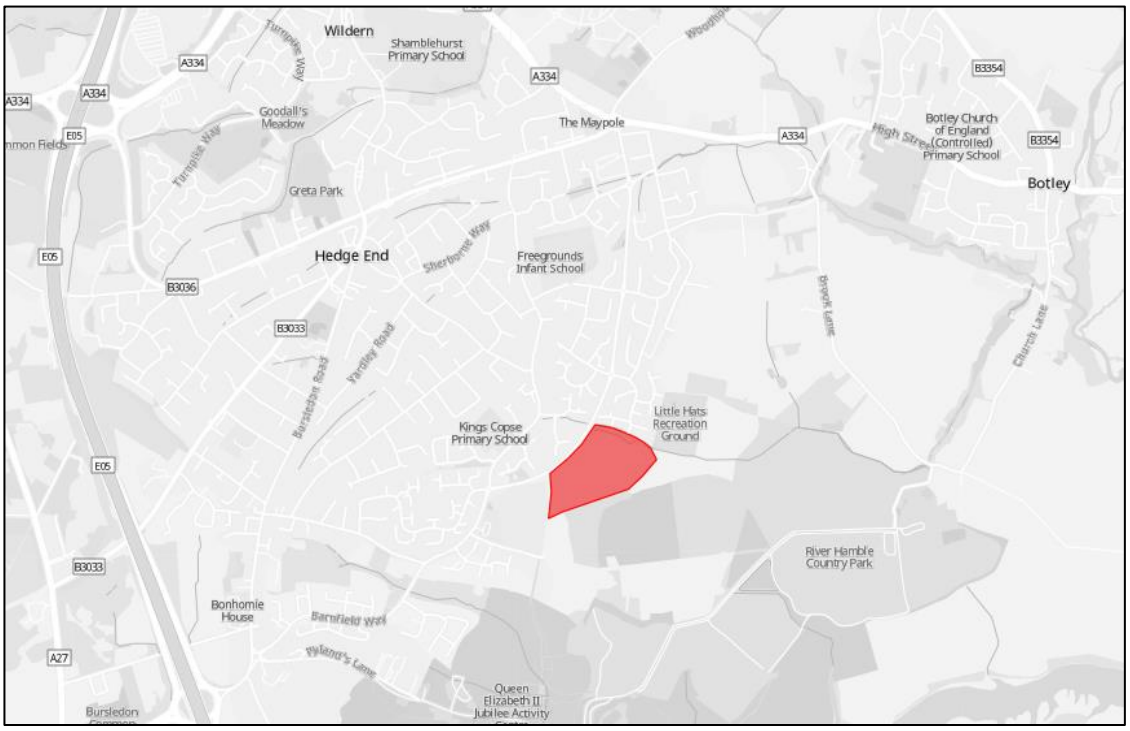
SECTION 1 Introduction

1.1 Background and Context

1.1.1 Eastleigh Borough Council (EBC) has appointed i-Transport LLP to provide transport advice in relation to a proposed residential development of 192 dwellings on Land at Kings Copse Avenue, Hedge End. The site is located within the administrative boundary of EBC.

1.1.2 The site is located on the eastern boundary of Kings Copse Avenue, approximately 1km to the east of Hedge End as illustrated in **Figure 1** and extracted below in **Image 1.1.**

Image 1.1: Site Location Plan



Source: i-Transport LLP

1.1.3 A full planning application has been prepared. A site masterplan is provided at **Appendix A** to demonstrate how this development will be delivered.

1.1.4 In line with the requirements of the National Planning Policy Framework (NPPF), this Transport Assessment (TA) has been prepared to set out the transport vision for the site and to consider the transport impacts that may arise from the proposed development and to consider the proposal against relevant transport and planning policy.

1.1.5 The TA has been produced in accordance with the National Planning Practice Guidance (NPPG) and where necessary, other local and national transport planning guidance.

1.1.6 Specifically, the TA has been prepared to consider the four critical tests outlined in paragraph 115 of the National Planning Policy Framework which are summarised as:

- Will safe and acceptable access be provided to the site for all people?
- Will the opportunities for sustainable travel be prioritised taking account of the vision for the site, the type of development and its location?
- Will the site layout comply with design guidance?
- Will there be a 'severe' residual cumulative transport impact of the development or can impacts be cost effectively mitigated to an acceptable degree through a vision-led approach?

1.2 Framework Travel Plan

1.2.1 A Framework Travel Plan accompanies the planning application as a standalone document *(report reference: ITS19785-010A)*. It has been prepared in line with current best practice guidance and includes a comprehensive package of active and sustainable transport measures.

1.2.2 The Framework Travel Plan will deliver a modal shift towards sustainable transport modes and reduce the traffic impact of the proposed development.

1.3 Key Conclusions

1.3.1 The TA concludes that the development proposal:

a Complies with relevant national and local transport policy;

b Is in an accessible location in transport terms and prioritises the uptake of sustainable transport modes;

c Will have access arrangements that comply with relevant design guidance and deliver safe access for all users;

d Has been designed in accordance with national and local design standards; and

e Will have an acceptable impact on the operation of the local highway network which falls far short of the 'severe' bar set by the NPPF.

1.4 Pre-Application Engagement

1.4.1 Scoping discussions undertaken with Hampshire County Council (HCC) (ref: *Response_6/3/9/338)* have shaped the scope of the assessment within the TA. HCC's pre-application comments are included as **Appendix B**.

1.4.2 A summary of HCC's comments and details of where within the TA the comment is addressed is set out in **Table 1.1**.

Table 1.1: Summary of HCC Pre-Application Comments

HCC Comment	How and where addressed in TA
Sustainable Transport	
Kings Copse Primary School and Deer Park Secondary School should be included as part of a WCHAR review.	Has been undertaken as part of the WCHAR assessment, **Section 3.4** and **Appendix D**.
Deer Park Secondary School has not been included in Table 5.1 – Walking and Cycling Journey Times.	Is now included within **Table 4.1** – Walking and Cycling Journey Times and Distances.
Necessary to assess the walking route to Botley village centre and Botley rail station.	Undertaken as part of the WCHAR assessment, **Section 3.4** and **Appendix D**.
An HSA[1] should be included for all amenities within walking distance of the site.	Undertaken as part of the WCHAR assessment, **Section 3.4** and **Appendix D**.
The Framework Travel Plan submission with a trip rate reduction of 10% for vehicles welcomed.	A Framework Travel Plan ***(Ref: ITB19748-010)*** has been submitted separate to this Transport Assessment. Section 5.8 outlines the FTP.
A commitment to monitoring the Travel Plan strategy should be included.	The Travel Plan strategy is outlined in **Section 5.8** and in the Framework Travel Plan.
Site Access	
An RSA should be undertaken for all off site works.	A Stage 1 Road Safety Audit and Designers Response has been completed from the site access and bridleway in **Section 5**. These are included at **Appendix G** and discussed within **Section 5**.
Provide tracking of site access.	A swept path analysis of the site access has been undertaken for the entry and egress of two large family cars and a large refuse vehicle in **Drawing 3743.T01** and **Drawing 3743.T02**. Set out in **Section 5**.
Removal or trimming of highway trees should be confirmed and shown on drawings if necessary.	The removal of hedgerow as necessary to facilitate visibility splays have been shown on drawings where applicable.
An Auto Track exercise will need to be undertaken to demonstrate how vehicles in accordance with TG2 can travel around the site in a two-way arrangement, including refuse, emergency and serving vehicles.	Included in **Section 5**, **Drawing ITS19785-GA-013B** and **Drawing ITS19785-GA-003E**.

[1] Healthy Streets Assessment

HCC Comment	How and where addressed in TA
The right-angle bend outside plot no.10 to be reviewed and softened to encourage better vehicle movement.	An updated site layout has been included as **Appendix A**.
Traffic Impact	
The following committed developments should be considered: • Woodhouse Lane O/18/83634	The committed development site has been included as part of the traffic assessment / junction modelling exercise, as detailed in **Section 6**.

1.5 Transport Vision for the Site

1.5.1 Paragraph 118 of the National Planning Policy Framework (NPPF) states that:

> ***"All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a vision-led transport statement or transport assessment so that the likely impacts of the proposal can be assessed and monitored."***

1.5.2 As such, the transport strategy for the site will be derived following a "vision-led" approach. The proposed transport vision for the site has been set out below:

> ***"The development at the Land at Kings Copse Avenue will create high-quality and connected new homes which provide, utilise and seek to improve on and off-site Active Travel infrastructure to make a place in which the use of sustainable modes of transport is prioritised to be the natural choice for future residents. The site will integrate seamlessly with the surrounding area, providing connections and improved routes to local facilities as well as the surrounding countryside."***

1.6 Planning History

1.6.1 The land at Kings Copse Avenue is allocated for residential development in the Eastleigh Borough Council Local Plan (2016 – 2036) under Policy BO3 to provide approximately 120 dwellings. The policy requires the following:

i Provision of a vehicular access from Kings Copse Avenue.

ii Provision of pedestrian and cycle links both within the site and to connect the site with the surrounding area, including the adjacent Rodaway Pavillion and Football Ground.

iii The maintenance and improvement of the Public Rights of Way to the west of the site.

1.6.2 The proposed development therefore represents an increase of approximately 70 dwellings above that originally identified within Policy BO3. This Transport Assessment identifies how the proposed development is in accordance with Policy BO3, through the provision of active travel off-site connections, and through a traffic impact assessment to demonstrate that the uplift of 70 dwellings, compared to the Local Plan allocation, will not result in a material capacity or safety impact on the local highway network.

1.7 Structure of Report

1.7.1 The remainder of this TA is set out in the following sections:

- Section 2 – Policy Context;
- Section 3 – Existing Conditions;
- Section 4 – Site Accessibility;
- Section 5 – Development Proposal and Sustainable Transport Strategy;
- Section 6 – Traffic Impact; and
- Section 7 – Summary and Conclusion.

SECTION 2 Policy Context

2.1 National Policy

National Planning Policy Framework (December 2024) (NPPF)

2.1.1 The National Planning Policy Framework (NPPF), December 2024, sets out the Governments' planning policies and how these are expected to be applied. The NPPF stresses that the forefront of planning is the 'presumption in favour' of sustainable development (paragraph 10). Section 9 of the NPPF covers transport of which paragraph 115 states that:

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

2.1.2 Paragraph 116 states that:

> ***"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."***

National Planning Practice Guidance (NPPG) March 2014

2.1.3 The web-based National Planning Practice Guidance (NPPG) seeks to bring together planning guidance for England across all disciplines in an accessible way as well as to provide a clear link between guidance and the aims and objectives of the NPPF. The NPPG discusses the role of travel plans and transport assessments / statements and how they relate to each other.

2.2 Local Policy

Hampshire Local Transport Plan 4 (2024)

2.2.1 The Hampshire Local Transport Plan (LTP4) covers the period to 2050 and is based around a vision for how the transport network in Hampshire will operate by 2050, including transport-related outcomes covering climate change, environment, economy, and health and society.

2.2.2 Section 5.4 in the Plan states that

> ***"Guidance Principle 2 is to provide a transport system that promotes high quality, prosperous places and puts people first. Therefore, urban centres, residential areas, and other community places should be designed to prioritise and encourage active and public transport, in a way that creates better places to live, work, and visit"***

2.2.3 Furthermore, the plan supports sustainable housing and employment growth and regeneration. It aims for future housing development where people choose to walk and cycle and have good access to public transport.

2.2.4 The plan goes onto say that strategic housing and employment sites will continue to be part of the strategy for meeting population and jobs growth in Hampshire. Therefore, new developments should provide high-quality places for residents and workers that are sustainable in transport terms and well-integrated with the existing transport network and surrounding communities.

HCC Technical Guidance Notes

2.2.5 The HCC Technical Guidance (TG) notes detail what the adoptable standards are within Hampshire. These documents form part of the framework of guidance for new streets, the use of materials and commuted sum policy. This TA references:

- TG1 - Highways Cross-Sections
- TG 2 – Alignment Design
- TG 3 – Stopping Sight Distances and Visibility Splay

Eastleigh Council Local Plan (2016 – 2036)

2.2.6 The Local Plan sets out the policies and plans to guide future development in the borough to 2036. It identifies how much development is required and key locations for this development, the infrastructure and services needed to support new and existing communities and areas which will be protected from development.

2.2.7 Strategic policy S3: location of new housing, states:

There is provision for approximately 732 dwellings on new smaller greenfield and urban sites within and adjoining the settlements of Allbrook, Bishopstoke, Botley, Bursledon, Chandler's Ford, Eastleigh, Fair Oak & Horton Heath, Hedge End, Netley and West End.

2.2.8 The development proposal therefore accords with local policy through the provision of the 192 dwellings.

Eastleigh Borough Council Parking Standards

2.2.9 EBC's adopted car and cycle parking standards are set out in set out in the EBC Parking Standards SPD (September 2025). The standards are outlined in **Table 2.1** and **Table 2.2.**

Table 2.1: Car and Cycle Parking Standards – Houses

	Car Parking Standard				Cycle Parking Standard	
Property Size	**50% or more unallocated spaces**	**Less than 50% unallocated spaces**	**Individual / on-plot allocation**	**Visitor Parking**	**Long Term Secure Storage**	**Short Term Communal Storage**
1 bedroom	0.75	1	1	0.2	1	1
2/3 bedrooms	1.5	1.75	2	0.2	2	1
4+ bedrooms	2.25	2.5	3	0.2	3	2

Source: Eastleigh Borough Council Parking Standards

Table 2.2: Car and Cycle Parking Standards – Flats

Property Size	Car Parking Standard			Long Term Cycle Storage	
	Allocated Parking	Unallocated Parking	Visitor Parking	Individual Storage	Communal Storage
1 bedroom	1	0.75	0.2	1	1
2 bedrooms	1.25	1	0.2	2	1

Source: Eastleigh Borough Council Parking Standards

2.3 Summary

2.3.1 Paragraph 115 of the NPPF identifies the four key transport tests, which can be summarised as follows:

- Will the opportunities for sustainable travel be prioritised?
- Will safe and acceptable access be provided to the site for all modes?
- Will the site layout comply with design guidance?

- Will the traffic impacts be acceptable?

2.3.2 These tests are supported by local policy in the adopted local plan and HCC's Local Transport Plan. This TA assesses the development proposal against these tests.

SECTION 3 Existing Conditions

3.1 Introduction

3.1.1 This section of the TA sets out the existing transport conditions in the vicinity of the site, including available opportunities for walking, cycling and public transport.

3.2 Walking and Cycling

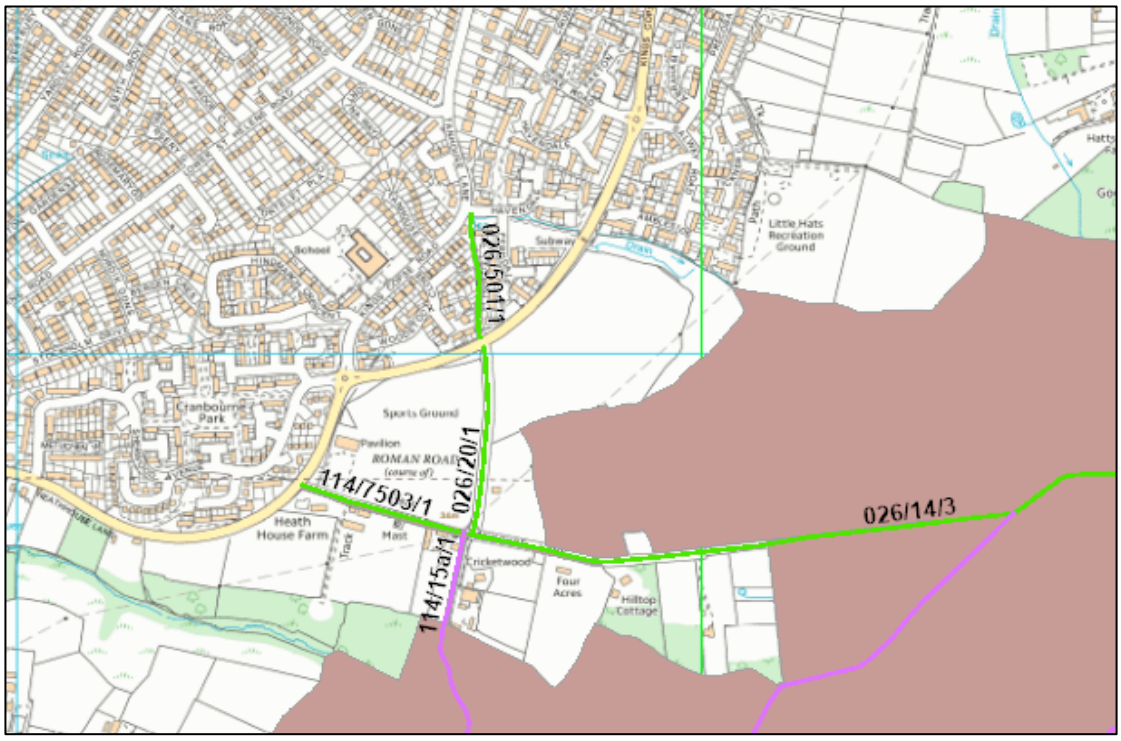
Walking

3.2.1 There are several public footpaths and bridleways in the vicinity of the site, and the development proposes the provision of new pedestrian and cycle links both within the site and to connect the site with the surrounding area, including the adjacent Rodaway Pavillion and Football Ground.

Public Rights of Way (PRoW)

3.2.2 Bridleway 026/5011/1 runs from Kings Copse Avenue north to Tanhouse Lane and Footpath 026/20/1 extends from Footpath 026/20/1 from Kings Copse Avenue south along the western extent of the site. These are illustrated in **Image 3.1**.

Image 3.1: Public Rights of Way (PRoW)



Source: Hampshire Rights of Way Map

Cycling

3.2.3 Cycle travel is appropriate on many of the surrounding roads, given the sign posted speed limits and road characteristics. MfS guidance suggests:

"Cyclists should generally be accommodated on the carriageway. In areas with low traffic volumes and speeds, there should not be any need for dedicated cycle lanes on the street" (MfS, para 6.4.1).

3.2.4 Whilst cycling on Kings Copse Avenue itself would not be suitable for all types of residents, the proposed development (outlined further in Section 5) proposes to provide a pedestrian / cycle refuge island (connecting to the site) across Kings Copse Avenue and proposes to enhance the existing Tanhouse Lane bridleway to create an environment conducive for cycling to / from the site for all types of cyclist.

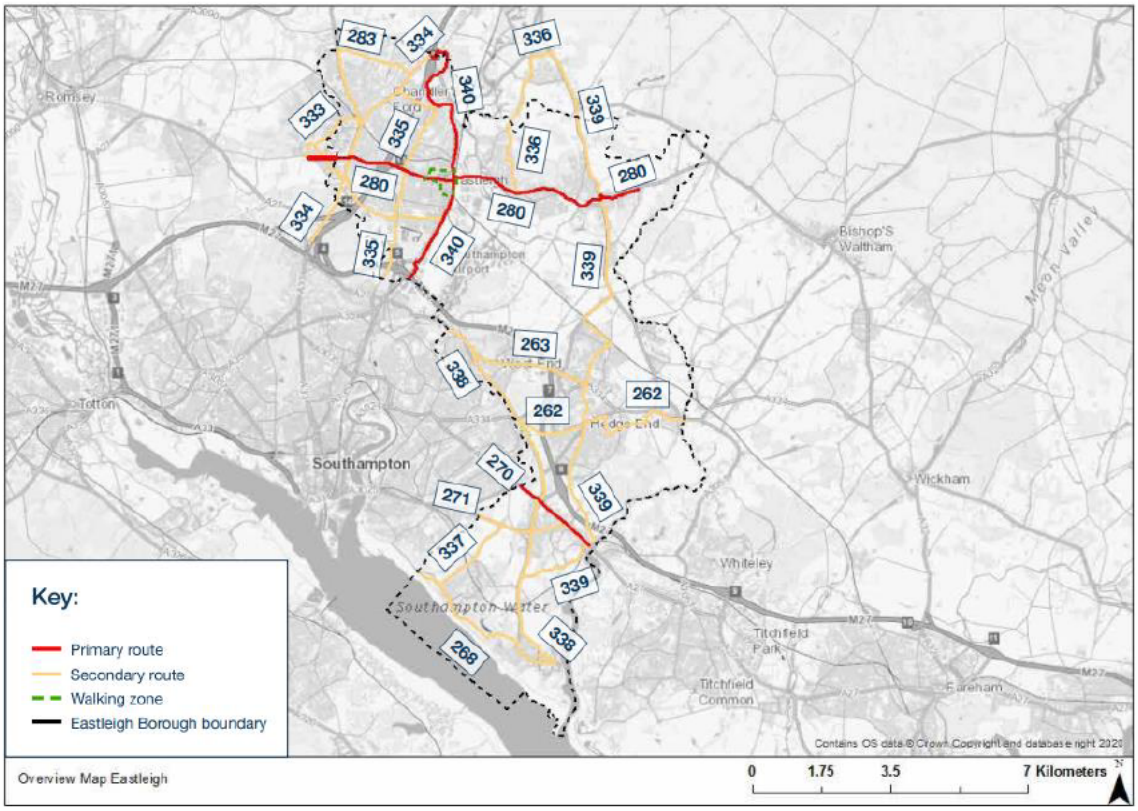
Eastleigh Borough Council Local Cycling and Walking Infrastructure Plan (LCWIP) 2022

3.2.5 Eastleigh's adopted LCWIP (2022) includes and priorities a range of cycling and walking infrastructure improvement schemes within the Borough. For Hedge End, the LCWIP identifies Route 262, a 5km route between West End and Botley via Hedge End.

3.2.6 The route travels south along Hobb Lane and east along Sovereign Drive where the route intersects with Kings Copse Avenue. Given the proximity of the route to the site, this enables future residents the opportunity to utilise Route 262 to cycle to key destinations within the Borough.

3.2.7 Route 262 is shown in an annotated extract of Eastleigh's LCWIP in **Image 3.2**.

Image 3.2: Eastleigh LCWIP Overview Map



Source: Eastleigh LCWIP

Access to Public Transport

Bus

3.2.8 The closest bus stops, known as Ambleside, are located on Kings Copse Avenue, approximately 230m and 260m north of the site. Both bus stops provide a shelter with timetable information and serve the 3, 24 and 424 bus routes. The service is operated by Bluestar and a summary of the frequency of the service's is provided in **Table 3.1** below.

Table 3.1: Bus Service Frequency

Service	Route	Service Frequency		
		Monday-Friday	Saturday	Sunday
3	Southampton - Hedge End - Boorley Green - Fair Oak - Eastleigh	Service every hour between 06:11 and 20:45	Service every hour between 09:40 and 20:45	6 services a day at 10:21, 11:41, 14:01, 15:21, 16:41 and 18:01

Service	Route	Service Frequency		
		Monday-Friday	Saturday	Sunday
24	Hedge End - West End – Southampton Airport Parkway - Eastleigh	Service every hour between 06:44 and 18:20	5 services a day at 08:21, 10:21, 12:21, 14:21 and 18:20	-
424	Eastleigh – Southampton Airport Parkway - West End - Hedge End	One service a day at 07:41	-	-

Source: Bustime.org

3.2.9 The no.3 and 24 bus service are both frequent services providing a sustainable alternative travel option to key destinations such as Boorley Green, Fair Oak, Eastleigh, West End and Southampton and Southampton Airport Parkway. Bus services run for up to 15 hours a day and run 7 days a week.

Rail

3.2.10 The nearest railway station is Botley, located approximately 3.5km north-east of the site (a 12-minute cycle). There are 20 car and four-cycle parking spaces provided at the station with CCTV as well as step free access to all platforms.

3.2.11 Hedge End railway station is also located 3.5km north of the site (a 12-minute cycle) and has 96 car and 54 cycle parking spaces with CCTV as well as step free access to all platforms.

3.2.12 A summary of the rail service frequency for both stations is provided below in **Table 3.2**.

Table 3.2: Rail Service Summary

Station	Destination	Typical Frequency		Average Journey Duration
		Peak	Off-Peak	
Botley	Fareham	2 services per hour	1 service per hour	8 minutes
	Portsmouth Harbour	2 services per hour	1 service per hour	37 minutes
	Winchester	2 services per hour	1 service per hour	24 minutes
	London Waterloo	2 services per hour	2 service per hour	1 hour 35 minutes
Hedge End	Eastleigh	2 services per hour	1 service per hour	6 minutes
	Basingstoke	2 services per hour	1 service per hour	38 minutes

Station	Destination	Typical Frequency		Average Journey Duration
		Peak	Off-Peak	
	London Waterloo	2 services per hour	2 services per hour	1 hour 28 minutes

Source: Trainline

3.2.13 **Table 3.2** demonstrates both Botley and Hedge End railway stations provide up to two services an hour in peak conditions and one service every hour in off peak conditions to key destinations such as Fareham, Winchester, Eastleigh, Basingstoke and London.

3.3 Local Highway Network

3.3.1 Kings Copse Avenue is a single lane two way carriageway subject to a 40mph speed limit. To the west of the site, the carriageway connects to the Cranbourne Park / Kings Copse Avenue roundabout. The speed limit reduces to 30mph on Kings Copse Road to the north, Cranbourne Park to the west and halfway down Heath House Lane to the south.

3.3.2 Heath House Lane connects to Barnfield Way to the southwest providing a connection to the Windhover Interchange where you can access the M27. The M27 provides a connection to Southampton and towards Portsmouth.

3.3.3 To the east of the site, Kings Copse Avenue continues northeast to Maypole Roundabout where Lower Northam Road and Grange Road both provide a connection into Hedge End. Woodhouse Lane connects to Winchester Road (B3354) which provides a connection into Boorley Green and Broad Oak (A334) provides a connection into Botley.

Traffic Flow and Vehicular Speeds

3.3.4 In order to understand the existing traffic conditions on the local highway network, traffic surveys were undertaken between Wednesday 26th June – Tuesday 2nd July 2024 – outside of the school holiday period. This included two Automatic Traffic Counts (ATCs) along Kings Copse Avenue and Manual Classified Counts (MCC) and queue length surveys were undertaken on Wednesday 3rd July 2024, between 07:00 and 10:00 hours and 16:00 and 19:00 hours at the following junctions:

1. Maypole Roundabout
2. Kings Copse Avenue / Whitebeam Road Roundabout
3. Kings Copse Avenue / Sovereign Drive
4. Kings Copse Avenue / Duke Road Roundabout

5 Kings Copse Avenue / Heath House Lane Roundabout

6 Barnfield Way / Dodwell Lane Roundabout

7 M27 Junction 8

3.3.5 A summary of traffic speeds along Kings Copse Avenue is presented in **Table 3.3**.

Table 3.3. Kings Copse Avenue 85th Percentile Speeds

Location	85th Percentile Speed (mph)
Kings Copse Avenue (Northbound)	41.83mph
Kings Copse Avenue (Southbound)	44.18mph

Source: Traffic Surveys / Consultant's Calculations

3.3.6 Two-way traffic flows along Kings Copse Avenue are summarised in **Table 3.4**.

Table 3.4. Kings Copse Avenue Traffic Flows (weekday average)

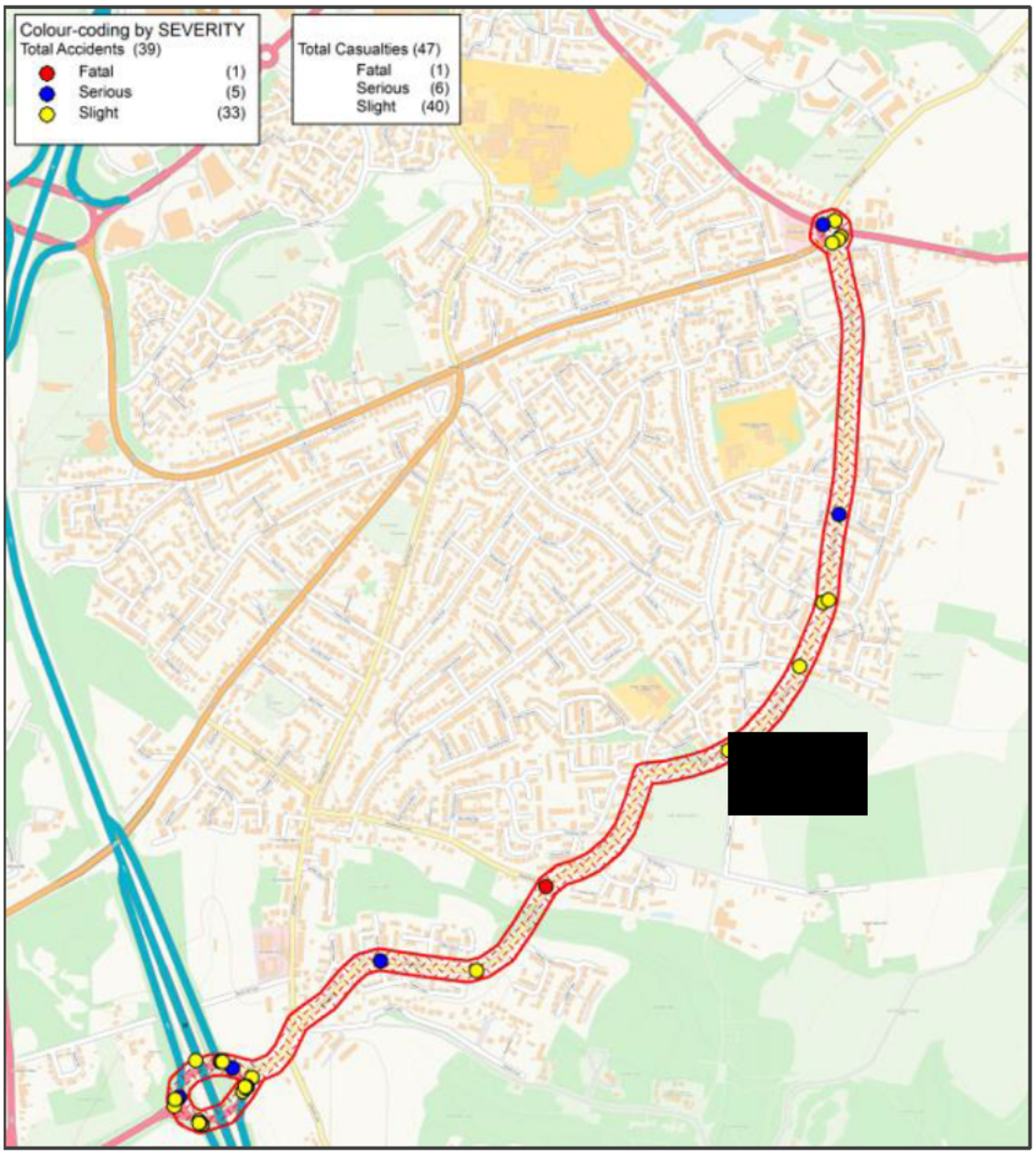
Time Period	Northbound	Southbound	Two-way
Morning Peak (08:00 – 09:00)	484	360	844
Evening Peak (17:00 – 18:00)	377	412	789

Source: Traffic Surveys

Personal Injury Accident Data

3.3.7 Personal Injury Accident (PIA) data has been obtained from Hampshire County Council for the five-year period between 01/01/2020 and 31/12/2024 for the area set out below in **Image 3.3**.

Image 3.3: PIA Data



Source: Hampshire Constabulary

3.3.8 In total there were 39 accidents recorded within the study area during this period, with 33 reported as slight, five as serious and one fatal. The full PIA report is provided in **Appendix C** with **Table 3.5** grouping accidents by severity.

Table 3.5: PIA Overview

	Fatal	Serious	Slight	Total
Motor vehicles	0	2	25	27
2-wheeled motor vehicles	1	2	5	8

	Fatal	Serious	Slight	Total
Pedal cycles	0	1	3	4
Total	1	5	33	39

Source: Hampshire Constabulary

3.3.9 Five serious and one fatal accident were reported during the latest available five-year period. A summary of the causation of these accidents is provided below:

- A motorcycle travelling south along Heath House Lane towards the junction with Barnfield Way lost control on a bend, falling off the vehicle. The individual collided with an oncoming vehicle resulting in a fatal accident.
- A cyclist entering the Maypole Roundabout from Lower Northam Road collided with a vehicle entering the roundabout from Grange Road that failed to give way.
- A vehicle travelling northeast along the A3024 Berts Betts Way braked sharply when attempting to enter the A3025 Berts Betts Way / M27 Roundabout. The vehicle behind had failed to react in time, colliding with the rear of the abovementioned vehicle resulting in a serious accident.
- A motorcycle travelling south along Barnfield Way clipped the kerb and lost control of their vehicle.
- A motorcycle pulled aside at the A3025 Berts Betts Way / M27 Roundabout to allow a police vehicle to pass. When doing so, the motorcyclist has lost control and collided with the kerb and fell.
- A vehicle travelling along Kings Copse Avenue lost control, left the carriageway to the offside and collided with a tree.

3.3.10 Whilst any accidents are regrettable, analysis of data provided by Hampshire Constabulary does not identify any particular pattern that would be exacerbated by the development. On this basis the proposed development is not likely to result in an unacceptable safety impact on the local highway network and the promotion of active travel measures from the site will improve conditions and infrastructure for pedestrians and cyclists.

3.3.11 A review of PIA data for the latest available five-year period has not identified any specific trend or cluster within recorded data.

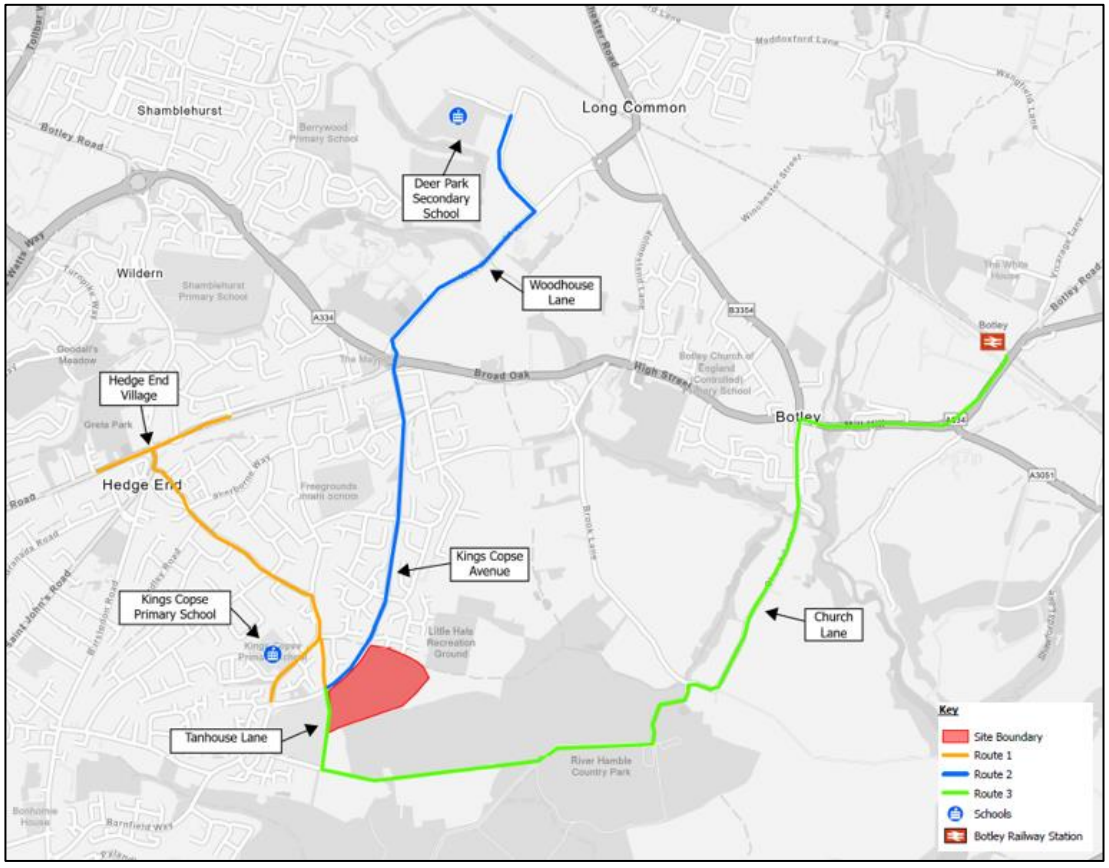
3.4 Walking, Cycling and Horse-Riding Assessment (WCHAR) and Healthy Streets Assessment

3.4.1 A Walking, Cycling and Horse-Riding Assessment Review (WCHAR) and Healthy Streets Assessment has been prepared to assess the quality of the existing sustainable mode corridors, identifying any deficiencies in the existing network and achievable opportunities to improve Active Travel connections to key facilities and services. The WCHAR assessment was undertaken on the 15th November 2024, the assessment included the following routes to key destinations:

- To Kings Copse Primary School and Hedge End Village.
- To Deer Park Secondary School
- To Botley Railway Station via Manor Farm Country Park

3.4.2 The above-mentioned routes are presented in **Figure 2**, shown below in **Image 3.4**.

Image 3.4: WCHAR Study Area



Source: Figure 2

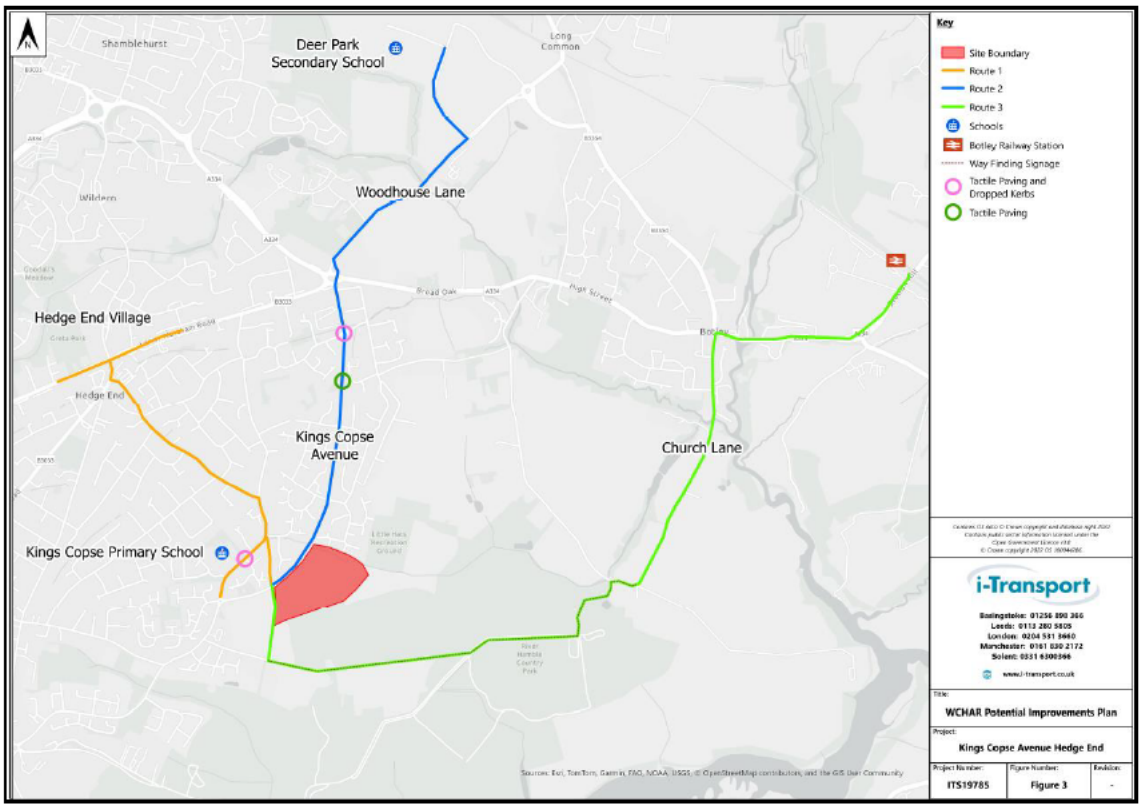
3.4.3 A full version of the WCHAR and Healthy Streets Assessment is provided as **Appendix D**. The assessment identified the following potential areas where improvements to the existing walking and cycling infrastructure could be provided:

- The provision of tactile paving and dropped kerbs between Kings Copse Road and Woodstock Close.
- The provision of tactile paving and dropped kerbs at between Kings Copse Avenue, Whitebeam Road and Maris Road Roundabout.
- The provision of on-road or off-road cycle markings from the site's frontage in an eastbound direction to connect with the existing shared cycleway at the Maypole Roundabout.
- The provision of way-finding signage from the site via the route along Tanhouse Lane through River Hamble Country Park / Manor Farm to Botley for recreational purposes.

3.4.4 Improvements to the adjacent bridleway were identified and has been designed by the applicant as an off-site improvement as part of the development. The route is seen as a key active travel corridor from the site towards Hedge End village centre and Kings Copse Primary School. The implementation of an all-weather footway / cycleway has been designed by Peter Evans Partnership (PEP) and is discussed further within Section 5 of this TA.

3.4.5 The potential improvements are shown below within the context of the WCHAR routes in **Figure 3**, extracted as **Image 3.5** below.

Image 3.5: Potential Improvements



Source: Figure 3

3.5 Summary

3.5.1 There are good active travel opportunities in the vicinity of the site to cater for pedestrian and cycle demand. Public transport opportunities are available via the number 3 bus and the number 24 bus, located within 230-260m of the site, which provide connections to Hedge End and Eastleigh. Future residents of the site therefore would have more than sufficient opportunity to take up sustainable travel opportunities.

3.5.2 Local services and facilities are conveniently located (with further details provided in Section 4) and are accessible by footways with a good range of employment, retail and leisure facilities located within 1.6km of the site – further details are provided in Section 4.

3.5.3 A WCHAR and Healthy Streets Assessment has been completed which has identified good quality pedestrian infrastructure to/from the site and has also identified potential improvements within the local network that the development could provide a proportional contribution towards. This includes the bridleway enhancements that will be delivered as part of the proposed development, as outlined further in Section 5.

SECTION 4 Site Accessibility

4.1 Introduction

4.1.1 This section of the TA assesses the accessibility of the proposed development to local facilities by walking and cycling.

4.2 Walking and Cycling

Walking Distances

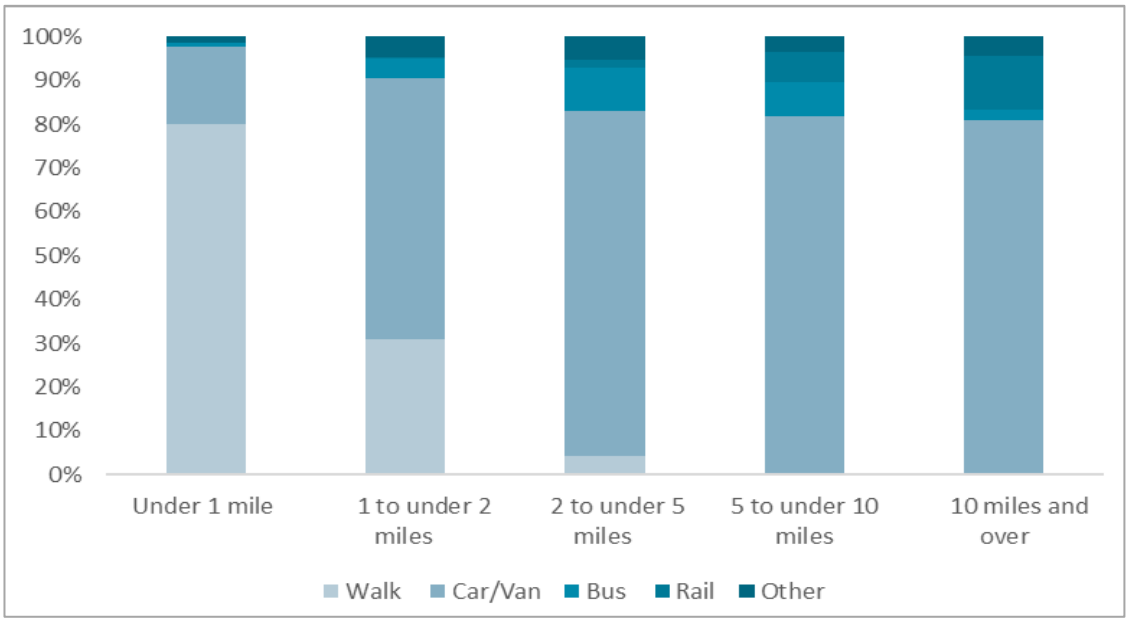
4.2.1 Paragraph 4.4.1 of Manual for Streets states:

> ***"Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and PPG13 states that walking offers the greatest potential to replace short car trips, particularly those under 2km. MfS encourages a reduction in the need to travel by car through the creation of mixed-use neighbourhoods with interconnected street patterns, where daily needs are within walking distance of most residents."***

4.2.2 A walking distance of 800m is therefore not a maximum: the National Travel Survey (NTS) 2019 identifies the mode share of journeys of different lengths and is presented in **Image 4.1** and confirms that the vast majority (80%) of trips of up to one mile (1.6km) are undertaken on foot.

4.2.3 The most recent NTS was conducted in 2022 and also covers personal travel behaviours. However, the COVID-19 pandemic from March 2020 has had a substantial impact on travel trends which affected the operation and data recording of the survey, making the findings unrepresentative. Therefore, survey data from the NTS 2019 has been used.

Image 4.1: Proportion of Trips Per Year by Journey Purpose (all modes)



Source: NTS 2019

4.2.4 A walking distance of up to 1.6km (i.e. one mile) is therefore a *comfortable walking distance*.

4.2.5 NTS also identifies that circa one third of journeys between 1.6km and 3.2km (one and two miles) are made on foot. A distance of 3.2km (two miles) is therefore an *acceptable walking distance*.

4.2.6 The following distances are used for assessing walking journeys to and from the site:

- Between 800m and 1.6km – comfortable walking distance.
- Between 1.6km and 3.2km – acceptable walking distance.

Cycling Distances

4.2.7 NTS data also identifies that the average distance per journey by bike is approximately 4.4km, with the current average length of an employment and leisure cycle trip being some 5.2km.

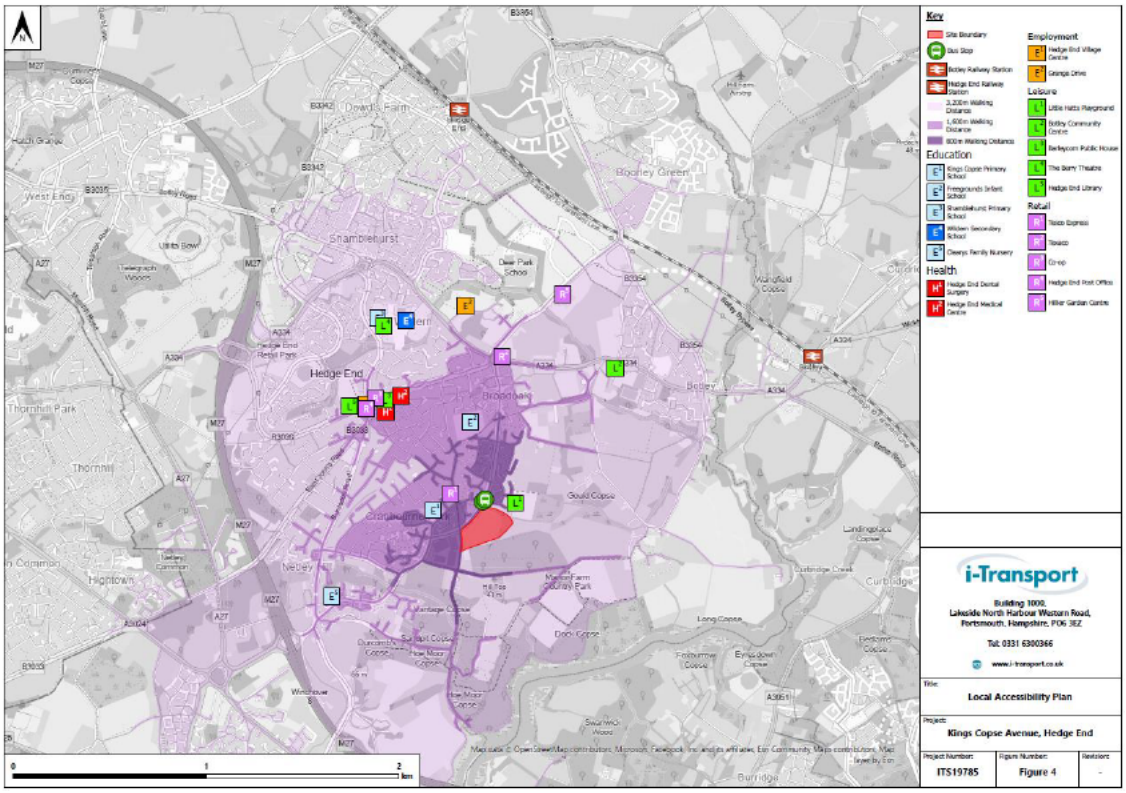
4.2.8 Paragraph 2.2.2 of the DfT Document LTN 01/20 Cycle Infrastructure Design addresses typical cycle trip distances and states two out of every three personal trips are less than 5-miles (8km) in length which it states, *"is an achievable distance for most people"*.

4.2.9 A 5km cycling distance will be used as a *desirable cycling distance*, with 8km an *acceptable cycling distance*.

4.3 Accessibility to Local Facilities

4.3.1 A Local Accessibility Pan is provided in **Figure 4** and an extract of which is provided below in **Image 4.2**.

Image 4.2: Local Accessibility Plan



Source: Figure 4

4.3.2 The primary destinations within the local area are listed in **Table 4.1**, which includes facilities for leisure, retail, employment, education and health. The following distances have been calculated from the centre of the site, to reflect the pedestrian / cycle accesses.

Table 4.1: Local Facilities and Services.

Purpose	Destination	Total Distance (m)	Walking Journey Time (mins)	Cycling Journey Time (mins)
Leisure	Little Hatts Playground*	450	5	2
	Botley Community Centre*	1,900	23	7
	Botley Allotments*	2,800	33	11
	Barleycorn Public House	1,300	15	5
	The Berry Theatre	1,900	23	7
	Playshack	2,600	31	10
Employment	Herald Industrial Estate*	3,000	36	11
	Flanders Road*	2,900	35	11
	Grange Drive*	1,900	23	7
Retail	Tesco Express	330	4	1

Purpose	Destination	Total Distance (m)	Walking Journey Time (mins)	Cycling Journey Time (mins)
	Hedge End Retail Park	2,300	27	9
	Co-Op at Texaco Garage*	1,200	14	5
	B&Q	2,500	30	9
	Next	2,200	26	8
	Aldi	2,300	27	9
	Hillier Garden Centre*	2,700	32	10
Education	Kings Copse Primary School	370	4	1
	Freegrounds Infant School	700	8	3
	Shamblehurst Primary School	1,800	21	7
	Wildern Secondary School	2,000	24	8
	Clearys Family Nursery	1,400	17	5
	Deer Park Secondary School*	3,500	42	13
Health	Everetts Pharmacy	1,200	14	5
	Hedge End Medical Centre	1,500	18	6
	Hedge End Dental Surgery	1,150	14	4

*Via north western pedestrian / cycle access

Key:

Within a comfortable walking (1.6km) / cycling (5km) distance

Within an acceptable walking (3.2km) / cycling (8km) distance

4.3.3 The site is well located to ensure good opportunities for walking and cycling journeys to a range of employment, education, health, retail and leisure facilities. The completed WCHAR assessment has reviewed the walking and cycling routes to the facilities

4.4 Summary

4.4.1 There are good active travel opportunities in the vicinity of the site to cater for pedestrian and cycle demand and the completed WCHAR and Healthy Streets Assessment identifies a range of local improvements which the development will bring forward through physical improvements and potential financial contributions or CIL payments.

4.4.2 Public transport opportunities are available via the number 3 / 24 and 424 bus services located within 230m of the site and 260m respectively, these services run for up to 15 hours a day and there are services 7 days a week. Future residents of the site therefore would have good opportunities to take up sustainable travel opportunities and these modes are being prioritised through the identified local active travel improvements in the WCHAR and Healthy Streets Assessment.

4.4.3 Local services and facilities are conveniently located and are accessible by the PRoW network with a good range of employment, retail and leisure facilities located within 1.6km of the site.

4.4.4 A WCHAR and Healthy Streets Assessment has been completed which has identified good quality pedestrian infrastructure to/from the site and has also identified potential improvements within the local network that the development will in part deliver and could provide a proportional contribution towards.

SECTION 5 Development Proposal and Sustainable Transport Strategy

5.1 Introduction

5.1.1 This section of the TA sets out the proposed development including:

- The proposed site access arrangements for vehicles, pedestrians and cyclists.
- The acceptability of the site layout in terms of provision of car parking and accommodating serving and fire vehicles.
- The proposed Sustainable Transport Strategy.

5.1.2 The development proposal comprises 192 dwellings as shown on the Site Layout Masterplan in **Appendix A**, with an extract provided below in **Image 5.1**.

Image 5.1: Site Layout Masterplan



5.2 Site Access

5.2.1 Paragraph 115 of the NPPF sets the following key test in terms of access, i.e. that **'safe and suitable access to the site can be achieved for all users'.**

5.2.2 Vehicular access is proposed via a simple priority-controlled junction from Kings Copse Avenue.

5.2.3 Pedestrian and cycle access will be provided to the northwest of the site through the delivery of a pedestrian / cyclist crossing with refuge island across Kings Copse Avenue. This will provide a safe and suitable connection onto the existing bridleway on the northern extent of Tanhouse Lane, which will be enhanced as part of the development proposals.

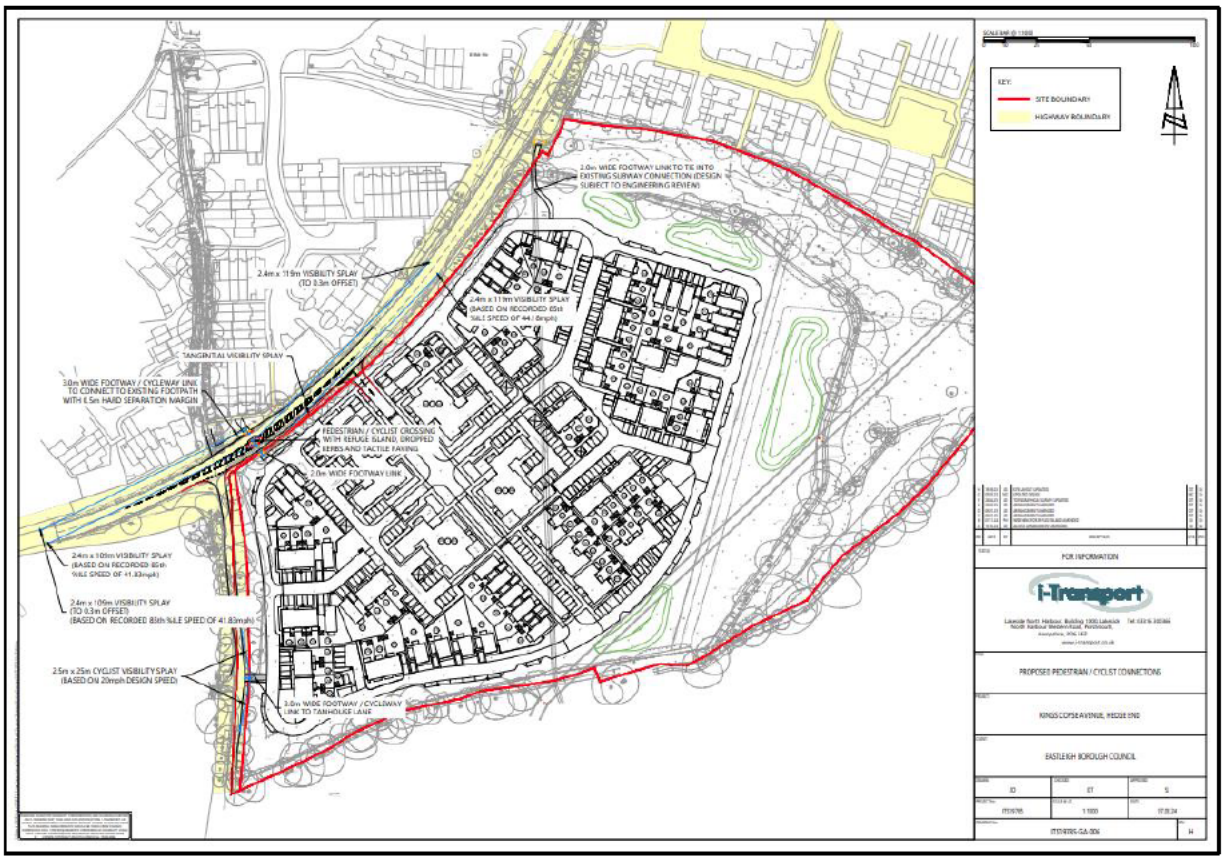
Pedestrian and Cycle Access

5.2.4 To ensure the site access arrangements meet the requirements of the National Planning Policy Framework (which requires pedestrian and walking journeys to be prioritised) and to a form that is consistent with Manual for Streets and HCC guidance, a number of pedestrian connections points are proposed from the site. This includes:

1. A pedestrian / cycle connection to the southwest of the site / Kings Copse Avenue providing connectivity to the Tanhouse Lane bridleway.
2. A pedestrian connection on the far western edge of the site directly to Tanhouse Lane into the Noman Rodaway Pavilion Ground.
3. A pedestrian / cycle connection on the north western extent of the site connecting to the subway that passes underneath Kings Copse Avenue.

5.2.5 A general arrangement pedestrian access drawing has been prepared as illustrated in drawing **ITS19785-GA-006G** with an extract provided in **Image 5.2**.

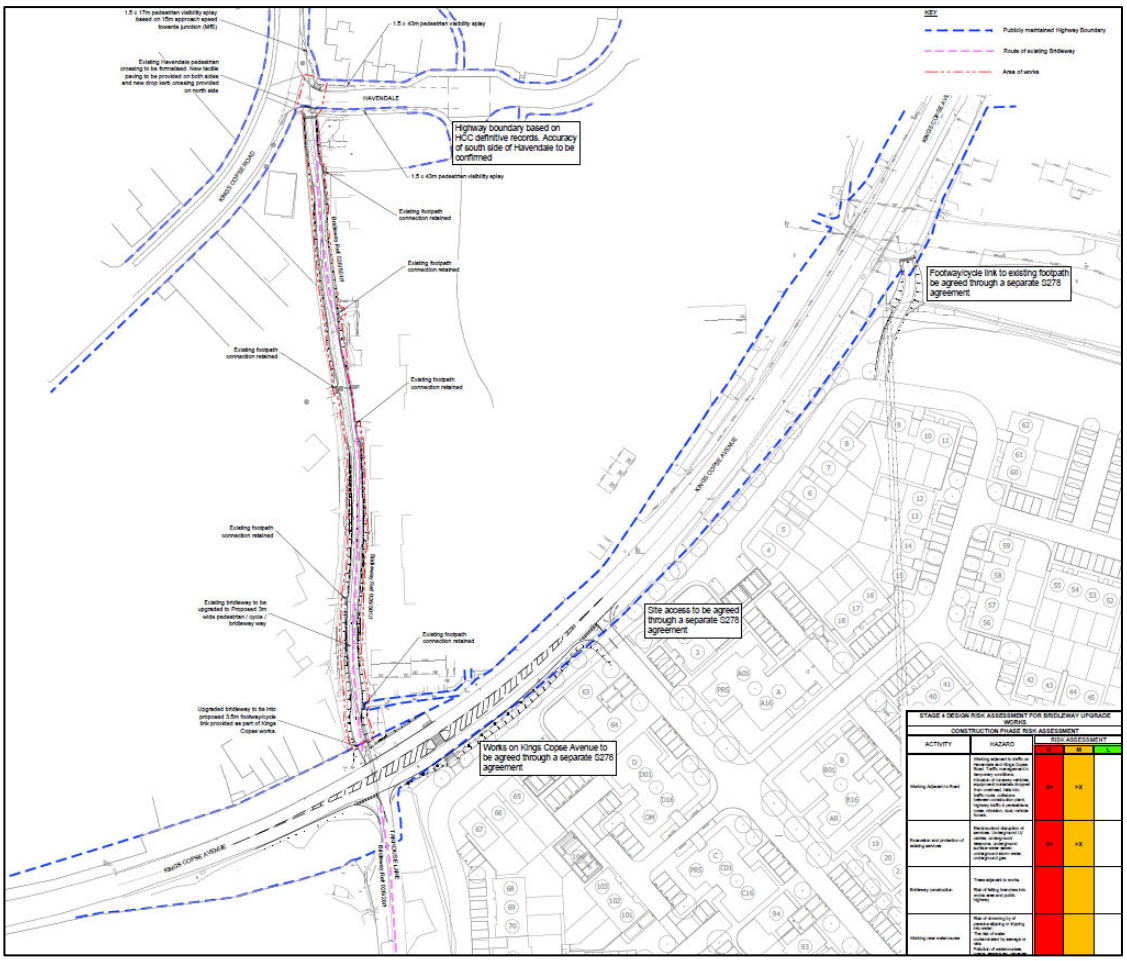
Image 5.2: Proposed Pedestrian Connections



5.2.6 Additionally, the development will seek to enhance (with improved surfacing) the northern part of the existing Bridleway located to the west of the site. The drawing is provided as **Appendix H** and extracted below in **Image 5.3.**

5.2.7 This will provide a lit and all-weather surface to facilitate and prioritise improved pedestrian and cycle trips between the site and local facilities in Hedge End.

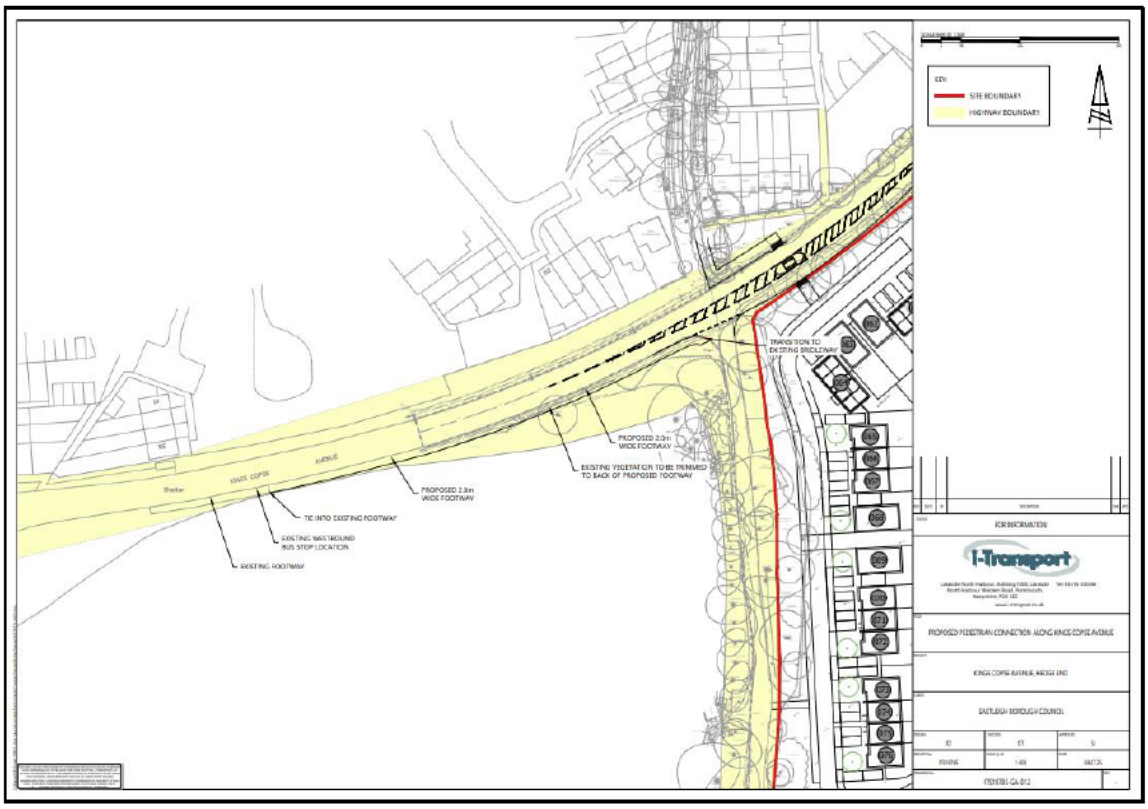
Image 5.3: Bridleway Works



Source: Peter Evans Partnership (PEP)

5.2.8 The development also proposes to provide a footway connection between the western extent of the site on Tanhouse Lane and will tie into the existing footway along the southern side of Kings Copse Avenue. This footway connection will provide safe continuous pedestrian connectivity between the site and to the existing bus stop on Kings Copse Avenue. The proposed footway is illustrated in drawing **ITS19620-GA-012**, extracted as **Image 5.4**.

Image 5.4: Proposed Footway Connection.



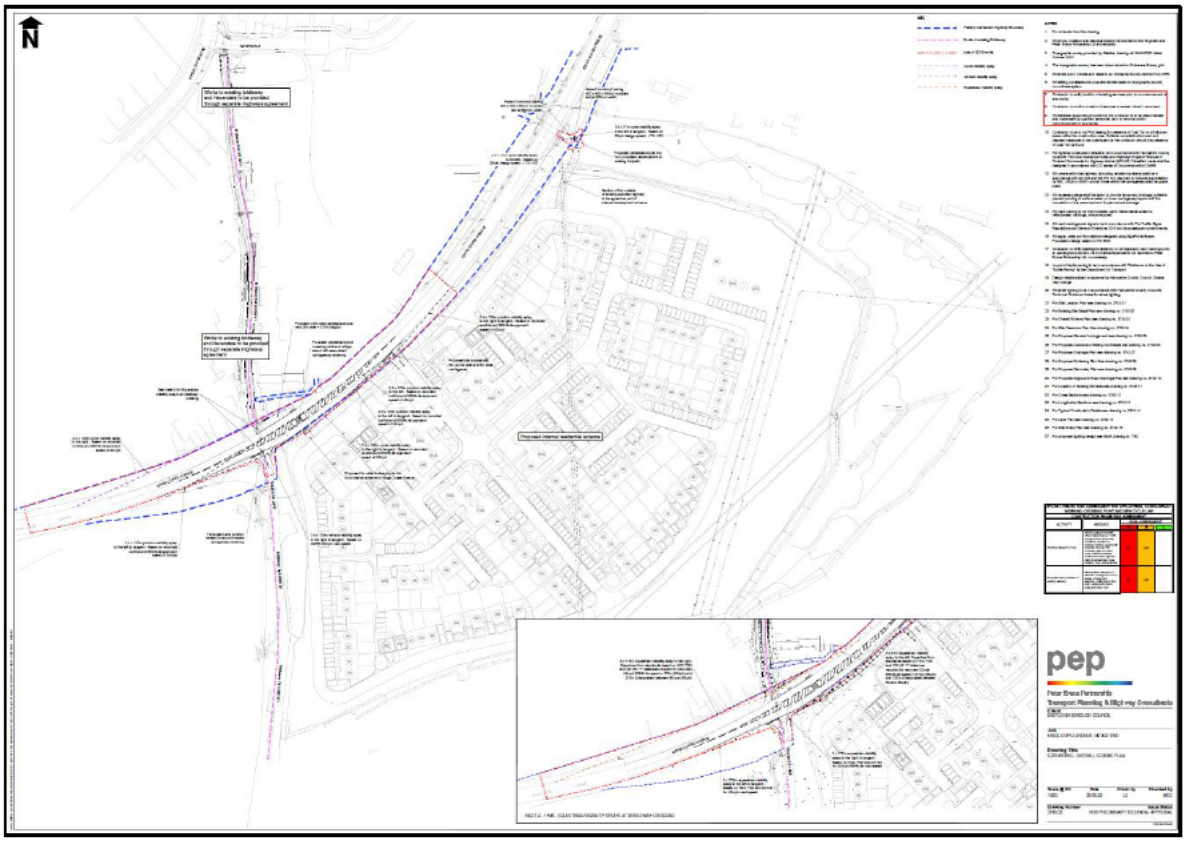
Source: i-Transport

Vehicular Access

5.2.9 Vehicular access to the development will be provided via a new priority-controlled junction from Kings Copse Avenue. The access works will include delivery of a pedestrian / cycle refuge island across Kings Copse Avenue which will involve minor amendments to the kerb alignment on the southern extent of Tanhouse Lane.

5.2.10 A general arrangement drawing has been designed for the access into the site, this is provided as **Appendix E**, with an extract provided in **Image 5.5**.

Image 5.5: Proposed Site Access Arrangements



Source: Peter Evans Partnership (PEP)

5.2.11 Following traffic speed surveys, visibility splays have been calculated in accordance with HCC's Technical Guidance Note 3 (TG3). The calculations have been included as **Appendix F**. Based on the recorded 85th percentile speeds, the following visibility splays are required:

1 2.4m x 119m visibility splay to the right.

2 2.4m x 109m visibility splay to the left.

5.2.12 For robustness, the site access drawing illustrates that visibility splays of 2.4m x 120m can be achieved in both directions and therefore exceeds the requirements of TG3.

Refuge Island

5.2.13 The access works will include delivery of a pedestrian / cycle refuge island across Kings Copse Avenue which will involve minor amendments to the kerb alignment on the southern extent of Tanhouse Lane.

5.2.14 Following email correspondence with the HCC Abnormal Loads Officer (ref: 30th July 2024) it was confirmed that Kings Copse Avenue is not a wide load route and therefore the provision of a refuge island in this location is acceptable. The email correspondence is included as **Appendix G**.

CAVAT

5.2.15 Following discussions with the HCC arbocultralist team it has been agreed that any loss of trees required to facilitate the development access proposals will be subject to a Capital Asset Value for Amenity Trees (CAVAT) payment.

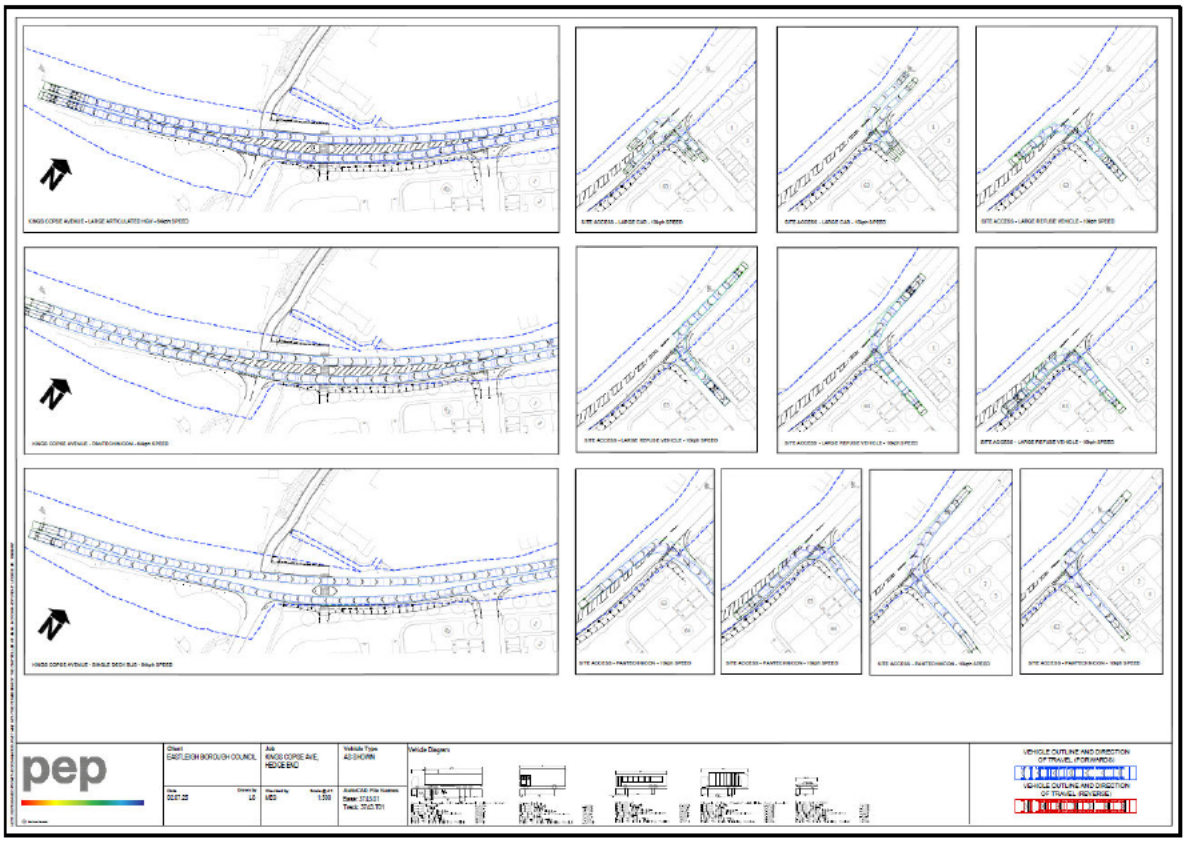
Swept Path Analysis

5.2.16 Following pre-application feedback from HCC, the following swept path analysis scenarios have been undertaken for both the access as illustrated in the appended drawings:

- Entry/egress of two large family cars: **3743.T01**
- Entry/egress of a large refuse vehicle: **3743.T01**

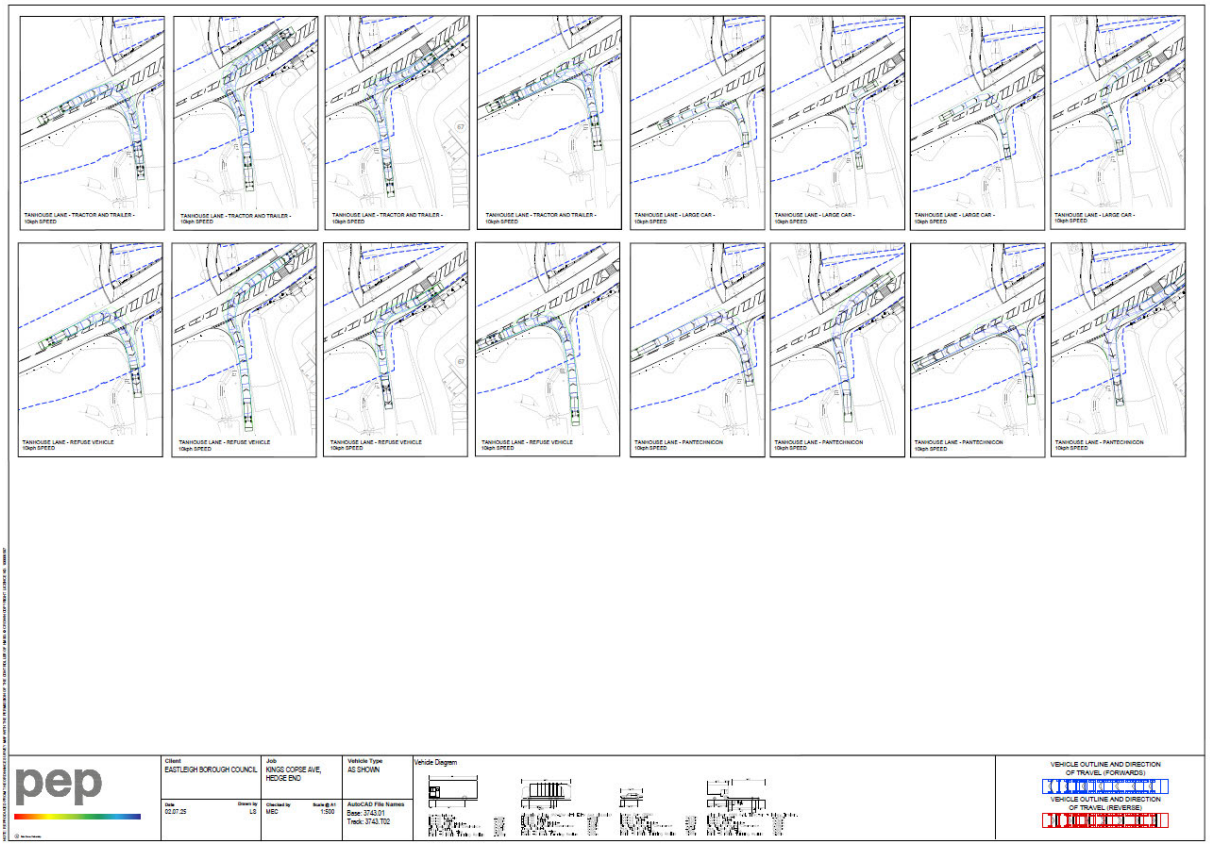
5.2.17 Drawings 3743.T01 and 3743.T02 have been extracted as **Image 5.6**.

Image 5.6: Site Access Swept Path Analysis.



5.2.18 An additional swept path analysis has been undertaken to illustrate a refuse vehicle and tractor and trailer accessing / egressing the revised kerb alignment of Tanhouse Lane. This is shown on drawing 3743.T02 and extracted as **Image 5.7**.

Image 5.7: Tanhouse Lane Swept Path Analysis.



5.3 Stage One Road Safety Audit

5.3.1 An independent Stage 1 Road Safety Audit (RSA) was undertaken by Grange Transport Consulting for the main site access, bridleway works, and internal site layout. All of which are provided as **Appendices I, J and K**. As part of the Stage 1 RSA a series of recommendations were made by the Auditor and these are summarised below, including the designer's response.

Stage 1 Main Site Access

Table 5.1: Stage 1 RSA Recommendations

Location	Summary of Comments Received	Recommendation	Response
Kings Copse Avenue	A cycle visibility splay (2.4m x 120m) is shown from the northern side of the crossing, and to the west along Kings Copse Avenue. It appears that the visibility splay encroaches onto a fenced area. This will obstruct the visibility splay, which may result in eastbound vehicles colliding with cycles using the crossing facility.	Ensure appropriate visibility splays are achievable	Agree – 85th percentile speed surveys identified a reduced splay requirement compared to the design speed. Therefore, a revised visibility splay has been provided in accordance with recorded vehicle speeds, to a 0.3m offset, which avoids the fenced area.
Bridleway	It is noted that the achievable splay will be greater than shown, due to wrong 'pinch point' utilised. Nonetheless, the equestrian visibility splays at the bridleway appear to be significantly below that described in the guidelines, particularly to the northeast. This may cause horses/riders insufficient time to assess approaching traffic when negotiating King Copse Avenue or for approaching traffic to detect horses. This may result in collisions between horses and vehicles.	Provide appropriate measures to highlight the presence of the bridleway to approaching vehicles.	Agree – *Measures such has enhanced signing will be considered at the detailed design stage and an equestrian visibility splay departure from standard.* The bridleway is existing and there have been no safety issues identified / history of accidents to cause concerns regarding collisions between horses and vehicles.
Tanhouse Lane / Kings Copse Avenue	A new footway is to be provided towards the existing bus stop on the southern side of Kings Copse Avenue. The footway terminates at the Tanhouse Lane bridleway and there is no connection to the site. This may cause pedestrians (exiting the site) to walk in the carriageway in order to reach the footway, or vice versa. This may result in passing traffic colliding with pedestrians.	Ensure the footway is accessible and connects with adjacent pedestrian infrastructure.	Agree - the footway will provide a connection into the site as shown on the site layout drawing.

Location	Summary of Comments Received	Recommendation	Response
	There is overgrown vegetation and brambles to the south of the existing footpath. This may cause path users, including VIPs, cyclists, parents with prams to pass close to the vegetation when negotiating the bend or entry/exit of the new connection. This may result in people getting cuts and scrapes on arms and faces.	Cut back and maintain vegetation to be clear of people travelling along the shared route and footpath.	Agree – vegetation will be cut back and maintained.

5.3.2 The points raised as part of the Stage 1 RSA have been reviewed and incorporated into the amended design, where applicable and the auditor has confirmed that there are no residual points relating to the arrangement at this stage. The completed RSA is included in **Appendix I.**

Stage 1 Bridleway Works

Table 5.2: Stage 1 RSA Recommendations

Location	Summary of Comments Received	Recommendation	Response
Bridleway – northern extent	It is proposed to widen the useable width of the bridleway to 3 metres. There are a set of small concrete bollards on each side of the existing path. The increased width will cause the bollards to be positioned closer to the middle of the bridleway. Overgrown vegetation may cause the bollards to be hidden. This may result in path users colliding with the bollards.	Ensure the bollards remain conspicuous and visible throughout the year.	Agree – reflective bollards will be installed. This will be included as part of the detailed design works. A leader has been added on drawing **3743.22_R0 Bridleway Works Overall Scheme Plan** to state this.
Bridleway - general	There is overgrown vegetation and trees along the length of the bridleway. This will cause obstructions to pedestrians, cyclists and horse riders using the bridleway. This may result in users colliding with low tree branches and vegetation.	Cut back and maintain vegetation behind the proposed 3 metre width. Also ensure sufficient height clearance is available for all bridleway users.	Agree – vegetation will be cut back and maintained. A leader has been added on drawing **3743.22_R0 Bridleway Works Overall Scheme Plan** to state this.

Location	Summary of Comments Received	Recommendation	Response
Bridleway - general	The width of the corridor is not consistent, in addition ditches and leaning trees are present. It is proposed to provide a width of 3 metres along the bridleway. This may cause the bridleway to be too close to ditches, fences, tree trunks/branches etc. This may result in falls or collisions with these adjacent features.	Ensure sufficient clearance from surrounding features is available along the bridleway.	Agree - It is proposed to include a 1.4m high post and rail fence where appropriate to provide protection from the ditch. A leader has been added on drawing **3743.22_R0 Bridleway Works Overall Scheme Plan** to state this.

5.3.3 The points raised as part of the Stage 1 RSA have been reviewed and incorporated into the amended design, where applicable and the auditor has confirmed that there are no residual points relating to the arrangement at this stage. The completed RSA is included in **Appendix J.**

Internal Layout – Stage 1 RSA

5.3.4 The points raised as part of the Stage 1 RSA have been reviewed and incorporated into the amended design of the internal site layout. The RSA report identified nine problems, and these are summarised below in **Table 5.3** along with a design response. The completed RSA is included in **Appendix K**.

Table 5.3: Stage 1 RSA Recommendations

Location	Summary of Comments Received	Recommendation	Response
Internal road network	A number of build-outs are proposed along the northern, eastern, and western roads. Some build-outs are located in close proximity of private driveways. This may cause insufficient carriageway width for exiting and entering vehicles. This may result in turning vehicles striking the build-out kerbs or losing control.	Carry out swept path analysis to demonstrate all movements can be undertaken safely.	Agree – a swept path analysis has been shown in drawing ITS19785-GA-016 which demonstrates that vehicles can safely navigate the proposed build outs.

Location	Summary of Comments Received	Recommendation	Response
Visitor car parking bays	Visitor car parking bays will be provided at the peripheries of the site. No appropriate hardstanding is proposed adjacent to the parking bays. This will cause uneven/soft surfaces, particularly during wet conditions, for passengers and drivers when entering or exiting their vehicles. This may result in pedestrians falling over in the verges.	Provide appropriate surface adjacent to parking bays to allow people to access vehicles.	Agree - The land by the proposed parking bays is flat and provides a suitable surface for drivers and passengers to exit vehicles. Any areas of sloping by the visitor parking bays will be provided with a handrail which will be explored as part of the detail design process.
Internal road network	The internal road network includes tight bends and/or junctions. Landscaping or planting details have not been shown, nor have any visibility splays/envelopes been indicated on the plans. This may cause areas adjacent to bends and junctions to include obstructions to any necessary sightlines. This may result in head-on or side-swipe collisions between oncoming vehicles.	Ensure appropriate visibility is achieved.	Agree - A landscaping plan will be submitted alongside the planning application. It is confirmed that no planting or landscaping will exceed 600mm to ensure that appropriate visibility is achieved and maintained. A forward visibility plan (ref: *ITS19785-GA-009F*) has been submitted to demonstrate that visibility can be achieved.
Internal road network	There are straight sections of road which terminate at straight footways. This may cause drivers to perceive that the roads continue. This may result in vehicles colliding with pedestrians entering onto the footways.	Provide features to obscure sight of footways beyond the end of the roads.	Agree – the site layout plan has been updated to include raised tables at these locations to prioritise pedestrian movement.

Location	Summary of Comments Received	Recommendation	Response
Footway	A long section of footway is provided on the eastern side of the spine road. The footway leads to the southern road, and no crossing facility is provided. This may cause visually impaired pedestrians (VIPs) walk into the carriageway. This may result in collisions with passing vehicles or VIPs falling in the carriageway when encountering full-height kerbs.	Amend footway layout.	Agree – this section of the site comprises a shared surface arrangement and therefore no full-height kerbs are proposed.
Internal road network	A build-out is proposed at the north-eastern extent, in close proximity to a tight bend. This may cause southbound vehicles not to detect the build-out after negotiating the bend. This may result in collisions with the kerb.	Provide features to increase the conspicuousness of the build-out. Also see Problem 3.	Agree - The build out is proposed to reduce occurrence of on-street parking in proximity to the bend. Vehicles will be travelling at a low speed around the bend and will therefore safely detect the build-out.
Internal road network	Sections of road are proposed, which include sudden narrowing's in width. This may result in vehicles colliding with the kerbs.	Provide smooth transition for varying road widths.	Agree – the site layout has been updated to include corner radii to reduce occurrence of sudden narrowing.
Car parking	Car parking bays are located directly adjacent to kerbing and where roads are narrow. This may cause difficulties for turning vehicles. This may result in entering or exiting vehicles to collide with the kerbs.	Amend parking arrangements.	Agree – the site layout has been updated to include corner radii to enable vehicles to turn without striking kerbs.
Footpaths	Footpaths are provided parallel to the spine road and route NW to SE. No crossing facilities are proposed across the roads between Plot nos. C01-D01, A01-B01. This will cause level differences at the road. This may result in VIPs falling in the carriageway when encountering full-height kerbs.	Provide appropriate crossing facilities.	Agree – the site layout has been updated to include appropriate crossing facilities.

Street Hierarchy

5.3.5 The site layout has been designed in accordance with guidance contained in Manual for Streets (MfS) and HCC's TG documents. The following street hierarchy has been used to develop the site layout:

- Main Street (defined as a secondary street with reference to TG2) – minimum 5.5m wide carriageway with 2.0m footways on the primary routes through the development;
- Secondary Street (defined as a tertiary street with reference to TG2) – 5.0m shared surfaces with service margins designed to enable access for refuse vehicles; and
- Private driveway – narrower shared surface areas where refuse vehicles do not need to enter.

5.4 Service and Refuse Collection Arrangements

5.4.1 The site masterplan has been designed in accordance with the guidance on carry distances for refuse collection as provided in Schedule 1, Part H of the Building Regulations:

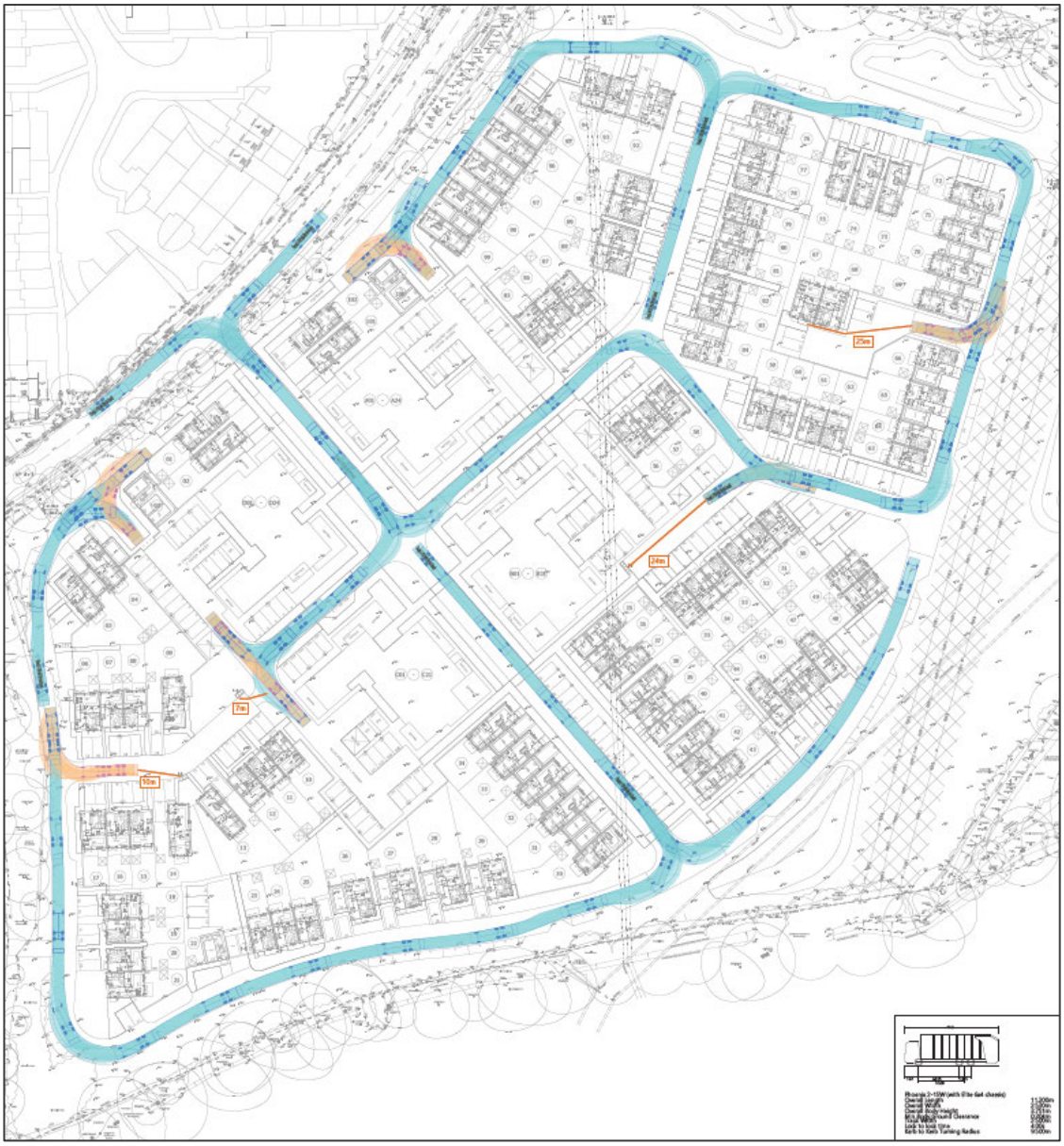
- Residents should not be required to carry waste more than 30m (excluding any vertical distance) to the storage point; and
- Waste collection operatives should be able to get within 25m of the storage point.

5.4.2 The site layout has been designed with reference to Section 6.8 of the MfS and meets the wider MfS requirements in terms of providing for access for emergency vehicles. All roads within the site layout provide a width in excess of 3.7m, which is the required working width for a fire tender.

Refuse Collection Arrangements

5.4.3 A swept path analysis of a 11.2m refuse vehicle has been undertaken at the site access and throughout the internal layout of the site, provided as **Drawing ITS19785-GA-003E** and below in **Image 5.8**. Refuse will be collected from the proposed dwellings from the kerbside on the internal site access roads.

Image 5.8: Refuse Vehicle Swept Path Analysis



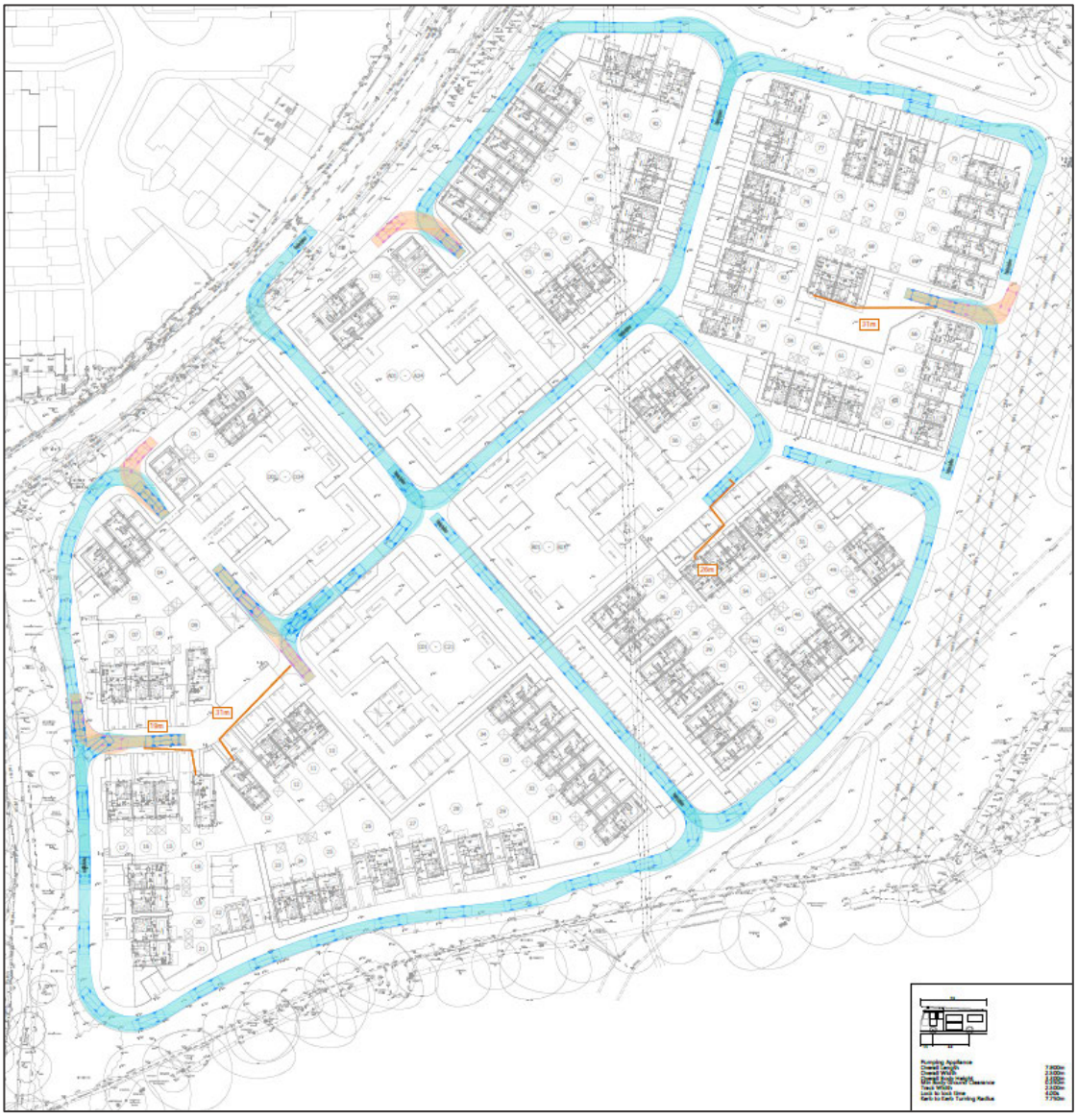
Source: ITS19785-GA-003E

5.4.4 The distance that refuse collectors will have to walk to collect bins for emptying will not exceed 25m, and the distance that residents will need to take their bins for collection with not exceed 30m, in accordance with MfS. The swept path analysis has been undertaken based on HCC's refuse collection vehicle (11.2m) in length. As a refuse collection vehicle is able to access the site, it follows that smaller vehicles (e.g. delivery vans) will be able to do so too.

Emergency Access

5.4.5 A swept path analysis has also been undertaken in order to demonstrate that a fire tender can enter the main vehicle access and access all dwellings within the site. This swept path is included in **Drawing ITS19785-GA-013B** and extracted below as **Image 5.9.** This drawing demonstrates that all dwellings are within are within 31m of where a fire service pump appliance can access and lay a hose.

Image 5.9: Fire Tender Swept Path Analysis

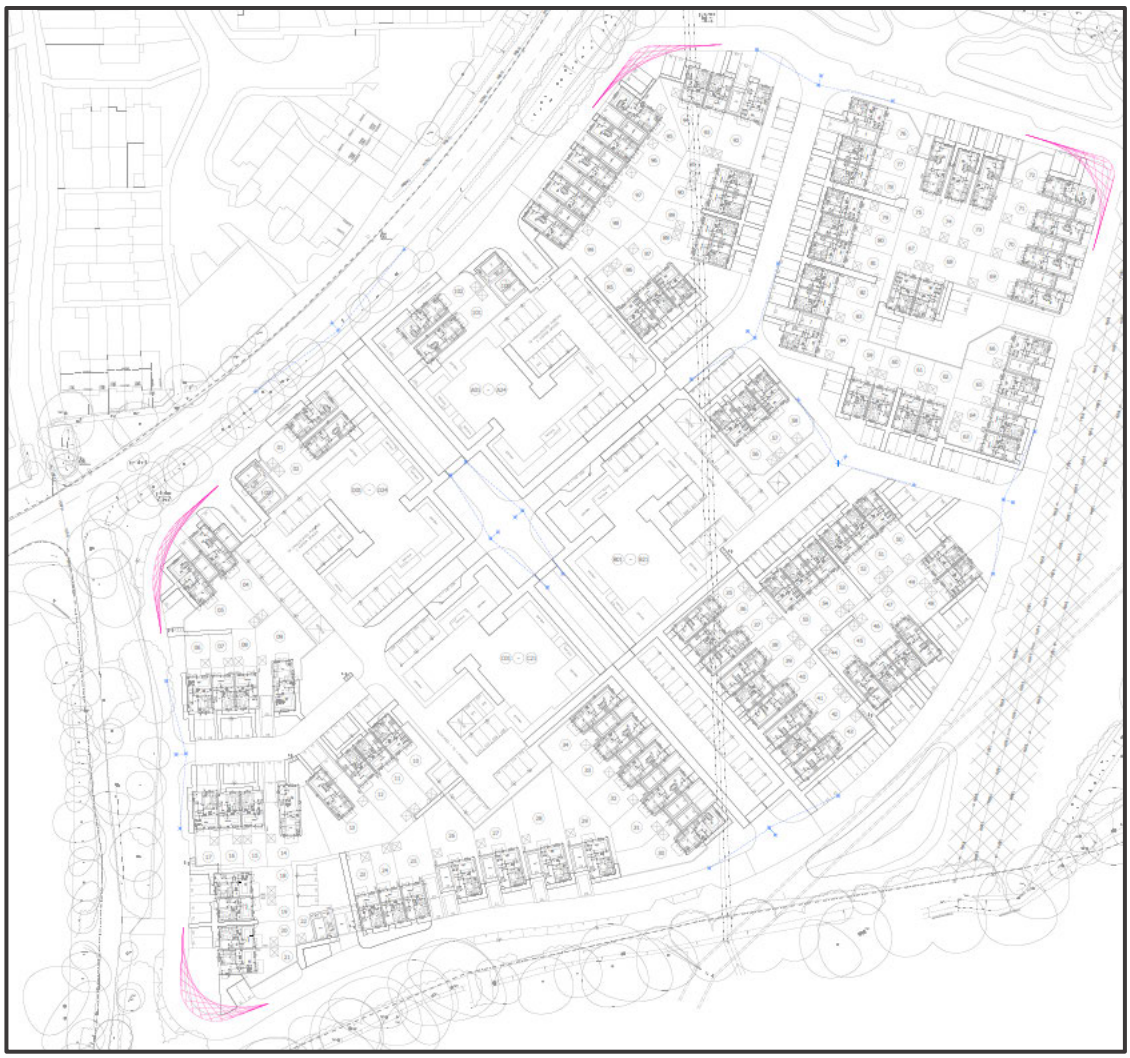


Source: ITS19785-GA-013B

Forward Visibility

5.4.6 Forward visibility of 18m is provided throughout the site which is based on a 15mph design speed in accordance with TG2. This is provided as **Drawing ITS19785-GA-009F** with an extract provided below in **Image 5.10**.

Image 5.10: Site Layout Forward Visibility



Source: Drawing ITS197854-GA-009F

5.5 Parking Provision

5.5.1 Car and cycle parking is provided in accordance with standards set out in the EBC Parking Standards SPD (September 2025). The standards are outlined in **Table 5.4** and **Table 5.5**.

Table 5.4: Car and Cycle Parking Standards – Houses.

Property Size	Car Parking Standard				Cycle Parking Standard	
	50% or more unallocated spaces	Less than 50% unallocated spaces	Individual / on-plot allocation	Visitor Parking	Long Term Secure Storage	Short Term Communal Storage
1 bedroom	0.75	1	1	0.2	1	1
2/3 bedrooms	1.5	1.75	2	0.2	2	1
4+ bedrooms	2.25	2.5	3	0.2	3	2

Source: Eastleigh Borough Council Parking Standards

Table 5.5: Car and Cycle Parking Standards – Flats.

Property Size	Car Parking Standard			Long Term Cycle Storage	
	Allocated Parking	Unallocated Parking	Visitor Parking	Individual Storage	Communal Storage
1 bedroom	1	0.75	0.2	1	1
2 bedrooms	1.25	1	0.2	2	1

Source: Eastleigh Borough Council Parking Standards

5.5.2 Visitor parking standards set out in the EBC Parking Standards SPD (September 2025) states that for every dwelling in a new development, 0.2 parking spaces should be allocated for visitors.

5.5.3 The proposed development provides car and cycle parking in accordance with standards outlined by EBC.

5.5.4 Electric vehicle parking will be provided in accordance with Building Regulations Part S. It is proposed that each dwelling will have a charge socket with a minimum nominal rated output of 7kW.

5.6 Sustainable Transport Strategy

Introduction

5.6.1 Prioritising travel by sustainable modes has a key role to play in facilitating future growth against a background of differing pressures and constraints, including:

- Climate emergency.
- Reduced reliance on fossil fuels.
- Reduced congestion.
- Enabling delivery of much needed housing on a 'busy' highway network.

- Delivering a sustainable development in transport terms.

5.6.2 Transport is the largest contributor to greenhouse gases, producing 27% of the UK's total emissions in 2019. Of this, the majority (91%) came from road transport vehicles. The biggest contributors to this are cars and taxis, which made up 61% of the emissions from road transport.

5.6.3 Embracing and prioritising sustainable transport will contribute to a reduction in damaging carbon dioxide emissions and will therefore lead to a reduction in atmospheric pollution and improved air quality. Development should be located where the use of public transport is a viable alternative to private car use, and where investment into the network can help encourage an uptake of sustainable travel.

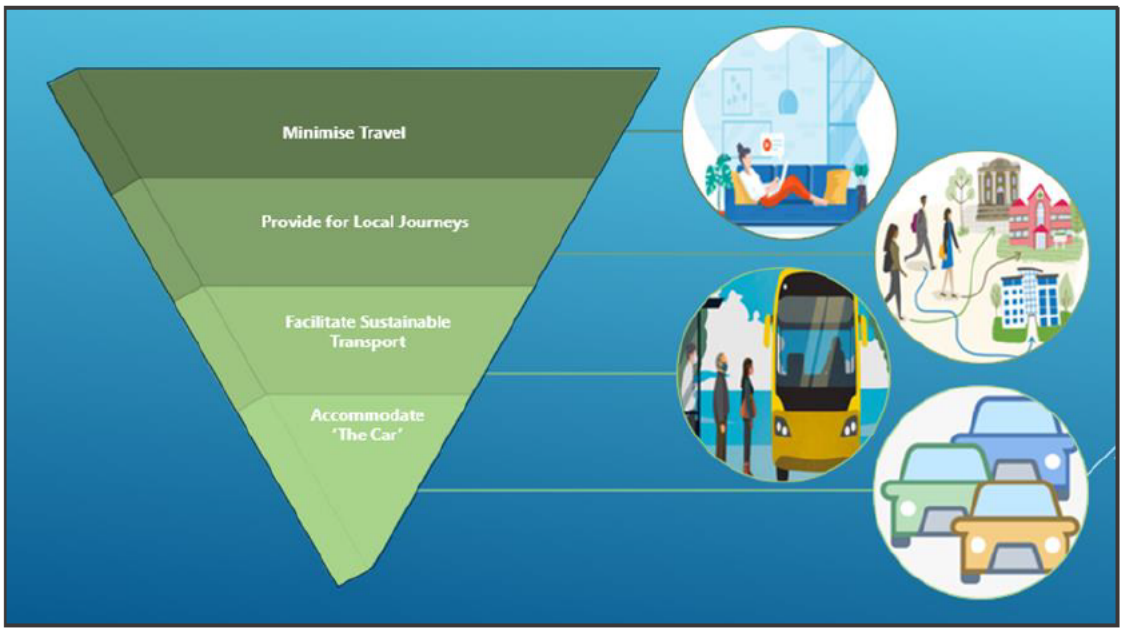
5.6.4 There is a clear precedent that the local area is in a sustainable location for additional homes, as demonstrated by several planning decisions in the area and the allocation of the site itself as a housing site.

5.6.5 The site is well located to take up and prioritise the opportunities for sustainable travel – local facilities and services are nearby, as is a frequent bus service to destinations further afield.

Strategy

5.6.6 To achieve the overarching objective of sustainable development, a clear and targeted strategy is required. The Sustainable Transport Strategy will seek to take a 'Reduce, Contain and Facilitate Alternatives' approach to travel demands – only after these steps have been taken should the strategy allow for the mitigation of vehicular impacts. **Image 5.11** visualises the proposed strategy.

Image 5.11: Mobility Strategy



Reduce

5.6.7 The first step of the strategy will be to seek to minimise the need for travel. One of the biggest contributors to travel demand during peak periods, as identified by NTS 2019[2] is that attributed to commuting journeys.

5.6.8 The national response to Covid resulted in a significant shift in the working culture which has continued well beyond the pandemic. More employees are now able to work either from home or remotely, with less time spent in offices as a result of hybrid working approaches. As a result, the design of residential dwellings has become a key focus, with many homebuyers now seeking space within properties to enable home working, and travel demand can be reduced by providing dwellings that reflect these requirements.

5.6.9 Providing the necessary support for employees to work remotely, through the provision of fast broadband connectivity will reduce the need for residents to travel off-site for work purposes as sufficient internet connection will be provided within the home.

5.6.10 The development has been designed to accommodate shopping deliveries, including making provision for delivery vehicles, reducing the need for residents to have to travel off-site for retail purposes.

[2] 2019 National Travel Survey (publishing.service.gov.uk)

5.6.11 While residents of the development will seek to own their own vehicles, the provision of a comprehensive on-plot electric vehicle charging will enable residents to reduce the reliance upon traditional combustion engine vehicles, and own private vehicles that have a lessened impact on the environment, while overcoming one of the major obstacles to electric car ownership in providing dedicated facilities to enable charging.

Contain

5.6.12 The location and scale of development provides the opportunity to provide infrastructure that can help contain some travel demands generated by the site within the village. This has the benefit of reducing the traffic impacts of the development and reducing overall journey length so that the undertaking of these movements on foot or by bicycle becomes the first-choice mode of transport.

5.6.13 Key to encouraging local journeys is to provide for a layout that has 'walkable neighbourhoods', characterised as being within 10 minutes walking distance (around 800m). 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 and the design of the site will strive to achieve this through good design and prioritising journeys on foot and by bicycle. Well-designed open space within the site can reduce the need for residents to travel elsewhere for such activity.

5.7 Facilitate Sustainable Travel

5.7.1 Whilst the reduce and contain aspects of the strategy will minimise the need and distances travelled, there will still be a travel demand arising from the site.

5.7.2 Analysis of travel patterns enables targeted investment in sustainable transport infrastructure to encourage the uptake of sustainable modes of transport to accommodate these journeys, and the opportunity exists to embrace new and innovative methods to capture these trips.

5.7.3 The sustainable transport strategy aims to make walking, cycling and public transport the preferred choice for many journeys through:

- Site design
- A Travel Plan
- Local improvements identified in the *Healthy Streets Assessment* Walking and Cycling Audit

Off-site Pedestrian and Cycle Improvements

5.7.4 The development can provide the opportunity to help bring forward, through a reasonable contribution, the potential local improvements identified in the WCHAR in Section 3.5. Improvements identified as part of the WCHAR Assessment include:

- The provision of tactile paving and dropped kerbs at between Kings Copse Road and Woodstock Close.
- The provision of tactile paving and dropped kerbs at between Kings Copse Avenue, Whitebeam Road and Maris Road Roundabout.
- The provision of on-road or off-road cycle markings from the site's frontage in an eastbound direction to connect with the existing shared cycleway at the Maypole Roundabout.
- The provision of way-finding signage from the site via the route along Tanhouse Lane through River Hamble Country Park / Manor Farm to Botley for recreational purposes.

5.7.5 The development will also improve the existing Bridleway (026/5011/1) adjacent to the site which forms a primary walking and cycling route towards Kings Copse Primary School and Hedge End Village. The bridleway has undergone a Stage One Road Safety Audit (**Appendix J**) The proposed improvements to the Bridleway include:

- A pedestrian / cyclist crossing with refuge island across Kings Copse Avenue.
- An all-weather resurfacing.
- Improved lighting.
- Maintained of vegetation to improve navigation along the Bridleway.
- Proposed footway on the southern side of Kings Copse Avenue.

Travel Plan

5.7.6 The Framework Travel Plan (ref: *ITB19748-010*) set targets to deliver modal shift from car single occupancy car use towards sustainable transport modes and reduce the traffic impact of the proposed development. It has been prepared in line with current best practice guidance and includes a comprehensive package of active and sustainable transport measures.

5.7.7 The overarching aims of the Framework Travel Plan are:

- To reduce the number of car trips generated by the site; and

- To improve accessibility to the site by non-car modes of transport and thereby encourage the use of other travel modes.

5.7.8 The overarching aims have been set in order to achieve a number of key transport objectives and targets. The key target of the FTP is to:

"Over a period of 5 years, achieve a 12-hour vehicle trip rate that is 10% lower than recorded at the commencement of the Travel Plan"

5.7.9 To achieve the aims and objectives, a package of 'Soft' measures designed to encourage residents to consider sustainable travel opportunities are promoted through the FTP. The Framework Travel Plan identifies the following measures;

- Appointment of a dedicated Travel Plan Coordinator;
- Provision of a residents 'Residents Travel Information Pack', to provide information of travel opportunities and to promote travel;
- Offer of a sustainable travel voucher to be used either on public transport (such as local bus operator voucher tickets) or on cycle equipment;
- Community noticeboards to identify travel opportunities and incentives; and
- Promotion of local car-share and bicycle user groups.

5.7.10 A sustainable transport strategy is provided in **Table 5.6** which summarises the comprehensive package of measures proposed to be delivered to encourage sustainable access to and from the site. Further detail is provided within the FTP that accompanies this TA.

Table 5.6: Sustainable Transport Strategy

Objective	Measure	Timescale
Overall cross-objective	Appoint a Travel Plan Coordinator	Prior to Occupation
	Distribute Travel Welcome Packs	Phased with Development
Promotion of Walking and cycling	Walking and cycling maps and health information	Prior to Occupation
	Provision of cycle storage facilities	Phased with Development
	Delivery of MfS / LTN1/20 layout – interconnecting streets, shared streets and home zones	Phased with Development
	Offer of a travel voucher to each dwelling for cycle equipment purchase	On occupation (within Travel Information Packs)

Objective	Measure	Timescale
Promotion of Public Transport	Promotion of digital travel applications	Prior to Occupation
	Offer of a Bus Taster ticket	On occupation (within Travel Information Packs)
Managing Car Demand	Promotion of car sharing schemes through the TPC.	Ongoing
	Installation of electric vehicle charging facilities	Phased with Development

5.8 Summary

5.8.1 The proposed development will provide safe and suitable access for all vehicular and non-motorised traffic. Access arrangements to the site, as well as the internal site layout and off-site works, have undergone an independent Stage 1 RSA.

5.8.2 A swept path analysis has demonstrated that the site can be safely serviced by emergency and refuse vehicles.

5.8.3 Car, cycle, visitor and EV charging parking will be provided in accordance with standards outlined by EBC and will therefore reduce the likelihood of overspill parking occurring within the site and on the local highway network.

5.8.4 The development proposes a series of on-site / off-site active travel infrastructure improvements which will enhance the delivery of the sustainable transport strategy for the site. The strategy for the site prioritises sustainable transport and is therefore in accordance with paragraph 115 of the NPPF.

SECTION 6 Transport Impact Assessment

6.1 Introduction

6.1.1 This section of the TA provides an appraisal of the likely traffic impacts of the proposed development, quantifying the increase in traffic flows on the key parts of the local highway network.

6.1.2 The scope of the traffic impact assessment has been subject to pre-application discussions with HCC, as the local highway authority, and this section considers the comments made at pre-application stage.

6.1.3 For robustness, the traffic impact assessment of the site has been upon a development of 200 homes. This provides a higher traffic impact than would be expected for the development.

6.2 Traffic Growth

6.2.1 Traffic growth has been allowed for using rates derived from the TEMPro database and adjusted to allow for the separate consideration of committed development. The following scenarios have been assessed:

- 2024 i.e. the date of the traffic surveys
- 2030 i.e. 5 years post planning application submission. This will be tested without and with the development proposal using the *unadjusted* trip generation (see below)

6.2.2 The growth factors are summarised below[3]:

- 2024 to 2030 morning peak period = 1.0574
- 2024 to 2030 evening peak period = 1.0582

6.3 Committed Development

6.3.1 The trip generation associated with the following development has been factored into the baseline committed development traffic flows:

- Woodhouse Lane – O/18/83634 (605 dwellings)

[3] Alternative assumptions have been applied to the TEMPro growth factors to account for the Committed Development site included within the traffic assessment. This is to avoid double counting traffic impacts as it is an allocated site (ref: Policy HE1) within the Eastleigh Borough Council Local Plan

6.3.2 The committed development site above was not operational at the time of the traffic surveys and therefore the future year operational assessments will take account of this development's impact on the local highway network.

6.3.3 HCC also requested the inclusion of the Boorley Green site (ref: O/12/75953), the Winchester Road development (ref: F/19/86233), Serenity – F/19/86829 (123 Dwellings) and Boorley Gardens (ref: O/15/75953).

6.3.4 The Winchester Road development has not been included because this is a Reserved Matters submission for the new local centre; part of the wider Boorley Green planning application. The Reserved Matters submission was revised from the initial outline application and subsequently generates fewer vehicle trips, and therefore no traffic impact assessment was undertaken.

6.3.5 The Boorley Gardens, Boorley Green development and Serenity development were already open and operational at the time of the traffic surveys and would therefore traffic associated within this site will have been included within the baseline traffic surveys.

6.3.6 The baseline / baseline + committed development and baseline + committed development + development traffic flows are illustrated on TF1 – TF6 appended to this TA.

6.4 Trip Generation

Unadjusted Assessment

6.4.1 A multi-modal trip generation assessment has been undertaken to estimate the trip generation of the proposed development at the site. The TRICS database has been used with the following parameters. The resultant trip generation is shown in **Table 6.1**:

- **Size Relevance**: 25-250 Mixed Homes and Flats
- **Region**: England, excluding Greater London
- **Location Relevance**: Edge of Town Centre, Edge of Town and Suburban Areas
- **Date Relevance**: Surveys undertaken on weekdays, excluding those undertaken on dates that were constrained by COVID-19 restrictions.

6.4.2 The full TRICS outputs are presented at **Appendix L.**

Table 6.1: TRICS Multi-Modal Trip Rate and Generation – *Unadjusted*

	Morning Peak Hour			Evening Peak Hour			Daily (07:00 – 19:00)		
	In	Out	Two-Way	In	Out	Two-Way	In	Out	Two-way
Vehicle Trip Rate per Dwelling	*0.075*	*0.251*	*0.326*	*0.223*	*0.107*	*0.330*	*1.456*	*1.584*	*3.040*
Vehicles	15	50	65	45	21	66	291	317	608
Pedestrian Trip Rate per Dwelling	*0.061*	*0.16*	*0.221*	*0.154*	*0.06*	*0.214*	*0.937*	*0.941*	*1.878*
Pedestrians	12	32	44	31	12	43	187	188	375
Cyclist Trip Rate per Dwelling	*0.009*	*0.038*	*0.047*	*0.009*	*0.008*	*0.017*	*0.114*	*0.166*	*0.28*
Cyclists	2	8	10	2	2	4	23	33	56
Bus Passenger Trip Rate per Dwelling	*0.009*	*0.043*	*0.052*	*0.043*	*0.015*	*0.058*	*0.288*	*0.267*	*0.555*
Bus Passengers	2	9	11	9	3	12	58	53	111
Rail Passenger Trip Rate per dwelling	*0*	*0.031*	*0.031*	*0.019*	*0.004*	*0.023*	*0.103*	*0.126*	*0.229*
Rail Passengers	0	6	6	9	3	12	58	53	111
Total	**31**	**105**	**136**	**94**	**41**	**135**	**617**	**645**	**1262**

Source: TRICS 7.10.2 with consultants' calculations

6.4.3 The site will generate between 65 and 66 two-way vehicular trips in the morning and evening peak periods respectively. This equates to just over one additional vehicle per minute on the highway network.

6.4.4 The site will generate 431 two-way movements amongst pedestrians and cyclist, accounting for 34% of all trips. It is expected that across the day, a daily two-way movement of 222 public transport trips will occur, equivalent to 17% of all daily trips. As such, 51% of all daily trips will be generated from sustainable modes of transport. The site will generate a daily two-way movement of 608 vehicles.

Vision Based Assessment

6.4.5 A *vision-based* assessment has also been undertaken based on the expected 10% mode shift target in the scheme's Travel Plan being achieved.

6.4.6 The mode shift of 10% has been determined as a result of the sites sustainable location in relation to Hedge End Village Centre and nearby local facilities and services. The feasibility of walking and cycling will be increased as result of the developments offsite improvements as set out in the WCHAR Assessment. The site also benefits from a 7-day bus service in both directions towards Hedge End and Southampton. The frequency of the service demonstrates that the modal choice of travelling via bus is likely for future residents.

6.4.7 The following *vision-based* trip generation is set out in **Table 6.2**.

Table 6.2: TRICS Multi-Modal Trip Rate and Generation – *Vison Based*

	Morning Peak Hour			Evening Peak Hour			Daily (07:00 – 19:00)		
	In	Out	Two-Way	In	Out	Two-Way	In	Out	Two-way
Vehicles	14	45	59	41	19	59	236	257	492
Pedestrians	14	35	48	34	13	47	184	185	369
Cyclists	1	1	2	0	0	0	23	32	55
Bus Passengers	0	4	4	2	0	2	57	52	109
Rail Passengers	0	1	1	1	0	1	57	52	109
Total	**28**	**86**	**114**	**78**	**32**	**110**	**555**	**579**	**1134**

Source: TRICS 7.10.2 with consultants' calculations

6.4.8 Using a vision-based approach, the site is expected to generate 642 two-way non-car trips across the day, accounting for approximately 57% of all trips generated. Active travel to and from the site is expected to generate 424 two-way trips, facilitated by the site's sustainable location of various walking and cycling opportunities.

6.4.9 The site will also generate 492 two-way vehicular trips in the morning and evening peak periods respectively, equivalent to approximately 43% of all daily trips.

6.5 Traffic and Transport Distribution and Assignment

6.5.1 It is expected that given the sites proximity to Hedge End village centre and nearby facilities, the forecasted 424 active travel trips are expected to primarily use the routes identified in the WCHAR Assessment set out in Section 3. Off-site improvements including the adjacent bridleway will also assist in the uptake of active travel between the site and Hedge End.

6.5.2 The likely journey purpose for the generated car driver peak hour trips has been determined using data derived from the National Travel Survey (NTS) 2019 and the proportion of peak hour trips by journey purpose by car is presented in **Table 6.3.**

Table 6.3: Proportion of Peak Hour Trips by Journey Purpose (Car Driver Only)

Trip Purpose	Morning Peak (08:00 – 09:00)	Evening Peak (17:00 – 18:00)
Commuting/Business	37.6%	43.9%
All Other Journey Purposes	62.4%	56.1%
Total	**100%**	**100%**

Source: Car driver trip start time by trip purpose (Monday to Friday only): Great Britain, 2014/18, National Travel Survey, DfT, 2019

6.5.3 Some 38% of the total vehicular trips generated by the residential development will be for employment journeys in the morning peak hour period and 44% of journeys in the evening peak hour. It has been assumed that 44% of peak hour vehicle trips are employment trips and the remaining 56% for non-employment journeys.

6.5.4 To provide an accurate assessment of the likely distribution of traffic from the site, separate methodologies have been applied to consider the destinations of commuting and business trips to other trip purposes:

- For commuting and business trips, the National Census Journey to Work statistics (for car drivers) for the Eastleigh 012 (2011 super output area - middle layer) have been used. These identify the location of existing resident's employment locations and so identify existing commuting patterns; and
- For other journey purpose trips, a P/T^2 gravity model has been undertaken using the population of key urban areas (from the 2011 census) within a 40-minute drive from the site (estimated from Google Maps Directions facility).

6.5.5 The two sets of data have then been combined to inform the development trip assignment. This is summarised in **Table 6.4**.

Table 6.4: Traffic Distribution Summary

Destination	Work Trips (44%)	Non-work Trips (56%)	Combined
Hedge End	5.36%	14.50%	19.87%
Portsmouth	2.13%	12.77%	14.89%
Woolston, Weston & Sholing	0.77%	7.06%	7.82%
Eastleigh	5.30%	1.90%	7.20%
Fareham	3.81%	2.13%	5.94%
Southampton City Centre	4.77%	1.12%	5.89%
Itchen, Bitterne & Harefield	1.21%	3.86%	5.07%

Destination	Work Trips (44%)	Non-work Trips (56%)	Combined
Hamble & Netley	2.02%	2.52%	4.54%
Bishops Waltham & Wickham	3.25%	1.06%	4.32%
New Forest	1.58%	2.58%	4.15%
Winchester	2.84%	0.84%	3.68%
Shirley & Redbridge	2.47%	0.95%	3.42%
Havant	0.71%	2.07%	2.79%
Chandlers Ford	1.56%	1.21%	2.78%
Highfield & Bassett	1.13%	1.40%	2.53%
Test Valley	1.52%	-	1.52%
Greater London	0.84%	-	0.84%
Bournemouth, Christchurch & Poole	0.54%	-	0.54%
Basingstoke	0.49%	-	0.49%
Petersfield & Alton	0.29%	-	0.29%
Chichester	0.16%	-	0.16%
Other	1.25%	-	1.25%
Total	**44%**	**56%**	**100%**

Source: 2011 Census and Consultants' Calculations

Assignment

6.5.6 The traffic that will be generated by the development has been distributed onto the local network to the destinations identified in **Table 6.4**.

6.5.7 To determine the routing of trips to these destinations, trips will be assigned to the road network based on the quickest route from the site to the destination location using the Google Maps Directions' facility. Within this, a start time for journeys of 08:00 will be utilised to ensure that peak period traffic conditions are reflected.

6.5.8 In some cases, there is a single route option identified by the assessment, however for the majority of destinations the assessment identified multiple routes. In these cases, the estimated development trips were distributed amongst the routes based upon the journey times identified, with the quicker route assigned a larger number of trips than slower comparable routes. On the basis of this assessment, traffic generated by the development has been assigned to the network based on the unadjusted trip rates[4] referenced in **Table 6.1** and is summarised in **Table 6.5**.

Table 6.5: Forecasted Distribution Assignment

Route	Development Distribution	AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
Kings Copse Avenue (North)	25%	4	13	11	5
Kings Copse Avenue (South)	75%	11	37	33	16
Lower Northam Road	7%	1	3	3	1
A334 Grange Road	12%	2	6	5	3
A334 Broad Oak	6%	1	3	2	1
Woodhouse Lane	1%	0	1	1	0
Kings Copse Road	7%	1	3	3	1
Dodwell Lane	62%	9	31	28	13
M27 (North)	16%	2	8	7	3
M27 (South)	25%	4	12	11	5
A3024 Bert Betts Way	21%	2	10	7	4

Source: Consultants Calculations

6.6 Scope of Assessment

6.6.1 To assess the impact of the development proposal on the local highway network, operational assessments have been undertaken using industry standard junction modelling software (Junctions 11) at the following junctions:

- Proposed Site Access
- Maypole Roundabout
- Kings Copse Avenue / Whitebeam Road Roundabout
- Kings Copse Avenue / Sovereign Drive Roundabout
- Kings Copse Avenue / Duke Road Roundabout

[4] To assume a worst-case scenario.

- Kings Copse Avenue / Heath House Lane Roundabout
- Barnfield Way / Dodwell Lane Roundabout
- M27 Junction 8 Interchange

6.6.2 Beyond the junctions outlined above, the development traffic flows will dissipate onto the local and wider highway network with a negligible impact.

6.7 Assessment Results

6.7.1 Full Junctions 11 outputs are included as **Appendix M** for each of the junctions.

6.7.2 The results of the assessment for the following assessment scenarios are presented below for each of the study junctions[5]:

- 2024 Baseline
- 2030 Baseline + Committed Development
- 2030 Baseline + Committed Development + Development

Proposed Site Access

Table 6.6: Proposed Site Access Junction

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
2030 Base + Committed Development + Development						
Site Access	0.11	0	0.11	0.05	0	7.53
Kings Copse Avenue	0.04	0	4.64	011	0	5.23

Source: Junctions 11

6.7.3 The above results demonstrate that the proposed site access junction will operate well within capacity in 2030 once the development is built out.

[5] The traffic impact assessment has been based upon the 'unadjusted' trip rates to enable a robust and therefore 'worse case' assessment to be undertaken.

Maypole Roundabout

Table 6.7: Maypole Roundabout

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
2024 Baseline						
Woodhouse Lane	0.36	1	4.81	0.41	1	5.55
Broad Oak	0.59	1	5.46	0.62	2	6.28
Kings Copse Avenue	0.50	1	5.23	0.34	1	3.79
Lower Northam Road	0.47	1	5.97	0.39	1	4.25
Grange Road	0.52	1	4.92	0.57	1	5.22
2030 Base + Committed Development						
Woodhouse Lane	0.40	1	5.32	0.46	1	6.35
Broad Oak	0.64	2	6.31	0.68	2	7.56
Kings Copse Avenue	0.56	1	6.10	0.37	1	4.12
Lower Northam Road	0.53	1	7.04	0.43	1	4.65
Grange Road	0.57	1	5.61	0.62	2	6.02
2030 Base + Committed Development + Development						
Woodhouse Lane	0.40	1	5.38	0.47	1	6.43
Broad Oak	0.64	2	6.40	0.69	2	7.70
Kings Copse Avenue	0.56	1	6.16	0.38	1	4.15
Lower Northam Road	0.53	1	7.12	0.43	1	4.69
Grange Road	0.58	1	5.68	0.63	2	6.11

Source: Junctions 11

6.7.4 The above results demonstrate that the Maypole Roundabout will operate well within capacity with maximum RFCs of 0.64 and 0.69 for the AM and PM peak hours respectively with negligible queuing and delay.

Kings Copse Avenue / Whitebeam Road Roundabout

Table 6.8: Kings Copse Avenue / Whitebeam Road Roundabout

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
2024 Baseline						
Kings Copse Avenue (N)	0.43	1	6.00	0.59	1	8.20
Marls Road	0.08	0	3.98	0.08	0	4.29

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
Kings Copse Road (S)	0.51	1	6.00	0.34	1	4.46
Whitebeam Road	0.08	0	4.51	0.03	0	3.79
2030 Base + Committed Development						
Kings Copse Avenue (N)	0.47	1	6.36	0.63	2	9.21
Marls Road	0.09	0	4.09	0.08	0	4.45
Kings Copse Road (S)	0.55	1	6.55	0.37	1	4.65
Whitebeam Road	0.09	0	4.71	0.04	0	3.88
2030 Base + Committed Development + Development						
Kings Copse Avenue (N)	0.47	1	6.41	0.64	2	9.51
Marls Road	0.09	0	4.10	0.08	0	4.49
Kings Copse Road (S)	0.56	1	6.72	0.37	1	4.69
Whitebeam Road	0.09	0	4.76	0.04	0	3.89

Source: Junctions 11

6.7.5 The above results demonstrate that the Kings Copse Avenue / Whitebeam Road Roundabout will operate well within capacity with maximum RFCs of 0.56 and 0.64 for the AM and PM peak hours respectively with negligible queuing and delay.

Kings Copse Avenue / Sovereign Drive Roundabout

Table 6.9: Kings Copse Avenue / Sovereign Drive Roundabout

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
2024 Baseline						
Kings Copse Avenue (N)	0.38	1	4.99	0.48	1	5.91
Sovereign Drive (E)	0.06	0	4.19	0.04	0	4.35
Kings Copse Road (S)	0.49	1	6.29	0.35	1	4.83
Sovereign Drive (W)	0.14	0	5.58	0.04	0	4.52
2030 Base + Committed Development						
Kings Copse Avenue (N)	0.41	1	5.24	0.52	1	6.37
Sovereign Drive (E)	0.06	0	4.30	0.04	0	4.48
Kings Copse Road (S)	0.53	1	6.84	0.37	1	5.04
Sovereign Drive (W)	0.16	0	5.82	0.04	0	4.61
2030 Base + Committed Development + Development						

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
Kings Copse Avenue (N)	0.41	1	5.27	0.53	1	6.52
Sovereign Drive (E)	0.06	0	4.31	0.04	0	4.52
Kings Copse Road (S)	0.55	1	7.02	0.38	1	5.08
Sovereign Drive (W)	0.16	0	5.88	0.04	0	4.63

Source: Junctions 11

6.7.6 The above results demonstrate that the Kings Copse Avenue / Sovereign Drive Roundabout will operate well within capacity with maximum RFCs of 0.55 and 0.53 for the AM and PM peak hours respectively with negligible queuing and delay.

Kings Copse Avenue / Duke Head Roundabout

Table 6.10: Kings Copse Avenue / Duke Head Roundabout

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
2024 Baseline						
Kings Copse Avenue (N)	0.35	1	4.67	0.43	1	5.36
Salwey Road	0.08	0	4.66	0.04	0	4.63
Kings Copse Road (S)	0.49	1	6.12	0.40	1	5.19
Duke Road	0.06	0	4.21	0.04	0	3.81
2030 Base + Committed Development						
Kings Copse Avenue (N)	0.38	1	4.87	0.47	1	5.72
Salwey Road	0.09	0	4.78	0.04	0	4.76
Kings Copse Road (S)	0.52	1	6.61	0.42	1	5.46
Duke Road	0.07	0	4.35	0.04	0	3.89
2030 Base + Committed Development + Development						
Kings Copse Avenue (N)	0.38	1	4.90	0.48	1	5.84
Salwey Road	0.09	0	4.80	0.04	0	4.80
Kings Copse Road (S)	0.54	1	6.79	0.43	1	5.51
Duke Road	0.07	0	4.39	0.04	0	3.91

Source: Junctions 11

6.7.7 The above results demonstrate that the Kings Copse Avenue / Duke Road Roundabout will work well within capacity with maximum RFCs of 0.54 and 0.48 for the AM and PM peak hours respectively with negligible queuing and delay.

Kings Copse Avenue / Heath House Lane Roundabout

Table 6.11: Kings Copse Avenue / Heath House Lane Roundabout

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
2024 Baseline						
Kings Copse Road	0.17	0	4.12	0.15	0	3.83
Kings Copse Avenue	0.33	1	3.81	0.36	1	3.95
Heath House Lane	0.37	1	3.76	0.36	1	3.77
Sherwood Avenue	0.08	0	4.01	0.04	0	3.74
2030 Base + Committed Development						
Kings Copse Road	0.18	0	4.29	0.16	0	3.94
Kings Copse Avenue	0.35	1	3.97	0.39	1	4.16
Heath House Lane	0.40	1	3.96	0.39	1	3.94
Sherwood Avenue	0.09	0	4.17	0.05	0	3.85
2030 Base + Committed Development + Development						
Kings Copse Road	0.19	0	4.33	0.16	0	4.04
Kings Copse Avenue	0.38	1	4.16	0.40	1	4.24
Heath House Lane	0.41	1	4.01	0.41	1	4.09
Sherwood Avenue	0.09	0	4.21	0.05	0	3.93

Source: Junctions 11

6.7.8 The above results demonstrate that the Kings Copse Avenue / Heath House Lane Roundabout will work well within capacity with maximum RFCs of 0.38 and 0.41 in the AM and PM peak hours respectively with negligible queuing and delay.

Barnfield Way / Dodwell Lane Roundabout

Table 6.12: Barnfield Way / Dodwell Lane Roundabout

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
2024 Baseline						
Dodwell Lane (N)	0.35	1	5.52	0.24	0	4.96
Barnfield Way	0.43	1	5.30	0.39	1	4.67
Pylands Lane	0.07	0	5.33	0.15	0	5.38
Dodwell Lane (S)	0.46	1	4.23	0.51	1	4.72
2030 Base + Committed Development						

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
Dodwell Lane (N)	0.38	1	5.92	0.27	0	5.23
Barnfield Way	0.50	1	6.15	0.44	1	5.10
Pylands Lane	0.08	0	5.85	0.17	0	5.76
Dodwell Lane (S)	0.49	1	4.54	0.57	1	5.36
2030 Base + Committed Development + Development						
Dodwell Lane (N)	0.38	1	5.97	0.27	0	5.36
Barnfield Way	0.53	1	6.53	0.45	1	5.21
Pylands Lane	0.09	0	6.03	0.17	0	5.83
Dodwell Lane (S)	0.50	1	4.60	0.59	1	5.61

Source: Junctions 11

6.7.9 The above results demonstrate that the Barnfield Way / Dodwell Lane Roundabout will work well within capacity with maximum RFCs of 0.53 and 0.59 in the AM and PM peak hours respectively with negligible queuing and delay.

M27 Junction 8 Interchange

Table 6.13: M27 Junction 8 Interchange

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
2024 Baseline						
M27 (N)	0.53	1	4.90	0.65	2	6.46
Dodwell Lane	0.71	2	9.50	0.55	1	5.91
M27 (S)	0.51	1	5.16	0.62	2	6.47
A3024 Bert Betts Way	0.80	4	8.53	0.83	5	10.05
2030 Base + Committed Development						
M27 (N)	0.60	2	6.05	0.74	3	9.06
Dodwell Lane	0.86	6	20.38	0.65	2	7.78
M27 (S)	0.60	2	6.53	0.71	2	8.86
A3024 Bert Betts Way	0.88	7	14.52	0.91	9	17.94
2030 Base + Committed Development + Development						
M27 (N)	0.60	2	6.11	0.75	3	9.50
Dodwell Lane	0.89	7	24.56	0.66	2	8.01
M27 (S)	00.61		6.71	0.72	3	9.22

Arm/Movement	AM Peak Hour			PM Peak Hour		
	Max RFC	Queue (Vehs)	Delay (s)	Max RFC	Queue (Vehs)	Delay (s)
A3024 Bert Betts Way	0.89	8	15.05	0.91	10	19.37

Source: Junctions 11

6.7.10 The above results demonstrate that the M27 Junction 8 Interchange is approaching maximum capacity on Bert Betts Way with the addition of committed development, and Dodwell Lane will also approach maximum capacity in the AM peak hour with the addition of committed development and development traffic.

6.7.11 The impact of the proposed development traffic on Dodwell Lane and Bert Betts Way is minimal with an increase of a 4.18 second delay at Dodwell Lane. The addition of proposed development traffic results in a negligible maximum increase in RFC of 0.03 on Dodwell Lane and Bert Betts Way when comparing the 2030 Base + Committed and the 2030 Base + Committed + Development. Additionally, the proposed development traffic will result in a maximum increase of one queuing vehicle at Dodwell Lane. Traffic impacts related to the proposed development at this junction are negligible.

6.8 Summary

6.8.1 Junction capacity modelling has been undertaken to quantify the impact of the proposed development upon the operation of the local highway network. This has identified that the impact of the development will be minimal upon the operation of local junctions. Whilst there are increases in queuing and delay observed, this falls far short of the 'severe' impact requirement outlined in paragraph 115 of the NPPF.

6.8.2 Additionally, the traffic modelling has not considered the targeted 10% traffic reduction as a result of Travel Plan measures which will further reduce the impact on the operation of local junctions.

SECTION 7 Summary and Conclusion

7.1 This TA has been prepared following pre-application discussions with HCC and assesses the proposed development of 192 dwellings against the 'key transport tests' set out in paragraph 115 of the NPPF. The development is acceptable in transport terms as set out below.

Will the opportunities for sustainable travel be prioritised?

7.2 There is an established precedent for residential development in this location. Future residents of the site will have access to a variety of everyday facilities and services located within a comfortable walking and cycling distance of the site.

7.3 Journeys further afield can be accommodated by public transport with bus stops located on Kings Copse Avenue, within 300m of the centre of the site, which provide onward connections to Boorley Green, Fair Oak, Eastleigh and Southampton Airport Parkway rail station.

7.4 These opportunities for sustainable transport will be prioritised, promoted and taken up appropriately and proportionately though:

- Site design, e.g. providing an environment that is conducive for use by active travel modes, the provision of cycling parking and EV charging.
- Dwelling design that seeks to enable working from home.
- A series of on / off-site walking and cycling connections.
- A Travel Plan in line with HCC's guidance.
- Local improvements identified in the extensive WCHAR and Healthy Streets Assessment.
- Enhancements to the existing bridleway on Tanhouse Lane

Will safe and acceptable access be provided to the site for all modes?

7.5 The following access strategy is proposed:

- A priority-controlled junction between the site and Kings Copse Avenue.
- Provision of a pedestrian / cycle refuge island on Kings Copse Avenue.
- An improved walking and cycling route via Tanhouse Lane to facilities in Hedge End.

7.6 These access arrangements comply with relevant design guidance and have been subject to an independent Stage 1 Road Safety Audit. Safe and suitable access will be provided.

Will the site layout comply with design guidance?

7.7 The site layout plan shows a street hierarchy in line with design guidance, adequate provision for car and cycle parking, sufficient space for servicing and in line with Building Regulations guidance for fire access.

Will the traffic impacts be acceptable?

7.8 The traffic generation of the proposed development will be one vehicle per minute or two, which is a very modest level of increase. Detailed modelling of the local highway network shows no material residual impact on local junctions. It should also be noted that the assessments do not allow for the positive impacts that are likely to occur as a result of the Travel Plan and Sustainable Travel Strategy.

7.9 The impact of the proposed development falls well below a 'severe' impact. Traffic impacts are therefore acceptable.

7.10 Conclusions

7.10.1 It is therefore concluded that:

- The site is located in an accessible location that is suitable for a residential development of 192 dwellings. Current public transport and local active travel links provide opportunities for sustainable travel to be taken up. The site provides connections and proposes improvements to local infrastructure and through the delivery of the Sustainable Transport Strategy and Travel Plan will ensure that these opportunities can be taken up by future residents;
- The site access arrangements and off-site works comply with local and national design guidance and have been subject to an independent Stage 1 Road Safety Audit as well as pre-application engagement with HCC. Connectivity for active travel modes has been considered with connections provided between the site and local network catering for all future desire lines. Safe and suitable access will therefore be provided for all users;
- The impact of the development on the operation of the local highway network within Hedge End has been assessed and it is demonstrated that there will not be any significant residual impacts arising from the development.
- The internal site layout adheres to national design guidance to ensure safe and suitable access by refuse and emergency service vehicles. Car and cycle parking has been provided in accordance with adopted Eastleigh Borough Council standards.

7.10.2 Overall, the proposal is therefore demonstrated to comply with relevant transport policy, particularly the NPPF and in transport and highways terms is shown to be acceptable.

FIGURES



Key

Site Boundary

i-Transport

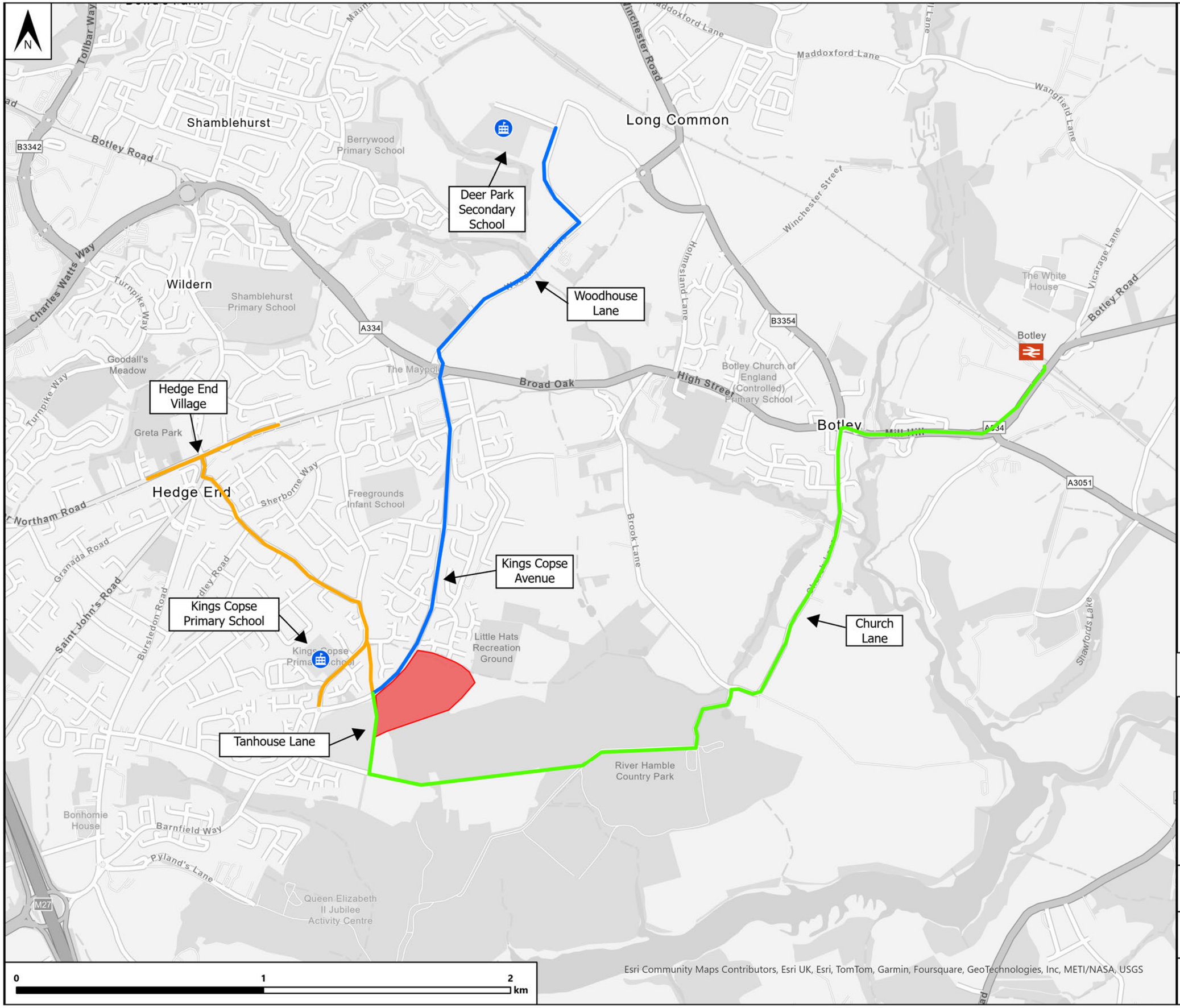
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Leeds: 0113 280 5805
London: 0204 531 3660
Manchester: 0161 830 2172
Solent: 0331 6300366

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Title:
Site Location Plan

Project:
Kings Copse Avenue, Hedge End

Project Number:	Figure Number:	Revision:
ITS19785	Figure 1	-



Key

- Site Boundary
- Route 1
- Route 2
- Route 3
- Schools
- Botley Railway Station

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Building 1000,
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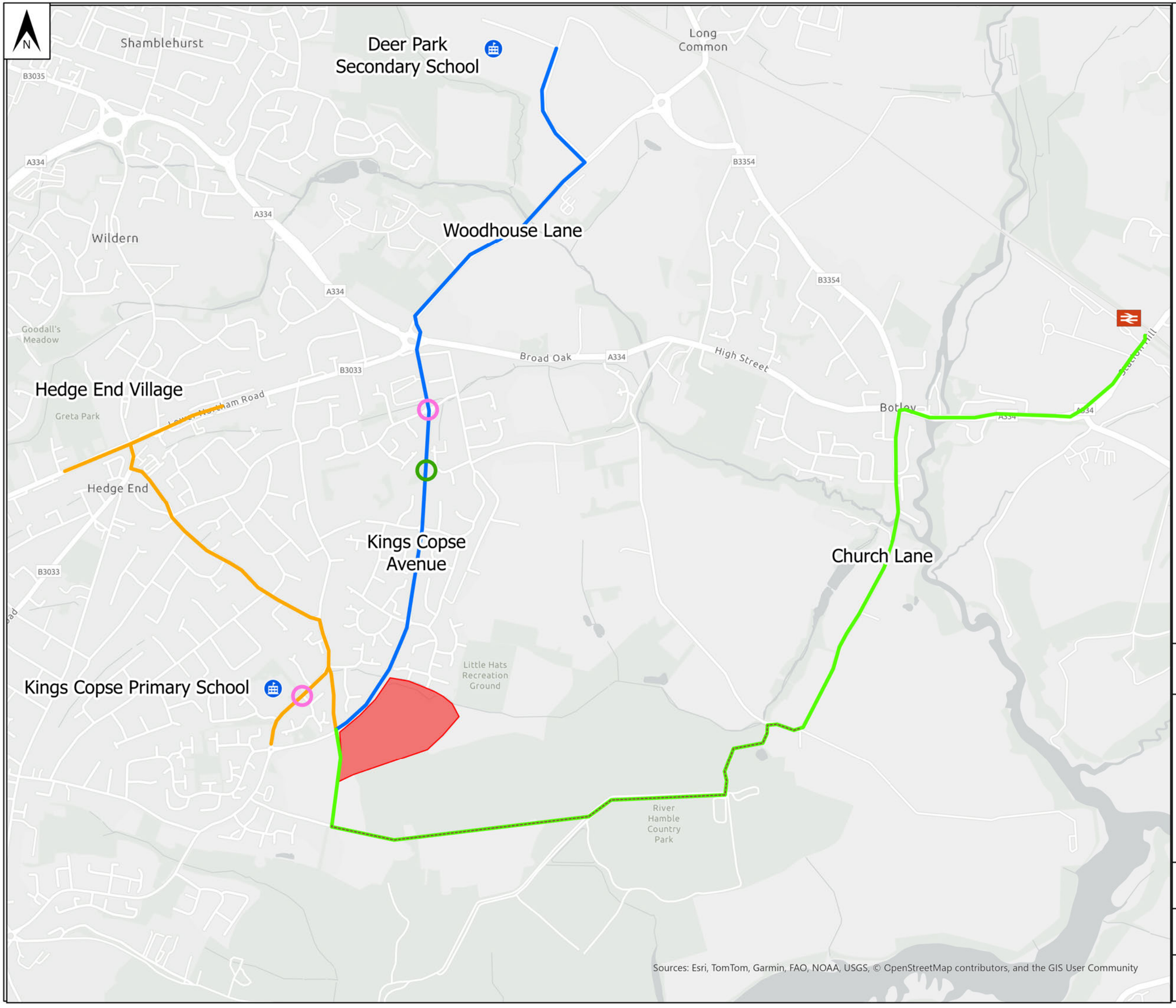
Tel: 0331 6300366

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Title:
WCHAR Routes

Project:
Kings Copse Avenue, Hedge End

Project Number:	Figure Number:	Revision:
ITS19785	**Figure 2**	**-**



Key

- Site Boundary
- Route 1
- Route 2
- Route 3
- Schools
- Botley Railway Station
- Way Finding Signage
- Tactile Paving and Dropped Kerbs
- Tactile Paving

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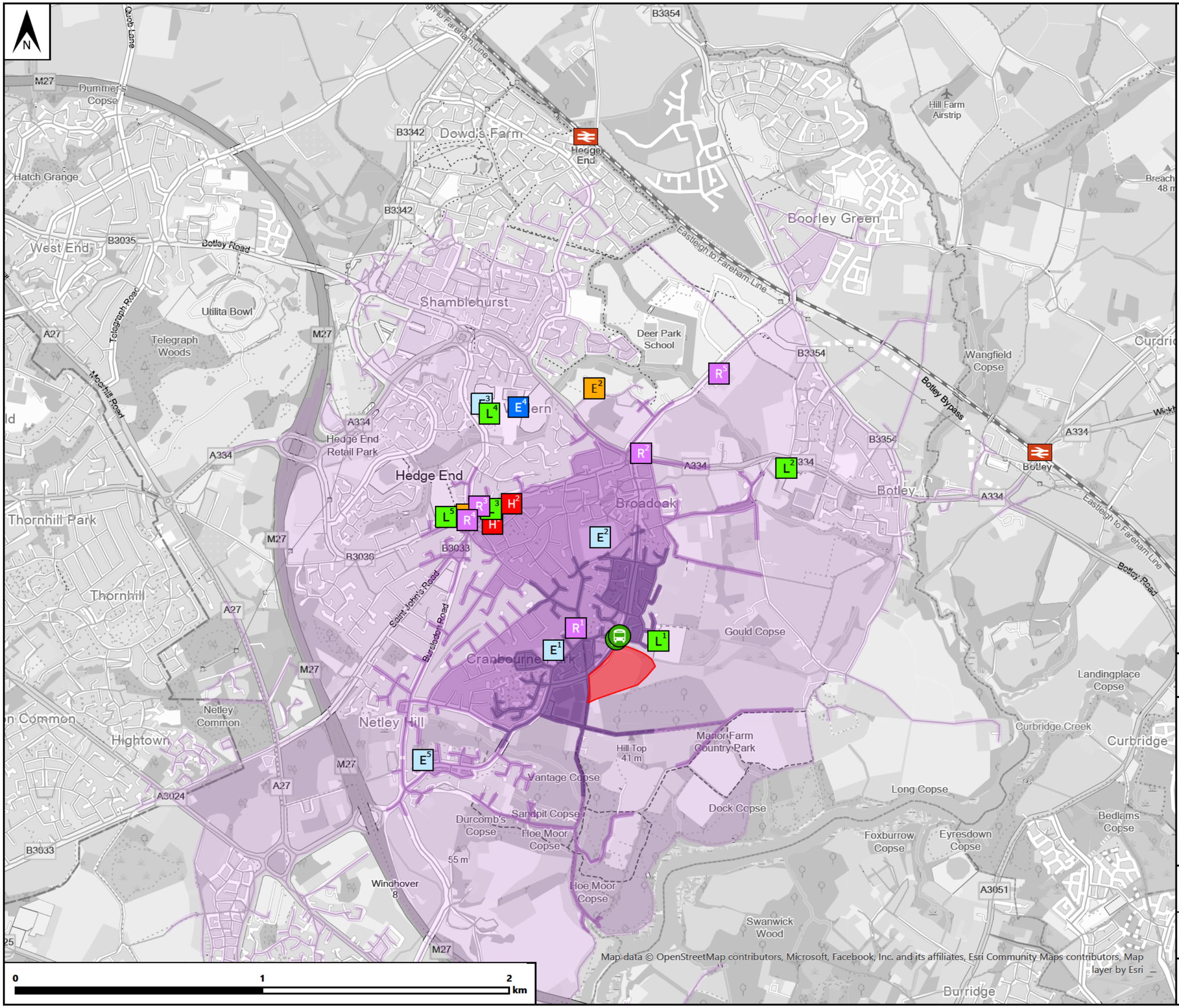
Title:

WCHAR Potential Improvements Plan

Project:

Kings Copse Avenue Hedge End

Project Number:	Figure Number:	Revision:
ITS19785	**Figure 3**	**-**



Key

- Site Boundary
- Bus Stop
- Botley Railway Station
- Hedge End Railway Station
- 3,200m Walking Distance
- 1,600m Walking Distance
- 800m Walking Distance

Education

- E1 Kings Copse Primary School
- E2 Freegrounds Infant School
- E3 Shamblehurst Primary School
- E4 Wildern Secondary School
- E5 Clearys Family Nursery

Health

- H1 Hedge End Dental Surgery
- H2 Hedge End Medical Centre

Employment

- E1 Hedge End Village Centre
- E2 Grange Drive

Leisure

- L1 Little Hatts Playground
- L2 Botley Community Centre
- L3 Barleycorn Public House
- L4 The Berry Theatre
- L5 Hedge End Library

Retail

- R1 Tesco Express
- R2 Texaco
- R3 Co-op
- R4 Hedge End Post Office
- R5 Hillier Garden Centre

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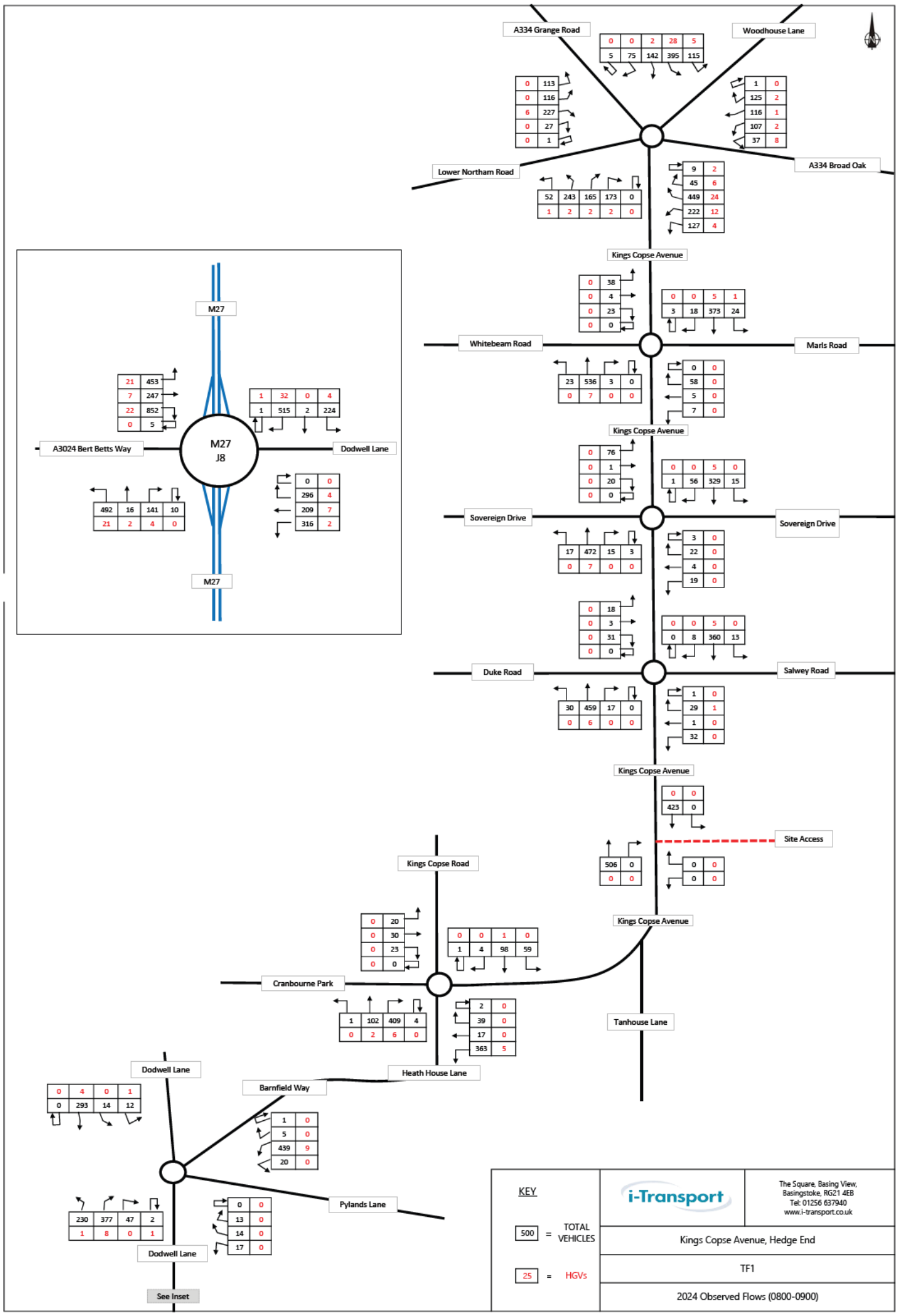
Tel: 0331 6300366

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Title: **Local Accessibility Plan**

Project: **Kings Copse Avenue, Hedge End**

Project Number:	Figure Number:	Revision:
ITS19785	Figure 4	-



KEY

500 = TOTAL VEHICLES

25 = HGVs

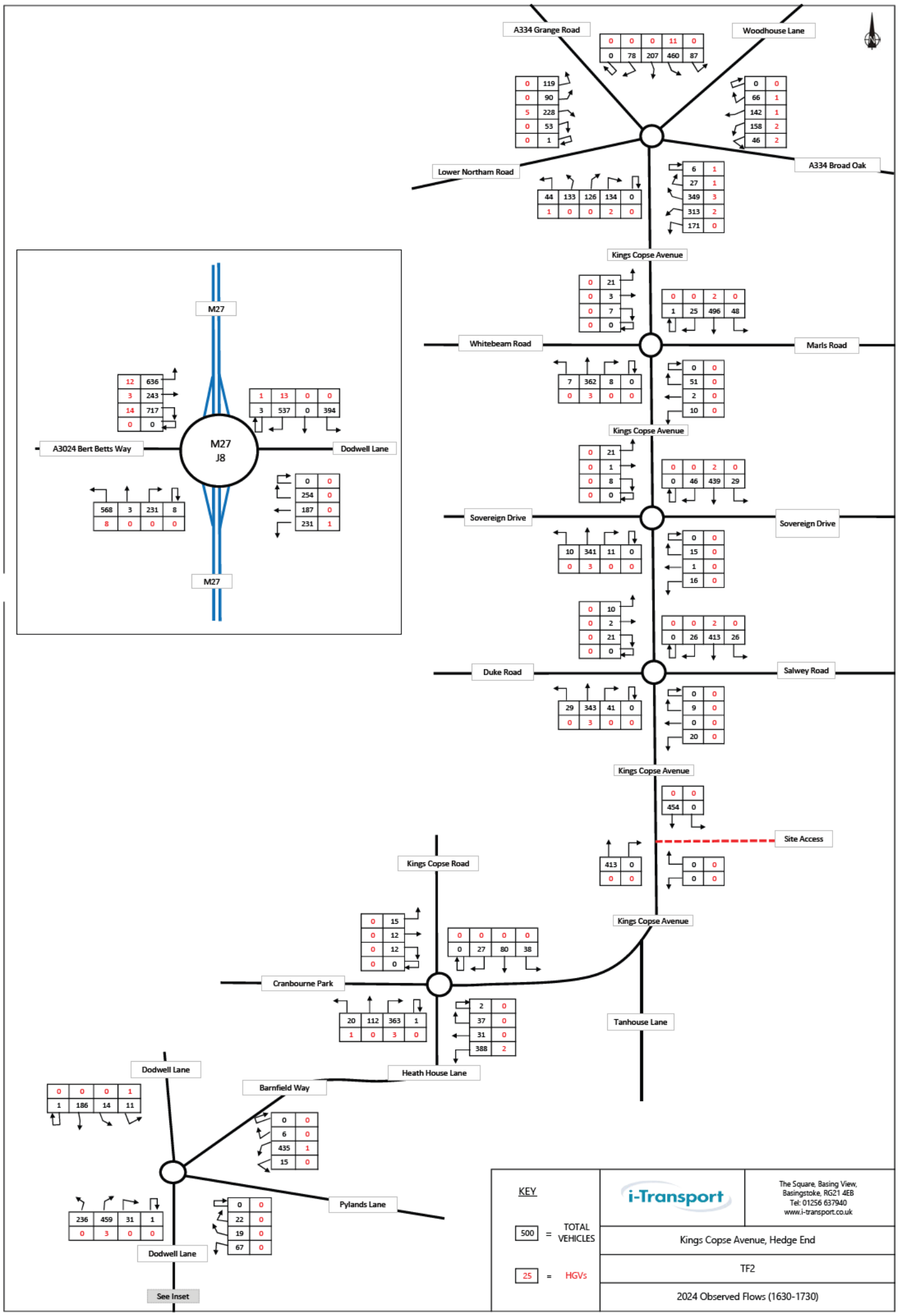
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Kings Copse Avenue, Hedge End

TF1

2024 Observed Flows (0800-0900)



KEY

500 = TOTAL VEHICLES

25 = HGVs

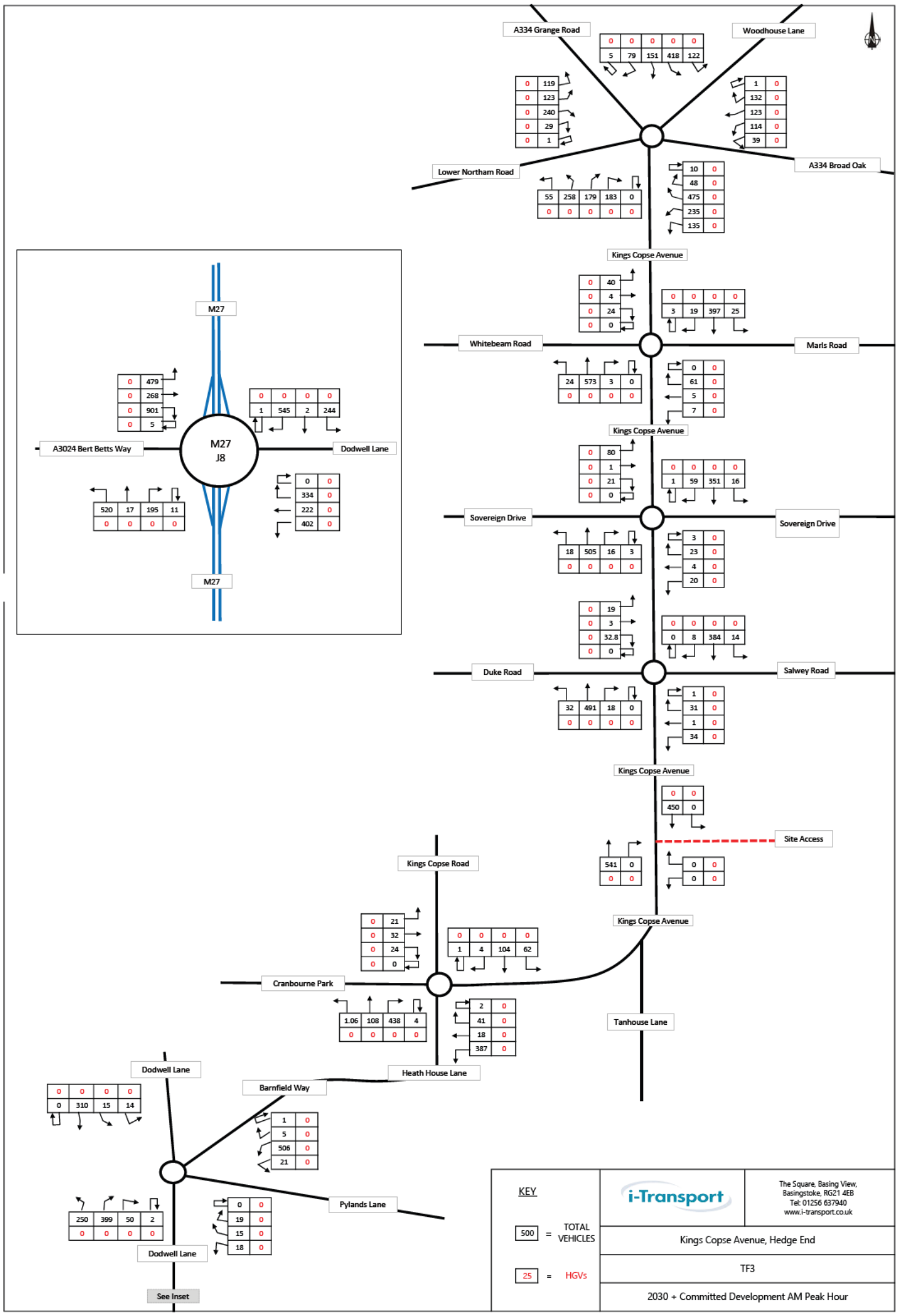
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Kings Copse Avenue, Hedge End

TF2

2024 Observed Flows (1630-1730)



KEY

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25 = HGVs

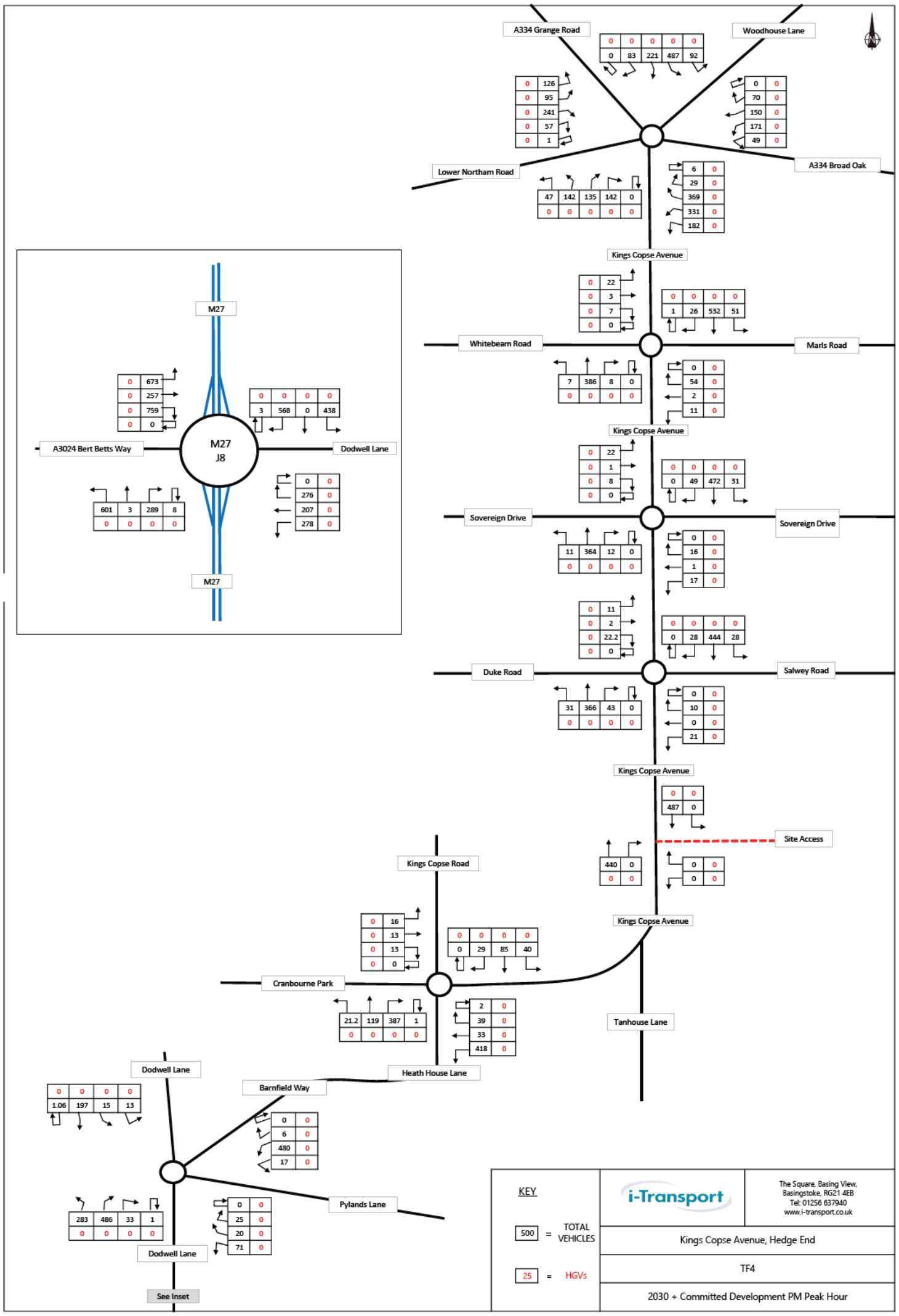
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Kings Copse Avenue, Hedge End

TF3

2030 + Committed Development AM Peak Hour



KEY

500 = TOTAL VEHICLES

25 = HGVs

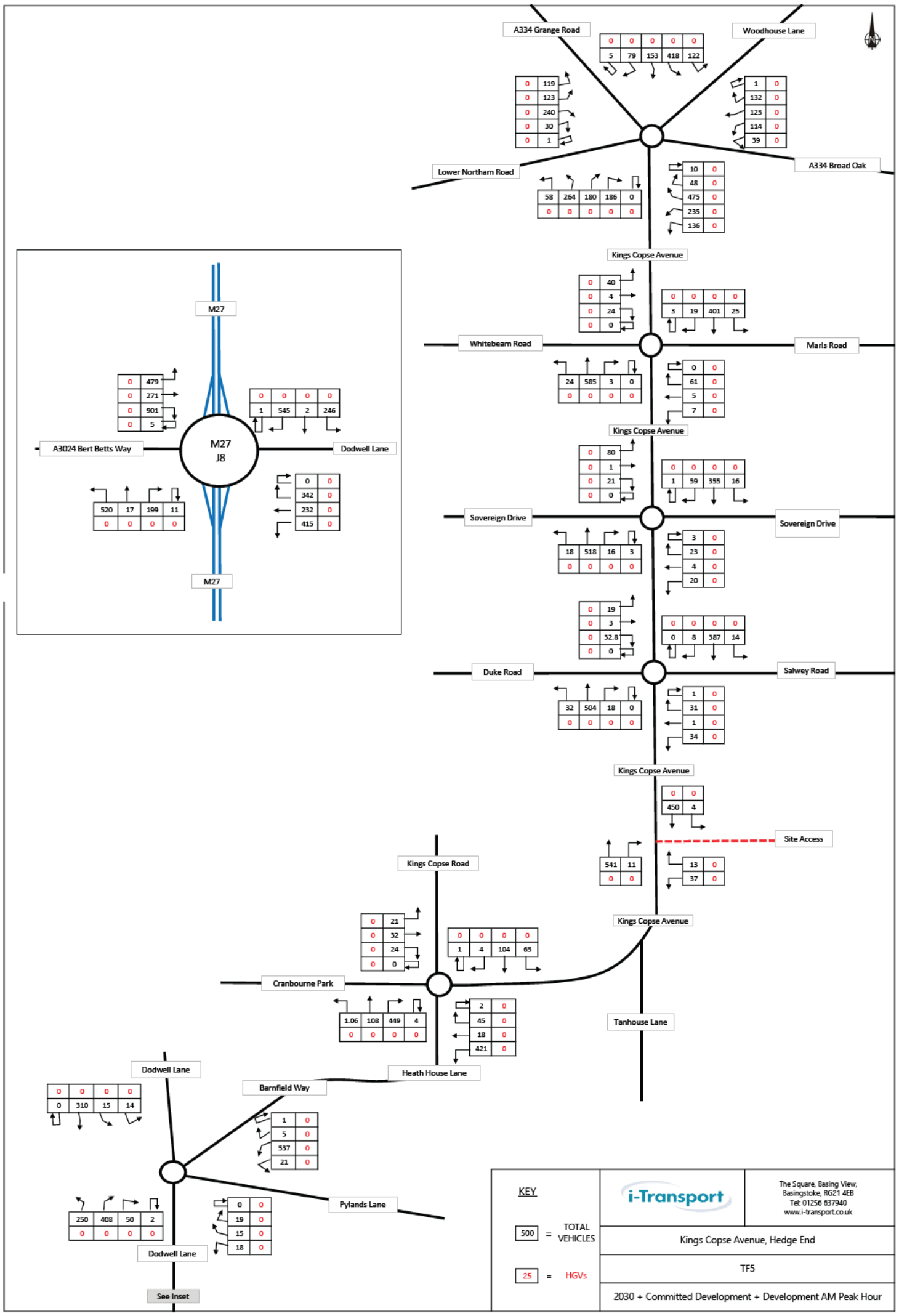
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Kings Copse Avenue, Hedge End

TF4

2030 + Committed Development PM Peak Hour



KEY

500 = TOTAL VEHICLES

25 = HGVs

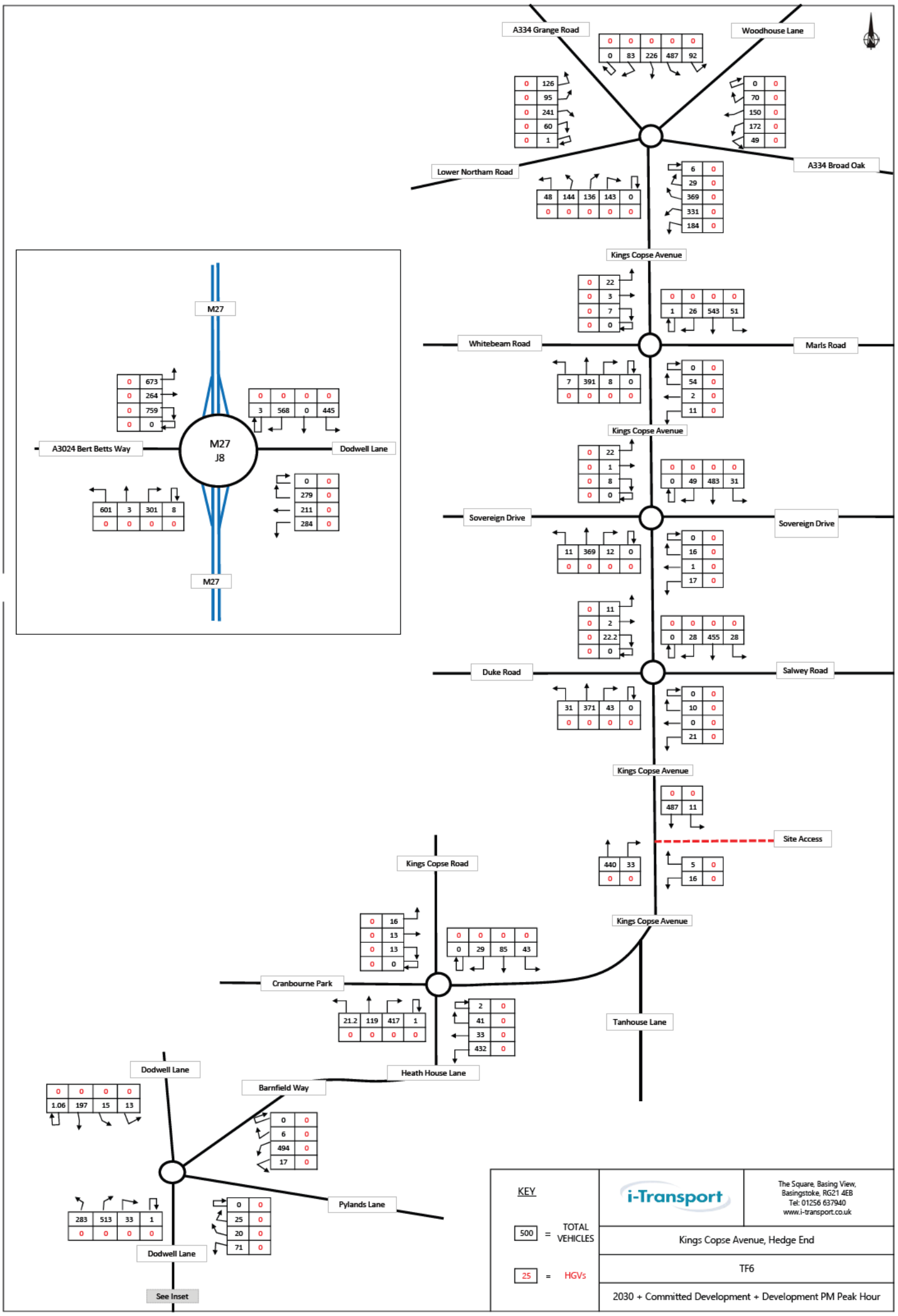
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Kings Copse Avenue, Hedge End

TF5

2030 + Committed Development + Development AM Peak Hour



KEY

500 = TOTAL VEHICLES

25 = HGVs

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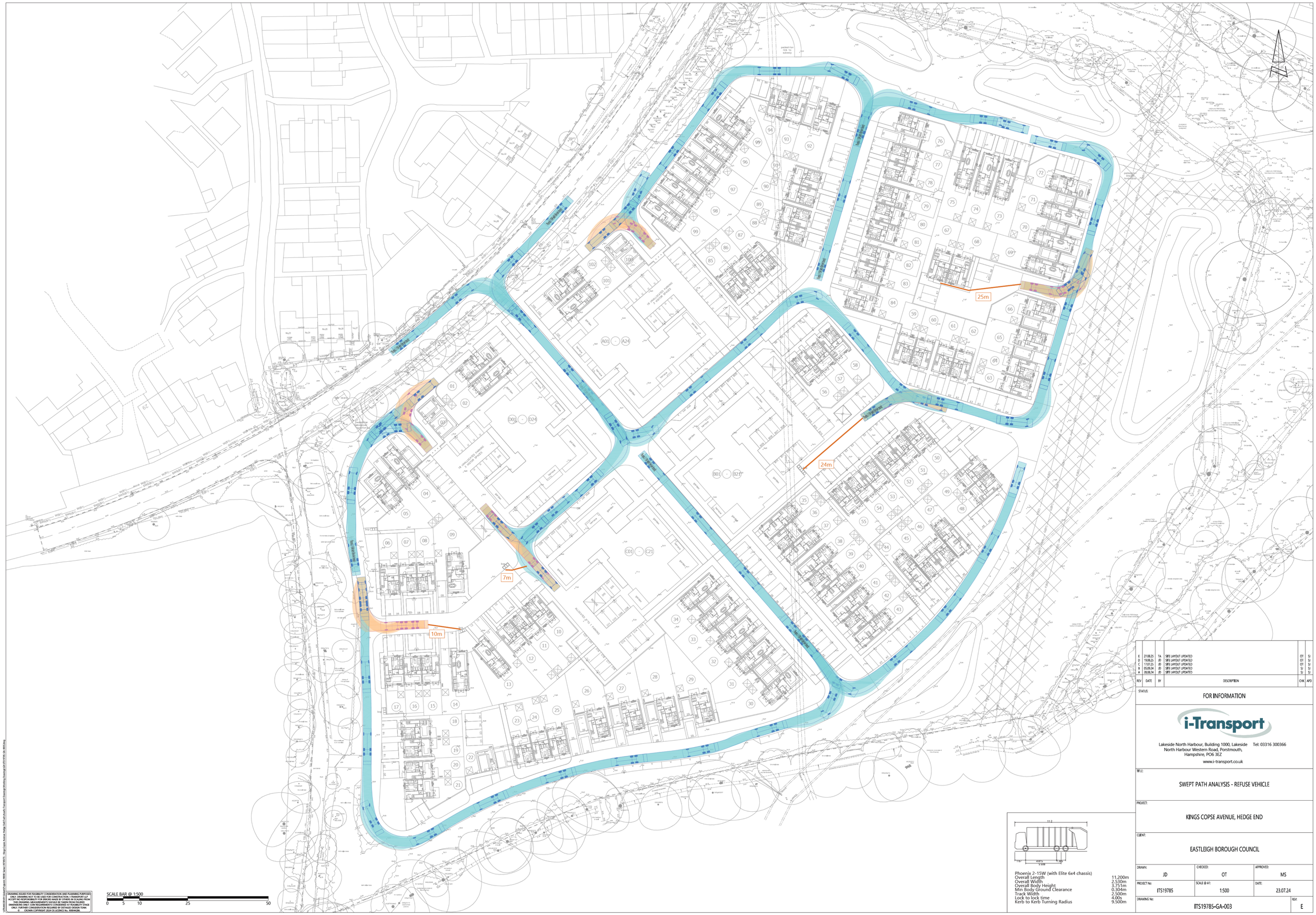
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Kings Copse Avenue, Hedge End

TF6

2030 + Committed Development + Development PM Peak Hour

DRAWINGS



REV	DATE	BY	DESCRIPTION	CHK	APD
E	27.08.25	TA	SITE LAYOUT UPDATED	OT	SJ
D	19.08.25	JD	SITE LAYOUT UPDATED	OT	SJ
C	17.07.25	JD	SITE LAYOUT UPDATED	OT	SJ
B	05.09.24	JD	SITE LAYOUT UPDATED	SJ	SJ
A	28.08.24	JD	SITE LAYOUT UPDATED	SJ	SJ

STATUS:

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TITLE:

SWEPT PATH ANALYSIS - REFUSE VEHICLE

PROJECT:

KINGS COPSE AVENUE, HEDGE END

CLIENT:

EASTLEIGH BOROUGH COUNCIL

DRAWN:	CHECKED:	APPROVED:
JD	OT	MS
PROJECT No:	**SCALE @ A1:**	**DATE:**
ITS19785	1:500	23.07.24
DRAWING No:		**REV:**
ITS19785-GA-003		E

Phoenix 2-15W (with Elite 6x4 chassis)

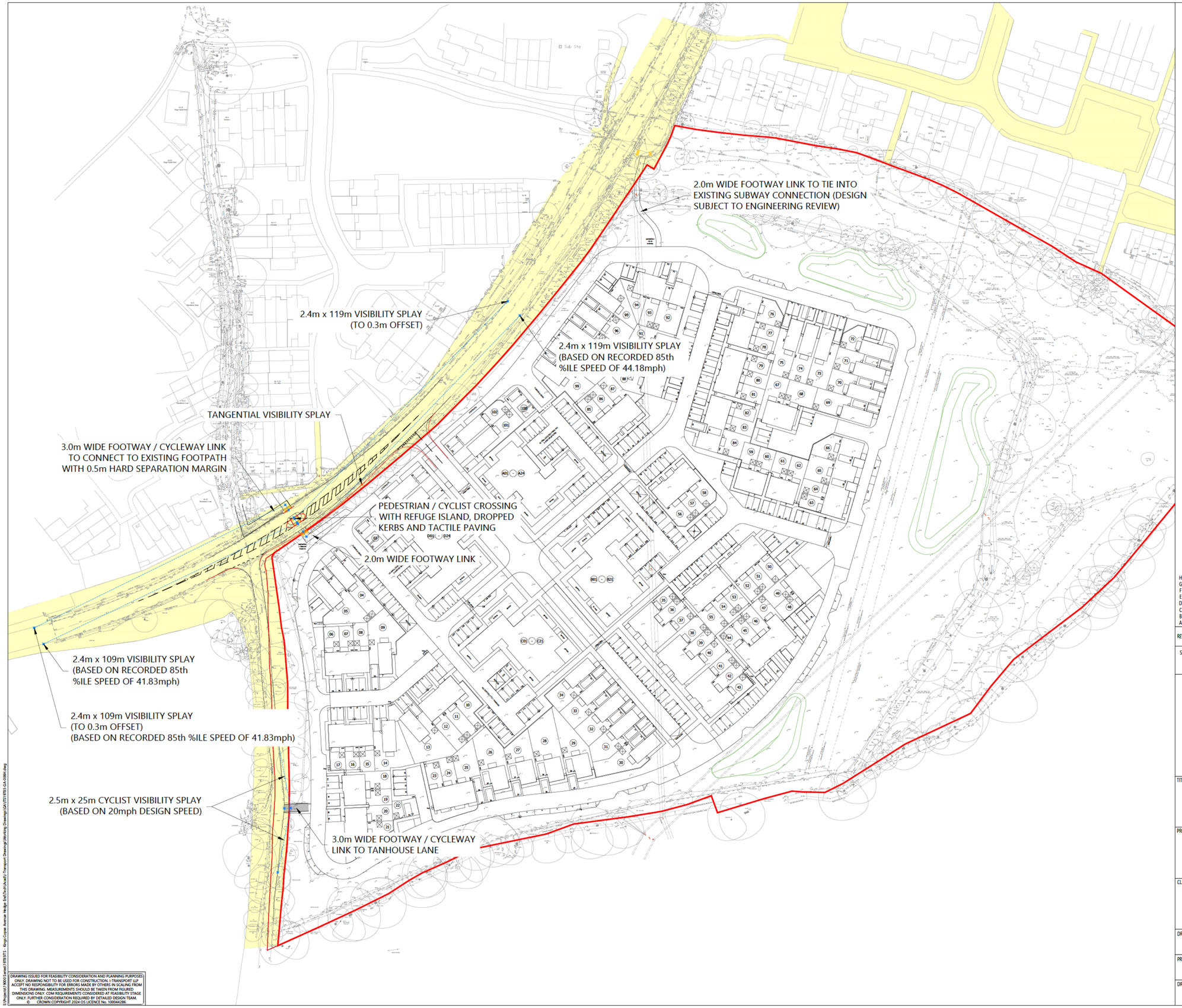
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Overall Width	2.530m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m

SCALE BAR @ 1:500

0 5 10 25 50

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SCALE BAR @ 1:1000

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KEY:

SITE BOUNDARY

HIGHWAY BOUNDARY

N

REV	DATE	BY	DESCRIPTION	CHK	APD
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G	09.05.25	MC	UPDATED DESIGN	MC	SJ
F	28.04.25	JD	TOPOGRAPHICAL SURVEY UPDATED	OT	SJ
E	26.02.25	JD	ARRANGEMENT AMENDED	OT	SJ
D	06.01.25	JD	ARRANGEMENT AMENDED	OT	SJ
C	06.01.25	JD	ARRANGEMENT AMENDED	OT	SJ
B	07.11.24	PH	WIDENING FOR REFUGE ISLAND AMENDED	SJ	SJ
A	15.10.24	JD	ACCESS ARRANGEMENT AMENDED	SJ	SJ

STATUS:

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TITLE:

PROPOSED PEDESTRIAN / CYCLIST CONNECTIONS

PROJECT:

KINGS COPSE AVENUE, HEDGE END

CLIENT:

EASTLEIGH BOROUGH COUNCIL

DRAWN:	CHECKED:	APPROVED:
JD	OT	SJ
PROJECT No:	**SCALE @ A2:**	**DATE:**
ITS19785	1:1000	07.08.24
DRAWING No:		**REV:**
ITS19785-GA-006		H

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NOTE:

ALL VISIBILITY SPLAYS ARE 2.4m x 18m (TO 0.3m OFFSET)

ALL FORWARD VISIBILITY ARE 18m

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D	05.08.25	TA	SITE LAYOUT HAS BEEN UPDATED	CS	SJ
C	23.07.25	TA	SITE LAYOUT AND VISIBILITY SPLAYS HAVE BEEN UPDATED	CS	SJ
B	17.07.25	JD	SITE LAYOUT UPDATED	CS	SJ
A	05.09.24	JD	SITE LAYOUT UPDATED	SJ	SJ

STATUS:

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TITLE:

SITE LAYOUT - VISIBILITY

PROJECT:

KINGS COPSE AVENUE, HEDGE END

CLIENT:

EASTLEIGH BOROUGH COUNCIL

DRAWN:	CHECKED:	APPROVED:
JD	SJ	SJ

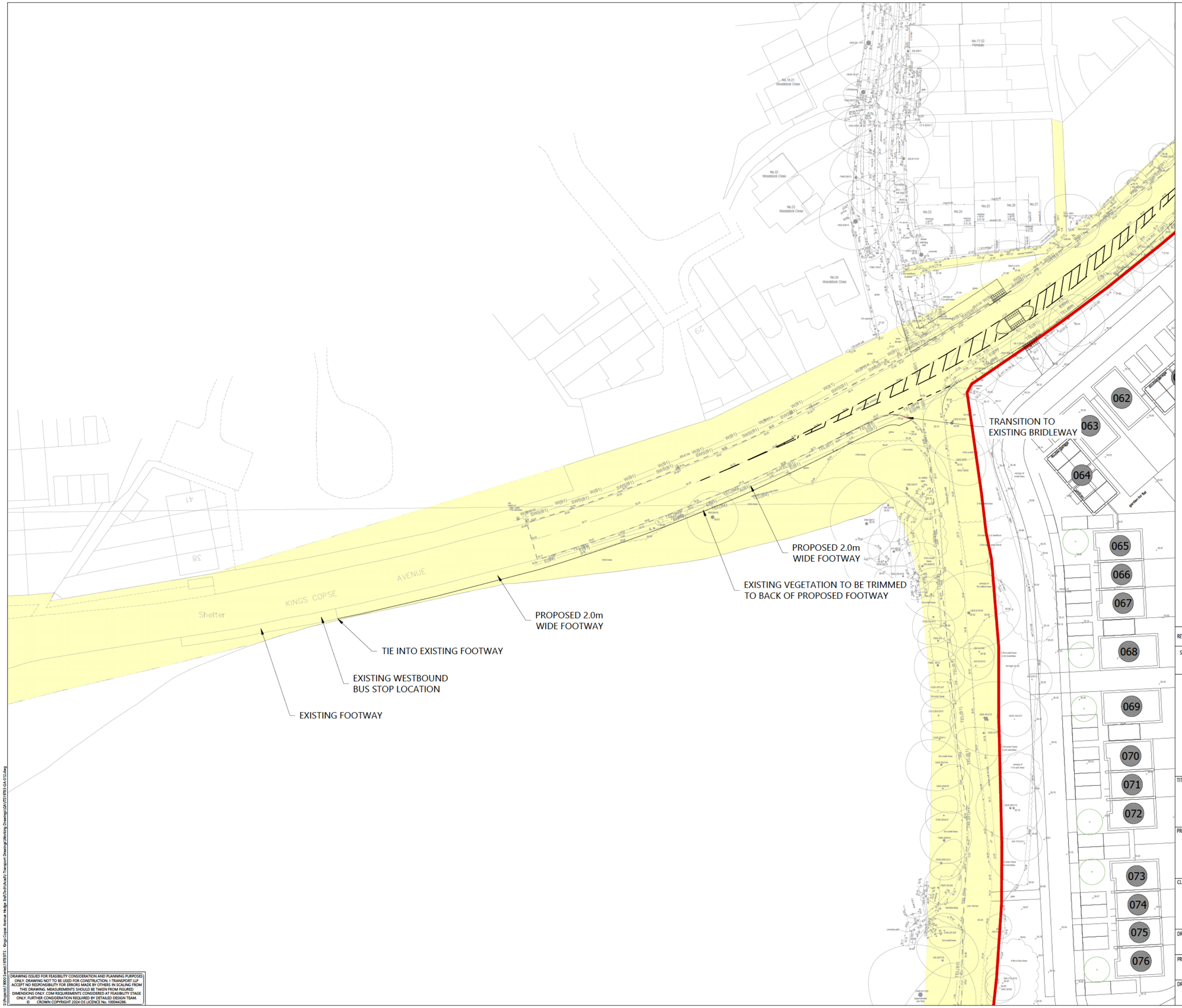
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SCALE BAR @ 1:500

0 5 10 25 50

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SCALE BAR @ 1:500

0 5 10 25 50

KEY:

SITE BOUNDARY

HIGHWAY BOUNDARY

REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR INFORMATION

i-Transport

Lakeside North Harbour, Building 1000, Lakeside North Harbour Western Road, Porstmouth, Hampshire, PO6 3EZ

Tel: 03316 300366

www.i-transport.co.uk

TITLE: PROPOSED PEDESTRIAN CONNECTION ALONG KINGS COPSE AVENUE

PROJECT: KINGS COPSE AVENUE, HEDGE END

CLIENT: EASTLEIGH BOROUGH COUNCIL

DRAWN:	CHECKED:	APPROVED:
JD	OT	SJ
PROJECT No:	**SCALE @ A2:**	**DATE:**
ITS19785	1:500	08.07.25
DRAWING No:		**REV:**
ITS19785-GA-012		-

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S:\Projects\19000 Series\19785 ITS - Kings Copse Avenue Hedge End\Tech\Acad\Transport Drawings\Working Drawings\GA\ITS19785-GA-012.dwg



REV	DATE	BY	DESCRIPTION	CHK	APD
B	27.08.25	TA	SITE LAYOUT UPDATED	OT	SJ
A	19.08.25	JD	SITE LAYOUT UPDATED	OT	SJ

STATUS:

FOR INFORMATION

i-Transport

Lakeside North Harbour, Building 1000, Lakeside North Harbour Western Road, Porstmouth, Hampshire, PO6 3EZ

Tel: 03316 300366

www.i-transport.co.uk

TITLE:

SWEPT PATH ANALYSIS - FIRE APPLIANCE

PROJECT:

KINGS COPSE AVENUE, HEDGE END

CLIENT:

EASTLEIGH BOROUGH COUNCIL

DRAWN:	CHECKED:	APPROVED:
JD	OT	SJ
PROJECT No:	SCALE @ A1:	DATE:
ITS19785	1:500	17.07.25
DRAWING No:		REV:
ITS19785-GA-013		B

Pumping Appliance	
Overall Length	7.900m
Overall Width	2.500m
Overall Body Height	3.300m
Min Body Ground Clearance	0.350m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.750m

SCALE BAR @ 1:500

0 5 10 25 50

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APPENDIX A. Site Masterplan

North boundary elevation

East boundary elevation

West boundary elevation

South boundary elevation

A

B

C

D

E

F

Notes

1. This drawing is the copyright of MH Architects Ltd
2. Do not scale this drawing except for Local Authority planning purposes
3. All dimensions must be checked on site by the contractor prior to commencement of the works.

Client Approval

X	A - Approved
X	B - Approved with comments
X	C - Do not use

Rev.	Revision Note/Purpose of Issue	Drw By	Date	Chk By	Date
A	Issued for Information [First Issue]	MW	16.11.23	HJG	16.11.23

Schedule of accommodation

plot	type house	sqm GIA	*ac ght	BBC frame
1	4B6P	129.7	3.0	LU
2	4B6P	129.7	3.0	FF
3	4B6P	129.7	3.0	FF
4	4B6P	129.7	3.0	FF
5	4B6P	129.7	3.0	LU
6	4B6P	129.7	3.0	FF
7	2B4P	79.8	2.0	BB
8	2B4P	79.8	2.0	BB
9	4B6P	129.7	3.0	LU
10	3B5P	102.7	2.5	LV
11	2B4P	79.8	2.0	BB
12	2B4P	79.8	2.0	BB
13	4B6P	129.7	3.0	FF
14	3M5P	102.7	2.5	LV
15	2B4P	79.8	2.0	BB
16	2B4P	79.8	2.0	BB
17	3B5P	102.7	2.5	LV
18	3M5P	102.7	2.5	LV
19	2B4P	79.8	2.0	BB
20	2B4P	79.8	2.0	BB
21	2B4P	79.8	2.0	BB
22	2B4P	70.5	2.0	BB
23	2B4P	79.8	2.0	BB
24	2B4P	70.5	2.0	BB
25	2B4P	79.8	2.0	BB
26	3B5P	102.5	2.0	GG
27	3B5P	102.5	2.0	GG
28	3B5P	102.5	2.0	GG
29	3B5P	102.5	2.0	GG
30	4B6P	129.7	3.0	LU
31	4B6P	129.7	3.0	FF
32	4B6P	129.7	3.0	FF
33	4B6P	129.7	3.0	FF
34	4B6P	129.7	3.0	FF
35	3M5P	102.7	2.5	LV
36	2B4P	79.8	2.0	BB
37	2B4P	79.8	2.0	BB
38	2B4P	79.8	2.0	BB
39	3B5P	102.7	2.5	LV
40	3B5P	102.7	2.5	LV
41	3B5P	102.7	2.5	LV
42	3B5P	102.7	2.5	LV
43	4B6P	129.7	3.0	FF
44	4B6P	129.7	3.0	FF
45	4B6P	129.7	3.0	FF
46	4B6P	129.7	3.0	FF
47	4B6P	129.7	3.0	FF
48	4B6P	129.7	3.0	FF
49	4B6P	129.7	3.0	LU
50	4B6P	129.7	3.0	FF
51	4B6P	129.7	3.0	FF
52	4B6P	129.7	3.0	FF
53	4B6P	129.7	3.0	FF
54	4B6P	129.7	3.0	FF
55	4B6P	129.7	3.0	FF
56	4B6P	129.7	3.0	FF
57	4B6P	129.7	3.0	FF
58	4B6P	129.7	3.0	FF
59	4B6P	129.7	3.0	FF
60	4B6P	129.7	3.0	FF
61	4B6P	129.7	3.0	FF
62	4B6P	129.7	3.0	FF
63	4B6P	129.7	3.0	FF
64	4B6P	129.7	3.0	FF
65	4B6P	129.7	3.0	FF
66	4B6P	129.7	3.0	FF
67	4B6P	129.7	3.0	FF
68	4B6P	129.7	3.0	FF
69	4B6P	129.7	3.0	FF
70	4B6P	129.7	3.0	FF
71	4B6P	129.7	3.0	FF
72	4B6P	129.7	3.0	FF
73	4B6P	129.7	3.0	FF
74	4B6P	129.7	3.0	FF
75	4B6P	129.7	3.0	FF
76	4B6P	129.7	3.0	FF
77	4B6P	129.7	3.0	FF
78	4B6P	129.7	3.0	FF
79	4B6P	129.7	3.0	FF
80	4B6P	129.7	3.0	FF
81	4B6P	129.7	3.0	FF
82	4B6P	129.7	3.0	FF
83	4B6P	129.7	3.0	FF
84	4B6P	129.7	3.0	FF
85	4B6P	129.7	3.0	FF
86	4B6P	129.7	3.0	FF
87	4B6P	129.7	3.0	FF
88	4B6P	129.7	3.0	FF
89	4B6P	129.7	3.0	FF
90	4B6P	129.7	3.0	FF
91	4B6P	129.7	3.0	FF
92	4B6P	129.7	3.0	FF
93	4B6P	129.7	3.0	FF
94	4B6P	129.7	3.0	FF
95	4B6P	129.7	3.0	FF
96	4B6P	129.7	3.0	FF
97	4B6P	129.7	3.0	FF
98	4B6P	129.7	3.0	FF
99	4B6P	129.7	3.0	FF
100	4B6P	129.7	3.0	FF
101	4B6P	129.7	3.0	FF
102	4B6P	129.7	3.0	FF

Schedule of accommodation

plot		type	sqm GIA		
		flat		height	form
D0	B0		70.4	GF	
D1	B1	1B2P	50.1	GF	
D2	B2	2B3P	70.9	GF	WACH
D3	B3	2B4P	70.1	GF	
D4	B4	1B2P	50.3	GF	
D5	B5	2B4P	74.4	GF	
D6	B6	1B2P	50.1	FF	
D7	B7	2B4P	70.1	FF	
D8	B8	1B2P	50.3	FF	
D9	B9	1B2P	50.3	FF	
D10	B10	2B4P	74.4	FF	
D11	B11	2B4P	70.4	FF	
D12	B12	1B2P	50.1	SF	
D13	B13	2B4P	70.1	SF	
D14	B14	2B4P	70.1	TF	
D15	B15	1B2P	50.3	SF	
D16	B16	2B4P	74.4	SF	
D17	B17	2B4P	70.4	SF	
D18	B18	2B4P	70.4	TF	
D19	B19	2B4P	70.4	TF	
D20	B20	1B2P	50.3	TF	
D21	B21	2B4P	70.4	TF	
D0	A0		50.3	GF	
D1	A1	1B2p	53.1	GF	
D2	A2	1B2p	50.3	GF	
D3	A3	1B2p	50.3	GF	
D4	A4	1B2p	50.3	GF	
D5	A5	3M5p	70.4	GF	WACH
D6	A6	1B2p	50.1	GF	
D7	A7	1B2p	50.3	FF	
D8	A8	1B2p	53.1	FF	
D9	A9	1B2p	50.3	FF	
D10	A10	1B2p	50.3	FF	
D11	A11	1B2p	50.3	FF	
D12	A12	2M4p	70.4	FF	
D13	A13	1B2p	50.1	FF	
D14	A14	1B2p	50.3	SF	
D15	A15	1B2p	53.1	SF	
D16	A16	1B2p	50.3	SF	
D17	A17	1B2p	50.3	SF	
D18	A18	1B2p	50.3	SF	
D19	A19	3M5p	70.4	SF	
D20	A20	1B2p	50.1	SF	
D21	A21	2M4p	74.4	TF	
D22	A22	2M4p	70.4	TF	
D23	A23	1B2p	50.3	TF	
D24	A24	2M4p	70.1	TF	

N

Site Plan 1:500 @ A1

1:500

10 0 10 20 30 40 50m

10 0 10 20 30 40 50 60 70 80 90

Client

Eastleigh Borough Council

Job title

Kings Copse Avenue

Drawing title

Proposed Site Plan

Drawn	Date	Checked	Date	Scale at A1
JDH	JUNE 25	HJG	JUNE 25	1:500

Job No.	Pro.	Org.	Zone	Level	Type	Role	No.	Rev.
22-148	KCA	MHA	ZZ	XX	DR	A	0003	C01

Purpose of Issue

PLANNING

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APPENDIX B. HCC Pre-Application Comments

Hampshire 2050
The Castle
Winchester, Hampshire SO23 8UL

Telephone 0300 555 1375
Fax 01962 847055
www.hants.gov.uk

Enquiries to	Nick Gammer	My reference	6/3/9/338
Direct Line		Your reference	ITS19785-002A TN
Date	8th October 2024	E-mail	Nick.gammer@hants.gov.uk

Dear Ollie

Kings Copse Avenue, Hedge End: Transport Assessment Scoping Note

Thank you for your pre-application enquiry in regard to the above site. The Highway Authority have reviewed the site and the submitted Transport Assessment Scoping Note (reference ITS19785-002A TN) and would like to make the following comments.

Preamble

This pre-application request is for a proposed residential development of 200 dwellings on Land at Kings Copse Avenue, Hedge End. It is noted that this site is allocated for residential development in the Eastleigh Borough Council Local Plan (2016 – 2036) under Policy BO3 to provide approximately 120 dwellings. The policy requires the following:

- Provision of a vehicular access from Kings Copse Avenue.
- Provision of contributions to, or delivery of, off-site highway improvements considered necessary to serve the development.
- Provision of pedestrian and cycle links both within the site and to connect the site with the surrounding area, including the adjacent Roadway Pavillion and Football Ground.
- The maintenance and improvement of the Public Rights of Way to the west of the site.

The second bullet point was missed within the Scoping Note and should be included in any future Transport Assessment (TA).

National and Local Transport Policy

The suggest policies, guidance and approach appear acceptable.

Deputy Chief Executive and Director of Hampshire 2050
Gary Westbrook

Sustainable Modes

Walking and Cycling

The pre-app scoping note has provided a brief review of the walking and cycling routes within the vicinity of the site. Kings Copse Avenue is suitable for few cyclists and will exclude most potential users and/or have safety concerns. Surveyed traffic flows have not been provided, but this is likely to still be the case should the speed limit be reduced to 30mph (comments below).

The network of streets and other routes immediately northwest of Kings Copse Avenue are more suitable for all cyclists, however, given the 30mph speed limit and noting LTN1/20 criteria, depending on traffic flows (which are currently unknown), these streets would either be considered not suitable for all cyclists and will exclude some potential users and/or have safety concerns, or are suitable for few cyclists and will exclude most potential users and/or have safety concerns.

As stated within the Scoping Note, the connection to LCWIP Route 262 should be assessed within any future TA. A contribution towards local delivery of LCWIP may be required. Furthermore, an assessment of the quality of cycle provision to appropriate amenities (beyond simply connecting to the LCWIP cycle route) will also be required as set out below.

In any future submission the walking and cycling provision in the vicinity of the site and to key locations such as schools and shops should be assessed via a WCHAR and the Healthy Streets indicators. Narrative should be provided on the locations along these routes where substandard provision is provided as set out within the Highway Authority's TG10. Improvements to increase the healthy streets score and improve compliance with TG10 and LTN1/20 should be identified through this review process. Any issues or barriers to walking and cycling should be noted, and schemes presented to address these as required.

In terms of sustainably located development, Active Travel England have some useful sections in their guidance (Active Travel England Standing Advice Note: Active travel and sustainable development (publishing.service.gov.uk), stating the following should be within 800m (that is, c.10 minutes walk). The guidance states:
Local amenities may include but not be limited to:

A food shop which sells fresh fruit and vegetables;
A park or green space;
An indoor meeting place (pub, café, community centre, place of worship);
A primary school;
A post office or bank; and
A GP surgery

The guidance also reinforces the criteria of 400m to a bus stop.

The Scoping Note proposes completing a WCHAR review of the following routes:

- Kings Copse Primary School
- Tesco Express (Tanhouse Lane)
- Botley Rail Station
- Bus Stops on Kings Copse Avenue

The applicant should note the catchment schools are Kings Copse Primary and Deer Park Secondary. The route to the catchment secondary school has not been included in Table 5.1, nor the list above, and should be reviewed. A large number of the amenities (including leisure, retail, employment and health facilities) listed in Table 5.1 are within Hedge End village centre; routes to here should also be reviewed. It would also be necessary to assess the route

to Botley village centre, although this will be covered by the route to Botley Rail Station, which is already proposed for assessment.

A Healthy Streets assessment should also be included for all routes to all amenities within walking distance. The quality of routes should be assessed within the WCHAR against Healthy Streets indicators.

Public Transport

The scoping note has provided a review of the local bus services, and states that the closet bus stops to the site is located on Kings Copse Avenue, approximately 230m and 260m from the site. This appears to be an accurate estimate of walking distance from the centre of the site using the underpass. Both bus stops have a shelter and timetable, but no Real Time Information provision, which should be explored.

Bluestar Services 3 and 24, when combined, provide a roughly half hourly service to local destinations. These services are run commercially by Bluestar and the HA is not aware of any intention to withdraw them. It should be noted that there is an aspiration to develop a Southampton Area Mass Transit; in light of this the applicant should consider upgrading bus stops.

Over recent years the Bluestar Service 24 has been reduced to the current service level. Noting the Southampton Area Mass Transit is aspirational currently, the applicant should consider a direct arrangement with the operator to provide a better service frequency.

The Scoping note has provided information regarding the closest rail services to the site. It should be noted that there is not a direct service between Southampton Central and Botley.

Personal Injury Accident Data

The PIA study area will be confirmed upon agreement of trip generation and distribution/ assignment. However, the area presented appears too limited and should be extended to include the route to the A334 in the north and the M27 in the south as a minimum.

It is noted there is local concern regarding safety on Kings Copse Avenue, particularly since a recent fatality at the junction of Heath House Lane/ Barnfield Way. A reduction in the speed limit from the current 40mph to 30mph should be explored, particularly for the section from the site to the existing 30mph speed limit to the southwest. This has been discussed with HCC's Traffic Management Team and given the lack of existing, or proposed, frontage and the existing average measured speeds likely being in excess of 30mph (speed survey data not provided), implementation may be challenging. However, the development, site access and refuge island proposed may reduce speeds in the vicinity, so retaining the option (including funding) to implement a TRO to reduce the speed limit to 30mph in the future is considered appropriate.

Traffic Surveys

ATC (automatic Traffic Counts) surveys have been undertaken within the vicinity of the site between 26th June – 2nd July; this is assumed to be in 2024, but the year should be provided in any future submission. Manual classified counts were also undertaken on the 3rd July (assumed to be Wednesday 3rd July 2024) at several locations. Assuming these surveys were carried out in 2024, the dates are appropriate to represent typical traffic flows.

Appropriate locations of traffic surveys will be confirmed once the trip generation, and subsequently the study area, are agreed. However, the traffic survey locations undertaken appear appropriate from an initial review.

The junction of Heath House Lane/ Kings Copse Avenue is a priority junction, not a roundabout as stated in paragraph 3.4.1, and Duke Road is incorrectly called Duke Head.

Site Access

A new simple priority controlled junction off King Copse Avenue is being proposed, which will take the form of a 5.5m wide carriageway with a 6m kerb radii.

- Visibility splays have been provided based on the 85th percentile of the measured speeds obtained from the ATC surveys, resulting in visibility splays of 2.4m x 95m westbound and 2.4m x 87m eastbound. Assuming the locations of the ATC surveys are acceptable (which should be confirmed in any future TA), the visibility splays are acceptable to the Highway Authority.
- The proposed pedestrian and cycle refuge should be included on the vehicular site access drawing as this will require kerb realignment and may impact the vehicular access design.
- No tracking of the site access, nor an RSA, has been provided at this time; any future submission should include tracking in line with HCC TG2 guidance. An RSA should be undertaken for all off site works.
- Any required removal or trimming of highway trees should be confirmed, and shown on drawings if necessary.

Sustainable Modes Access

Pedestrian connections to the southwest of the site access are included on drawing ITB19785-GA-004 Rev-, which shows a route from the northwestern corner of the site, crossing Kings Copse Avenue at the new/ proposed pedestrian and cycle refuge island. The shared use pedestrian and cycle route then continues on the northern side of Kings Copse Avenue for a short distance, connecting into the existing Bridleway 501. This bridleway is proposed to be widened to 2m and an all-weather surface implemented.

- It appears the connection internal to the site is to a carriageway rather than a dedicated pedestrian or cycle facility; this should be confirmed.
- It is assumed kerb lines will require amendments to facilitate delivery of the refuge island. These should be clearly shown on the drawings.
- Visibility splays in accordance with TG3 and TG10, appropriate for all users, should be shown on this drawing.
- The new connection on the north side of Kings Copse Avenue is stated as being 3m, but appears narrower, possibly due to potential land constraints. The 3m width here should be confirmed.
- HCC Countryside Services have confirmed that they would support in principle the upgrade of this Bridleway to an Active Travel Route.
- The impact of the all-weather surface on the adjacent trees should be assessed.
- A 2m bridleway does not comply with LTN1/20 or HCC TG10. The crossing point and refuge from the development will be 3m wide. Widening beyond 2m should be explored, with the aim being at least a 3m width. From on site observations this appears to be achievable with minimal vegetation/ tree loss, although there is a ditch present for part of the route on the western side of the bridleway that would need careful consideration.

- Existing and any proposed lighting should be confirmed.
- An RSA should be undertaken on all off site works.

A pedestrian and cycle connection to the north of the site is shown on drawing ITB19785-GA-006 Rev-. This connects from the internal footway/ carriageway via a proposed 3m footway/ cycleway path to the existing underpass.

- Details regarding how the new path will tie in with the existing facility should be provided.
- The alignment of the facility is strange and seems to be arranged just to avoid parking bays.
- The existing underpass is not a PRoW. Rights, including for cycles, should be confirmed.
- Confirmation that the existing underpass is suitable (including height and width) for cycling should be provided, as should the availability of onward routes for cycles.
- Further detail will be required for the underpass link, which should be DDA compliant; topography may be challenging.
- Existing and any proposed lighting should be confirmed.
- An RSA should be undertaken on all off site works.

A connection is proposed to the northeast of the site, again shown on drawing ITB19785-GA-006 Rev-. This connects via a boardwalk from the internal footway/ carriageway to a 3m footway/ cycleway, and onwards to an existing highway path linking to Ambleside.

- It is not clear what form of construction would be used for the boardwalk or if it would be suitable for cycling; further information should be provided. Any impact on ecology or other features (a ditch appears to be present) should also be explored.
- The existing connection appears to narrow to allow cycling with little opportunity to widen. However, this may be the most appropriate cycle route (via Salwey Road, Precosa Drive, Sovereign Drive and Marls Road) to some amenities, including Botley Rail Station and Deer Park School, so cycle rights may be required.

A connection is proposed on the far western edge of the site shown on drawing ITB19785-GA-006 Rev- directly to Tanhouse Lane and into the Noman Rodaway Pavilion Ground:

- Visibility splays for the connections to Tanhouse Lane have not been provided. There are a number of businesses and dwellings accessed via this route, which therefore sees regular vehicular traffic. Any future submission should include visibility splays in line with HCC TG3 guidance.
- Confirmation should be provided regarding any upgrades proposed to the existing onward route into Noman Rodaway Pavilion Ground.

Internal Layout

In regard to the internal site layout, Drawing ITS19785-GA-006, submitted as part of the Transport Assessment Scoping Note has been reviewed and the following comments are made.

If a full application were to be forthcoming, additional and updated plans will need to be provided showing:

(a) Visibility splays on all junctions located within the site, ensuring that these accord to HCC Technical Guidance Note 3. Whilst the majority of junctions appear acceptable (subject to confirmation), there are instances where (for example) formal car parking spaces have been located within the visibility splays that would be obstructive. Examples of this are plots 009, 010, 064 and 085. Trees should also be located outside visibility splays. Forward visibility around corners/ bends should also be provided.

(b) An AutoTrack exercise will need to be undertaken to demonstrate how the standard suite of vehicles in accordance with TG2 can travel around the site in a two-way fashion without obstruction.
(c) The AutoTrack exercise will also inform how refuse, emergency and servicing vehicles can turn at some of the elongated dead ends, where turning heads do not appear to have been provided; that is, close to plots 004 and 062. Depending on the results of this, there may onwards be a requirement for bin collection points to be provided where a refuse vehicle cannot gain access in a reasonable proximity to individual dwellings.
(d) It would also be requested that the right-angle bend outside of plot G10 is reviewed and softened as necessary to encourage better vehicle movement, and not to encourage parking within the space.
(e) Dimensions, indicative street lighting proposals, road markings and areas to be offered for adoption should be provided.
(f) No SuDs features have been shown on the internal layout so the HA assumes that the drainage will connect into Kings Copse Road.
(g) Clarity should be provided regarding proposals at junctions (example below), as it's unclear if these are block paving, raised tables or something else; in general details of the material used within the internal layout should be provided. Also, it is unclear if parking bays are appropriate within the red hatched areas (which is likely a stats exclusion zone).



Pedestrian movement around the site is reasonably catered for via internal footway links that provide safe walking access around the majority of the site. There are areas however where the provision is not clear given the site drawing is not coloured or denoted, for example the section to the southwest of plot 085, which appears to abruptly end. Indeed, there is a lack of footway provision in the area north of this, covering plots 021 to 034 and this provision need to be made clearer on plans.

Additionally, the footway outside of plot 049 appears to be interrupted by two parallel parking bays; this should be reviewed, as should the overhanging vehicle outside plot 041.

Whilst the parking quantum has not been reviewed given this is a function for EBC Officers, a general review of the layout has been undertaken. Parking space dimensions appear to be acceptable, but it should be noted that 'draft' EBC Parking Standards look to increase the standard size of a bay from 2.4 x 4.8m to 2.5 x 5.0m and as such it would be recommended that the plans show this uplift accordingly. Additionally, aisle widths appear to be a minimum of 6.0m to enable easy manoeuvres into the individual spaces, and the use of tandem (and

upwards) parking appears to be minimal which is welcomed. It would however be recommended that for any parking spaces located directly adjacent to a landscaping feature or a hard vertical surface, an additional 0.3m step out strip is provided. This will enable user access to be better achieved and negate the need to step onto landscaping which may subsequently turn to mud. Parallel spaces should also have a step out strip provided on the non-roadside for ease of access, with this being a necessity if the internal roads are to be put forward for highway adoption.

As outlined above, there are instances where parking locations have been placed within visibility splays, and this will need reviewing, as will any parking spaces that are showing as overhanging the footway.



It is noted that some of the site layout is obscured on plans by associated text boxes. These areas have obviously not been reviewed and so there could be issues, such as how is the road serving plots 091 to 096 is accessed.

Finally, no stage 1 RSA has been provided for the internal layout. In any future application, a stage 1 RSA, along with the designer's response and confirmation from the auditor that any suggested changes adequately deal with any potential safety issues should be provided. This is also the case with proposed off site improvements as set out above.

It is currently not clear if the internal layout will be offered to HCC for adoption; this should be made clear in any future submission. All schemes put forward for adoption should be designed to HCC technical guidance (Technical guidance notes | Hampshire County Council (hants.gov.uk)) – paying particular attention to TG1, TG2, TG3, TG10 and TG13, HCC standard details (Highway construction standard details | Hampshire County Council (hants.gov.uk)) and HCC Notes for Guidance (HCC11 Standard Details Notes for Guidance (hants.gov.uk)).

Public Rights of Way

Comments have been provided by HCC's Countryside Services team, who should be contact directly for their input. In summary, their comments are:

- Better use could be made of the GI within the site to enable countryside access and enhance the relationship and integration of the housing and its hard infrastructure with the green and nature landscape to the east and south of the site.
- mitigation to address the impacts of the proposed development will be required; contributions for off-site improvements, obligations to construct onsite improvements, and commuted sums for the maintenance of those improvements are highly likely to be sought.
- Based upon the presence of bridleways and the opportunity to enhance the network, Countryside Services would support a new bridleway to be dedicated within the site connecting the north end of BW Botley 20 and the Sports Ground to the west of the

site up to Little Hats Recreation Ground (or a suitable connection around Ambleside public highway).
- Countryside Service highlights the proximity of the proposed development to HCC countryside sites (Hamble Country Park).

Sustainable Transport Strategy

The Scoping note states:
The site is well located to take up the opportunities for sustainable travel

The HA does not disagree with this statement in terms of the site's location, although does note that (as also stated in the Scoping Note), investment into the network to encourage an uptake of sustainable travel will be required.

The 'reduce' element suggests provision of a fast broadband connection and access for delivery vehicles. While beneficial, the vast majority of existing dwellings in the vicinity already benefit from adequate broadband to work from home and delivery access. While the above is supported, it is not expected to have a significant impact on the trip generation of the proposed development.

In terms of the 'contain' element, this is supported, and the HA note the following extract:
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
This is important and supports the HA's request for a WCHAR (including Healthy Streets) assessment of the external routes to local facilities (which will be the majority of the distance travelled) as set out above.

The HA agree that there will still be a travel demand arising from the site and the 'facilitate' element, which includes the WCHAR and Healthy Streets assessment, and local improvements where appropriate, is welcomed.

Submission of a Framework Travel Plan will be required for any future application of this quantum. This will be reviewed upon submission. The target of a vehicle trip rate that is 10% lower than recorded at the commencement of the Travel Plan is welcomed, but not guaranteed.

Traffic Impact

<u>Traffic Growth</u>

Traffic growth will be derived from the TEMPro data base, which will be adjusted to allow for separate consideration of committed developments. The TEMPro rates are considered acceptable, as are the future years.

The following scenarios are considered acceptable:
- 2024 Date of the traffic surveys
- 2029 – 5 years post planning, with and without the development proposals using the unadjusted trip generation

Whilst this is acceptable to the Highway Authority, it should be noted that the 5-year post planning should be updated to reflect the year of formal submission of a planning application.

Regarding the 2029 vision-based scenario, please see comments below.

Committed Development

The following committed development should be considered in any future planning application.

- Serenity – F/19/86829
- Boorley Gardens – O/15/75953
- Boorley Green – O/12/71514
- Woodhouse Lane - O/18/83634
- Winchester Road - F/19/86233

Trip Generation

The Scoping Note suggests that two types of trip generation assessments will be undertaken to estimate the potential trip generation of the site. These will be an unadjusted assessment using the TRICS database and a vision based assessment, which is based on the 10% modal shift target in line with the development's travel plan being achieved.

Unadjusted assessment:
For the unadjusted trips assessment, a multi modal trip generation assessment has been undertaken utilising the TRICS database selecting a range of parameters. The trip forecasts are considered significantly below an acceptable level. On review of the selected parameters, it is noted that "*Mixed Homes and Flats"* has been selected. Given the specific quantum of houses and flats is unknow and unlikely to be secured in any future permission, the Highway Authority would expect a robust assessment using "*Houses Privately Owned"*. The removal of surveys undertaken during Covid is noted and agreed.

Furthermore, the use of multi-modal surveys has led to a relatively small sample size. Using vehicle TRICs surveys would result in a larger sample size and more accurate forecast of vehicular movements. National Travel Survey (NTS) data can then be used to estimate trips by other modes, which, given this can be targeted on the local area, is also likely to give a more representative forecast of travel by these modes than TRICs sites dispersed around the country.

Vision Based Assessment:
A vision based assessment (or 'Decide and Provide' methodology) is not simply reducing the future vehicular trips by a notional Travel Plan target. This approach will require a preferred vision of the future and then provide the means to work towards that, whilst also accommodating uncertainty about the future. Any future transport assessment will be required to model a range of plausible scenarios. These plausible scenarios will be based on the characteristics of the proposed development site's location, its existing connectivity, the mitigation or connectivity improvements that will be either delivered directly by the site developers or through financial contributions, and the extrapolation of trends in travel behaviour.

Implementing a 'Decide and Provide' approach requires three main stages:

- identifying accessibility characteristics;
- scenario testing; and
- monitoring and managing outcomes, including securing additional mitigation if outcomes do not meet the targets.

While this approach is likely to be appropriate for larger sites, it may be challenging and onerous for smaller sites of this scale at this time. The HA is willing to discuss a Vision Based

assessment and mitigation approach on the basis of the above if the applicant wishes, but would not necessarily recommend it for this site. A 10% reduction in forecast trips due to Travel Planning is not accepted. An approach which limits the scenarios to be tested (in acknowledgement of the scale of the proposed development) and focuses on addressing overall transport and highway impacts of the development via the delivery of high quality sustainable modes infrastructure to achieve a credible but ambitious level of modal shift should be developed. A commitment to monitoring the strategy via the travel plan should also be included.

Traffic Distribution and Assignment

The scoping note sets out that the NTS 2019 has been used to forecast the likely purpose for the generated car trips, with the National Census Journey to work statistics used to calculate the communing and business trips. For all other trips a P/T2 gravity model will be undertaken using the 2011 census data. The two sets of data are then combined to present the distribution parameter. Google maps has then been used to assign the distribution of trips to specific routes, with the quickest route chosen for destinations with multiple routes.

The proposed distribution and assignment are considered acceptable, although the absolute number of vehicles using these routes of course cannot be confirmed until trip generation is agreed. Traffic distribution diagrams should be provided within any future Transport Assessment.

Scope of Assessment

The transport scoping notes states that the following junctions will be assessed:

- Proposed site accesses
- Heath House Lane/ Kings Copse Avenue Roundabout
- Heath House Lane/ Barnfield Way
- Kings Copse Avenue/ Duke Road Roundabout
- Kings Copse Avenue/ Sovereign Drive Roundabout
- Kings Copse Avenue/ Whitebeam Road Roundabout
- Maypole Roundabout

As with the traffic survey locations above, the junctions that require assessment will be confirmed once the trip generation is agreed. However, the junctions above appear appropriate from an initial review.

The following modelling scenarios are proposed, which is acceptable to the HA (noting the requirement to update to 5 years post planning application submission year if required):

- 2024 Base
- 2029 Base + Committed
- 2029 Base + Committed + Development

Conclusions

Specific points have been raised above regarding the information that has been submitted at this stage. I trust that the above is clear but do not hesitate to contact Nick Gammer if you wish to discuss this further.

Yours sincerely

Gemma McCart Team Leader - Development Planning Team

APPENDIX C. PIA Report

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

Selected Polygon:BS / KINGS COPSE AVENUE

44200017275 15/01/2020 Time 0711 Vehicles 2 Casualties 1 Slight
E:448540 N: 111219 First Road: U Road Type Single carriageway
Speed limit: 60 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lights present and lit Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SW ALONG DODWELL LANE HAS ENTERED THE ROUNDABOUT AND FAILED TO GIVE WAY TO VEH 2 (M/CYCLE) TRAVELLING S ON THE ROUNDABOUT. VEH 1 CLIPS VEH 2 CAUSING THE RIDER TO FALL OFF.

Occurred on DODWELL LANE AT THE BURSLEDON ROUNDABOUT, JUNCTION 8 WITH M27, SOUTHAMPTON, HAMPSHIRE

Vehicle Reference 1 Car Starting
Vehicle movement from NE to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 27 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Motorcycle over 500cc Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 41 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 41 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44200093166 12/03/2020 Time 0730 Vehicles 2 Casualties 1 Slight
E: 448487 N: 111289 First Road: M 27 Road Type Slip road
Speed limit: 70 Junction Detail: Roundabout Give way or controlled A 3024
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (M/CYCLE) TRAVELLING SE ALONG M27 OFFSLIP INITIALLY STOPPED BEHIND VEH 2 (VAN) WAITING AT JUNCTION. VEH 2 BEGINS TO MOVE OFF BUT THEN STOPS. VEH 1 MOVES OFF AND HITS REAR OF VEH 2.

Occurred on M27 EASTBOUND JUNCTION 8 OFFSLIP AT JUNCTION WITH A3024 BERT BETTS WAY, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Motorcycle over 500cc Starting
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 53 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 53 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Stopping
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 35 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44200308273 13/08/2020 Time 1320 Vehicles 1 Casualties 1 Slight
E: 449940 N: 113220 First Road: A 334 Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: Central reservation Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Junction overshoot	Vehicle 1	Very Likely
2nd:	Loss of control	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING W ALONG A334 GRANGE ROAD APPORACHING RBT HAS MOUNTED CENTRAL ISLAND, THE DRIVER CONFUSES THE PEDALS AND DEPRESSED ACCELERATOR CAUSING VEH 1 TO INCREASE SPEED AND MOUNT THE CENTRAL RBT AND COLLIDE WITH A TREE.
Occurred on A334 GRANGE ROAD AT JUNCTION WITH KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Front Hit vehicle:
Hit object in road Bollard / Refuge Off road: Tree
Nearside Age of Driver 78 Female
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 78 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44200316348 18/08/2020 Time 1424 Vehicles 2 Casualties 2 Serious
E: 448391 N: 111206 First Road: A 3024 Road Type Dual carriageway
Speed limit: 60 Junction Detail: Roundabout Give way or controlled Motorway 27
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 2	Very Likely
3rd:	Following too close	Vehicle 1	Very Likely
4th:	Sudden braking	Vehicle 2	Very Likely
5th:	Inexperienced or learner driver/rider	Vehicle 2	Very Likely
6th:			

VEH 2 (CAR) TRAVELLING NE ALONG A3024 BERT BETTS WAY HAS MOVED OFF TO JOIN THE RBT BUT THEN BRAKED SHARPLY DUE TO A VEH APPROACHING ON THE RBT. VEH 1 (CAR) TRAVELLING NE ALONG THE A3024 HAS FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF VEH 2.
Occurred on A3024 BERT BETTS WAY AT THE RBT JCT WITH M27 (JUNCTION 8), BURSLEDON, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 48 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 48 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Starting
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 17 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 2 Vehicle: 2 Age: 17 Female Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

44200410191 22/10/2020 Time 0715 Vehicles 2 Casualties 1 Slight
E: 448489 N: 111289 First Road: M 27 Road Type Slip road
Speed limit: 70 Junction Detail: Roundabout Give way or controlled A 3024
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Following too close	Vehicle 2	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 2	Very Likely
3rd:	Failed to look properly	Vehicle 2	
4th:			
5th:			
6th:			

VEH 2 (CAR) TRAVELLING SE ALONG M27 OFFSLIP, DRIVING LOOKING AT TRAFFIC ON RBT AND FAILS TO NOTICE STOPPED BEHIND VEH 1 (CAR) STATIONARY AT THE RBT WAITING FOR TRAFFIC TO PASS AND VEH 2 COLLIDES WITH THE REAR OF VEH 1.

Occurred on M27 EASTBOUND JUNCTION 8 OFFSLIP AT JUNCTION WITH A3024 BERT BETTS WAY, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Starting
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 38 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 38 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Starting
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 61 Male
Not hit and run Breath test Negative
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44200463960 01/12/2020 Time 0719 Vehicles 3 Casualties 1 Slight
E: 449087 N: 111502 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lighting unknown Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Loss of control	Vehicle 1	Possible
2nd:	Inexperienced or learner driver/rider	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

VEH 1 (M/CYCLE) TRAVELLING NE ALONG BARNFIELD WAY HAS DRIFTED ON TO THE OPPOSITE CARRIAGEWAY AS THEY NEGOTIATE A LEFT HAND BEND. VEH 1 HAS SCAPED THE SIDES OF VEH 2 (CAR) AND VEH 3 (CAR) TRAVELLING SW ALONG BARNFIELD WAY.

Occurred on BARNFIELD WAY, 110 METRES EAST OF THE JUNCTION WITH CAYLAND COPSE, BURSELDON, SOUTHAMPTON, HAMPSHIRE.

Vehicle Reference 1 Motor Cycle over 50 cc and up to 125cc Going ahead left bend
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Not at, or within 20M of Jct First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 39 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 39 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead right bend
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 35 Female
Not hit and run Breath test Not requested
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

Vehicle Reference 3 Car Going ahead right bend
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 39 Female
Not hit and run Breath test Not requested
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44200472726 03/12/2020 Time 1750 Vehicles 2 Casualties 1 Slight
E: 448561 N: 111252 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Motorway 27
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lights present and lit Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SW ALONG DODWELL LANE IS STATIONARY IN TRAFFIC WAITING TO ENTER THE RBT JCT. VEH 2 (CAR) TRAVELLING SW BEHIND VEH 1 HAS FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF VEH 1.

Occurred on DODWELL LANE AT THE WINDOVER INTERCHARGE RBT JCT WITH M27, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 38 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 38 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 18 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210150562 21/04/2021 Time 0800 Vehicles 2 Casualties 1 Slight
E:448548 N: 111230 First Road: U Road Type Single carriageway
Speed limit: 60 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING SW ALONG DODWELL LANE WAS LOOKING TO THE RIGHT AT TRAFFIC ON THE ROUNDABOUT AND FAILED TO REACT TO VEH2 (CAR) TRAVELLING SW IN FRONT, STATIONARY WAITING TO ENTER RBT. VEH1 COLLIDED WITH THE REAR OF VEH2.

Occurred on DODWELL LANE, AT JUNCTION WITH WINDHOVER INTERCHANGE, BURSLEDON, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 2 Car Going ahead but held up
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 32 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210211780 31/05/2021 Time 1655 Vehicles 2 Casualties 1 Slight
E: 449935 N: 113213 First Road: A 334 Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to signal/Misleading signal	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING SE AROUND MAYPOLE RBT IN LANE1 UNDERTOOK VEH2 (P/CYCLE) TRAVELLING E AROUND MAYPOLE RBT IN LANE 2, WHO HAD ARM STUCK OUT TO SIGNAL EXITING ONTO KINGS COPSE AVENUE. VEH1 MADE CONTACT WITH VEH2 CAUSING RIDER TO FALL OFF.
Occurred on A334 MAYPOLE ROUNDABOUT AT JUNCTION WITH KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 41 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Changing lane to left
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 22 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 22 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210218024 04/06/2021 Time 1503 Vehicles 2 Casualties 1 Slight
E: 448548 N: 111228 First Road: M 27 Road Type 1
Speed limit: 70 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Following too close	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH 1 (VAN) TRAVELLING SW ALONG DODWELL LANE COLLIDES WITH REAR OF VEH 2 (CAR) IN FRONT WAITING TO JOIN RBT.

Occurred on DODWELL LANE AT JUNCTION WITH M27 (JUNCTION 8 ROUNABOUT), BURSELDON, HAMPSHIRE

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Stopping
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 34 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Going ahead but held up
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 19 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 19 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210262414 03/07/2021 Time 1940 Vehicles 1 Casualties 1 Slight
E: 448383 N: 111199 First Road: A 3024 Road Type Dual carriageway
Speed limit: 70 Junction Detail: Roundabout Give way or controlled Motorway 27
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Travelling too fast for conditions	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (M/CYCLE) TRAVELLING NE ALONG A3024 BERT BETTS WAY HAS FAILED TO NEGOTIATE A LH BEND, LEFT THE CARRIAGEWAY TO OFFSIDE AND COLLIDED WITH ARMCO FOOTINGS. RIDER OF VEH 2 WAS THROWN OVER THE HANDLEBARS AND LANDED IN LANE 2 OF 2 ON THE ROUNDABOUT.

Occurred on A3024 BERT BETTS WAY AT THE ROUNDABOUT JUNCTION WITH M27, BURSLEDON, SOUTHAMPTON, HAMPSHIRE.

Vehicle Reference 1 Motorcycle over 500cc Going ahead left bend
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: Near / off crash barrier
O/S onto cent res Age of Driver 26 Male
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 26 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210328628 17/08/2021 Time 1400 Vehicles 2 Casualties 2 Slight
E: 448382 N: 111198 First Road: A 3024 Road Type Single carriageway
Speed limit: 50 Junction Detail: Roundabout Give way or controlled Motorway 27
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 2	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 2	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING NE ALONG A3024 SLOWED AND STOPPED FOR ROUNDABOUT, WHEN VEH 2 (VAN) FOLLOWING BEHIND, FAILED TO STOP IN TIME AND COLLIDED INTO THE REAR OF VEH 1.

Occurred on A3024 BERT BETTS WAY AT THE JUNCTION WITH THE M27 JUNCTION 8, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 32 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 1 Age: 39 Male Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 49 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210355335 05/09/2021 Time 1204 Vehicles 1 Casualties 1 Serious
E: 448862 N: 111525 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Other Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Loss of control	Vehicle 001	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (M/CYCLE) TRAVELLING S TO N ON BARNFIELD WAY COLLIDES WITH NEARSIDE KERB AND LOSES CONTROL OF VEH
Occurred on BARNFIELD WAY NEAR JUNCTION WITH FOSTERS COPSE EASTLEIGH

Vehicle Reference 1 Motorcycle over 500cc Going ahead right bend
Vehicle movement from S to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Nearside Hit vehicle:
Hit object in road Kerb Off road: None
Did not leave carr Age of Driver 50 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 50 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210382304 23/09/2021 Time 0748 Vehicles 3 Casualties 2 Slight
E: 449844 N: 112214 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Not within 20m of junction
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 003	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (BUS) TRAVELLING SE TO NW ON KINGS COPSE AVENUE STOPS AT BUS STOP. VEH 2 (CAR) TRAVELLING BEHIND BUS ALSO STOPS AND VEH 3 (VAN) TRAVELLING BEHIND SE TO NW FAILS TO STOP AND COLLIDES WITH REAR OF VEH 2
Occurred on BUS STOP AT KINGS COPSE ROAD HEDGE END

Vehicle Reference 1 Bus or coach Stopping
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 51 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Stopping
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 34 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 34 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 2 Age: 6 Male Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Back seat

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Vehicle Reference 3 Van or Goods 3.5 tonnes mgw and under Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 23 Male
Not hit and run Breath test Negative
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210438170 01/11/2021 Time 1222 Vehicles 2 Casualties 2 Slight
E:448490 N: 111291 First Road: M 27 Road Type Single carriageway
Speed limit: 40 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Following too close	Vehicle 2	Possible
2nd:	Sudden braking	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

VEH1 (VAN) TRAV S ALONG THE M27 OFF SLIP STARTED TO PULL OFF FROM A STATIONARY POSITION AT THE RBT, BUT THEN STOPPED. VEH2 (CAR) TRAVELLING S ALONG THE M27 OFF SLIP BEHIND, STARTED TO MOVE OFF AT THE SAME TIME BUT FTS IN TIME AND COLLIDED WITH THE REAR.
Occurred on M27 SOUTHBOUND OFFSLIP AT JUNCTION WITH DODWELL LANE, BURSLEDON, HAMPSHIRE.

Vehicle Reference 1 Car Stopping
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 48 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 48 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Starting
Vehicle movement from S to Parked No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 54 Male
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 2 Vehicle: 2 Age: 54 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210443122 03/11/2021 Time 1626 Vehicles 2 Casualties 1 Slight
E: 448488 N: 111289 First Road: M 27 Road Type Slip road
Speed limit: 50 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lighting unknown Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH2 (CAR) TRAVELLING SE ALONG M27, FAILED TO SLOW IN TIME AND COLLIDED WITH THE REAR OF VEH1 (CAR) WHICH WAS STATIONARY IN FRONT, WAITING TO ENTER THE ROUNDABOUT.
Occurred on M27 AT JUNCTION WITH WINDHOVER INTERCHANGE, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 31 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 31 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Stopping
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44220465915 13/11/2021 Time 1530 Vehicles 2 Casualties 1 Slight
E: 448488 N: 111290 First Road: M 27 Road Type Slip road
Speed limit: 70 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH2 (CAR) TRAVELLING S ALONG THE M27 JUNCT 8 OFF SLIP FAILS TO SLOW IN TIME ON APPROACH TO THE RBT AND COLLIDES WITH THE REAR OF VEH1 (CAR) TRAVELLING SE ALONG THE OFFSLIP IN FRONT.
Occurred on M27 SOUTHBOUND JUNCTION 8 OFF SLIP AT JUNCTION WITH DODWELL LANE, BURSLEDON, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 19 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 27 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

Vehicle Reference 2 Car Stopping
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44210503718 16/12/2021 Time 1701 Vehicles 1 Casualties 1 Slight
E: 448379 N: 111185 First Road: A 3024 Road Type Dual carriageway
Speed limit: 40 Junction Detail: Roundabout Give way or controlled Motorway 27
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Disability or illness, mental or physical	Casualty 001	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (VAN) TRAVELLING NE ON A3024 SUFFERS MEDICAL EPISODE AND LOSES CONTROL, COLLIDING WITH CRASH BARRIER
Occurred on A3024 APPROACHING ROUNDABOUT FOR WEST BOUND M27

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Stopping
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Front Hit vehicle:
Hit object in road None Off road: Near / off crash barrier
O/S cross cent res Age of Driver 69 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 69 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44220106155 17/03/2022 Time 0800 Vehicles 2 Casualties 1 Slight
E:448549 N: 111231 First Road: U Road Type Dual carriageway
Speed limit: 50 Junction Detail: Roundabout Give way or controlled Motorway 27
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SW FROM DODWELL LANE IN LANE 1 AT M27 JUNCTION 8 ROUNDABOUT COLLIDED WITH THE REAR OF VEH 2 (CAR) WHICH WAS IN FRONT WAITING TO ENTER THE ROUNDABOUT.
Occurred on M27 JUNCTION 8 SLIP ROAD AT JUNCTION WITH DODWELL LANE, BURSLEDON, HAMPSHIRE.

Vehicle Reference 1 Car Stopping
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 27 Female
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Going ahead but held up
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Did not impact Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 52 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 50 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44220194357 17/05/2022 Time 0845 Vehicles 2 Casualties 1 Slight
E: 448546 N: 111231 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Motorway 27
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH2 (GOODS VEH) TRAVELLING SW ALONG DODWELL LANE FAILED TO STOP AT THE ROUNDABOUT AND COLLIDED WITH VEH1 (CAR) TRAVELLING SW ALONG DODWELL LANE, STOPPED AT THE ROUNDABOUT

Occurred on DODWELL LANE AT WINDHOVER INTERCHANGE WITH M27, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 36 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 36 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Goods vehicle - unknown weight Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

44220195348 17/05/2022 Time 2011 Vehicles 2 Casualties 1 Slight
E: 448429 N: 111292 First Road: M 27 Road Type Dual carriageway
Speed limit: 70 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight Raining without high winds
Special Conditions at Site Road works Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Slippery road (due to weather)	Vehicle 001	Possible
2nd:	Slippery road (due to weather)	Vehicle 001	Possible
3rd:	Failed to signal/Misleading signal	Vehicle 001	Possible
4th:	Failed to look properly	Vehicle 001	Possible
5th:	Failed to judge other persons path or speed	Vehicle 002	Possible
6th:	Impaired by alcohol	Vehicle 002	Very Likely

VEH 1 (CAR) TRAVELLING IN LANE 1 OF M27 CHANGED LANES INTO PATH OF VEH 2 (CAR) TRAVELLING IN LANE 4
Occurred on M27 JUNCTION 8 BURSLEDON 272B

Vehicle Reference 1 Taxi/Private hire car Changing lane to right
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 50 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Not at, or within 20M of Jct First impact Nearside Hit vehicle:
Hit object in road None Off road: Cent crash barrier
Did not leave carr Age of Driver 31 Male
Not hit and run Breath test Positive
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 31 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44220236095 14/06/2022 Time 0935 Vehicles 2 Casualties 1 Slight
E: 448547 N: 111227 First Road: U Road Type Single carriageway
Speed limit: 60 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH2 (TAXI) TRAVELLING SW ALONG DODWELL LANE FAILS TO REACT TO TRAFFIC AHEAD AND COLLIDES INTO THE REAR OF VEH1 (CAR) THAT IS WAITING TO ENTER WINDHOVER RBT.
Occurred on DODWELL LANE AT JUNCTION WITH WINDHOVER INTERCHANGE, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 28 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 28 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Taxi/Private hire car Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44220265919 04/07/2022 Time 0836 Vehicles 2 Casualties 1 Slight
E: 448437 N: 111151 First Road: M 27 Road Type Slip road
Speed limit: 70 Junction Detail: Roundabout Give way or controlled A 27
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 2 (CAR) TRAV NW ALONG M27 SLIP RD, FAILED TO SLOW ON APPROACH TO RBT AND COLLIDED WITH REAR OF VEH 1 (CAR) TRAV NW ALONG M27 SLIP RD IN FRONT, STATIONERY AT JCT WITH RBT, CAUSING MINOR INJURY TO CAS 1 (DRIVER VEH 1).

Occurred on M27 NW BOUND SLIP RD JUNCTION 8, AT JCT WITH A3024 BERT BETTS WAY, BURSLEDON, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 56 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 56 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Unknown Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44220297771 24/07/2022 Time 1630 Vehicles 2 Casualties 1 Serious
E: 448515 N: 111274 First Road: M 27 Road Type 1
Speed limit: 40 Junction Detail: Roundabout Automatic traffic signal A 3024
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Loss of control	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH1 (M/CYCLE) TRAVELLING E ALONG A3024 ON THE ROUNDABOUT PULLED INTO LANE 1 TO ALLOW VEH2 (POLICE VEH) TRAVELLING S ALONG M27 ENTERING THE ROUNDABOUT TO PASS. VEH1 LOST CONTROL AND COLLIDED WITH THE KERB CAUSING THE RIDER TO FALL
Occurred on M27 AT ROUNDABOUT WITH A3024 BERT BETTS WAY, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Motorcycle over 500cc Going ahead other
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road Kerb Off road: None
Nearside Age of Driver 43 Male
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 43 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Did not impact Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Male
Not hit and run Breath test Not requested
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44220430956 23/10/2022 Time 1210 Vehicles 2 Casualties 2 Slight
E: 448444 N: 111142 First Road: M 27 Road Type Slip road
Speed limit: 70 Junction Detail: Roundabout Give way or controlled A 3024
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING N ALONG THE M27 OFF SLIP FAILED TO SLOW IN TIME AND COLLIDED WITH THE REAR OF VEH2 (CAR) TRAVELLING N ALONG THE M27 OFF SLIP IN FRONT, SLOWING ON APPROACH TO THE RBT.

Occurred on M27 WESTBOUND JUNCTION 8 OFFSLIP AT JUNCTION WITH A3024 BERT BETTS WAY, BURSLEDON, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 43 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Stopping
Vehicle movement from SE to NW Other tow Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 42 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 42 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 2 Age: 34 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

44220435829 26/10/2022 Time 1718 Vehicles 2 Casualties 1 Slight
E: 448381 N: 111201 First Road: A 3024 Road Type Dual carriageway
Speed limit: 70 Junction Detail: Roundabout Give way or controlled Motorway 27
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Road layout (eg bend, hill etc.)	Vehicle 1	Very Likely
2nd:	Following too close	Vehicle 2	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH2 (VAN) TRAVELLING E ALONG A3024 BERT BETTS WAY, FAILED TO SLOW IN TIME ON APPRAOCH TO THE ROUNDABOUT AND COLLIDED WITH THE REAR OF VEH1 (CAR) TRAVELLING E ALONG THE A3024 BERT BETTS WAY IN FRONT, WAITING TO ENTER THE RBT.

Occurred on A3024 BERT BETTS WAY AT JUNCTION WITH M27 JUNCTION 8 SLIP ROADS, BURSLEDON, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from W to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 43 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 43 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Stopping
Vehicle movement from W to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 47 Male
Not hit and run Breath test Negative
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44230142524 11/04/2023 Time 2202 Vehicles 1 Casualties 2 Serious
E: 449936 N: 112570 First Road: U Road Type Single carriageway
Speed limit: 40 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Slippery road (due to weather)	Vehicle 1	Very Likely
2nd:	Travelling too fast for conditions	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING S ALONG KINGS COPSE AVENUE LOST CONTROL, LEFT THE CARRIAGEWAY TO THE OFFSIDE AND COLLIDED WITH A TREE.

Occurred on KINGS COPSE AVENUE 67 METRES SOUTH OF SOVEREIGN DRIVE ROUNDABOUT, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 32 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Worn but not i Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 1 Age: 29 Male Passenger Severity: Serious
Not a pupil
Seatbelt Worn but not i Cycle helmet: Not a cyclist

Front seat

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44230165427 27/04/2023 Time 1520 Vehicles 2 Casualties 1 Slight
E: 448492 N: 111289 First Road: M 27 Road Type Slip road
Speed limit: 60 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SE ALONG M27 JUNCTION 8 OFFSLIP WAS WAITING AT THE EXIT TO THE WINDHOVER INTERCHANGE RBT. VEH 2 (CAR) FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF VEH 1.

Occurred on M27 EASTBOUND JUNCTION 8 OFFSLIP AT JUNCTION WITH WINDHIVER INTERCHANGE, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 29 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 29 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Unknown Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44230340206 22/08/2023 Time 1650 Vehicles 2 Casualties 1 Slight
E: 449677 N: 112017 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site Automatic traffic signal out Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 2	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 2	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH2 (CAR) TRAVELLING NE ALONG KINGS COPSE AVENUE FAILED TO STOP IN TIME AND COLLIDED WITH VEH1 (VAN) TRAVELLING NE ALONG KINGS COPSE AVENUE, WAITING TO TURN RIGHT INTO TANHOUSE LANE.
Occurred on KINGS COPSE AVENUE AT JUNCTION WITH TANHOUSE LANE, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Waiting to turn right
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 34 Female
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 34 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 43 Female
Not hit and run Breath test Not requested
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

44230365282 07/09/2023 Time 1740 Vehicles 2 Casualties 2 Slight
E: 448546 N: 111232 First Road: U Road Type Single carriageway
Speed limit: 60 Junction Detail: Roundabout Give way or controlled A 3024
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING SW ALONG DODWELL LANE STOPPED TO GIVE WAY AT THE WINDHOVER INTERCHANGE RBT. VEH 2 (CAR) FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF VEH 1.
Occurred on DODWELL LANE AT JUNCTION WITH WINDHOVER INTERCHANGE, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 55 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 55 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Unknown Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 1 Age: 14 Male Passenger Severity: Slight
Not a pupil
Seatbelt Unknown Cycle helmet: Not a cyclist

Front seat

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44230414317 10/10/2023 Time 0800 Vehicles 2 Casualties 1 Slight
E: 449927 N: 113257 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: Central reservation Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (P/CYCLE) WAS TRAVELLING E ON MAYPOLE RBT. VEH 2 (CAR) TRAVELLING S FROM WOODHOUSE LANE ENTERED THE RBT AND COLLIDED WITH VEH 1.
Occurred on MAYPOLE ROUNDABOUT AT JUNCTION WITH WOODHOUSE LANE, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Pedal Cycle Going ahead other
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 15 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 15 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not known

Vehicle Reference 2 Car Starting
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44230484996 27/11/2023 Time 0820 Vehicles 2 Casualties 1 Slight
E: 449921 N: 113205 First Road: A 334 Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: Central reservation Road surface Wet/Damp
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH2 (CAR) TRAVELLING N ALONG KINGS COPSE AVENUE MISJUDEGED THE PATH OF VEH1 (P/CYCLE) TRAVELLING N ALONG KINGS COPSE AVENUE AHEAD, ENTERING THE ROUNDABOUT, CAUSING A COLLISION

Occurred on KINGS COPSE AVENUE AT ROUNDABOUT WITH A334 GRANGE ROAD, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Pedal Cycle Going ahead other
Vehicle movement from S to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 29 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 29 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not known

Vehicle Reference 2 Car Going ahead other
Vehicle movement from S to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44230517841 19/12/2023 Time 1929 Vehicles 2 Casualties 2 Slight
E:449899 N: 112363 First Road: U Road Type 1
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING SE ALONG DUKE ROAD ENTERED THE ROUNDABOUT AND COLLIDED WITH VEH2 (CAR) TRAVELLING NE ALONG KINGS COPSE AVENUE, ALREADY ON THE ROUNDABOUT, CAUSING A COLLISION
Occurred on KINGS COPSE AVENUE AT ROUNDABOUT WITH DUKE ROAD, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 19 Female
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Turning right
Vehicle movement from SW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 31 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 31 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 2 Age: 30 Male Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44240149571 10/04/2024 Time 0830 Vehicles 2 Casualties 1 Slight
E: 448439 N: 111145 First Road: M 27 Road Type Single carriageway
Speed limit: 40 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING NW ALONG M27 WESTBOUND JUNCTION 8 OFFSLIP STOPPED TO GIVE WAY AT THE WINDHOVER INTERCHANGE RBT. VEH 2 (CAR) FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF VEH 1.

Occurred on M27 WESTBOUND JUNCTION 8 OFFSLIP AT JUNCTION WITH WINDHOVER INTERCHANGE, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 54 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 54 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Worn but not i Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44240218031 24/05/2024 Time 1320 Vehicles 1 Casualties 1 Slight
E: 449912 N: 112369 First Road: U Road Type Single carriageway
Speed limit: 40 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Inexperienced or learner driver/rider	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH 1 (M/CYCLE) TRAVELLING S ALONG KINGS COPSE AVENUE APPROACHING THE RBT AT DUKE ROAD NOTICED TRAFFIC ON THE RBT AT THE LAST MOMENT AND BRAKED HARD, CAUSING THE RIDER TO FALL.

Occurred on KINGS COPSE AVENUE AT JUNCTION WITH DUKE ROAD, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Motor Cycle over 50 cc and up to 125cc Stopping
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Did not impact Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 62 Male
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 62 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44240320692 28/07/2024 Time 1137 Vehicles 2 Casualties 1 Fatal
E: 449250 N: 111699 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Exceeding speed limit	Vehicle 1	Very Likely
2nd:	Loss of control	Vehicle 1	Very Likely
3rd:	Inexperience with type of vehicle	Vehicle 1	
4th:			
5th:			
6th:			

VEH 1 (M/CYCLE) TRAVELLING SW ALONG HEATH HOUSE LANE LOST CONTROL ON A LEFT-HAND BEND. THE RIDER WAS THROWN FROM THE MACHINE AND COLLIDED WITH VEH 2 (CAR) TRAVELLING NE FROM BARNFIELD WAY.
Occurred on HEATH HOUSE LANE AT JUNCTION WITH BARNFIELD WAY, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Motorcycle over 500cc Going ahead left bend
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 22 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 22 Male Driver/rider Severity: Fatal
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead right bend
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 55 Male
Not hit and run Breath test Negative
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44240344601 11/08/2024 Time 0915 Vehicles 2 Casualties 1 Serious
E: 449899 N: 113248 First Road: A 334 Road Type Single carriageway
Speed limit: 40 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: Central reservation Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

C1 RIDING V1 (P/CYCLE) TRAVELLING E ON LOWER NORTHAM ROAD ENTERING MAYPOLE RBT. VEH2 (CAR) TRAVELLING SE ON GRANGE ROAD FAILES TO GIVE WAY AT RBT JUNCTION. C1 TAKES EVAISIVE ACTION, COLLIDES WITH KERB AND FALLS OFF VEH1.
Occurred on A334 GRANGE ROAD, AT JUNCTION WITH MAYPOLE ROUNDABOUT, EASTLEIGH, HAMPSHIRE

Vehicle Reference 1 Pedal Cycle Going ahead right bend
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Did not impact Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 56 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 56 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Did not impact Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Non-stop, not hit Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44240374961 01/09/2024 Time 1126 Vehicles 2 Casualties 1 Slight
E: 448437 N: 111145 First Road: M 27 Road Type Slip road
Speed limit: 70 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (CAR) TRAVELLING NW ALONG M27 JUNCTION 8 OFFSLIP FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF VEH 2 (CAR) WHICH WAS WAITING TO ENTER THE WINDHOVER INTERCHANGE.

Occurred on M27 WESTBOUND JUNCTION 8 OFFSLIP AT JUNCTION WITH WINDHOVER INTERCHANGE, BURSLEDON, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 38 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 2 Car Going ahead but held up
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 34 Female
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 34 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Worn but not i Cycle helmet: Not a cyclist

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

44240500029 15/11/2024 Time 1900 Vehicles 2 Casualties 1 Slight
E:448545 N: 111230 First Road: U Road Type 1
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH2 (LORRY) TRAVELLING SE ALONG DODWELL LANE HAS FAILED TO STOP IN TIME AT THE JUNCTION AND COLLIDED WITH THE REAR OF VEH1 (CAR) STATIONARY AT JUNCTION.

Occurred on DODWELL LANE, AT ENTERANCE TO WINDHOVER INTERCHANGE ROUNDABOUT, HEDGE END, HAMPSHIRE

Vehicle Reference 1 Car Going ahead but held up
Vehicle movement from NE to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 63 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 63 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Unknown Cycle helmet: Not a cyclist

Vehicle Reference 2 Goods over 3.5 tonnes and under 7.5 to Stopping
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/01/2020** **and** **31/12/2024** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("BS / KINGS COPSE AVENUE")

Notes:

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	2	25	27
2-wheeled motor vehicles	1	2	5	8
Pedal cycles	0	1	3	4
Horses & other	0	0	0	0
Total	1	5	33	39

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	2	25	27
Passenger	0	1	7	8
Motorcycle rider	1	2	5	8
Cyclist	0	1	3	4
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	1	6	40	47

APPENDIX D. WCHAR and Healthy Streets Assessment

Report Number

Walking, Cycling and Horse-Riding Assessment Report – Kings Copse Avenue Hedge End

Job No: **ITS19785**

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1. Scheme Details

1.1. Scheme Client / Developer

Name: Dominic Mackrill
Organisation: Eastleigh Borough Council
Email:
Tel:

1.2. Lead Assessor

Name: Ollie Thompson
Organisation: i-Transport LLP
Email: ollie.thompson@i-transport.co.uk
Tel: 01256 898 366

1.3. Other Assessment Team Members

Name: Dan Godwin
Organisation: i-Transport LLP
Email: dan.godwin@i-transport.co.uk
Tel: 01256 898 366

1.4. Scheme Location and Description of Highway Works

The site is located to the south east of Kings Copse Avenue, approximately 1km to the east of Hedge End. Residential development is adjacent to the site to the north and west, with green space to the south, and Manor Farm Country Park to the east.

The proposed development seeks permission for 192 new homes, with access off Kings Copse Avenue. Three pedestrian connections will be provided to connect the site with the local network. Two are proposed on the northern site frontage with a further providing direct access to Tanhouse Lane and into the Norman Roadway Pavillion Ground on the site's western extent.

A 3.0m wide refuge island is proposed across Kings Copse Avenue to connect onto the existing bridleway on Tanhouse Lane, which is proposed to be widened and surfaced as part of the proposals.

The Indicative Site Layout is provided in **Appendix A**, an extract of which is provided below in **Image 1.1**.

Image 1.1: Site Layout Plan



1.5. WCHAR Study Area

The Table provided within Section 4 of the Hampshire County Council (HCC) Technical Guidance Note TG19 sets out that schemes comprising more than 50 residential units are to be considered as 'Large' schemes. Therefore, as the scheme is a residential development for 192 dwellings, it falls under the 'Large Scheme' size of the GG142.

The WCHAR study area relates from the site access on Kings Copse Avenue and has been split into three routes for assessment:

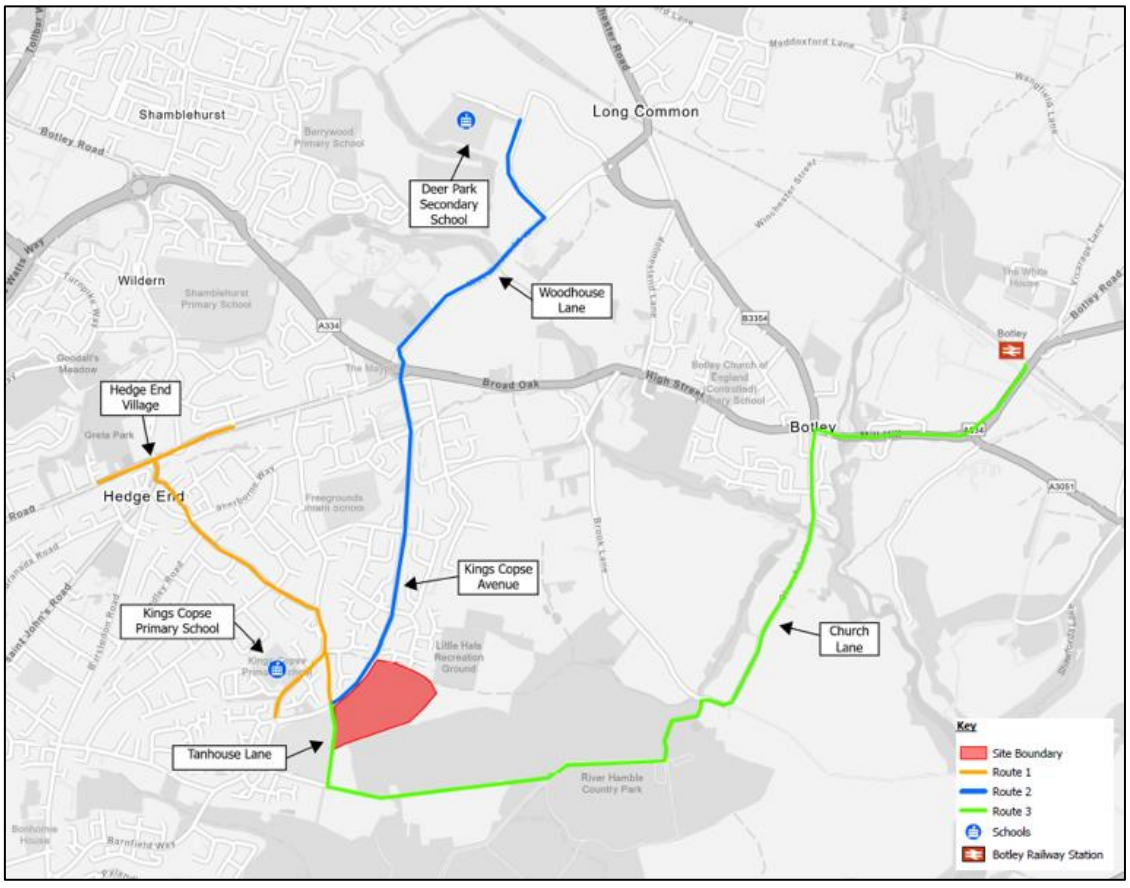
1.To Kings Copse Primary School and Hedge End Village.

2. To Deer Park Secondary School.

3. To Botley Railway Station via Manor Farm Country Park and Botley Highstreet.

A plan showing the WCHAR study area is provided as **Image 1.2**.

Image 1.2: Audit Study Area



2. WCHAR Assessment

2.1. Assessment of walking, cycling and horse-riding policies and strategies

The Manual for Streets (MfS) has been reviewed which states:

"Connected, or 'permeable', networks encourage walking and cycling and make places easier to navigate through." (Ref: MfS 4.2.3)

and:

"Internal permeability is important, but the area also needs to be properly connected with adjacent streets. A development with poor links to surrounding areas creates an enclave which encourages movement to and from it by car rather than other modes" (Ref: MfS 4.2.5)

In addition, MfS states:

"Residential areas adjacent to one another should be well connected" (Ref: MfS 4.2.7).

Hampshire County Council TG19 – Walking, Cycling and Horse-Riding Assessment and Review (WCAHR) has been reviewed which states:

"The Assessment is the first stage of the process and should be carried out during the initial stages of planning a scheme, to investigate the existing infrastructure and identify potential opportunities to improve conditions for people walking, cycling and where appropriate, riding horses. This shall include the needs of all potential users such as people using mobility aids, prams/buggies, and the range of cycles available. It is important to identify these issues at an early stage as this will help the Design Team to achieve the best possible outcome for these users." (Ref: TG19 1.3).

In addition, TG19 states:

"The Design Manual for Roads and Bridges General Principles document GG 142 sets out the procedure for undertaking a Walking, Cycling and Horse-Riding Assessment and Review." (Ref: TG19 2.1).

Hampshire Local Transport Plan 4 (February 2024) has been reviewed which states:

"We will require development that complies with the Hampshire Movement and Place Framework and Healthy Streets approach. We will require that developments are designed to widen the choice of modes that can be used (i.e. those which design in high levels of walking, cycling and public transport use. (Ref: Policy DM2, Page 123).

2.2. Collision data

Personal Injury Accident (PIA) data has been obtained from Hampshire Constabulary, for the area illustrated in **Image 2.1**, for the most recently available five-year period (2020 - 2024).

Image 2.1: PIA Accident Location Plan

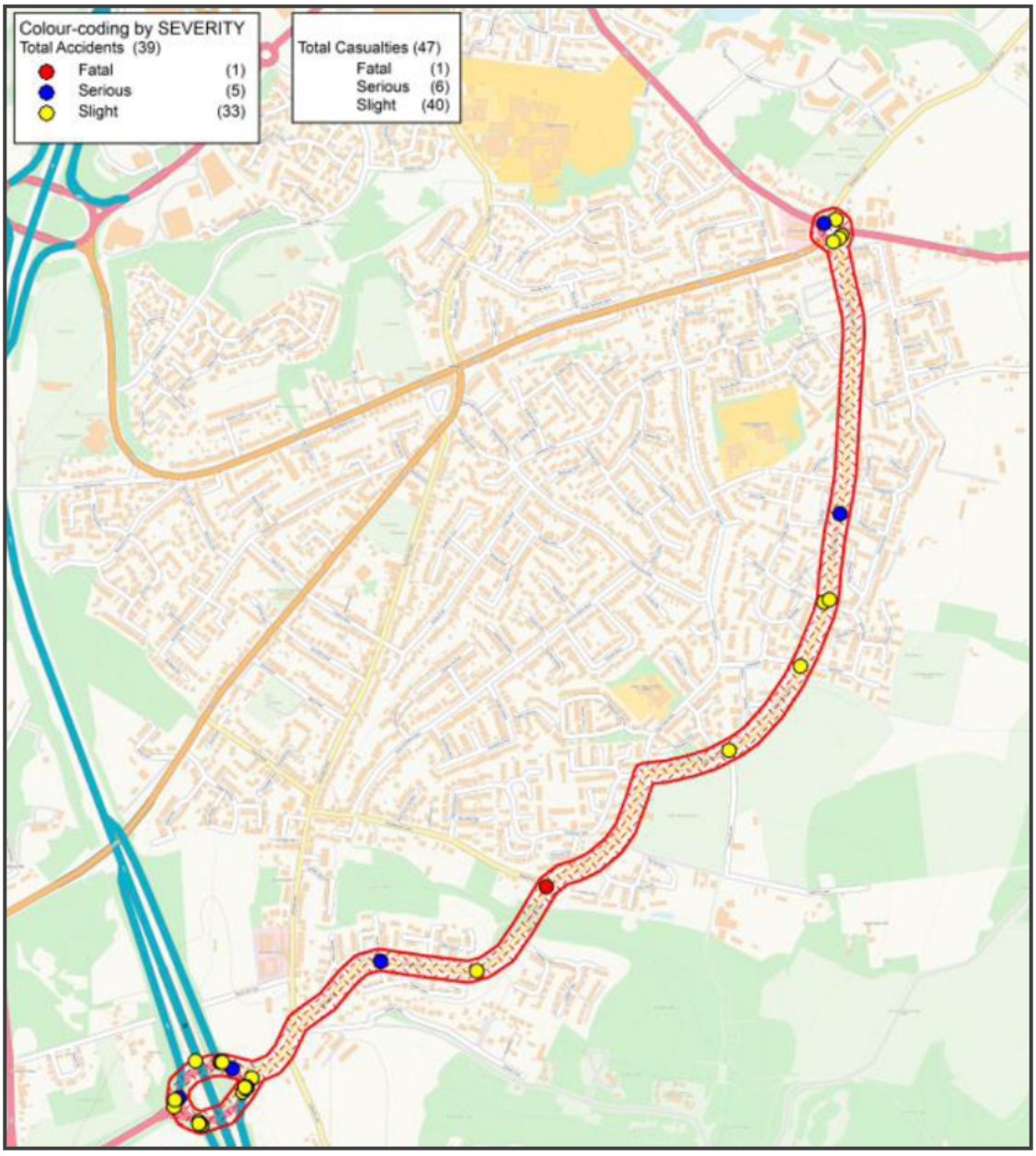


Image 2.1 demonstrates there has been a total of three incidents recorded within the vicinity of the site.

Three slight incidents have occurred over a period of five years along Kings Copse Avenue.

One incident occurred north of Tanhouse Lane in 2023.

Two slight incidents took place on roundabouts to the north and southwest of the site that intersect with Kings Copse Avenue.

Overall, there are no identified accidents trends or patterns that suggest any highway safety issue, and there are no accidents which suggest a deficiency in the local highway network. The development will therefore not exacerbate any existing issues on the local network.

2.3. Multi-modal transport services and interchange information

The closest bus stop is located on Kings Copse Avenue, approximately 230m and 260m north of the site. Both stops provide a shelter with timetabled information serving the 3.24 and 424 bus routes. The service is operated by Bluestar and a summary of the services that serve these stops is provided below.

Table 2.1: Summary of Bus Services and Frequency

Service	Route	Service Frequency		
		Monday-Friday	Saturday	Sunday
3	Southampton - Hedge End - Boorley Green - Fair Oak - Eastleigh	Service every hour between 06:11 and 20:45	Service every hour between 09:40 and 20:45	6 services a day at 10:21, 11:41, 14:01, 15:21, 16:41 and 18:01
24	Hedge End - West End – Southampton Airport Parkway - Eastleigh	Service every hour between 06:41 and 18:20	5 services a day at 08:21, 10:21, 12:21, 14:21 and 18:20	-
424	Eastleigh – Southampton Airport Parkway - West End - Hedge End	One service a day at 07:41	-	-

A summary of the rail services and frequencies to key destinations is provided below.

Table 2.2: Summary of Rail Services and Frequency

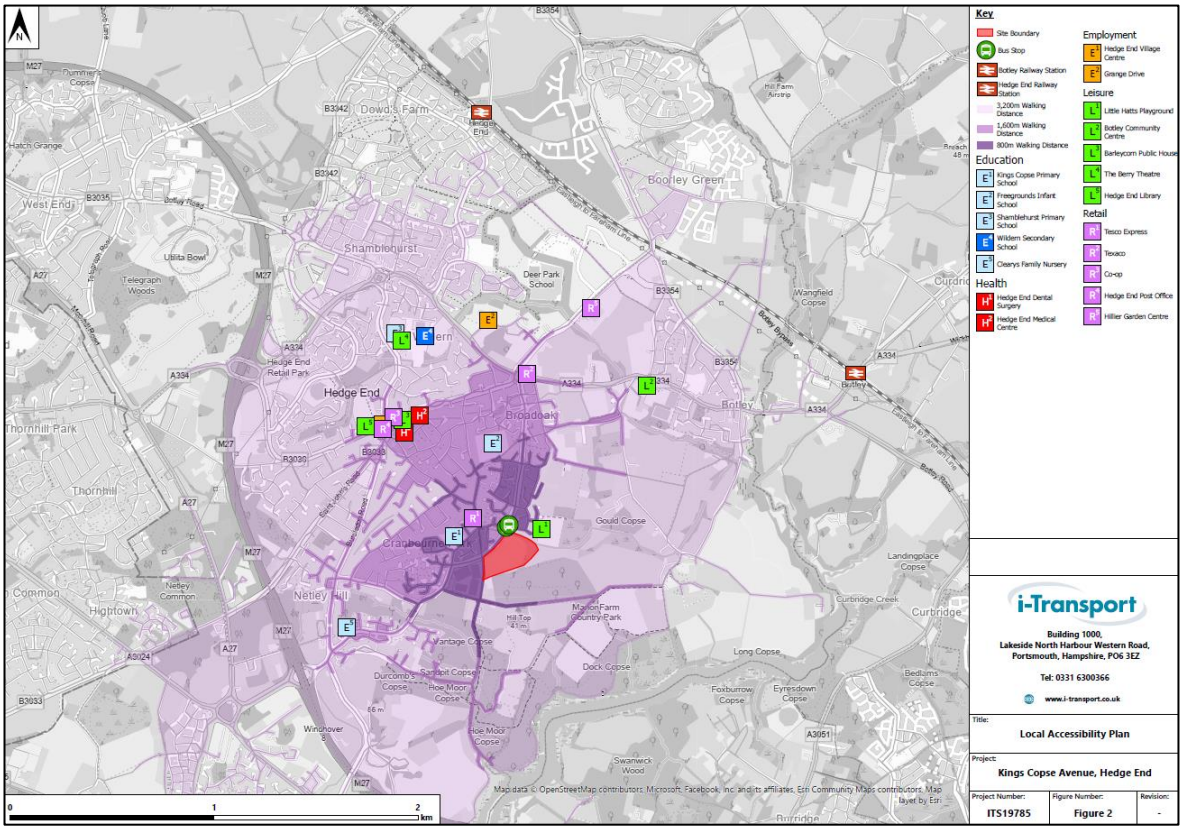
Station	Destination	Typical Frequency Per Hour		Average Journey Duration
		Peak	Off-Peak	
Botley	Southampton Central	2 services per hour	1 service per hour	35 minutes
	Winchester	2 services per hour	1 service per hour	24 minutes
	London Waterloo	2 services per hour	2 service per hour	1 hour 35 minutes
Hedge End	Eastleigh	2 services per hour	1 service per hour	6 minutes
	Basingstoke	2 services per hour	1 service per hour	38 minutes
	London Victoria	2 services per hour	2 services per hour	1 hour 28 minutes

2.4. Trip generators

The site is a residential development with no employment, educational or retail facilities on site.

Key primary trip generators in proximity to the site are visualised in **Figure 1** and extracted as **Image 2.2**.

Image 2.2: Key Trip Generators Within Proximity to The Site



2.5. Site Visits

A site visit to assess walking, cycling and horse riding was completed on 15th November 2024, carried out by Sian Geddes and Dan Godwin. The site visit included walking the three routes being assessed, supplemented through observational notes and photographs.

2.6. Liaison with key stakeholders

Pre-application discussions have been undertaken with HCC in their role as highway authority. The comments raised by HCC throughout the pre-application process have been incorporated into the WCHAR.

2.7. Existing pedestrian, cyclist and equestrian facilities

Route 1: Kings Copse Primary School and Hedge End Village

Opposite Tanhouse Lane (south) at the southwest of the site is a bridleway providing access to the junction of Havendale, Kings Copse Road and Tanhouse Lane, with further access to Woodstock Close and Ferndown. Along the first section of the bridleway, the routes width had a variance of 1.3m with sections overgrown, as illustrated in **Image 2.3**. Before opening up to a width varying between 1.5 and 2.3 meters, illustrated in **Image 2.4**.

Image 2.3: Bridleway at entry from Kings Copse Avenue.

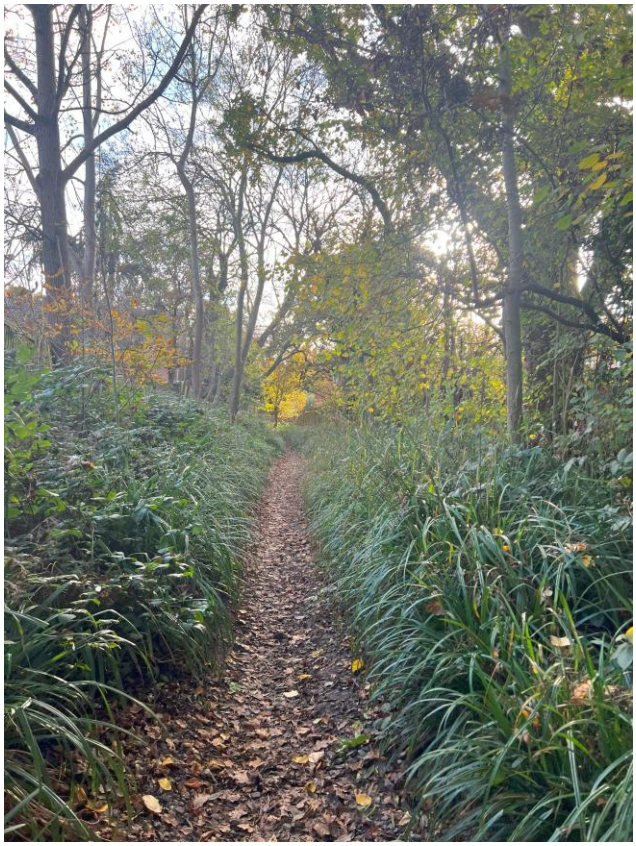
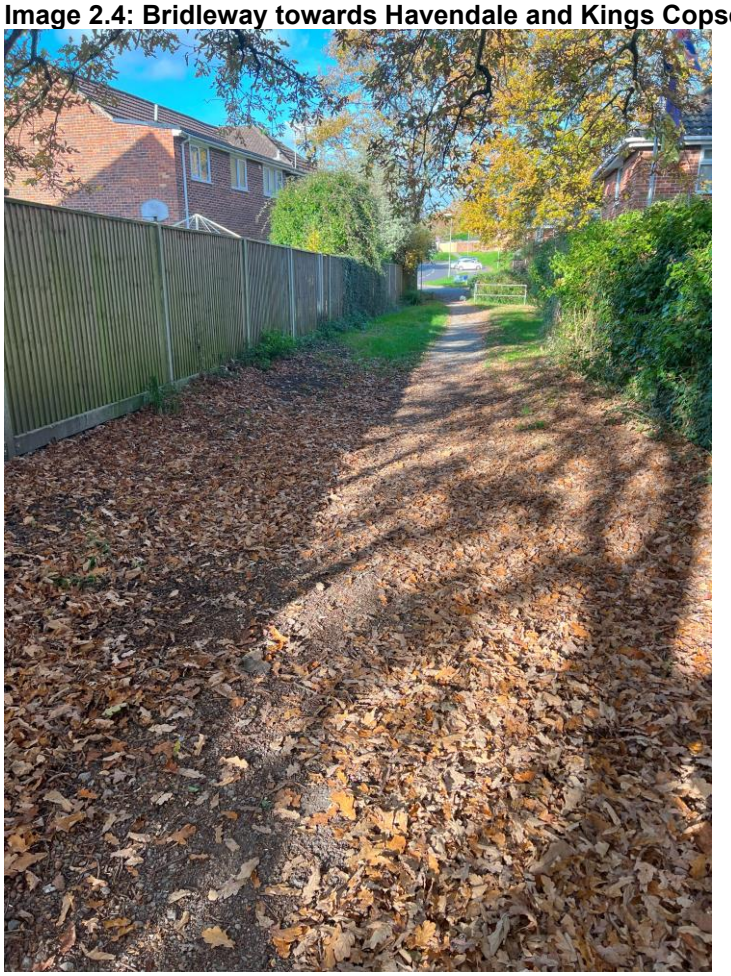


Image 2.4: Bridleway towards Havendale and Kings Copse Road.



As the bridleway meets with Havendale, a dropped kerb was present with no tactile paving to cross and continue walking into Hedge End Village. On the opposite side of the carrigeway imemdiatly facing the brdelway, no dropped kerb or tactile paving was present.

Image 2.5 Havendale



The bridleway is currently the most direct and safe route from the site to Kings Copse Primary School and Hedge End Village. This is due to the existing footway on King Copse Avenue ending at the bus stop on the eastbound side of the carriageway. Whilst there was a dropped kerb and tactile paving for pedestrians to cross, the carriageway is limited to a 40mph speed limit with a slight bend. Making it difficult to gauge a safe crossing from oncoming traffic in a westerly direction. **Image 2.6** demonstrates the conditions observed.

Image 2.6: Kings Copse Avenue



Walking left from the bridleway onto Kings Copse Road provides a route to Kings Copse Primary School. At the junction with Woodstock Close, there were no tactile paving or dropped kerbs, with **Image 2.7** illustrating current walking conditions.

Image 2.7: Kings Copse Road



Continuing north along Kings Copse Road, the entrance of the Tesco Express on the junction of Tanhouse Lane and The Foxgloves, had no tactile paving was observed, illustrated in **Image 2.8**. This local facility generated a number of trips from pedestrians and vehicles when assessing the route.

Image 2.8: Tesco Express, Tanhouse Lane



Approximately 65 meters north along Tanhouse Lane is the junction at Freegrounds Road and Hobb Lane. There is limited visibility when approaching the junction from Freegrounds Road as pictured in **Image 2.9**, however tactile paving and dropped kerbs are situated away from the junction. When crossing, caution had to be taken in case a vehicle suddenly appeared on the carriageway.

Image 2.9: Tanhouse Lane / Freegrounds Road / Hobb Lane Junction



Route 1 continues along Freegrounds Road in a north westerly direction where dropped kerbs and tactile paving allow safe crossing opportunities to the residential roads situated off the route. At the time of the assessment, traffic volume was light.

A stretch of footway between Speggs Walk the public car park situated off Freegrounds Avenue had an irregular width, that was not in keeping with the rest of Freegrounds Avenue that shared a verge alongside the footways. **Image 2.10** illustrates the variance in width of the footway with it being 60m at its narrowest and 1.2m at its widest.

Image 2.10: Freegrounds Road



At the junction of Freegrounds Avenue and St John's Road there are multiple opportunities to navigate around Hedge End Village to access the number of local facilities located here. A controlled pedestrian crossing complimented by pedestrianised traffic islands at the cross roads of Lower Northern Road, St John's Road and Wildern Lane allow safe crossing. Whilst road traffic was heavy, crossing here felt safe at the time of the assessment, road conditions are illustrated in **Image 2.11**.

Image 2.11: Lower Northern Road, St John's Road, Wildern Lane Crossroads.



Route 2: Deer Park Secondary School

From Tanhouse Lane in a northeast direction, well maintained verges as shown in **Image 2.12** are present on either side of the carriageway along Kings Copse Avenue forming an informal walking route, passing the western frontage of the site. The carriageway is limited to 40mph with street lighting present until it terminates at Maypole Roundabout.

The development proposes pedestrian and cycling access situated by Tanhouse Lane and towards the north western corner of the site situated in close proximity to the subway. As this will connect with existing infrastructure, there will be no need for pedestrians to make this journey once the development is complete.

Image 2.12: Kings Copse Avenue



Continuous verges continue for approximately 250m until footways allow for safer walking opportunities after the underpass beneath Kings Copse Avenue marked by two bus stops on either side of the carriageway.

Dropped kerbs and tactile paving are present along Kings Copse Avenue but were slightly obscured due to foliage on the footway, as shown in **Image 2.13.**

Image 2.13: Kings Copse Avenue Roundabout with Duke Road and Sawley Road



Footways further north along Kings Copse Avenue then become intermittent, with only one footway present alongside the carriageway and are well maintained. **Image 2.14** illustrates the observed conditions.

Image 2.14: Kings Copse Avenue Footways



Between the Sovereign Drive and Kings Copse Avenue Roundabout and Kings Copse Avenue, Whitebeam Road and Marls Road Roundabout is a dropped kerb with no tactile paving. This provides connectivity between footpaths serving Marls Road to the East and Sovereign Drive with further walking and cycling opportunities to Freegrounds Infant and Junior Schools. **Image 2.15** highlights this**.**

Image 2.15: Dropped Kerb on Kings Copse Avenue



On approach to the Kings Copse Avenue, Whitebeam Road and Marls Road Roundabout, from the south there is an absence of dropped kerbs and tactile paving. Similarly, this can be seen on the Marls Road exit of the roundabout. In contrast, Kings Copse Road north exit, and Whitebeam do have these carriageways design features for safe crossing. A missing section of footway was identified on Marls Road, where a verge is present, illustrated in **Image 2.16**.

Image 2.16: Marls Road



On approach to Maypole Roundabout, a shared, widened footway for pedestrians and cyclists alike is present, removing the need to cycle on this section of the carriage with heavy traffic flows. Continuing across Maypole Roundabout onto Woodhouse Lane, pedestrian islands allow for staggered crossing opportunities, all of which feature tactile dropped kerbs as shown in **Image 2.17**.

Image 2.17: Maypole Roundabout



Woodhouse Lane has a footway present on either side of the carriage until the access to Shoreland Projects where the eastern footway terminates and briefly terminates the cycle route. Dropped kerbs connect both footways at this point, which is also a point of access to Woodhouse Skatepark and Tennis Courts. However, no tactile paving was present at this section along Woodhouse Lane to cross the carriageway, as illustrated in **Image 2.18**.

Image 2.18: Woodhouse Lane



The western side of the carriageway provides access to a number of residential properties for approximately 180m with a cycle way indicated along this section of Woodhouse Lane, where the former road was situated, as shown in **Image 2.19**. The footway then merges into a shared pedestrian and cycle footway up to the junction with Sika Road.

Image 2.19: Shared footway along Woodhouse Lane



Image 2.20 illustrates the shared cycle and pedestrian footway along Sika Road which is a continuation of the shared footway from Woodhouse Lane. The opposing footway is separated by a verge from the carriageway for pedestrians only.

Image 2.20: Sika Road towards Deer Park



Route 3: Botley Railway Station via Manor Farm County Park

At the southwest of the site, Tanhouse Lane provides a walking route to Norman Rodaway Pavilion and Football Sportsfield to the west. Continuing down Tanhouse Lane, there is access to a handful of properties and working studs, where no vehicular traffic was present. The condition of Tanhouse Lane had a scattered number of potholes but was walkable on foot, with enough space for pedestrians and cyclists to use the carriageway. **Image 2.21** illustrates the conditions observed.

Image 2.21: Tanhouse Lane



Continuing east along Tanhouse Lane the width was observed at 3,4m wide, the surface transitioned into a permeable, compacted gravel surface. Later becoming traffic free, narrowing down to 2m at its narrowest. The footway continued until punching out to the main unnamed road serving River Hamble Country Park and Manor Farm. This section of the route was popular with walkers, **Image 2.22** illustrates the conditions observed.

Image 2.22: Footpath into River Hamble County Park



A shared walking and cycling path runs parallel with the road leading up to Manor Farm. The route taken took a left past the entrance to Manor Farm to the junction with Brook Lane and Church Lane. Additional walking and cycling opportunities can be accessed here towards the River Hamble within the River Hamble County Park, which is well signposted, as shown in **Image 2.23**.

Image 2.23: Manor Farm



A right at the junction, provides the most direct route into Botley on the carriageway, whilst a speed limit of 60mph is in place, vehicles were driving a lot slower than this and were cautious of the likelihood of pedestrians walking. There were verges for pedestrians to move out of the carriageway if needed, as shown in **Image 2.24**.

Image 2.24: Church Lane



A footway is present at the junction with Quay Side before passing over the River Hamble, as shown in **Image 2.25**. Church Lane continues until the junction with the A334, Mill Hill is one way after the junction with Four Acre.

Image 2.25: Church Road Pedestrian Footway



Crossing opportunities at the junction with A334 Mill Hill are limited as shown in **Image 2.26**, however a controlled pedestrian crossing is available approximately 65m west from the junction, providing further access to the local facilities situated in Botley. East along Mill Hill has a footway present on the eastbound side of the carriageway past Botley Mill, illustrated in **Image 2.27**.

Image 2.26: A334 Mill Hill Junction with Church Lane and Winchester Street



Image 2.27: A334 Mill Hill



The route passes past a BP petrol station where a shared pedestrian and cycle footway starts approximately 79 meters before the entrance to the petrol station with tactile paving present. At the junction with Hillsons Road, dropped kerbs without tactile paving were identified, with the cycle way transitioning to an on-road route as highlighted in **Image 2.28**.

Image 2.28: Station Hill junction with Hillsons Road



Arrival to Botley Railway Station is identified by signage with tactile paving and dropped kerbs allowing entry into the access road for the station, shared with Aggregate Industries, where the presence of HGVs was observed. A walkway indicated by pained lines on the road allow a designated space for individuals using the railway car park. Along with a painted crossing that was weathered and faded illustarted in **Image 2.29**. Access to both platforms can be achieved via an internal footbridge within the station.

Image 2.29 Botely Railway Station



2.8. Walking, cycling and horse-riding survey data (Large schemes only)

A TRICS multi-modal trip generation has been undertaken to forecast the likely pedestrian and cyclist associated with the full development build out. The likely demand is summarised in **Table 2.3**.

Table 2.3: Pedestrian / Cycle Demand. Source: TRICS / Consultant Calculations.

Hour Starting	Pedestrian	Cyclist	Total
07:00	14	4	18
08:00	41	4	45

Hour Starting	Pedestrian	Cyclist	Total
09:00	21	2	23
10:00	15	2	17
11:00	17	1	18
12:00	15	1	16
13:00	11	1	12
14:00	14	1	15
15:00	37	4	41
16:00	22	2	24
17:00	20	2	22
18:00	17	2	19

2.9. Liaison with local user groups and wider public (Large schemes only)

Not applicable, a local public consultation has not taken place.

3. User Opportunities (Improvements)

3.1. General

- Provide way-finding signage from the site via the route assessed through River Hamble County Park / Manor Farm to Botley.
- The development will provide the widening and resurfacing of the bridleway north of the site.

3.2. Walking Specific Opportunities

- Provide tactile paving and dropped kerbs at the Kings Copse Road junction with Woodstock Close.
- Provide tactile paving at the dropped kerb crossing along Kings Copse Avenue.
- Provide tactile paving and dropped kerbs at the Kings Copse Avenue, Whitebeam Road and Marls Road Roundabout.

3.3. Cycling Specific Opportunities

- Provide on or off road cycle markings from the site's frontage on King Copse Avenue to connect with shared cycleway on Maypole Roundabout

3.4. Horse-Riding Specific Opportunities

- The development will provide the widening and resurfacing of the bridleway north of the site.

4. Walking, Cycling and Horse-Riding Assessment Team Statement

Lead Assessor

Name & Title:	Ollie Thompson
Title/Position:	Associate
Organisation:	i-Transport LLP
Signature:	
Date:	19th September 2025

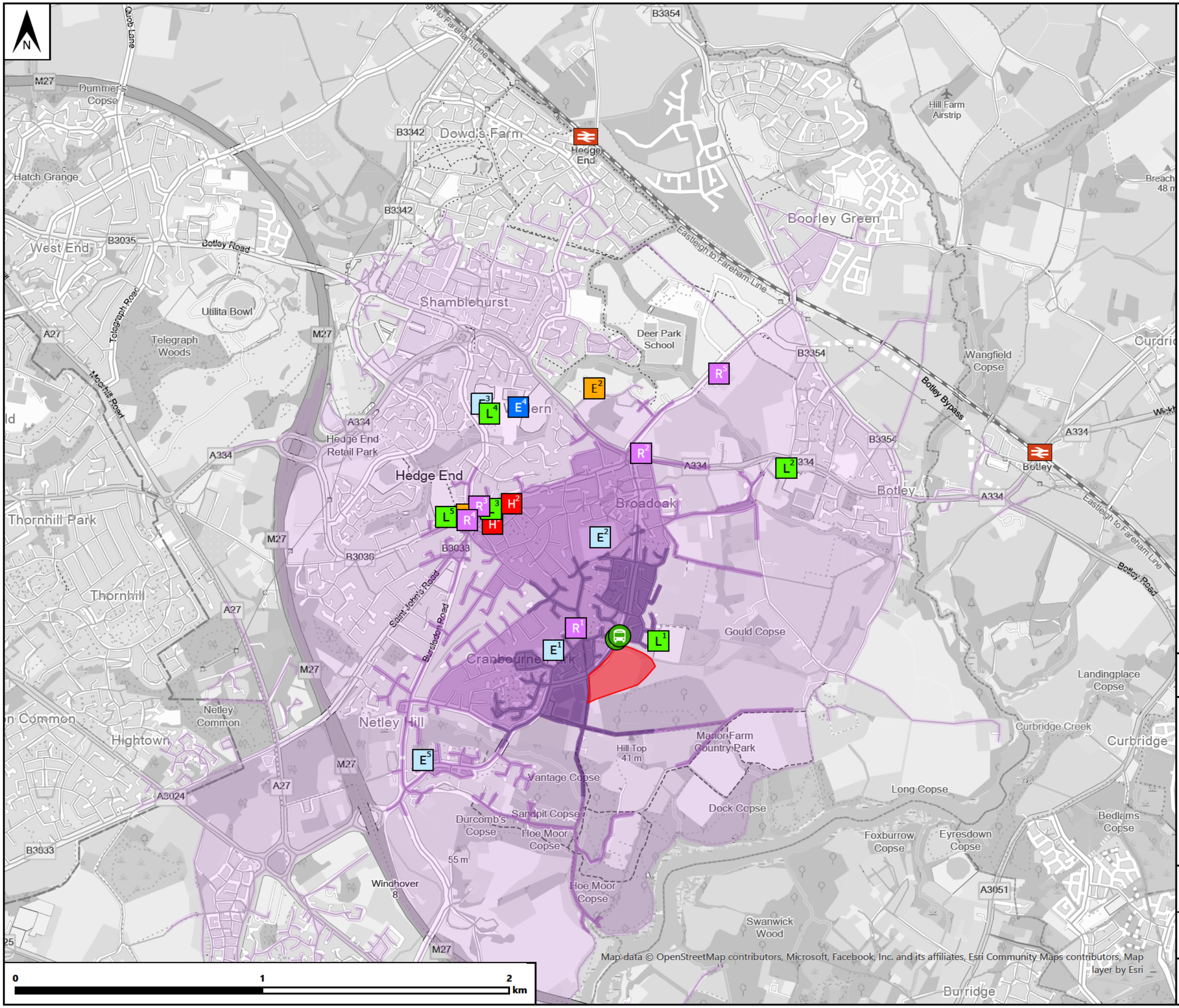
Scheme Client Team Leader

As the Scheme Client Team Leader, I confirm that the assessment has been undertaken at the appropriate stage of the highway scheme development.

I confirm that in my professional opinion the appointed Lead Assessor has the appropriate experience for the role making reference to the expected competencies contained in GG 142.

Name & Title:	
Title/Position:	
Organisation:	
Signature:	
Date:	

FIGURES



Key

- Site Boundary
- Bus Stop
- Botley Railway Station
- Hedge End Railway Station
- 3,200m Walking Distance
- 1,600m Walking Distance
- 800m Walking Distance

Education

- E1 Kings Copse Primary School
- E2 Freegrounds Infant School
- E3 Shamblehurst Primary School
- E4 Wildern Secondary School
- E5 Clearys Family Nursery

Health

- H1 Hedge End Dental Surgery
- H2 Hedge End Medical Centre

Employment

- E1 Hedge End Village Centre
- E2 Grange Drive

Leisure

- L1 Little Hatts Playground
- L2 Botley Community Centre
- L3 Barleycorn Public House
- L4 The Berry Theatre
- L5 Hedge End Library

Retail

- R1 Tesco Express
- R2 Texaco
- R3 Co-op
- R4 Hedge End Post Office
- R5 Hillier Garden Centre

i-Transport

Building 1000,
Lakeside North Harbour Western Road,
Portsmouth, Hampshire, PO6 3EZ

Tel: 0331 6300366

www.i-transport.co.uk

Title: **Local Accessibility Plan**

Project: **Kings Copse Avenue, Hedge End**

Project Number:	Figure Number:	Revision:
ITS19785	Figure 4	-

Appendix A – Illustrative Masterplan

North boundary elevation

East boundary elevation

West boundary elevation

South boundary elevation

A

B

C

D

E

F

Notes

1. This drawing is the copyright of MH Architects Ltd
2. Do not scale this drawing except for Local Authority planning purposes
3. All dimensions must be checked on site by the contractor prior to commencement of the works.

Client Approval

X	A - Approved
X	B - Approved with comments
X	C - Do not use

Rev.	Revision Note/Purpose of Issue	Drw By	Date	Chk By	Date
A	Issued for Information [First Issue]	MW	16.11.23	HJG	16.11.23

Schedule of accommodation

plot	type house	sqm GIA	*ac ght	BBC frame
1	4B6P	129.7	3.0	LU
2	4B6P	129.7	3.0	FF
3	4B6P	129.7	3.0	FF
4	4B6P	129.7	3.0	FF
5	4B6P	129.7	3.0	LU
6	4B6P	129.7	3.0	FF
7	2B4P	79.8	2.0	BB
8	2B4P	79.8	2.0	BB
9	4B6P	129.7	3.0	LU
10	3B5P	102.7	2.5	LV
11	2B4P	79.8	2.0	BB
12	2B4P	79.8	2.0	BB
13	4B6P	129.7	3.0	FF
14	3M5P	102.7	2.5	LV
15	2B4P	79.8	2.0	BB
16	2B4P	79.8	2.0	BB
17	3B4P	102.7	2.5	LV
18	3M5P	102.7	2.5	LV
19	2B4P	79.8	2.0	BB
20	2B4P	79.8	2.0	BB
21	2B4P	79.8	2.0	BB
22	2B4P	79.8	2.0	BB
23	2B4P	79.8	2.0	BB
24	2B4P	79.8	2.0	BB
25	2B4P	79.8	2.0	BB
26	3B5P	102.5	2.0	GG
27	3B5P	102.5	2.0	GG
28	3B5P	102.5	2.0	GG
29	3B5P	102.5	2.0	GG
30	3B5P	102.5	2.0	GG
31	4B6P	129.7	3.0	LU
32	4B6P	129.7	3.0	FF
33	4B6P	129.7	3.0	FF
34	4B6P	129.7	3.0	FF
W	3M5P	114.9	2.5	LV
35	2B4P	79.8	2.0	BB
36	3B5P	119.6	2.5	LV
37	3B5P	119.6	2.5	LV
38	3B4P	119.6	2.5	LV
39	3B5P	119.6	2.5	LV
40	3B5P	119.6	2.5	LV
41	3B5P	119.6	2.5	LV
42	3B5P	119.6	2.5	LV
43	3B5P	119.6	2.5	LV
44	3B5P	119.6	2.5	LV
45	3B5P	119.6	2.5	LV
46	3B5P	119.6	2.5	LV
47	3B5P	119.6	2.5	LV
48	3B5P	119.6	2.5	LV
49	3B5P	119.6	2.5	LV
50	3B5P	119.6	2.5	LV
51	3B5P	119.6	2.5	LV
52	3B5P	119.6	2.5	LV
53	3B5P	119.6	2.5	LV
54	3B5P	119.6	2.5	LV
55	3B5P	119.6	2.5	LV
56	3B5P	119.6	2.5	LV
57	3B5P	119.6	2.5	LV
58	3B5P	119.6	2.5	LV
59	3B5P	119.6	2.5	LV
60	3B5P	119.6	2.5	LV
61	3B5P	119.6	2.5	LV
62	3B5P	119.6	2.5	LV
63	3B5P	119.6	2.5	LV
64	3B5P	119.6	2.5	LV
65	3B5P	119.6	2.5	LV
66	3B5P	119.6	2.5	LV
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81	3B5P	119.6	2.5	LV
82	3B5P	119.6	2.5	LV
83	3B5P	119.6	2.5	LV
84	3B5P	119.6	2.5	LV
85	3B5P	119.6	2.5	LV
86	3B5P	119.6	2.5	LV
87	3B5P	119.6	2.5	LV
88	3B5P	119.6	2.5	LV
89	3B5P	119.6	2.5	LV
90	3B5P	119.6	2.5	LV
91	3B5P	119.6	2.5	LV
92	3B5P	119.6	2.5	LV
93	3B5P	119.6	2.5	LV
94	3B5P	119.6	2.5	LV
95	3B5P	119.6	2.5	LV
96	3B5P	119.6	2.5	LV
97	3B5P	119.6	2.5	LV
98	3B5P	119.6	2.5	LV
99	3B5P	119.6	2.5	LV
100	3B5P	119.6	2.5	LV
101	3B5P	119.6	2.5	LV
102	3B5P	119.6	2.5	LV
01	2B4P	79.8	2.0	BB
02	2B4P	79.8	2.0	BB
03	2B4P	79.8	2.0	BB
04	2B4P	79.8	2.0	BB
05	2B4P	79.8	2.0	BB
06	2B4P	79.8	2.0	BB
07	2B4P	79.8	2.0	BB
08	2B4P	79.8	2.0	BB
09	2B4P	79.8	2.0	BB
10	2B4P	79.8	2.0	BB
11	2B4P	79.8	2.0	BB
12	2B4P	79.8	2.0	BB
13	2B4P	79.8	2.0	BB
14	2B4P	79.8	2.0	BB
15	2B4P	79.8	2.0	BB
16	2B4P	79.8	2.0	BB
17	2B4P	79.8	2.0	BB
18	2B4P	79.8	2.0	BB
19	2B4P	79.8	2.0	BB
20	2B4P	79.8	2.0	BB
21	2B4P	79.8	2.0	BB
22	2B4P	79.8	2.0	BB
23	2B4P	79.8	2.0	BB
24	2B4P	79.8	2.0	BB
25	2B4P	79.8	2.0	BB
26	3B5P	102.5	2.0	GG
27	3B5P	102.5	2.0	GG
28	3B5P	102.5	2.0	GG
29	3B5P	102.5	2.0	GG
30	3B5P	102.5	2.0	GG
31	3B5P	102.5	2.0	GG
32	3B5P	102.5	2.0	GG
33	3B5P	102.5	2.0	GG
34	3B5P	102.5	2.0	GG

Schedule of accommodation

plot		type	sqm GIA			
		flat		height		form
00	B0		70.4	GF		
01	B1	1B2P	50.1	GF		
02	B2	2B3P	70.9	GF		WACH
03	B3	2B4P	70.1	GF		
04	B4	1B2P	50.3	GF		
05	B5	2B4P	74.4	GF		
06	B6	1B2P	50.1	FF		
07	B7	2B4P	70.1	FF		
08	B8	1B2P	50.3	FF		
09	B9	2B4P	74.4	FF		
010	B10	2B4P	74.4	FF		
011	B11	2B4P	70.4	FF		
012	B12	1B2P	50.1	SF		
013	B13	2B4P	70.1	SF		
014	B14	2B4P	70.1	TF		
015	B15	1B2P	50.3	SF		
016	B16	2B4P	74.4	SF		
017	B17	2B4P	70.4	SF		
018	B18	2B4P	70.4	TF		
019	B19	2B4P	70.1	TF		
020	B20	1B2P	50.3	TF		
021	B21	2B4P	70.4	TF		
00	A0		50.3	GF		
01	A1	1B2p	53.1	GF		
02	A2	1B2p	50.3	GF		
03	A3	1B2p	50.3	GF		
04	A4	1B2p	50.3	GF		
05	A5	3M5p	70.4	GF		WACH
06	A6	1B2p	50.1	GF		
07	A7	1B2p	50.3	FF		
08	A8	1B2p	53.1	FF		
09	A9	1B2p	50.3	FF		
010	A10	1B2p	50.3	FF		
011	A11	1B2p	50.3	FF		
012	A12	2M4p	70.4	FF		
013	A13	1B2p	50.1	FF		
014	A14	1B2p	50.3	SF		
015	A15	1B2p	53.1	SF		
016	A16	1B2p	50.3	SF		
017	A17	1B2p	50.3	SF		
018	A18	1B2p	50.3	SF		
019	A19	3M5p	70.1	SF		
020	A20	1B2p	50.1	SF		
021	A21	2M4p	74.4	TF		
022	A22	2M4p	70.4	TF		
023	A23	1B2p	50.3	TF		
024	A24	2M4p	70.1	TF		

Site Plan 1:500 @ A1

Client

Eastleigh Borough Council

Job title

Kings Copse Avenue

Drawing title

Proposed Site Plan

Drawn	Date	Checked	Date	Scale at A1
JDH	JUNE 25	HJG	JUNE 25	1:500

Job No.	Pro.	Org.	Zone	Level	Type	Role	No.	Rev.
22-148	KCA	MHA	ZZ	XX	DR	A	0003	C01

Purpose of Issue

PLANNING

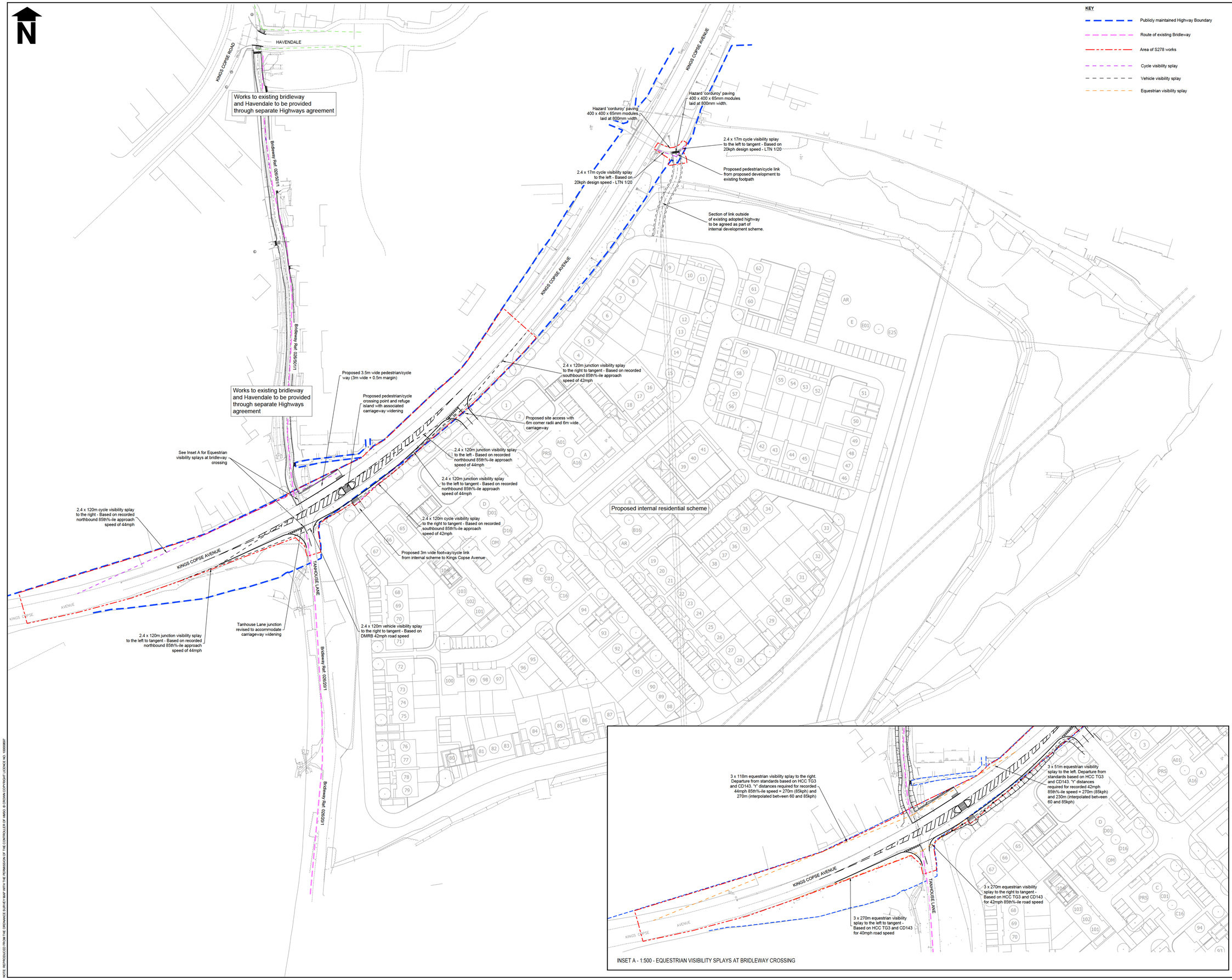
Ground Floor Bicentennial Building
Southern Gate Chichester
West Sussex PO19 8EZ

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Registered in England No.1994233

ARCHITECTS

APPENDIX E. PEP Site Access Arrangements



KEY

- Publicly maintained Highway Boundary
- Route of existing Bridleway
- Area of S278 works
- Cycle visibility splay
- Vehicle visibility splay
- Equestrian visibility splay

NOTES

1. Do not scale from this drawing.
2. All errors, omission and discrepancies to be reported to the Engineer and Peter Evans Partnership Ltd immediately.
3. Topographic survey provided by Siteline. drawing ref. 644KC02C dated October 2023
4. The topographic survey has been drawn about an Ordnance Survey grid.
5. All levels are in metres and relate to an Ordnance Survey derived from GPS.
6. All setting out details and proposed levels based on topographic survey co-ordinate system.
7. Contractor to verify location of existing services prior to commencement of any works.
8. Contractor to confirm location of services to isolate / divert / reconnect.
9. All electrical equipment removed by the contractor is to be disconnected and made safe by qualified personnel prior to removal and/or commencement of any works.
10. Contractor to carry out PAK testing for presence of Coal Tar on all bitumen areas within the construction area. Suitable remediation/removal and disposal measures to be undertaken be the contractor should the presence of Coal Tar be found
11. All highway construction details to be in accordance with Hampshire County Council's Technical Guidance Notes and Highways England "Manual of Contract Documents for Highway Works" (MCHW). Classified roads shall be designed in accordance with CD series of Documents within DMRB
12. All covers within the highway (including private chambers) shall be in accordance with CD 534 and BS EN 124, stamped to indicate accreditation by BSI, LRQA or SGSY and all those within the carriageway shall be grade D400
13. All necessary steps shall be taken to provide temporary drainage outlets to prevent ponding of surface water on lower carriageway layers until the completion of the pavement and it's permanent drainage.
14. All road marking to be thermoplastic paint. Glass beads added to reflectorised markings, where required.
15. All road markings and signs to be in accordance with The Traffic Signs Regulations and General Directions 2016 and its subsequent amendments.
16. All signs, posts and foundations designed using SignPlot software. Foundation design based on PD 6547.
17. Contractor to verify spelling/consistency on all signs and road markings prior to painting/procurement. All errors/discrepancies to be reported to Peter Evans Partnership Ltd. immediately.
18. Layout of tactile paving to be in accordance with "Guidance on the Use of Tactile Paving" by the Department for Transport
19. Design details subject to approval by Hampshire County Council. Details may change.
20. All street lighting to be in accordance with Hampshire County Council's Technical Guidance Notes for street lighting.
21. For Site Location Plan see drawing no. 3743.01
22. For Existing Site Detail Plan see drawing no. 3743.02
23. For Overall Scheme Plan see drawing no. 3743.03
24. For Site Clearance Plan See drawing no. 3743.04
25. For Proposed General Arrangement see drawing no. 3743.05
26. For Proposed Levels and Setting Out Details see drawing no. 3743.06
27. For Proposed Drainage Plan see drawing no. 3743.07
28. For Proposed Surfacing Plan See drawing no. 3743.08
29. For Proposed Geometry Plan see drawing no. 3743.09
30. For Proposed Signs and Road Markings Plan see drawing no. 3743.10
31. For Location of Existing Services see drawing no. 3743.11
32. For Cross Sections see drawing no. 3743.12
33. For Longitudinal Sections see drawing no. 3743.13
34. For Typical Construction Details see drawing no. 3743.14
35. For Land Plan see drawing no. 3743.15
36. For Site Extent Plan see drawing no. 3743.16
37. For proposed lighting design see MMA drawing no. TBC

STAGE 4 DESIGN RISK ASSESSMENT FOR SITE ACCESS, CARRIAGEWAY WIDENING, CROSSING POINT AND NEW CYCLE LINK

CONSTRUCTION PHASE RISK ASSESSMENT

ACTIVITY	HAZARD	RISK ASSESSMENT H	M	L
Working Adjacent to Road	Working adjacent to traffic Kings Copse Avenue Traffic flows, adverse weather/ survey conditions, intrusion of runaway vehicles, equipment/ materials dropped from overhead, falls into traffic route, collisions between construction plant, highway traffic & pedestrians, noise, vibration, dust, vehicle fumes.	X<	>X	
Excavation and protection of existing services	Electrocution/ disruption of services. Underground HV/LV cables, underground telecoms, underground fibre optic, underground storm water and water main.	X<	>X	

INSET A - 1:500 - EQUESTRIAN VISIBILITY SPLAYS AT BRIDLEWAY CROSSING

pep

Peter Evans Partnership

Transport Planning & Highway Consultants

Client
EASTLEIGH BOROUGH COUNCIL

Job
KINGS COPSE AVENUE, HEDGE END

Drawing Title
S278 WORKS - OVERALL SCHEME PLAN

Scale @ A0	Date	Drawn by	Checked by
1:500	20.05.25	LS	MEC

Drawing Number 3743.03

Issue Status FOR PRELIMINARY TECHNICAL APPROVAL

© Peter Evans Partnership

NOTE: REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HMSO. © CROWN COPYRIGHT LICENCE NO. 100059897

APPENDIX F. HCC TG3 Calculator

Stopping Sight Distance Calculator

Formula for calculating SSD (from Manual for Streets 2): $SSD = vt + v2/2(d+0.1a)$

v = Speed of vehicle (m/s)
t = driver perception-reaction time (seconds)
d = deceleration rate (m/s)
a = longditudinal gradient (%)

Fill in the white boxes only

Enter the vehicle 85%ile speed below

41.83 mph 18.700 m/s

v = 18.700 m/s

t = 2 taken from MfS2 table 10.1

d = Vehicle type

a = 0 +ve for upgrades and -ve for downgrades

SSD = #VALUE! m

SSD adjusted for bonnet length (MfS only) = #VALUE! m (SSD + 2.4m)

Conversions

mph to kph 0.0

kph to mph 0.0

Based on Table 10.1 MfS2

Design speed	Vehicle Type	Reaction Time t (s)	Deceleration rate d (m/s) (ie factor x 9.81)	Standard
60kph and below	Light vehicles only	1.5	0.450 g	MfS2
	Buses and/or HGV's greater than 5% of the traffic	1.5	0.375 g	MfS2
Above 60kph	All vehicles (≤64kph)	2	0.375 g (Absolute minimum)	CD 109
	All vehicles (>64kph)	2	0.250 g (Desirable minimum)	CD 109

NOTE: The adjustment for the bonnet length is only required on the MfS SSD as the MfS formula is calculated from drivers eye. To avoid a collision, the bonnet length must be added.

Stopping Sight Distance Calculator

Formula for calculating SSD (from Manual for Streets 2): $SSD = vt + v2/2(d+0.1a)$

v = Speed of vehicle (m/s)
t = driver perception-reaction time (seconds)
d = deceleration rate (m/s)
a = longditudinal gradient (%)

Fill in the white boxes only

Enter the vehicle 85%ile speed below

44.18 mph 19.750 m/s

v = 19.750 m/s

t = 2 taken from MfS2 table 10.1

d = 2.453 Vehicle type: All vehicles (>64kph)

a = +ve for upgrades and -ve for downgrades

SSD = 119 m

SSD adjusted for bonnet length (MfS only) = 121 m (SSD + 2.4m)

Conversions

mph to kph 0.0

kph to mph 0.0

Based on Table 10.1 MfS2

Design speed	Vehicle Type	Reaction Time t (s)	Deceleration rate d (m/s) (ie factor x 9.81)	Standard
60kph and below	Light vehicles only	1.5	0.450 g	MfS2
	Buses and/or HGV's greater than 5% of the traffic	1.5	0.375 g	MfS2
Above 60kph	All vehicles (≤64kph)	2	0.375 g (Absolute minimum)	CD 109
	All vehicles (>64kph)	2	0.250 g (Desirable minimum)	CD 109

NOTE: The adjustment for the bonnet length is only required on the MfS SSD as the MfS formula is calculated from drivers eye. To avoid a collision, the bonnet length must be added.

APPENDIX G. HCC Abnormal Loads Email

Dan Godwin

From: Abnormal Loads Hampshire CC <abnormal.loads@hants.gov.uk>
Sent: 30 July 2024 22:17
To: Steve Jenkins
Subject: RE: Kings Copse Avenue, Hedge End

CAUTION: This message originated outside of i-Transport. Use caution when opening attachments, clicking links or responding to requests for information.

Good evening,
It is not normally used as a regular route – though it has been used once as part of an M27 diversion route.
There is a currently an unadopted structure along there which our Structures Team do not let hauliers use as there is no current data for it.
Regards,

Dave Longworth
Engineering Assistant
Safer Roads and Parking Team
Universal Services
EII Court West Floor 2
Public.notices@hants.gov.uk
44 370 779 3673
PLEASE NOTE MY WORK DAYS ARE MONDAY TO THURSDAY

From: Steve Jenkins <steve.jenkins@i-transport.co.uk>
Sent: Tuesday, July 30, 2024 8:09 PM
To: Abnormal Loads Hampshire CC <abnormal.loads@hants.gov.uk>
Subject: Kings Copse Avenue, Hedge End

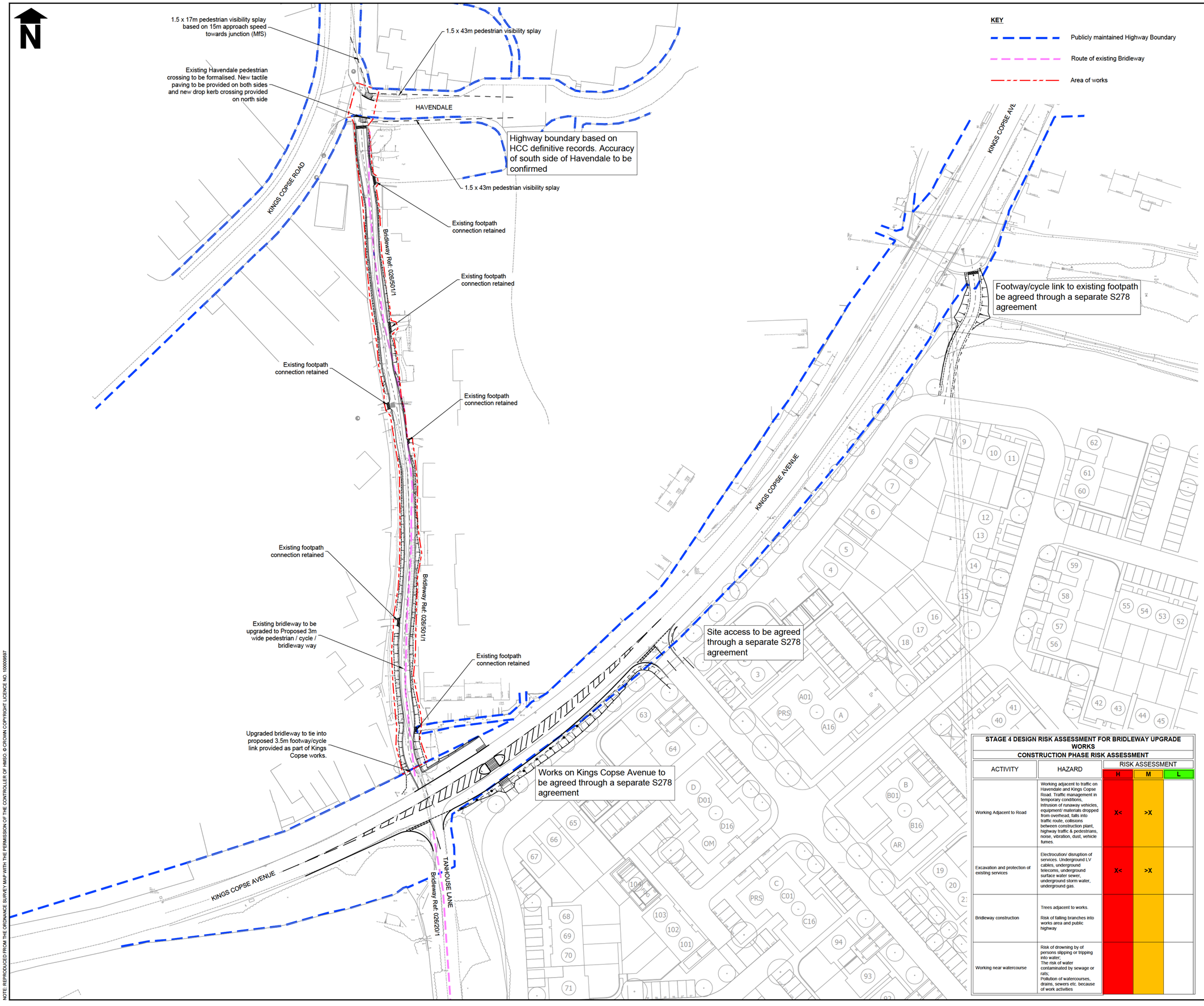
Caution: This is an external email and could contain malicious content. Do not open any links or attachments if you were not expecting them. If the e-mail looks suspicious, please report via the 'Report Phishing' Button found on your toolbar.

Hi – could you please let me know if Kings Copse Avenue in Hedge End is an Abnormal Load Route?

Regards Steve

Steve Jenkins
Partner
for i-Transport LLP
E: steve.jenkins@i-transport.co.uk W: www.i-transport.co.uk

APPENDIX H. PEP Bridleway Improvement



KEY

- Publicly maintained Highway Boundary
- Route of existing Bridleway
- Area of works

NOTES

1. Do not scale from this drawing.
2. All errors, omission and discrepancies to be reported to the Engineer and Peter Evans Partnership Ltd immediately.
3. Topographic survey provided by Siteline. drawing ref. 644KC02C dated October 2023
4. The topographic survey has been drawn about an Ordnance Survey grid.
5. All levels are in metres and relate to an Ordnance Survey derived from GPS.
6. All setting out details and proposed levels based on topographic survey co-ordinate system.
7. Contractor to verify location of existing services prior to commencement of any works.
8. Contractor to confirm location of services to isolate / divert / reconnect.
9. All electrical equipment removed by the contractor is to be disconnected and made safe by qualified personnel prior to removal and/or commencement of any works
10. Contractor to carry out PAK testing for presence of Coal Tar on all bitumen areas within the construction area. Suitable remediation/removal and disposal measures to be undertaken be the contractor should the presence of Coal Tar be found
11. All highway construction details to be in accordance with Hampshire County Council's Technical Guidance Notes and Highways England "Manual of Contract Documents for Highway Works' (MCHW). Classified roads shall be designed in accordance with CD series of Documents within DMRB
12. All covers within the highway (including private chambers) shall be in accordance with CD 534 and BS EN 124, stamped to indicate accreditation by BSI, LRQA or SGSY and all those within the carriageway shall be grade D400
13. All necessary steps shall be taken to provide temporary drainage outlets to prevent ponding of surface water on lower carriageway layers until the completion of the pavement and it's permanent drainage.
14. All road marking to be thermoplastic paint. Glass beads added to reflectorised markings, where required.
15. All road markings and signs to be in accordance with The Traffic Signs Regulations and General Directions 2016 and its subsequent amendments.
16. All signs, posts and foundations designed using SignPlot software. Foundation design based on PD 6547.
17. Contractor to verify spelling/consistency on all signs and road markings prior to painting/procurement. All errors/discrepancies to be reported to Peter Evans Partnership Ltd. immediately.
18. Layout of tactile paving to be in accordance with "Guidance on the Use of Tactile Paving" by the Department for Transport
19. Design details subject to approval by Hampshire County Council. Details may change.
20. All street lighting to be in accordance with Hampshire County Council's Technical Guidance Notes for street lighting.
21. For Site Location Plan see drawing no. 3743.20
22. For Existing Site Detail Plan see drawing no. 3743.21
23. For Overall Scheme Plan see drawing no. 3743.22
24. For Site Clearance Plan See drawing no. 3743.23
25. For Proposed General Arrangement see drawing no. 3743.24
26. For Proposed Levels and Setting Out Details see drawing no. 3743.25
27. For Proposed Surfacing Plan See drawing no. 3743.26
28. For Proposed Geometry Plan see drawing no. 3743.27
29. For Proposed Signs and Road Markings Plan see drawing no. 3743.28
30. For Location of Existing Services see drawing no. 3743.29
31. For Cross Sections see drawing no. 3743.30
32. For Longitudinal Sections see drawing no. 3743.31
33. For Typical Construction Details see drawing no. 3743.32
34. For Land Plan see drawing no. 3743.33
35. For Site Extent Plan see drawing no. 3743.34

STAGE 4 DESIGN RISK ASSESSMENT FOR BRIDLEWAY UPGRADE WORKS

CONSTRUCTION PHASE RISK ASSESSMENT

ACTIVITY	HAZARD	RISK ASSESSMENT H	M	L
Working Adjacent to Road	Working adjacent to traffic on Havendale and Kings Copse Road. Traffic management in temporary conditions, Intrusion of runaway vehicles, equipment/ materials dropped from overhead, falls into traffic route, collisions between construction plant, highway traffic & pedestrians, noise, vibration, dust, vehicle fumes.	X<	>X	
Excavation and protection of existing services	Electrocution/ disruption of services. Underground LV cables, underground telecoms, underground surface water sewer, underground storm water, underground gas.	X<	>X	
Bridleway construction	Trees adjacent to works. Risk of falling branches into works area and public highway			
Working near watercourse	Risk of drowning by of persons slipping or tripping into water; The risk of water contaminated by sewage or rats; Pollution of watercourses, drains, sewers etc. because of work activities			

pep

Peter Evans Partnership

Transport Planning & Highway Consultants

Client
EASTLEIGH BOROUGH COUNCIL

Job
KINGS COPSE AVENUE, HEDGE END

Drawing Title
BRIDLEWAY WORKS - OVERALL SCHEME PLAN

Scale @ A1	Date	Drawn by	Checked by
1:500	07.05.25	LS	MEC

Drawing Number 3743.23

Issue Status FOR PRELIMINARY TECHNICAL APPROVAL

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APPENDIX I. Stage 1 RSA – Site Access Arrangements

KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE

Stage 1 Road Safety Audit

J190597

Eastleigh Borough Council

18th August 2025

GR 119
Grange Transport Consulting

Tel: +44 (0)7912 160 303 Email: info@grange-transport.co.uk Web:www.grange-transport.co.uk
Grange Transport Consulting Ltd registered in England and Wales No.13643298
Registered office: 119 Grange Road, Banbury, Oxfordshire, OX16 9AT

Kings Copse Avenue, Hedge End, Hampshire

Stage 1 Road Safety Audit

J190597

August 2025

Client: i-Transport LLP

Scheme:	Kings Copse Avenue, Hedge End, Hampshire		
Issue Date:	18.08.25		
Document reference and Revision:	250818_J190597_Hedge End_RSA1_Final.docx Rev 1.0		
Prepared by:	Wing Lee	Date:	25.07.25
Checked by:	Ian Medd	Date:	29.07.25
Authorised by:	Wing Lee	Date:	18.08.25
Status:	For Issue	Date:	18.08.25

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Appendix C Problem Location Plan

1. Introduction

1.1 General

1.1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on Friday 25 July 2025. The audit was undertaken on behalf of Eastleigh Borough Council, in regard to the site accessing works for a residential development from Kings Copse Avenue in Hedge End, Hampshire.

1.1.2 The audit has been requested by Dan Godwin of i-Transport LLP. An Audit Brief has been supplied. The Audit Team were approved by Ollie Thompson of i-Transport LLP.

1.1.3 The Road Safety Audit team comprised of the following individuals:

Wing Lee BEng(Hons), PGCert, MSoRSA, HE Cert Comp, MCIHT, MIHE
Audit Team Leader

Ian Medd MCIHT, FSoRSA
Audit Team Member

Jennie Lee MCIHT
Audit Team Observer

1.1.4 A site visit was undertaken by the Audit Team on Wednesday 23 July 2025, between the hours of 11:20 and 12:20. The weather was overcast and warm, and the road surface was dry. The traffic levels passing the site was moderate, whilst minimal levels of pedestrians and cyclists passed the site. No horses/riders were observed during the site visit.

1.2 Site Location

1.2.1 The site comprises of a field bounded: to the north by Kings Copse Avenue; to the west by Tanhouse Lane; to the east by residential dwellings; and to the south by trees, located at the southeastern extent of Hedge End, Hampshire. The site area considered by this RSA includes a section of Kings Copse Avenue approximately 200 metres in length. A site location plan is shown at **Appendix A**.

1.3 Strategic Decisions

1.3.1 The Audit Team has not been advised of any strategic decisions made by the planning or highway authorities in relation to the development scheme.

1.4 Highway description

1.4.1 Kings Copse Avenue is a single carriageway road and subject to a 40mph speed limit. It has a width of 7.3 metres and verges on both sides. Street lighting is present along the southern side of the road. Kings Copse Avenue forms part of a two-way bus route.

1.4.2 The horizontal alignment of Kings Copse Avenue has a left-hand bend in the northbound direction, whilst the vertical alignment is generally level.

1.4.3 A review of the Hampshire Road Traffic Collisions website indicates that two Slight severity collisions were recorded along Kings Copse Avenue in the vicinity of the site between 01/01/19 and 31/12/23.

1.4.4 One Slight severity collision occurred at the Kings Copse Avenue/Tanhouse Lane junction involving two vehicles. Another Slight severity collision occurred at the bus stop to the north of the site and involved three vehicles.

1.5 Previous Road Safety Audits

1.5.1 The Audit Team has not been made aware of any previous Road Safety Audits carried out for the site accessing proposals.

1.6 Scheme proposals

1.6.1 The proposals submitted for this Stage 1 Road Safety Audit relate only to the following site access works in association with the 200 residential dwelling development, as shown on the plans listed at Appendix B:

- New site access junction;
- Carriageway widening and new pedestrian/cycle refuge facility;
- New shared-use routes;
- New tactile paving;
- New and amended kerbing;
- New and amended road markings; and
- Junction, cycle, and equestrian visibility splays.

1.7 Departures from Standards

1.7.1 Departures from standards have been indicated for the equestrian visibility splays proposed from the bridleway 026/501/1 and bridleway 026/20/1 (Tanhouse Lane).

1.8 Road Safety Audit

1.8.1 The Road Safety Audit has been carried out in accordance with the principals of the National Highways document, as described in the Design Manuals for Roads and Bridges (DMRB) standard - GG119 Road Safety Audit.

1.8.2 The Audit Team has examined and reported only on the road safety implications of the scheme as presented by Peter Evans Partnership and i-Transport LLP, and has not examined / verified the compliance of the designs to any other criteria. The Audit Team may occasionally refer to design standards without touching on technical audit to clearly explain a safety problem or the recommendation to resolve a problem.

1.8.3 The Road Safety Audit includes a desktop study where all documents provided by the Design Team have been reviewed. A list of the documents and drawings submitted for this Stage 1 Road Safety Audit can be found at Appendix B.

1.8.4 The submitted design drawings have been annotated to show the location of problems identified during this Stage 1 Road Safety Audit, which are shown at Appendix C.

1.8.5 Recommendations offered within this report should not be regarded as prescriptive. There may be equally satisfactory or superior alternative solutions to the identified problems. The Audit Team will be pleased to consider any alternatives if required.

2. Problems identified from this audit

2.1 Kings Copse Avenue

2.1.1 The following provides details of the problems identified during this Stage 1 Road Safety Audit.

Problem 1	
Location	West of refuge – northern side
Summary	Risk of collisions with cycles



A cycle visibility splay (2.4m x 120m) is shown from the northern side of the crossing, and to the west along Kings Copse Avenue. It appears that the visibility splay encroaches onto a fenced area. This will obstruct the visibility splay, which may result in eastbound vehicles colliding with cycles using the crossing facility.

Recommendation	Ensure appropriate visibility splays are achievable.

Problem 2	
Location	Bridleways
Summary	Risk of collisions with horses
It is noted that the achievable splay will be greater than shown, due to wrong 'pinch point' utilised. Nonetheless, the equestrian visibility splays at the bridleway appear to be significantly below that described in the guidelines, particularly to the northeast. This may cause horses/riders insufficient time to assess approaching traffic when negotiating King Copse Avenue or for approaching traffic to detect horses. This may result in collisions between horses and vehicles.	
Recommendation	Provide appropriate measures to highlight the presence of the bridleway to approaching vehicles.

Problem 3	
Location	Tanhouse Lane
Summary	Risk of collisions with pedestrians





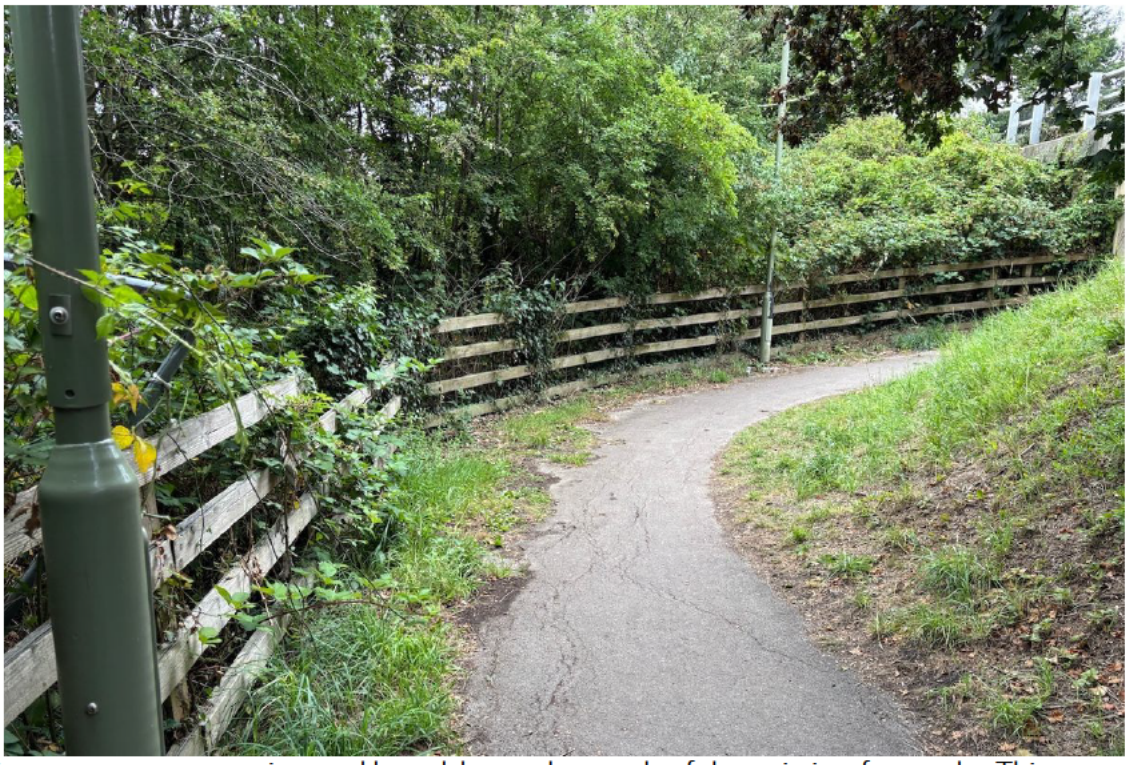
A new footway is to be provided towards the existing bus stop on the southern side of Kings Copse Avenue. The footway terminates at the Tanhouse Lane bridleway and there is no connection to the site. This may cause pedestrians (exiting the site) to walk in the carriageway in order to reach the footway, or vice versa. This may result in passing traffic colliding with pedestrians.

Recommendation	Ensure the footway is accessible and connects with adjacent pedestrian infrastructure.

2.2 Northern path

2.2.1 The following provides details of the problems identified during this Stage 1 Road Safety Audit.

Problem 4	
Location	Footpath connection
Summary	Risk of scrapes and cuts



There is overgrown vegetation and brambles to the south of the existing footpath. This may cause path users, including VIPs, cyclists, parents with prams to pass close to the vegetation when negotiating the bend or entry/exit of the new connection. This may result in people getting cuts and scrapes on arms and faces.

Recommendation	Cut back and maintain vegetation to be clear of people travelling along the shared route and footpath.

3. Audit Team Statement

3.1.1 We certify that the drawings listed at **Appendix B** have been examined, and that this Audit has been carried out in accordance with the principles and requirements of GG119, with the sole purpose of identifying road safety matters to be addressed in order to improve the safety of the scheme.

Road Safety Audit Team Leader

Signed: 

Name: Wing Lee

Date: 18.08.25

Road Safety Audit Team Member

Signed: 

Name: Ian Medd

Date: 18.08.25

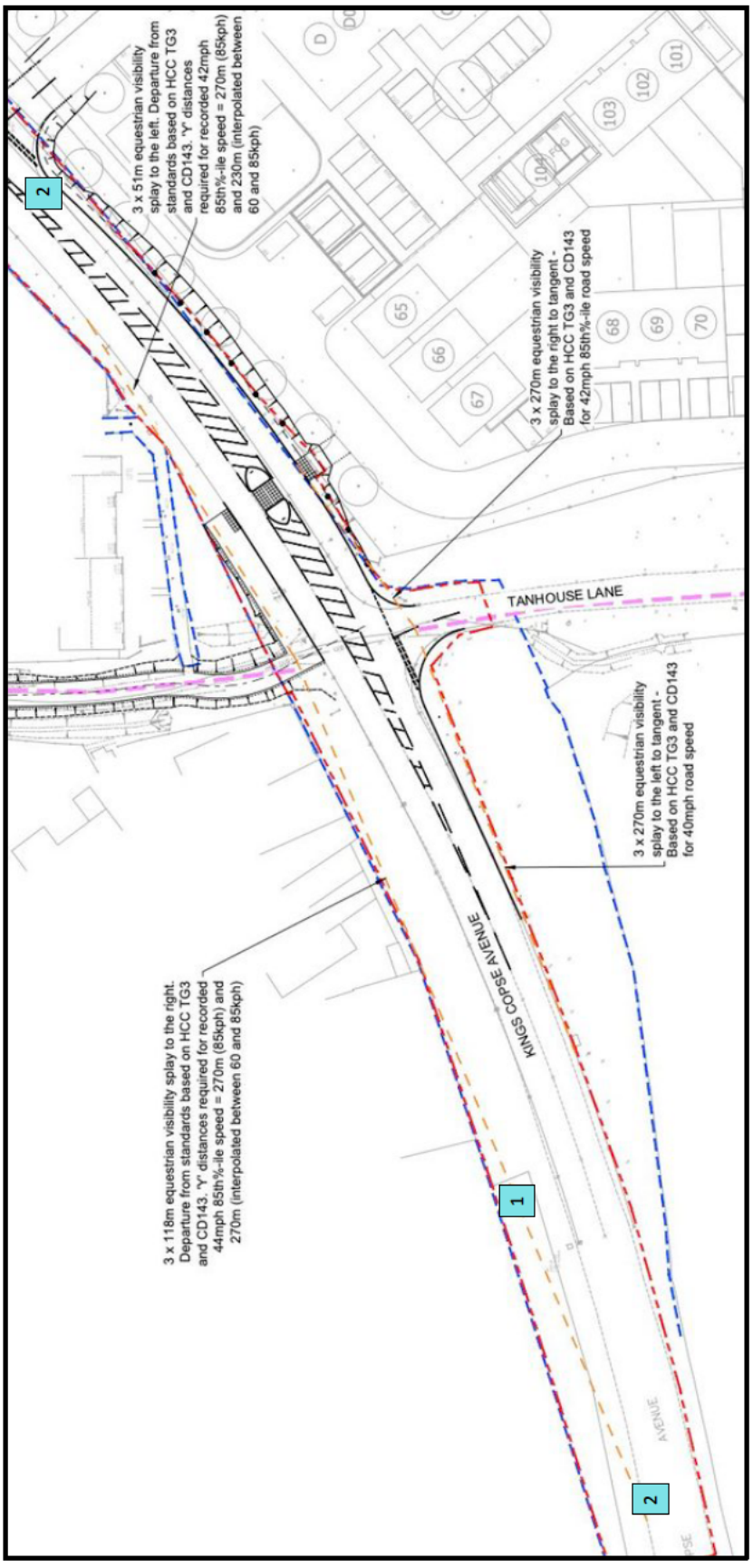
Appendix A Site Location Plan

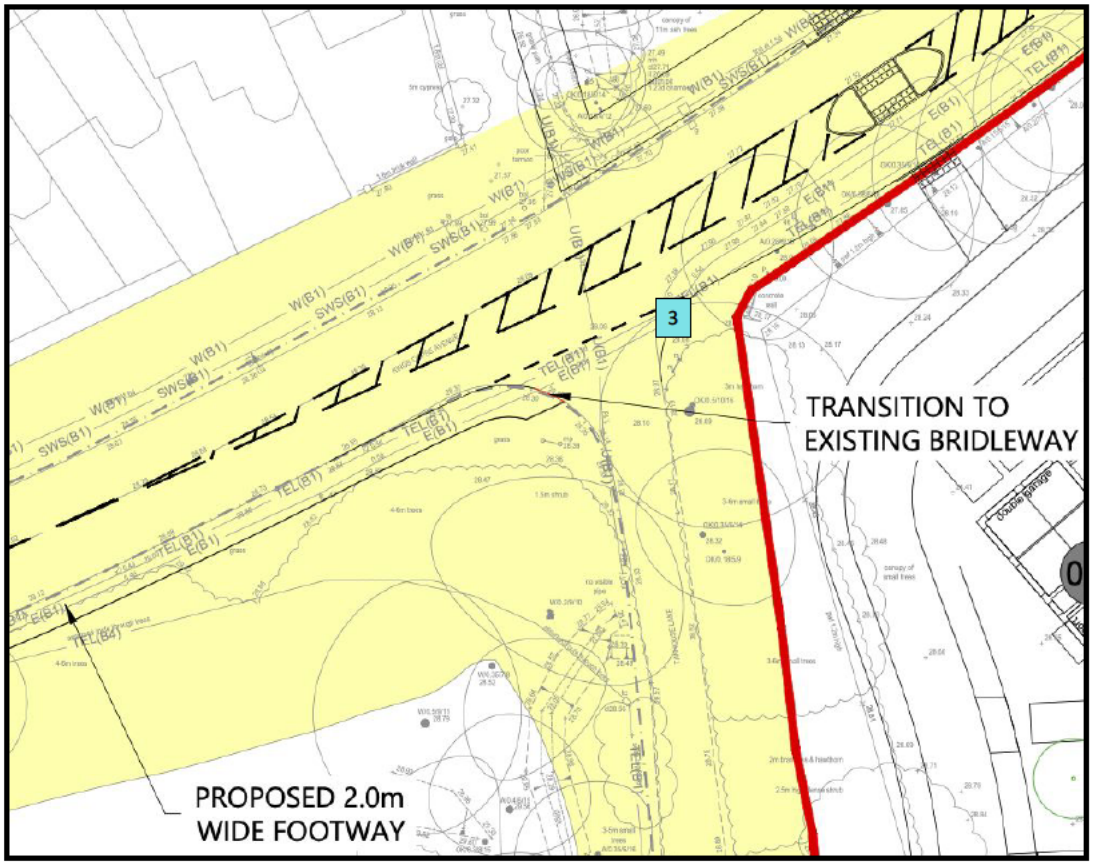


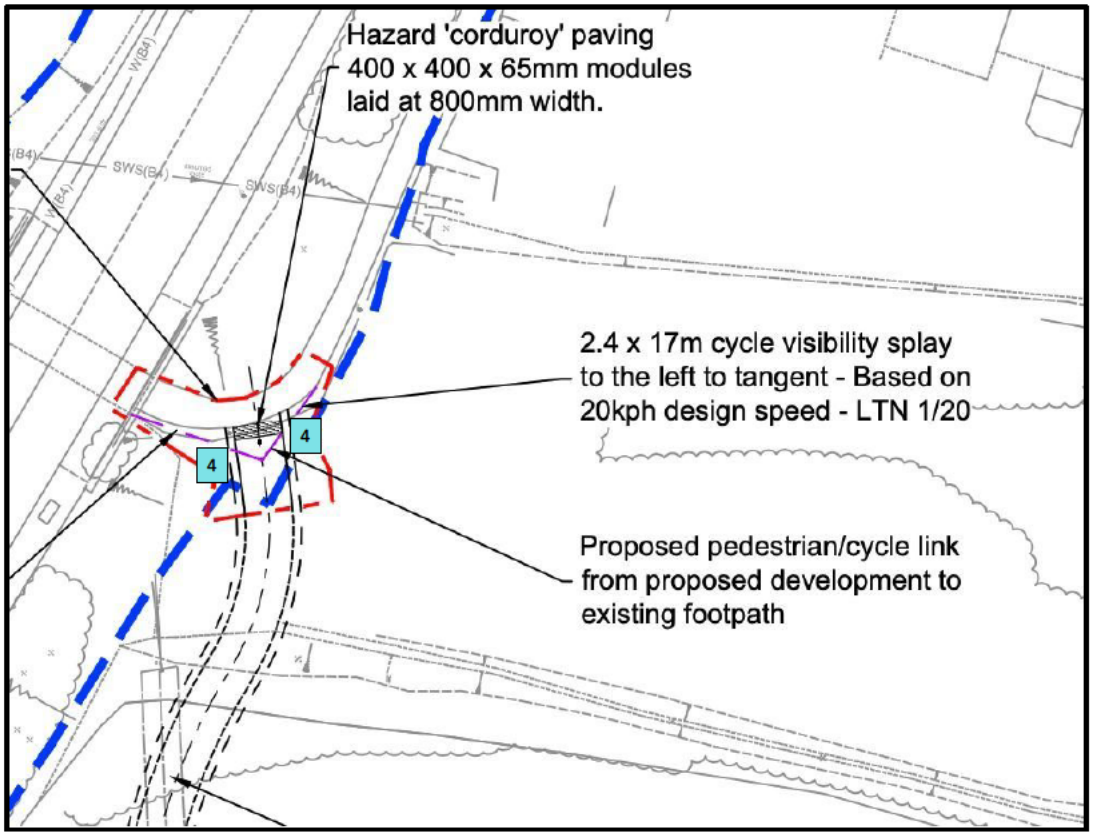
Appendix B Documents provided for Audit

- 3743.03
  S278 Works – Overall Scheme Plan
- ITS19785-GA-012
  Proposed Pedestrian Connection Along Kings Copse Avenue
- OT/DG/ITS19785-012
  Kings Copse Avenue: Road Safety Audit Brief (Stage 1) (18/07/25)
- Highway boundary & Site Boundary
- Collision Data
- Forecast Flows
- Desire lines

Appendix C Problem Location Plan




3
TRANSITION TO
EXISTING BRIDLEWAY
PROPOSED 2.0m
WIDE FOOTWAY


Hazard 'corduroy' paving
400 x 400 x 65mm modules
laid at 800mm width.
2.4 x 17m cycle visibility splay
to the left to tangent - Based on
20kph design speed - LTN 1/20
Proposed pedestrian/cycle link
from proposed development to
existing footpath
4
4

APPENDIX J. Stage 1 RSA – Bridleway

BRIDLEWAY 026/501, HAVENDALE, HEDGE END, HAMPSHIRE

Stage 1 Road Safety Audit

J190597A

Eastleigh Borough Council

18th August 2025

GR 119
Grange Transport Consulting

Tel: +44 (0)7912 160 303 Email: info@grange-transport.co.uk Web:www.grange-transport.co.uk
Grange Transport Consulting Ltd registered in England and Wales No.13643298
Registered office: 119 Grange Road, Banbury, Oxfordshire, OX16 9AT

Bridleway 026/501, Havendale, Hedge End, Hampshire

Stage 1 Road Safety Audit

J190597A

August 2025

Client: i-Transport LLP

Scheme:	Bridleway 026/501, Havendale, Hedge End, Hampshire		
Issue Date:	18.08.25		
Document reference and Revision:	250818_J190597A_Hedge End_RSA1_PRoW_Final.docx Rev 1.0		
Prepared by:	Wing Lee	Date:	28.07.25
Checked by:	Ian Medd	Date:	29.07.25
Authorised by:	Wing Lee	Date:	18.08.25
Status:	For Issue	Date:	18.08.25

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Opinions and information provided in the report are on the basis of Grange Transport Consulting using due skill, care, and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy. It should be noted and is expressly stated that no independent verification of any of the documents or information supplied to Grange Transport Consulting has been made.

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Appendix A Site Location Plan
Appendix B Documents Provided For Audit
Appendix C Problem Location Plan

1. Introduction

1.1 General

1.1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on Monday 28 July 2025. The audit was undertaken on behalf of Eastleigh Borough Council, in regard to the bridleway improvement arrangements in association with a residential development from Kings Copse Avenue in Hedge End, Hampshire.

1.1.2 The audit has been requested by Dan Godwin of i-Transport LLP. An Audit Brief has been supplied. The Audit Team were approved by Ollie Thompson of i-Transport LLP.

1.1.3 The Road Safety Audit team comprised of the following individuals:

Wing Lee BEng(Hons), PGCert, MSoRSA, HE Cert Comp, MCIHT, MIHE
Audit Team Leader

Ian Medd MCIHT, FSoRSA
Audit Team Member

Jennie Lee MCIHT
Audit Team Observer

1.1.4 A site visit was undertaken by the Audit Team on Wednesday 23 July 2025, between the hours of 11:20 and 12:20. The weather was overcast and warm, and the road surface was dry. The traffic levels passing the site was moderate, whilst minimal levels of pedestrians and cyclists passed the site. No horses/riders were observed during the site visit.

1.2 Site Location

1.2.1 The site comprises of the length of public right of way (PRoW) 026/501, between Havendale and Kings Copse Avenue, located at the southeastern extent of Hedge End, Hampshire. A site location plan is shown at **Appendix A**.

1.3 Strategic Decisions

1.3.1 The Audit Team has not been advised of any strategic decisions made by the planning or highway authorities in relation to the development scheme.

1.4 Highway description

1.4.1 PRoW 026/501 is a bridleway with an unmetalled surface of approximately 1.7 metres width. It has verges of around 1.5 and 2 metres either side. This section of bridleway is c. 190 metres in length, connecting with Havendale to the north and Kings Copse Avenue to the south. Pedestrian connections to Woodstock Close and Ferndal are provided to the west and east respectively.

1.4.2 The horizontal alignment of PRoW 026/501 has gentle meanderings, however is generally straight. The vertical alignment undulates along its entire length.

1.4.3 A review of the Hampshire Road Traffic Collisions website indicates that no collisions were recorded along the PRoW between 01/01/19 and 31/12/23.

1.5 Previous Road Safety Audits

1.5.1 The Audit Team has not been made aware of any previous Road Safety Audits carried out for the bridleway improvement proposals.

1.6 Scheme proposals

1.6.1 The proposals submitted for this Stage 1 Road Safety Audit relate only to the following bridleway improvement works in association with the 200 residential dwelling development, as shown on plans listed at Appendix B:

- Widening of shared-use surface;
- Regrading of earthworks;
- Tactile paving;
- Amended pedestrian crossing facility; and
- Pedestrian intervisibility splays.

1.7 Departures from Standards

1.7.1 The Audit Team has not been informed of any departures from standards relating to the designs submitted for audit.

1.8 Road Safety Audit

1.8.1 The Road Safety Audit has been carried out in accordance with the principals of the National Highways document, as described in the Design Manuals for Roads and Bridges (DMRB) standard - GG119 Road Safety Audit.

1.8.2 The Audit Team has examined and reported only on the road safety implications of the scheme as presented by Peter Evans Partnership and i-Transport LLP, and has not examined / verified the compliance of the designs to any other criteria. The Audit Team may occasionally refer to design standards without touching on technical audit to clearly explain a safety problem or the recommendation to resolve a problem.

1.8.3 The Road Safety Audit includes a desktop study where all documents provided by the Design Team have been reviewed. A list of the documents and drawings submitted for this Stage 1 Road Safety Audit can be found at Appendix B.

1.8.4 The submitted design drawings have been annotated to show the location of problems identified during this Stage 1 Road Safety Audit, which are shown at Appendix C.

1.8.5 Recommendations offered within this report should not be regarded as prescriptive. There may be equally satisfactory or superior alternative solutions to the identified problems. The Audit Team will be pleased to consider any alternatives if required.

2. Problems identified from this audit

2.1 Bridleway 026/501

2.1.1 The following provides details of the problems identified during this Stage 1 Road Safety Audit.

Problem 1	
Location	Bridleway – northern extent
Summary	Risk of collisions by path users





It is proposed to widen the useable width of the bridleway to 3 metres. There are a set of small concrete bollards on each side of the existing path. The increased width will cause the bollards to be positioned closer to the middle of the bridleway. Overgrown vegetation may cause the bollards to be hidden. This may result in path users colliding with the bollards.

Recommendation	Ensure the bollards remain conspicuous and visible throughout the year.

Problem 2	
Location	Bridleway - general
Summary	Risk of collisions with trees / vegetation






There is overgrown vegetation and trees along the length of the bridleway. This will cause obstructions to pedestrians, cyclists, horse riders using the bridleway. This may result in users colliding with low tree branches and vegetation.

Recommendation	Cut back and maintain vegetation behind the proposed 3 metre width. Also ensure sufficient height clearance is available for all bridleway users.

Problem 3	
Location	Bridleway – general
Summary	Risk of path users falling





The width of the corridor is not consistent, in addition ditches and leaning trees are present. It is proposed to provide a width of 3 metres along the bridleway. This may cause the bridleway to be too close to ditches, fences, tree trunks/branches etc. This may result in falls or collisions with these adjacent features.

Recommendation	Ensure sufficient clearance from surrounding features is available along the bridleway.

3. Audit Team Statement

3.1.1 We certify that the drawings listed at **Appendix B** have been examined, and that this Audit has been carried out in accordance with the principles and requirements of GG119, with the sole purpose of identifying road safety matters to be addressed in order to improve the safety of the scheme.

Road Safety Audit Team Leader

Signed: 

Name: Wing Lee

Date: 18.08.25

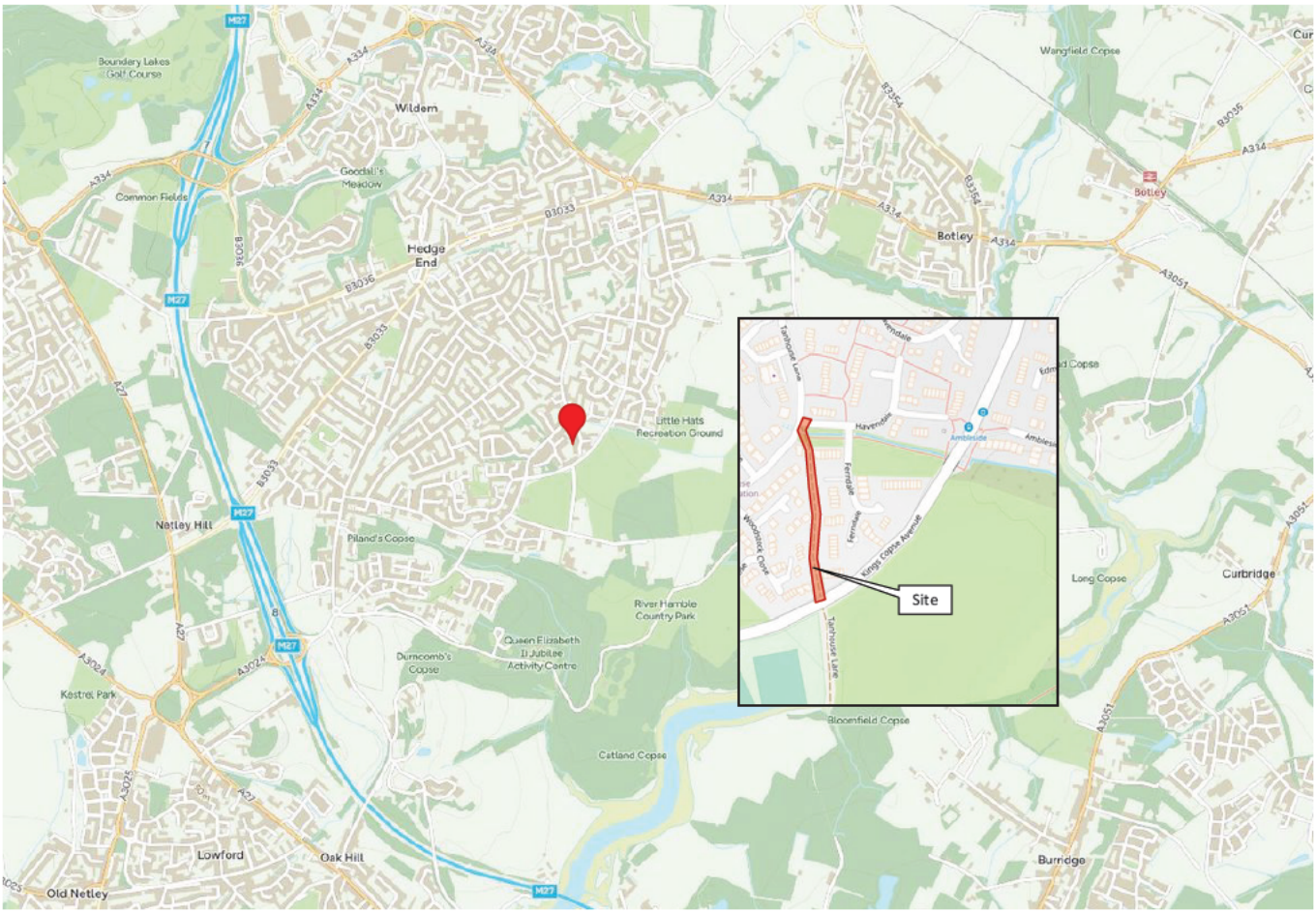
Road Safety Audit Team Member

Signed: 

Name: Ian Medd

Date: 18.08.25

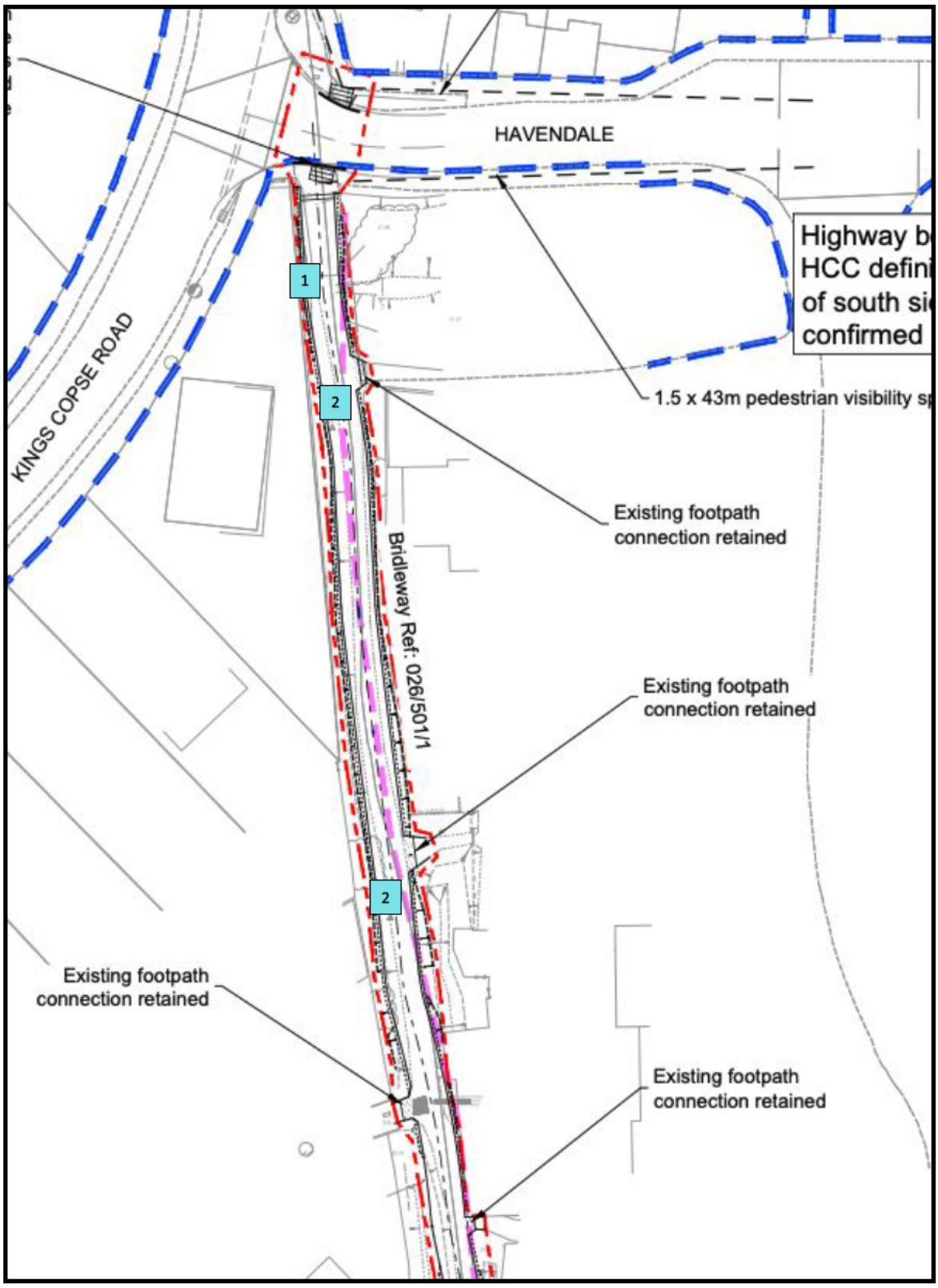
Appendix A Site Location Plan

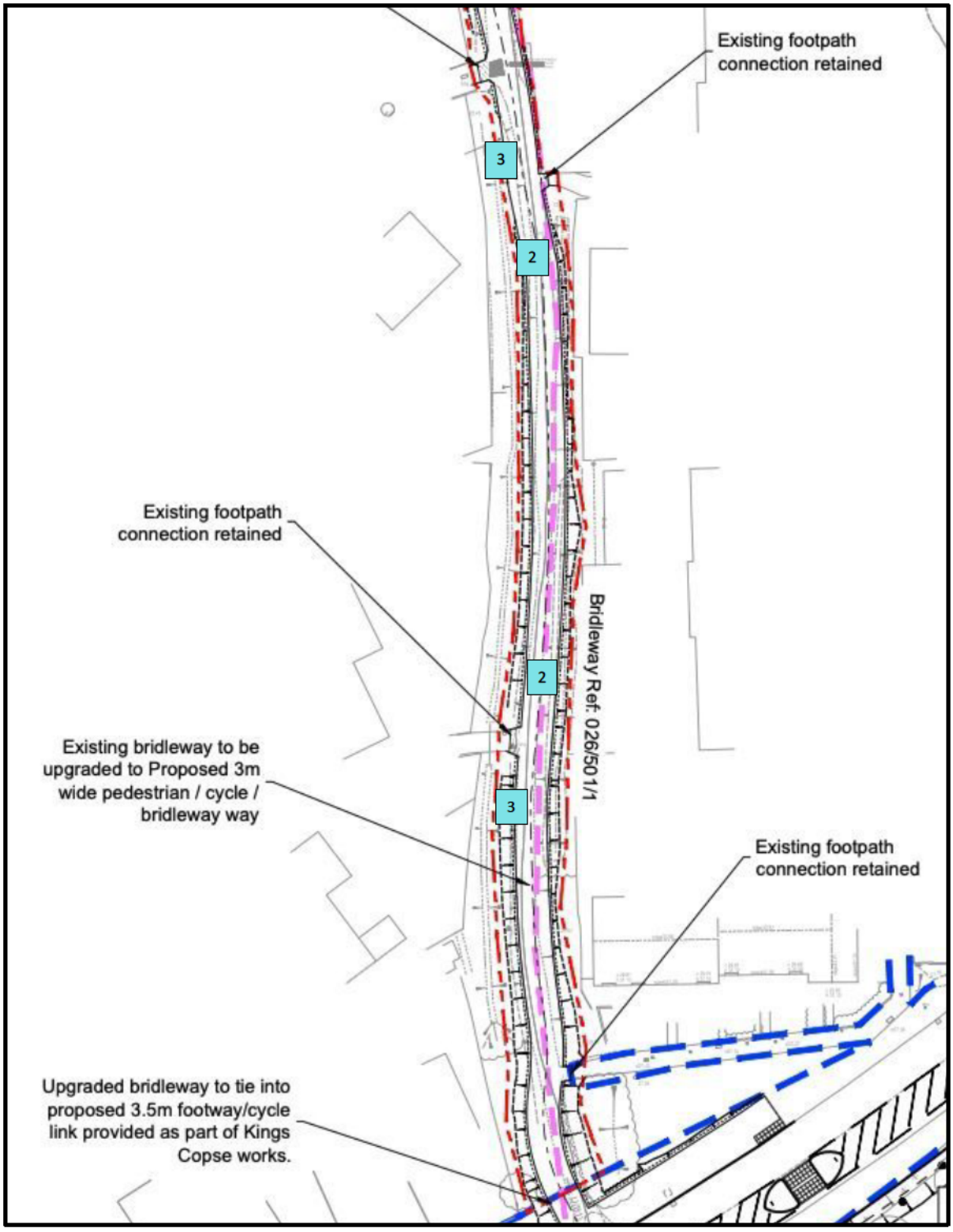


Appendix B Documents provided for Audit

- 3743.23
  Bridleway Works – Overall Scheme Plan
- OT/DG/ITS19785-012
  Kings Copse Avenue: Road Safety Audit Brief (Stage 1) (18/07/25)
- Highway boundary & Site Boundary
- Collision Data
- Forecast Flows
- Desire lines

Appendix C Problem Location Plan




Existing footpath connection retained
3
2
Existing footpath connection retained
Bridleway Ref. 026/501/1
2
Existing bridleway to be upgraded to Proposed 3m wide pedestrian / cycle / bridleway way
3
Existing footpath connection retained
Upgraded bridleway to tie into proposed 3.5m footway/cycle link provided as part of Kings Copse works.

APPENDIX K. Stage 1 RSA – Internal Layout

LAND AT KINGS COPSE AVENUE, HEDGE END, HAMPSHIRE

Stage 1 Road Safety Audit

J190612

Eastleigh Borough Council

11th September 2025

GR 119
Grange Transport Consulting
Tel: +44 (0)7912 160 303 Email: info@grange-transport.co.uk Web:www.grange-transport.co.uk
Grange Transport Consulting Ltd registered in England and Wales No.13643298
Registered office: 119 Grange Road, Banbury, Oxfordshire, OX16 9AT

Land at Kings Copse Avenue, Hedge End, Hampshire

Stage 1 Road Safety Audit

J190612

September 2025

Client: i-Transport LLP

Scheme:	Land at Kings Copse Avenue, Hedge End, Hampshire		
Issue Date:	11.09.25		
Document reference and Revision:	250911_J190612_Hedge End-s38_RSA1_Final.docx Rev 1.0		
Prepared by:	Wing Lee	Date:	29.08.25
Checked by:	Ian Medd	Date:	01.09.25
Authorised by:	Wing Lee	Date:	11.09.25
Status:	For Issue	Date:	11.09.25

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1. Introduction

1.1 General

1.1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on Friday 29 August 2025. The audit was undertaken on behalf of Eastleigh Borough Council, in regard to the internal layout proposals for a residential development from Kings Copse Avenue in Hedge End, Hampshire.

1.1.2 The audit has been requested by Ollie Thompson of i-Transport LLP. An Audit Brief has not been supplied. The Audit Team were approved by Ollie Thompson of i-Transport LLP.

1.1.3 The Road Safety Audit team comprised of the following individuals:

Wing Lee BEng(Hons), PGCert, MSoRSA, HE Cert Comp, MCIHT, MIHE
Audit Team Leader

Ian Medd MCIHT, FSoRSA
Audit Team Member

Jennie Lee MCIHT
Audit Team Observer

1.1.4 A site visit was undertaken by the Audit Team on Wednesday 23 July 2025, between the hours of 11:20 and 12:20. The weather was overcast and warm, and the road surface was dry. The traffic levels passing the site was moderate, whilst minimal levels of pedestrians and cyclists were observed passing the site.

1.2 Site Location

1.2.1 The site comprises of a field bounded: to the north by Kings Copse Avenue; to the west by Tanhouse Lane; to the east by residential dwellings; and to the south by trees, located at the southeastern extent of Hedge End, Hampshire. A site location plan is shown at **Appendix A**.



1.3 Strategic Decisions

1.3.1 The Audit Team has not been advised of any strategic decisions made by the planning or highway authorities in relation to the development scheme.

1.4 Highway description

1.4.1 Kings Copse Avenue is a single carriageway road and subject to a 40mph speed limit, which runs to the northwest of the site. It has a width of 7.3 metres and verges on both sides. Street lighting is present along the southern side of the road. Kings Copse Avenue forms part of a two-way bus route.

1.4.2 Tanhouse Lane is a bridleway routing along the western site boundary. The majority of Tanhouse Lane is unmetalled. It serves a number of agricultural buildings.

1.4.3 A review of the Hampshire Road Traffic Collisions website indicates that no collisions were recorded within the site between 01/01/19 and 31/12/23.

1.5 Previous Road Safety Audits

1.5.1 The Audit Team has not been made aware of any previous Road Safety Audits carried out for the internal site layout proposals.

1.6 Scheme proposals

1.6.1 The proposals submitted for this Stage 1 Road Safety Audit relate only to the following site layout proposals in association with the 200 residential dwelling development, as shown on the plans listed at Appendix B:

- New internal road layout, including shared-surface, build-outs, and turning heads;
- New footways and footpaths;
- New pedestrian crossings;
- Visitor, resident parking bays and areas; and
- Bin collection points.

1.7 Departures from Standards

1.7.1 The Audit Team has not been informed of any departures from standards relating to the designs submitted for audit.

1.8 Road Safety Audit

1.8.1 The Road Safety Audit has been carried out in accordance with the principals of the National Highways document, as described in the Design Manuals for Roads and Bridges (DMRB) standard - GG119 Road Safety Audit.

1.8.2 The Audit Team has examined and reported only on the road safety implications of the scheme as presented by mh architects and i-Transport LLP, and has not examined / verified the compliance of the designs to any other criteria. The Audit Team may occasionally refer to design standards without touching on technical audit to clearly explain a safety problem or the recommendation to resolve a problem.

1.8.3 The Road Safety Audit includes a desktop study where all documents provided by the Design Team have been reviewed. A list of the documents and drawings submitted for this Stage 1 Road Safety Audit can be found at **Appendix B**.

1.8.4 The submitted design drawings have been annotated to show the location of problems identified during this Stage 1 Road Safety Audit, which are shown at **Appendix C**.

1.8.5 Recommendations offered within this report should not be regarded as prescriptive. There may be equally satisfactory or superior alternative solutions to the identified problems. The Audit Team will be pleased to consider any alternatives if required.

2. Problems identified from this audit

2.1 Internal roads

2.1.1 The following provides details of the problems identified during this Stage 1 Road Safety Audit.

Problem 1	
Location	Plot nos. 05, 43, 65-66, 71, 72-73, 75
Summary	Risk of kerb strikes
A number of build-outs are proposed along the northern, eastern, and western roads. Some build-outs are located in close proximity of private driveways. This may cause insufficient carriageway width for exiting and entering vehicles. This may result in turning vehicles striking the build-out kerbs or losing control.	
Recommendation	Carry out swept path analysis to demonstrate all movements can be undertaken safely.

Problem 2	
Location	Throughout site
Summary	Risk of pedestrian falls
Visitor car parking bays will be provided at the peripheries of the site. No appropriate hardstanding is proposed adjacent to the parking bays. This will cause uneven/soft surfaces, particularly during wet conditions, for passengers and drivers when entering or exiting their vehicles. This may result in pedestrians falling over in the verges.	
Recommendation	Provide appropriate surface adjacent to parking bays to allow people to access vehicles.

Problem 3	
Location	Plot nos. 17, 21, 30, 48-49, 50-51, 58-84, 64, 72, 76, 92, 94
Summary	Risk of head-on collisions
The internal road network includes tight bends and/or junctions. Landscaping or planting details have not been shown, nor have any visibility splays/envelopes been indicated on the plans. This may cause areas adjacent to bends and junctions to include obstructions to any necessary sightlines. This may result in head-on or side-swipe collisions between oncoming vehicles.	
Recommendation	Ensure appropriate visibility is achieved.

Problem 4	
Location	Near Plot nos. 01, 102, 03, 101, 55
Summary	Risk of 'see-through' areas
There are straight sections of road which terminate at straight footways. This may cause drivers to perceive that the roads continue. This may result in vehicles colliding with pedestrians entering onto the footways.	
Recommendation	Provide features to obscure sight of footways beyond the end of the roads.

Problem 5	
Location	Plot no. 43
Summary	Risk of pedestrian collisions or falls
A long section of footway is provided on the eastern side of the spine road. The footway leads to the southern road and no crossing facility is provided. This may cause visually impaired pedestrians (VIPs) walk into the carriageway. This may result in collisions with passing vehicles or VIPs falling in the carriageway when encountering full-height kerbs.	
Recommendation	Amend footway layout.

Problem 6	
Location	Plot no. 72
Summary	Risk of kerb strikes
A build-out is proposed at the north-eastern extent, in close proximity to a tight bend. This may cause southbound vehicles not to detect the build-out after negotiating the bend. This may result in collisions with the kerb.	
Recommendation	Provide features to increase the conspicuousness of the build-out. Also see Problem 3.

Problem 7	
Location	Outside Plot nos. 10, 56-86
Summary	Risk of kerb strikes
Sections of road are proposed, which include sudden narrowings in width. This may result in vehicles colliding with the kerbs.	
Recommendation	Provide smooth transition for varying road widths.

Problem 8	
Location	Outside Plot nos. 10, 56-86
Summary	Risk of kerb strikes
Car parking bays are located directly adjacent to kerbing and where roads are narrow. This may cause difficulties for turning vehicles. This may result in entering or exiting vehicles to collide with the kerbs.	
Recommendation	Amend parking arrangements.

Problem 9	
Location	Outside Plot nos. C01-D01, A01-B01
Summary	Risk of pedestrian falls
Footpaths are provided parallel to the spine road and route NW to SE. No crossing facilities are proposed across the roads between Plot nos. C01-D01, A01-B01. This will cause level differences at the road. This may result in VIPs falling in the carriageway when encountering full-height kerbs.	
Recommendation	Provide appropriate crossing facilities.

3. Audit Team Statement

3.1.1 We certify that the drawings listed at **Appendix B** have been examined, and that this Audit has been carried out in accordance with the principles and requirements of GG119, with the sole purpose of identifying road safety matters to be addressed in order to improve the safety of the scheme.

Road Safet[redacted]

Signed: [redacted]

Name: Wing Lee

Date: 11.09.25

Road Safety Audit Team Member

Signed: [redacted]

Name: Ian Medd

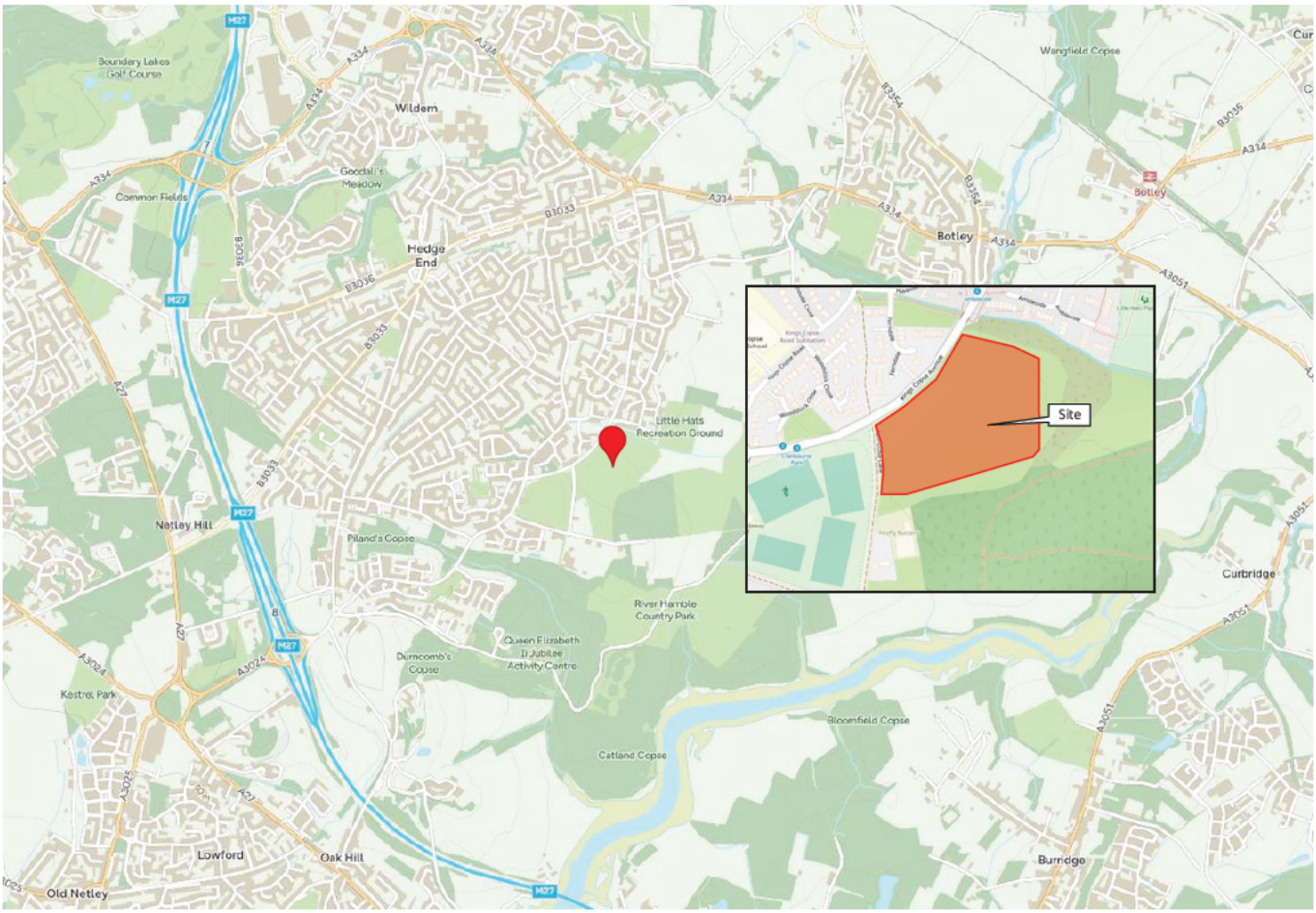
Date: 11.09.25

4. Comments

4.1.1 This section of the report provides the following commentry on issues identifed for the scheme proposals, that are considered by the Audit Team not to be part of the Stage 1 Road Safety Audit.

4.1.2 There are sections of footway that lead to shared-use roads throughout the site. At Detailed design stage, appropriate transitions should be provided to ensure VIPs are informed on the changes in priority of their route. This also applies to the external footpaths that lead into the site.

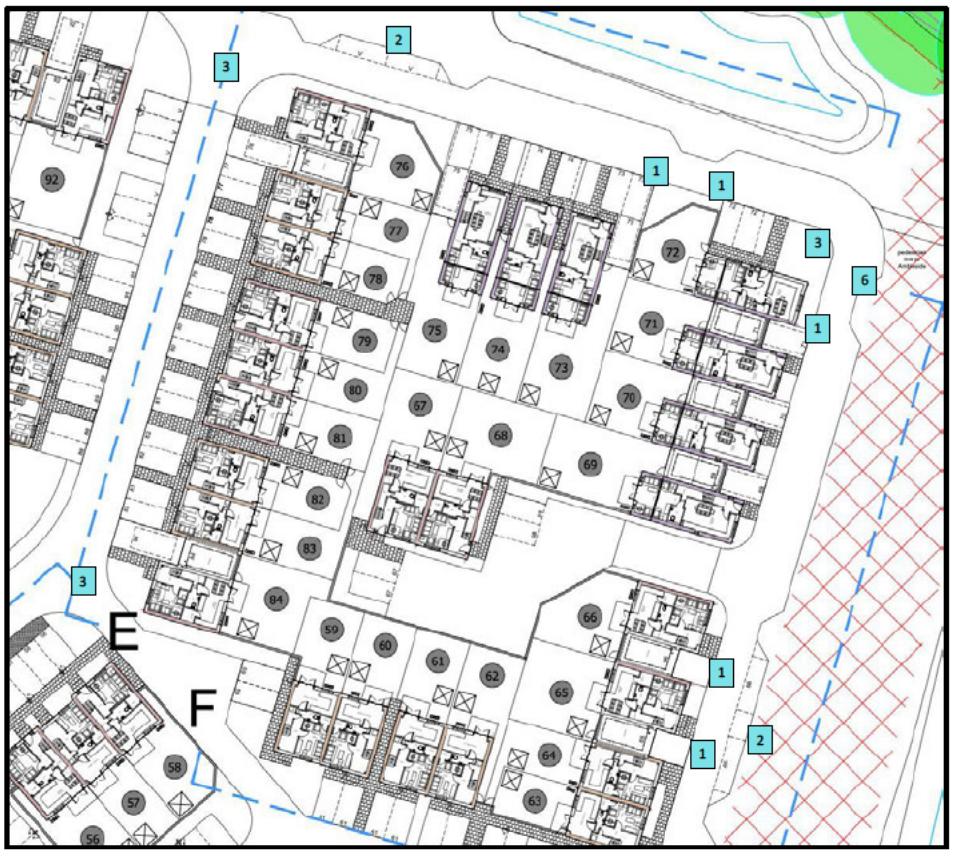
Appendix A Site Location Plan

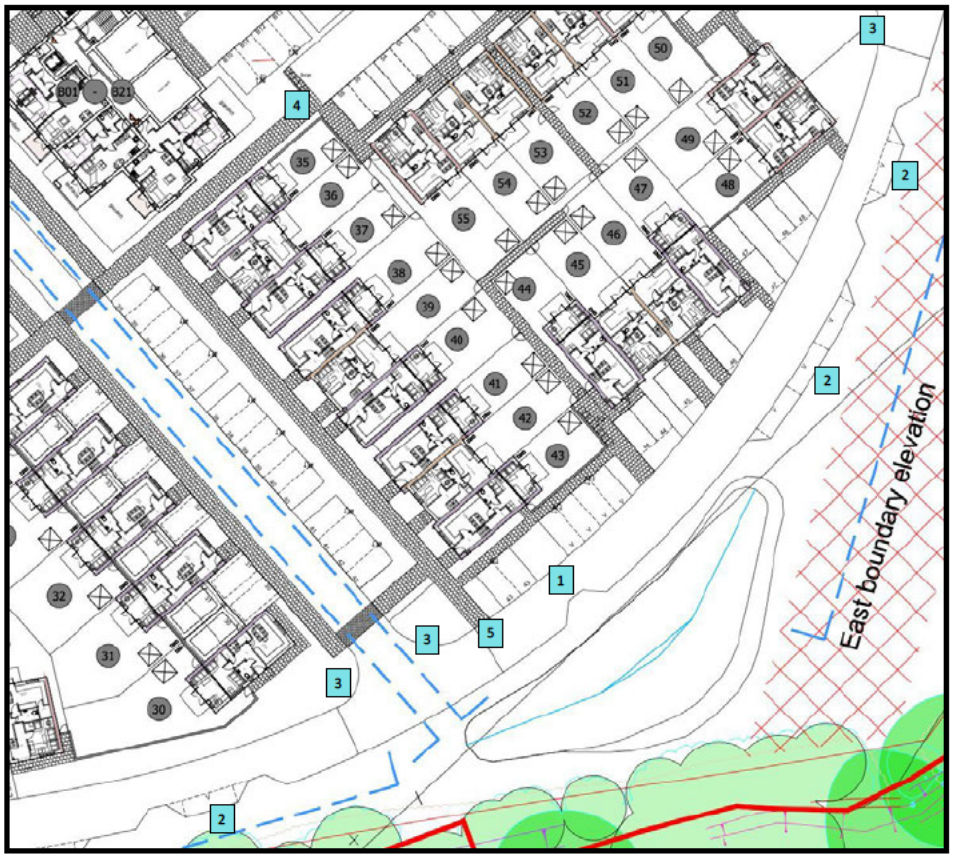


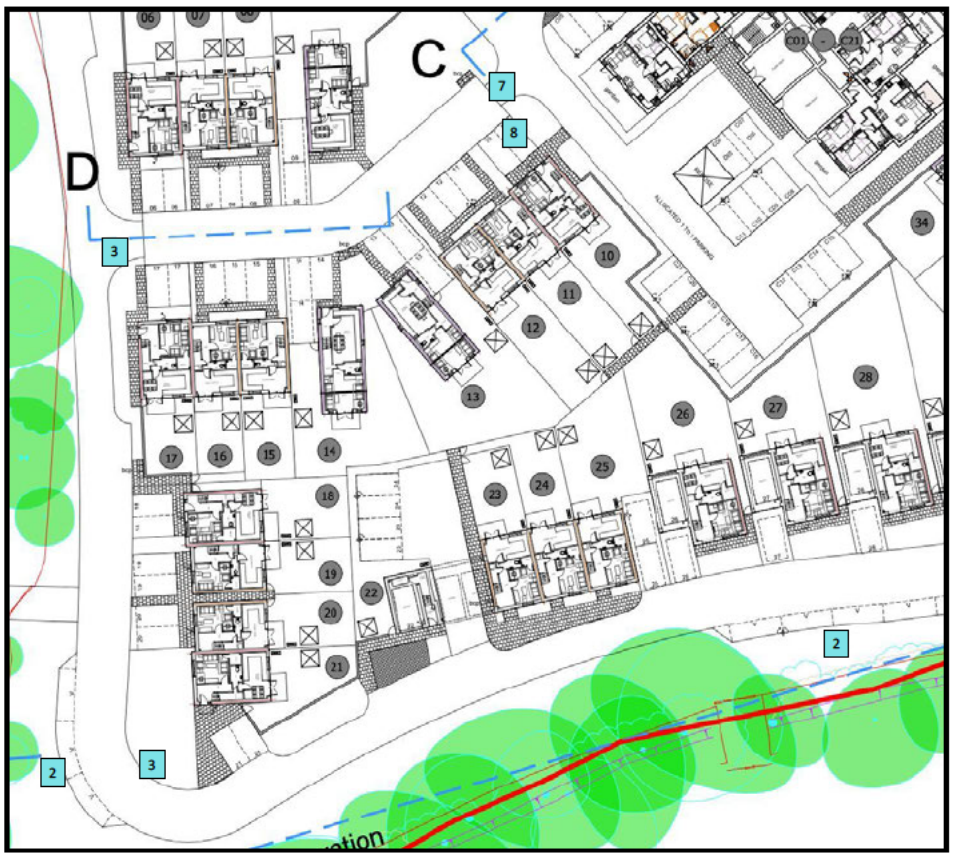
Appendix B Documents provided for Audit

- 22-148_0003 Rev P18
  Proposed Site Plan
- ITS19785-GA-003 Rev E
  Swept Path Analysis – Refuse Vehicle
- ITS19785-GA-013 Rev B
  Swept Path Analysis – Fire Appliance
- Site Boundary
- Collision Data
- Forecast Flows
- Desire lines

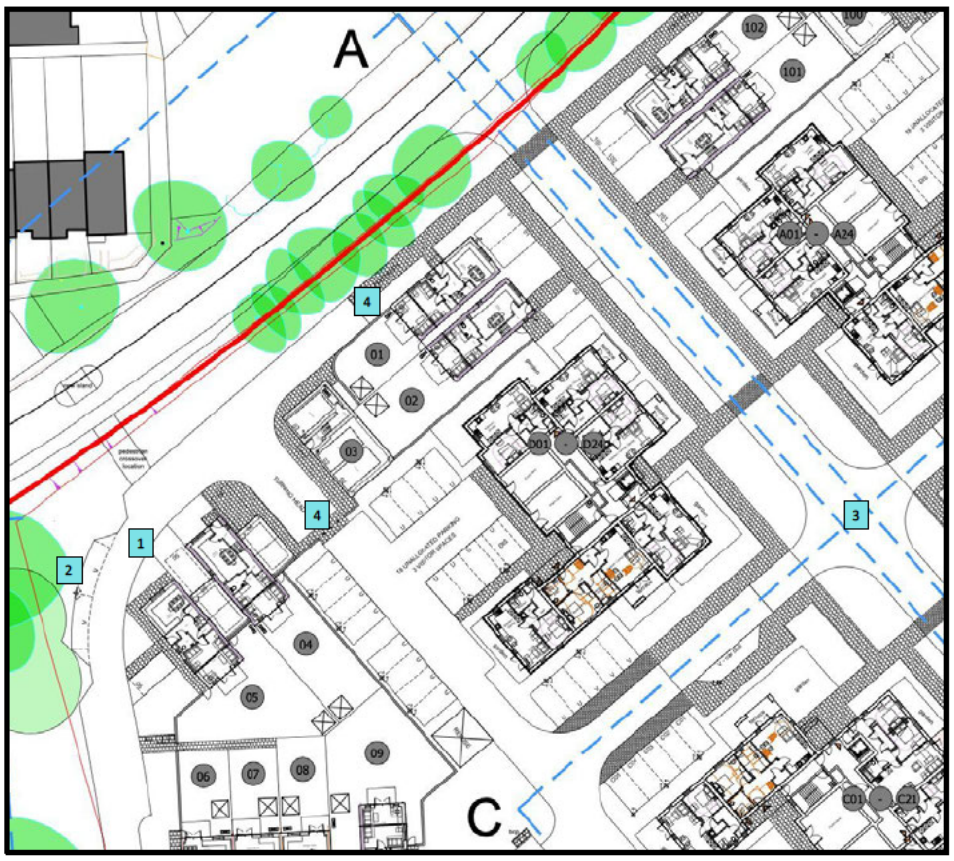
Appendix C Problem Location Plan






C
D
7
8
3
2
3
2


A
B
4
4
8
7
8
E
F
9
9


A
C
4
1
2
4
3
01
02
03
04
05
06
07
08
09
101
102
A01
A24
D01
D24
C01
C21

APPENDIX L. TRICS

i-Transport Lakeside North Harbour Portsmouth Licence No: 236605

Calculation Reference: AUDIT-236605-240731-0700

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	CW	CORNWALL	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
05	EAST MIDLANDS		
	NG	NOTTINGHAM	1 days
09	NORTH		
	TW	TYNE & WEAR	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 28 to 178 (units:)
Range Selected by User: 25 to 250 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 29/06/23

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Wednesday	2 days
Thursday	4 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	8 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	4
No Sub Category	4

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	3 days - Selected
Servicing vehicles Excluded	5 days - Selected

Secondary Filtering selection:

Use Class:

C3	8 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	3 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	2 days
50,001 to 75,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	4 days
1.6 to 2.0	2 days
2.1 to 2.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	2 days
No	6 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	8 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 CA-03-K-03 FLATS & TERRACED CAMBRIDGESHIRE
YORK STREET
CAMBRIDGE

Edge of Town Centre
No Sub Category
Total No of Dwellings: 178
Survey date: WEDNESDAY *20/09/17* *Survey Type: MANUAL*

2 CA-03-K-04 MIXED HOUSES & FLATS CAMBRIDGESHIRE
FORDHAM ROAD
SOHAM

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 65
Survey date: WEDNESDAY *11/07/18* *Survey Type: MANUAL*

3 CW-03-K-01 MIXED HOUSES & FLATS CORNWALL
TRELOWEN DRIVE
PENRYN

Edge of Town
Residential Zone
Total No of Dwellings: 89
Survey date: THURSDAY *28/03/19* *Survey Type: MANUAL*

4 ES-03-K-01 MIXED HOUSES & FLATS EAST SUSSEX
LEWES ROAD
UCKFIELD
RIDGEWOOD
Edge of Town
Residential Zone
Total No of Dwellings: 64
Survey date: THURSDAY *14/07/16* *Survey Type: MANUAL*

5 NG-03-K-02 MIXED HOUSES NOTTINGHAM
CASTLE BRIDGE ROAD
NOTTINGHAM

Suburban Area (PPS6 Out of Centre)
No Sub Category
Total No of Dwellings: 132
Survey date: MONDAY *07/11/16* *Survey Type: MANUAL*

6 TW-03-K-01 MIXED HOUSES & FLATS TYNE & WEAR
SHELLEY DRIVE
GATESHEAD

Edge of Town Centre
No Sub Category
Total No of Dwellings: 131
Survey date: THURSDAY *23/05/19* *Survey Type: MANUAL*

7 TW-03-K-02 FLATS & TOWN HOUSES TYNE & WEAR
TYNEMOUTH ROAD
TYNEMOUTH

Edge of Town Centre
No Sub Category
Total No of Dwellings: 28
Survey date: FRIDAY *15/10/21* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8 WS-03-K-03 MIXED HOUSES & FLATS WEST SUSSEX
LITTLEHAMPTON ROAD
WORTHING
WEST DURRINGTON
Edge of Town
Residential Zone
Total No of Dwellings: 111
Survey date: THURSDAY *12/05/16* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 2.41

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	100	0.038	8	100	0.180	8	100	0.218
08:00 - 09:00	8	100	0.075	8	100	0.251	8	100	0.326
09:00 - 10:00	8	100	0.095	8	100	0.128	8	100	0.223
10:00 - 11:00	8	100	0.099	8	100	0.165	8	100	0.264
11:00 - 12:00	8	100	0.098	8	100	0.093	8	100	0.191
12:00 - 13:00	8	100	0.124	8	100	0.098	8	100	0.222
13:00 - 14:00	8	100	0.107	8	100	0.110	8	100	0.217
14:00 - 15:00	8	100	0.096	8	100	0.134	8	100	0.230
15:00 - 16:00	8	100	0.163	8	100	0.100	8	100	0.263
16:00 - 17:00	8	100	0.165	8	100	0.113	8	100	0.278
17:00 - 18:00	8	100	0.223	8	100	0.107	8	100	0.330
18:00 - 19:00	8	100	0.173	8	100	0.105	8	100	0.278
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.456			1.584			3.040

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	28 - 178 (units:)
Survey date date range:	01/01/16 - 29/06/23
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX M. Junctions 11

Junctions 11

PICADY 11 - Priority Intersection Module

Version: 11.0.0.2177
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+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Site Access - 2030.j11
Path: S:\Projects\19000 Series\19785ITS - Kings Copse Avenue Hedge End\Tech\Junction Assessments\Picady
Report generation date: 02/07/2025 09:15:52

»2030 | Com Dev + Dev | AM
»2030 | Com Dev + Dev | PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2030 - Com Dev + Dev					
Stream B-AC	0.1	7.94	0.10	0.0	7.44	0.04
Stream C-AB	0.0	4.74	0.04	0.2	5.17	0.10

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	15/04/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\basingstoke.hotdesk
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D2	2030	Com Dev + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2030 | Com Dev + Dev | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.46	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.46	A

Arms

Arms

Arm	Name	Description	Arm type
A	Kings Copse Avenue (N)		Major
B	Site Access		Minor
C	Kings Copse Avenue (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
Kings Copse Avenue (S)	7.30			140.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
Site Access	One lane	5.00	87	93

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	663	0.114	0.288	0.181	0.412
B-C	819	0.118	0.299	-	-
C-B	655	0.239	0.239	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
Kings Copse Avenue (N)		ONE HOUR	✓	466	100.000
Site Access		ONE HOUR	✓	46	100.000
Kings Copse Avenue (S)		ONE HOUR	✓	518	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		Kings Copse Avenue (N)	Site Access	Kings Copse Avenue (S)
From	Kings Copse Avenue (N)	0	3	462
	Site Access	12	0	34
	Kings Copse Avenue (S)	508	10	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		Kings Copse Avenue (N)	Site Access	Kings Copse Avenue (S)
From	Kings Copse Avenue (N)	10	10	10
	Site Access	10	10	10
	Kings Copse Avenue (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.10	7.94	0.1	A	42	63
C-AB	0.04	4.74	0.0	A	23	34
C-A					453	679
A-B					3	5
A-C					424	636

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	34	9	0.00	570	0.060	34	0.0	0.1	6.718	A
C-AB	15	4	0.00	774	0.020	15	0.0	0.0	4.740	A
C-A	375	94	0.00			375				
A-B	3	0.65	0.00			3				
A-C	348	87	0.00			348				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	10	0.00	542	0.076	41	0.1	0.1	7.177	A
C-AB	21	5	0.00	814	0.026	21	0.0	0.0	4.540	A
C-A	445	111	0.00			445				
A-B	3	0.78	0.00			3				
A-C	415	104	0.00			415				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	50	13	0.00	504	0.100	50	0.1	0.1	7.934	A
C-AB	31	8	0.00	870	0.036	31	0.0	0.0	4.290	A
C-A	539	135	0.00			539				
A-B	4	1	0.00			4				
A-C	509	127	0.00			509				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	50	13	0.00	504	0.100	50	0.1	0.1	7.937	A
C-AB	31	8	0.00	870	0.036	31	0.0	0.0	4.290	A
C-A	539	135	0.00			539				
A-B	4	1	0.00			4				
A-C	509	127	0.00			509				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	10	0.00	542	0.076	41	0.1	0.1	7.181	A
C-AB	21	5	0.00	814	0.026	21	0.0	0.0	4.541	A
C-A	445	111	0.00			445				
A-B	3	0.78	0.00			3				
A-C	415	104	0.00			415				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	34	9	0.00	570	0.060	34	0.1	0.1	6.728	A
C-AB	15	4	0.00	774	0.020	15	0.0	0.0	4.741	A
C-A	375	94	0.00			375				
A-B	3	0.65	0.00			3				
A-C	348	87	0.00			348				

2030 | Com Dev + Dev | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.50	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.50	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2030	Com Dev + Dev	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
Kings Copse Avenue (N)		ONE HOUR	✓	472	100.000
Site Access		ONE HOUR	✓	19	100.000
Kings Copse Avenue (S)		ONE HOUR	✓	470	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		Kings Copse Avenue (N)	Site Access	Kings Copse Avenue (S)
From	Kings Copse Avenue (N)	0	10	462
	Site Access	5	0	15
	Kings Copse Avenue (S)	439	30	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		Kings Copse Avenue (N)	Site Access	Kings Copse Avenue (S)
From	Kings Copse Avenue (N)	10	10	10
	Site Access	10	10	10
	Kings Copse Avenue (S)	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.04	7.44	0.0	A	18	27
C-AB	0.10	5.17	0.2	A	60	90
C-A					371	557
A-B					9	14
A-C					424	636

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	15	4	0.00	571	0.026	15	0.0	0.0	6.475	A
C-AB	41	10	0.00	738	0.056	41	0.0	0.1	5.164	A
C-A	312	78	0.00			312				
A-B	8	2	0.00			8				
A-C	348	87	0.00			348				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	17	4	0.00	544	0.032	17	0.0	0.0	6.842	A
C-AB	56	14	0.00	770	0.073	56	0.1	0.1	5.043	A
C-A	366	92	0.00			366				
A-B	9	2	0.00			9				
A-C	415	104	0.00			415				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	21	5	0.00	505	0.042	21	0.0	0.0	7.439	A
C-AB	82	21	0.00	816	0.101	82	0.1	0.2	4.908	A
C-A	435	109	0.00			435				
A-B	11	3	0.00			11				
A-C	508	127	0.00			508				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	21	5	0.00	505	0.042	21	0.0	0.0	7.440	A
C-AB	82	21	0.00	816	0.101	82	0.2	0.2	4.914	A
C-A	435	109	0.00			435				
A-B	11	3	0.00			11				
A-C	508	127	0.00			508				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	17	4	0.00	543	0.032	18	0.0	0.0	6.847	A
C-AB	56	14	0.00	770	0.073	57	0.2	0.1	5.050	A
C-A	366	92	0.00			366				
A-B	9	2	0.00			9				
A-C	415	104	0.00			415				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Pedestrian demand (Ped/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	15	4	0.00	570	0.026	15	0.0	0.0	6.476	A
C-AB	41	10	0.00	738	0.056	42	0.1	0.1	5.172	A
C-A	312	78	0.00			312				
A-B	8	2	0.00			8				
A-C	348	87	0.00			348				

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: Maypole Roundabout - 2030.j11
Path: S:\Projects\19000 Series\19785ITS - Kings Copse Avenue Hedge End\Tech\Junction Assessments\Arcady
Report generation date: 20/06/2025 11:02:09

»2024 | Baseline | AM
»2024 | Baseline | PM
»2030 | + Committed Development | AM
»2030 | + Committed Development | PM
»2030 | + Committed Development + Development | AM
»2030 | + Committed Development + Development | PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2024 - Baseline					
1 - Woodhouse Lane	0.6	4.81	0.36	0.7	5.55	0.41
2 - Broad Oak	1.4	5.46	0.59	1.6	6.28	0.62
3 - Kings Copse Avenue	1.0	5.23	0.50	0.5	3.79	0.34
4 - Lower Northam Road	0.9	5.97	0.47	0.6	4.25	0.39
5 - Grange Road	1.1	4.92	0.52	1.3	5.22	0.57
	2030 - + Committed Development					
1 - Woodhouse Lane	0.9	6.00	0.47	0.9	6.64	0.49
2 - Broad Oak	1.9	6.87	0.66	2.2	7.81	0.69
3 - Kings Copse Avenue	1.3	6.37	0.57	0.7	4.36	0.40
4 - Lower Northam Road	1.1	7.27	0.53	0.8	4.87	0.44
5 - Grange Road	1.4	5.73	0.58	1.7	6.41	0.64
	2030 - + Committed Development + Development					
1 - Woodhouse Lane	0.9	6.03	0.47	0.9	6.72	0.49
2 - Broad Oak	1.9	6.90	0.66	2.2	7.95	0.69
3 - Kings Copse Avenue	1.4	6.53	0.59	0.7	4.40	0.41
4 - Lower Northam Road	1.2	7.38	0.54	0.8	4.91	0.44
5 - Grange Road	1.4	5.77	0.58	1.8	6.52	0.64

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	24/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\basingstoke.hotdesk
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75	✓					0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓		
D3	2030	Future Traffic	AM	ONE HOUR	07:45	09:15	15		Simple	D1*G1
D4	2030	Future Traffic	PM	ONE HOUR	16:15	17:45	15		Simple	D2*G2
D5		Committed Development	AM	ONE HOUR	07:45	09:15	15			
D6		Committed Development	PM	ONE HOUR	16:15	17:45	15			
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6
D9		Development	AM	ONE HOUR	07:45	09:15	15			
D10		Development	PM	ONE HOUR	16:15	17:45	15			
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2024-2030 AM		1.0646
G2	2024-2030 PM		1.0639

Growth factors are only active if a Demand Set references them in a Relationship.

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 | Baseline | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Maypole Roundabout	Standard Roundabout		1, 2, 3, 4, 5	5.28	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.28	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Woodhouse Lane		
2	Broad Oak		
3	Kings Copse Avenue		
4	Lower Northam Road		
5	Grange Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Woodhouse Lane	4.25	7.00	26.5	20.0	60.0	42.0		
2 - Broad Oak	5.75	6.75	10.0	17.5	60.0	23.5		
3 - Kings Copse Avenue	6.00	7.50	8.5	15.0	60.0	25.0		
4 - Lower Northam Road	5.75	6.25	12.3	20.0	60.0	18.0		
5 - Grange Road	6.00	7.00	8.0	17.5	60.0	24.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Woodhouse Lane	0.569	1834
2 - Broad Oak	0.614	2002
3 - Kings Copse Avenue	0.628	2111
4 - Lower Northam Road	0.612	1954
5 - Grange Road	0.624	2063

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Woodhouse Lane		ONE HOUR	✓	386	100.000
2 - Broad Oak		ONE HOUR	✓	852	100.000
3 - Kings Copse Avenue		ONE HOUR	✓	633	100.000
4 - Lower Northam Road		ONE HOUR	✓	484	100.000
5 - Grange Road		ONE HOUR	✓	732	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	1	37	107	116	125
	2 - Broad Oak	45	9	127	222	449
	3 - Kings Copse Avenue	165	173	0	52	243
	4 - Lower Northam Road	116	227	27	1	113
	5 - Grange Road	115	395	142	75	5

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	0	0	0	0
	2 - Broad Oak	0	0	0	0	0
	3 - Kings Copse Avenue	0	0	0	0	0
	4 - Lower Northam Road	0	0	0	0	0
	5 - Grange Road	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Woodhouse Lane	0.36	4.81	0.6	2.7	A	354	531
2 - Broad Oak	0.59	5.46	1.4	1.7	A	782	1173
3 - Kings Copse Avenue	0.50	5.23	1.0	2.2	A	581	871
4 - Lower Northam Road	0.47	5.97	0.9	3.1	A	444	666
5 - Grange Road	0.52	4.92	1.1	1.4	A	672	1008

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	291	73	791	1383	0.210	290	332	0.0	0.3	3.288	A
2 - Broad Oak	641	160	449	1727	0.371	639	631	0.0	0.6	3.303	A
3 - Kings Copse Avenue	477	119	786	1617	0.295	475	302	0.0	0.4	3.149	A
4 - Lower Northam Road	364	91	911	1397	0.261	363	350	0.0	0.4	3.478	A
5 - Grange Road	551	138	573	1705	0.323	549	701	0.0	0.5	3.108	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	347	87	946	1295	0.268	347	397	0.3	0.4	3.793	A
2 - Broad Oak	766	191	538	1672	0.458	765	755	0.6	0.8	3.963	A
3 - Kings Copse Avenue	569	142	941	1519	0.375	568	362	0.4	0.6	3.784	A
4 - Lower Northam Road	435	109	1091	1287	0.338	434	418	0.4	0.5	4.221	A
5 - Grange Road	658	165	686	1635	0.403	657	839	0.5	0.7	3.678	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	425	106	1158	1174	0.362	424	485	0.4	0.6	4.793	A
2 - Broad Oak	938	235	658	1599	0.587	936	924	0.8	1.4	5.412	A
3 - Kings Copse Avenue	697	174	1151	1387	0.502	695	443	0.6	1.0	5.196	A
4 - Lower Northam Road	533	133	1335	1138	0.468	531	512	0.5	0.9	5.925	A
5 - Grange Road	806	201	839	1539	0.524	804	1027	0.7	1.1	4.886	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	425	106	1160	1173	0.362	425	487	0.6	0.6	4.812	A
2 - Broad Oak	938	235	659	1598	0.587	938	926	1.4	1.4	5.455	A
3 - Kings Copse Avenue	697	174	1154	1386	0.503	697	444	1.0	1.0	5.227	A
4 - Lower Northam Road	533	133	1338	1136	0.469	533	513	0.9	0.9	5.971	A
5 - Grange Road	806	201	841	1538	0.524	806	1029	1.1	1.1	4.916	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	347	87	950	1293	0.268	348	398	0.6	0.4	3.812	A
2 - Broad Oak	766	191	540	1671	0.458	768	758	1.4	0.9	3.995	A
3 - Kings Copse Avenue	569	142	945	1517	0.375	571	363	1.0	0.6	3.809	A
4 - Lower Northam Road	435	109	1095	1284	0.339	437	420	0.9	0.5	4.256	A
5 - Grange Road	658	165	689	1633	0.403	660	843	1.1	0.7	3.706	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	291	73	795	1381	0.210	291	333	0.4	0.3	3.302	A
2 - Broad Oak	641	160	452	1725	0.372	642	634	0.9	0.6	3.326	A
3 - Kings Copse Avenue	477	119	790	1614	0.295	477	304	0.6	0.4	3.168	A
4 - Lower Northam Road	364	91	916	1394	0.261	365	351	0.5	0.4	3.503	A
5 - Grange Road	551	138	576	1703	0.324	552	705	0.7	0.5	3.130	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.26	0.00	0.00	0.26	0.26			N/A	N/A
2 - Broad Oak	0.59	0.55	1.00	1.40	1.45			N/A	N/A
3 - Kings Copse Avenue	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4 - Lower Northam Road	0.35	0.00	0.00	0.35	0.35			N/A	N/A
5 - Grange Road	0.48	0.00	0.00	0.48	0.48			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.36	0.00	0.00	0.36	0.36			N/A	N/A
2 - Broad Oak	0.84	0.07	0.80	1.26	1.72			N/A	N/A
3 - Kings Copse Avenue	0.59	0.08	0.75	1.35	1.43			N/A	N/A
4 - Lower Northam Road	0.51	0.05	0.51	1.30	1.40			N/A	N/A
5 - Grange Road	0.67	0.08	0.79	1.37	1.44			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.56	0.03	0.25	0.56	0.56			N/A	N/A
2 - Broad Oak	1.40	0.03	0.26	1.40	1.40			N/A	N/A
3 - Kings Copse Avenue	1.00	0.03	0.26	1.00	1.00			N/A	N/A
4 - Lower Northam Road	0.87	0.03	0.26	0.87	0.87			N/A	N/A
5 - Grange Road	1.09	0.03	0.26	1.09	1.09			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.57	0.03	0.30	1.43	2.65			N/A	N/A
2 - Broad Oak	1.41	0.03	0.27	1.41	1.41			N/A	N/A
3 - Kings Copse Avenue	1.01	0.03	0.27	1.01	2.22			N/A	N/A
4 - Lower Northam Road	0.88	0.03	0.28	0.88	3.09			N/A	N/A
5 - Grange Road	1.09	0.03	0.27	1.09	1.42			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2 - Broad Oak	0.85	0.24	0.96	1.42	1.48			N/A	N/A
3 - Kings Copse Avenue	0.60	0.55	1.00	1.40	1.45			N/A	N/A
4 - Lower Northam Road	0.52	0.52	1.00	1.40	1.45			N/A	N/A
5 - Grange Road	0.68	0.35	0.96	1.39	1.45			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.27	0.00	0.00	0.27	0.27			N/A	N/A
2 - Broad Oak	0.60	0.06	0.64	1.34	1.42			N/A	N/A
3 - Kings Copse Avenue	0.42	0.03	0.31	0.96	1.23			N/A	N/A
4 - Lower Northam Road	0.36	0.03	0.25	0.46	0.48			N/A	N/A
5 - Grange Road	0.48	0.04	0.42	1.25	1.38			N/A	N/A

2024 | Baseline | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Maypole Roundabout	Standard Roundabout		1, 2, 3, 4, 5	5.20	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.20	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Woodhouse Lane		ONE HOUR	✓	412	100.000
2 - Broad Oak		ONE HOUR	✓	866	100.000
3 - Kings Copse Avenue		ONE HOUR	✓	437	100.000
4 - Lower Northam Road		ONE HOUR	✓	491	100.000
5 - Grange Road		ONE HOUR	✓	832	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	46	158	142	66
	2 - Broad Oak	27	6	171	313	349
	3 - Kings Copse Avenue	126	134	0	44	133
	4 - Lower Northam Road	90	228	53	1	119
	5 - Grange Road	87	460	207	78	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	0	0	0	0
	2 - Broad Oak	0	0	0	0	0
	3 - Kings Copse Avenue	0	0	0	0	0
	4 - Lower Northam Road	0	0	0	0	0
	5 - Grange Road	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Woodhouse Lane	0.41	5.55	0.7	3.1	A	378	567
2 - Broad Oak	0.62	6.28	1.6	2.1	A	795	1192
3 - Kings Copse Avenue	0.34	3.79	0.5	2.2	A	401	601
4 - Lower Northam Road	0.39	4.25	0.6	2.9	A	451	676
5 - Grange Road	0.57	5.22	1.3	1.5	A	763	1145

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	310	78	876	1335	0.232	309	248	0.0	0.3	3.505	A
2 - Broad Oak	652	163	529	1678	0.389	649	656	0.0	0.6	3.491	A
3 - Kings Copse Avenue	329	82	736	1648	0.200	328	442	0.0	0.2	2.726	A
4 - Lower Northam Road	370	92	631	1568	0.236	368	434	0.0	0.3	2.998	A
5 - Grange Road	626	157	499	1751	0.358	624	500	0.0	0.6	3.189	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	370	93	1048	1237	0.299	370	296	0.3	0.4	4.150	A
2 - Broad Oak	779	195	633	1614	0.482	777	785	0.6	0.9	4.296	A
3 - Kings Copse Avenue	393	98	882	1557	0.252	393	529	0.2	0.3	3.092	A
4 - Lower Northam Road	441	110	755	1492	0.296	441	519	0.3	0.4	3.422	A
5 - Grange Road	748	187	597	1690	0.443	747	599	0.6	0.8	3.813	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	454	113	1282	1104	0.411	453	363	0.4	0.7	5.520	A
2 - Broad Oak	953	238	774	1527	0.624	951	960	0.9	1.6	6.211	A
3 - Kings Copse Avenue	481	120	1078	1433	0.336	480	647	0.3	0.5	3.777	A
4 - Lower Northam Road	541	135	924	1389	0.389	540	635	0.4	0.6	4.235	A
5 - Grange Road	916	229	731	1607	0.570	914	733	0.8	1.3	5.180	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	454	113	1285	1102	0.412	454	363	0.7	0.7	5.550	A
2 - Broad Oak	953	238	776	1526	0.625	953	962	1.6	1.6	6.281	A
3 - Kings Copse Avenue	481	120	1081	1431	0.336	481	648	0.5	0.5	3.788	A
4 - Lower Northam Road	541	135	926	1388	0.390	541	636	0.6	0.6	4.249	A
5 - Grange Road	916	229	732	1606	0.570	916	734	1.3	1.3	5.216	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	370	93	1052	1235	0.300	371	297	0.7	0.4	4.175	A
2 - Broad Oak	779	195	636	1613	0.483	781	788	1.6	0.9	4.346	A
3 - Kings Copse Avenue	393	98	886	1554	0.253	394	531	0.5	0.3	3.105	A
4 - Lower Northam Road	441	110	758	1490	0.296	442	521	0.6	0.4	3.439	A
5 - Grange Road	748	187	599	1689	0.443	750	601	1.3	0.8	3.843	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	310	78	880	1333	0.233	311	249	0.4	0.3	3.523	A
2 - Broad Oak	652	163	532	1676	0.389	653	659	0.9	0.6	3.521	A
3 - Kings Copse Avenue	329	82	741	1645	0.200	329	444	0.3	0.3	2.736	A
4 - Lower Northam Road	370	92	634	1566	0.236	370	436	0.4	0.3	3.012	A
5 - Grange Road	626	157	501	1750	0.358	627	503	0.8	0.6	3.211	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.30	0.00	0.00	0.30	0.30			N/A	N/A
2 - Broad Oak	0.63	0.55	1.00	1.40	1.45			N/A	N/A
3 - Kings Copse Avenue	0.25	0.00	0.00	0.25	0.25			N/A	N/A
4 - Lower Northam Road	0.31	0.00	0.00	0.31	0.31			N/A	N/A
5 - Grange Road	0.55	0.55	1.00	1.40	1.45			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2 - Broad Oak	0.92	0.07	0.79	1.65	2.07			N/A	N/A
3 - Kings Copse Avenue	0.34	0.00	0.00	0.34	0.34			N/A	N/A
4 - Lower Northam Road	0.42	0.00	0.00	0.42	0.42			N/A	N/A
5 - Grange Road	0.79	0.08	0.80	1.48	1.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.69	0.03	0.25	0.69	0.69			N/A	N/A
2 - Broad Oak	1.63	0.03	0.26	1.63	1.63			N/A	N/A
3 - Kings Copse Avenue	0.50	0.03	0.25	0.50	0.50			N/A	N/A
4 - Lower Northam Road	0.63	0.03	0.25	0.63	0.63			N/A	N/A
5 - Grange Road	1.31	0.03	0.26	1.31	1.31			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.70	0.03	0.29	1.24	3.08			N/A	N/A
2 - Broad Oak	1.65	0.03	0.27	1.65	1.65			N/A	N/A
3 - Kings Copse Avenue	0.50	0.03	0.31	1.45	2.22			N/A	N/A
4 - Lower Northam Road	0.64	0.03	0.29	1.25	2.88			N/A	N/A
5 - Grange Road	1.32	0.03	0.27	1.32	1.32			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.43	0.00	0.00	0.43	0.43			N/A	N/A
2 - Broad Oak	0.94	0.15	0.97	1.19	1.63			N/A	N/A
3 - Kings Copse Avenue	0.34	0.00	0.00	0.34	0.34			N/A	N/A
4 - Lower Northam Road	0.42	0.00	0.00	0.42	0.42			N/A	N/A
5 - Grange Road	0.80	0.29	0.96	1.40	1.45			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.30	0.00	0.00	0.30	0.30			N/A	N/A
2 - Broad Oak	0.64	0.06	0.60	1.40	1.50			N/A	N/A
3 - Kings Copse Avenue	0.25	0.00	0.00	0.25	0.25			N/A	N/A
4 - Lower Northam Road	0.31	0.00	0.00	0.31	0.31			N/A	N/A
5 - Grange Road	0.56	0.06	0.61	1.32	1.41			N/A	N/A

2030 | + Committed Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Maypole Roundabout	Standard Roundabout		1, 2, 3, 4, 5	6.44	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.44	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Woodhouse Lane		ONE HOUR	✓	481	100.000
2 - Broad Oak		ONE HOUR	✓	908	100.000
3 - Kings Copse Avenue		ONE HOUR	✓	694	100.000
4 - Lower Northam Road		ONE HOUR	✓	517	100.000
5 - Grange Road		ONE HOUR	✓	782	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	1	39	170	130	140
	2 - Broad Oak	48	10	136	236	478
	3 - Kings Copse Avenue	195	184	0	55	260
	4 - Lower Northam Road	125	242	29	1	120
	5 - Grange Road	124	421	152	80	5

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	0	0	0	0
	2 - Broad Oak	0	0	0	0	0
	3 - Kings Copse Avenue	0	0	0	0	0
	4 - Lower Northam Road	0	0	0	0	0
	5 - Grange Road	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Woodhouse Lane	0.47	6.00	0.9	3.0	A	441	662
2 - Broad Oak	0.66	6.87	1.9	2.7	A	833	1250
3 - Kings Copse Avenue	0.57	6.37	1.3	1.8	A	637	955
4 - Lower Northam Road	0.53	7.27	1.1	3.0	A	475	712
5 - Grange Road	0.58	5.73	1.4	1.5	A	718	1077

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	362	91	842	1354	0.267	361	370	0.0	0.4	3.619	A
2 - Broad Oak	684	171	531	1676	0.408	681	671	0.0	0.7	3.608	A
3 - Kings Copse Avenue	522	131	847	1578	0.331	520	365	0.0	0.5	3.397	A
4 - Lower Northam Road	389	97	990	1348	0.289	388	377	0.0	0.4	3.741	A
5 - Grange Road	589	147	626	1672	0.352	587	752	0.0	0.5	3.308	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	432	108	1008	1260	0.343	432	443	0.4	0.5	4.345	A
2 - Broad Oak	816	204	636	1612	0.506	815	804	0.7	1.0	4.508	A
3 - Kings Copse Avenue	624	156	1014	1473	0.423	623	437	0.5	0.7	4.228	A
4 - Lower Northam Road	465	116	1185	1229	0.378	464	452	0.4	0.6	4.702	A
5 - Grange Road	703	176	749	1596	0.441	702	901	0.5	0.8	4.025	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	530	132	1233	1132	0.468	528	542	0.5	0.9	5.951	A
2 - Broad Oak	1000	250	778	1525	0.656	996	983	1.0	1.9	6.767	A
3 - Kings Copse Avenue	764	191	1240	1331	0.574	762	535	0.7	1.3	6.291	A
4 - Lower Northam Road	570	142	1449	1067	0.534	567	552	0.6	1.1	7.170	A
5 - Grange Road	861	215	916	1492	0.577	859	1101	0.8	1.3	5.669	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	530	132	1236	1130	0.469	529	543	0.9	0.9	5.997	A
2 - Broad Oak	1000	250	780	1524	0.656	1000	986	1.9	1.9	6.866	A
3 - Kings Copse Avenue	764	191	1244	1329	0.575	764	536	1.3	1.3	6.370	A
4 - Lower Northam Road	570	142	1454	1065	0.535	569	554	1.1	1.1	7.267	A
5 - Grange Road	861	215	919	1490	0.578	861	1105	1.3	1.4	5.727	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	432	108	1013	1257	0.344	434	445	0.9	0.5	4.381	A
2 - Broad Oak	816	204	639	1610	0.507	820	808	1.9	1.0	4.574	A
3 - Kings Copse Avenue	624	156	1019	1470	0.424	626	439	1.3	0.7	4.279	A
4 - Lower Northam Road	465	116	1192	1225	0.380	467	454	1.1	0.6	4.762	A
5 - Grange Road	703	176	753	1593	0.441	706	906	1.4	0.8	4.066	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	362	91	847	1351	0.268	363	372	0.5	0.4	3.645	A
2 - Broad Oak	684	171	534	1675	0.408	685	675	1.0	0.7	3.642	A
3 - Kings Copse Avenue	522	131	852	1575	0.332	523	367	0.7	0.5	3.427	A
4 - Lower Northam Road	389	97	996	1345	0.290	390	379	0.6	0.4	3.773	A
5 - Grange Road	589	147	629	1670	0.353	590	757	0.8	0.5	3.335	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.36	0.00	0.00	0.36	0.36			N/A	N/A
2 - Broad Oak	0.68	0.55	1.00	1.40	1.45			N/A	N/A
3 - Kings Copse Avenue	0.49	0.00	0.00	0.49	0.49			N/A	N/A
4 - Lower Northam Road	0.40	0.00	0.00	0.40	0.40			N/A	N/A
5 - Grange Road	0.54	0.54	1.00	1.40	1.45			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.52	0.06	0.60	1.32	1.41			N/A	N/A
2 - Broad Oak	1.02	0.06	0.76	1.93	2.75			N/A	N/A
3 - Kings Copse Avenue	0.73	0.07	0.77	1.05	1.05			N/A	N/A
4 - Lower Northam Road	0.60	0.07	0.74	1.35	1.43			N/A	N/A
5 - Grange Road	0.78	0.08	0.79	1.47	1.47			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.87	0.03	0.26	0.87	0.87			N/A	N/A
2 - Broad Oak	1.86	0.03	0.27	1.86	1.86			N/A	N/A
3 - Kings Copse Avenue	1.32	0.03	0.26	1.32	1.32			N/A	N/A
4 - Lower Northam Road	1.12	0.03	0.26	1.12	1.12			N/A	N/A
5 - Grange Road	1.35	0.03	0.26	1.35	1.35			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.88	0.03	0.28	0.88	2.96			N/A	N/A
2 - Broad Oak	1.89	0.03	0.27	1.89	1.89			N/A	N/A
3 - Kings Copse Avenue	1.34	0.03	0.27	1.34	1.75			N/A	N/A
4 - Lower Northam Road	1.14	0.03	0.28	1.14	2.98			N/A	N/A
5 - Grange Road	1.36	0.03	0.27	1.36	1.49			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.53	0.53	1.00	1.40	1.45			N/A	N/A
2 - Broad Oak	1.04	0.12	0.99	1.63	1.92			N/A	N/A
3 - Kings Copse Avenue	0.74	0.15	0.91	1.39	1.45			N/A	N/A
4 - Lower Northam Road	0.62	0.10	0.83	1.37	1.43			N/A	N/A
5 - Grange Road	0.80	0.21	0.94	1.40	1.46			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.37	0.03	0.26	0.47	0.49			N/A	N/A
2 - Broad Oak	0.69	0.05	0.55	1.50	1.60			N/A	N/A
3 - Kings Copse Avenue	0.50	0.04	0.44	1.27	1.39			N/A	N/A
4 - Lower Northam Road	0.41	0.03	0.33	1.10	1.30			N/A	N/A
5 - Grange Road	0.55	0.05	0.54	1.31	1.41			N/A	N/A

2030 | + Committed Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Maypole Roundabout	Standard Roundabout		1, 2, 3, 4, 5	6.27	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.27	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Woodhouse Lane		ONE HOUR	✓	464	100.000
2 - Broad Oak		ONE HOUR	✓	922	100.000
3 - Kings Copse Avenue		ONE HOUR	✓	509	100.000
4 - Lower Northam Road		ONE HOUR	✓	528	100.000
5 - Grange Road		ONE HOUR	✓	892	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	49	190	153	72
	2 - Broad Oak	29	6	183	333	371
	3 - Kings Copse Avenue	177	143	0	47	142
	4 - Lower Northam Road	101	243	57	1	127
	5 - Grange Road	98	489	222	83	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	0	0	0	0
	2 - Broad Oak	0	0	0	0	0
	3 - Kings Copse Avenue	0	0	0	0	0
	4 - Lower Northam Road	0	0	0	0	0
	5 - Grange Road	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Woodhouse Lane	0.49	6.64	0.9	3.1	A	426	639
2 - Broad Oak	0.69	7.81	2.2	3.3	A	846	1270
3 - Kings Copse Avenue	0.40	4.36	0.7	3.0	A	467	700
4 - Lower Northam Road	0.44	4.87	0.8	2.9	A	485	727
5 - Grange Road	0.64	6.41	1.7	2.4	A	819	1228

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	350	87	934	1302	0.268	348	303	0.0	0.4	3.769	A
2 - Broad Oak	694	174	584	1644	0.422	691	697	0.0	0.7	3.768	A
3 - Kings Copse Avenue	383	96	786	1617	0.237	382	489	0.0	0.3	2.913	A
4 - Lower Northam Road	398	99	706	1523	0.261	396	463	0.0	0.4	3.192	A
5 - Grange Road	672	168	568	1709	0.393	669	534	0.0	0.6	3.454	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	417	104	1117	1198	0.349	417	363	0.4	0.5	4.606	A
2 - Broad Oak	829	207	699	1573	0.527	828	835	0.7	1.1	4.817	A
3 - Kings Copse Avenue	458	114	941	1519	0.301	457	586	0.3	0.4	3.387	A
4 - Lower Northam Road	475	119	845	1438	0.330	474	554	0.4	0.5	3.736	A
5 - Grange Road	802	201	679	1639	0.489	801	640	0.6	0.9	4.289	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	511	128	1367	1056	0.484	510	444	0.5	0.9	6.575	A
2 - Broad Oak	1016	254	855	1478	0.687	1011	1021	1.1	2.1	7.650	A
3 - Kings Copse Avenue	560	140	1150	1388	0.404	559	716	0.4	0.7	4.340	A
4 - Lower Northam Road	582	145	1033	1322	0.440	581	677	0.5	0.8	4.854	A
5 - Grange Road	982	246	831	1544	0.636	979	782	0.9	1.7	6.337	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	511	128	1370	1054	0.485	511	445	0.9	0.9	6.636	A
2 - Broad Oak	1016	254	858	1476	0.688	1015	1024	2.1	2.2	7.805	A
3 - Kings Copse Avenue	560	140	1155	1385	0.405	560	719	0.7	0.7	4.364	A
4 - Lower Northam Road	582	145	1036	1321	0.441	582	679	0.8	0.8	4.872	A
5 - Grange Road	982	246	833	1543	0.637	982	785	1.7	1.7	6.414	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	417	104	1123	1195	0.349	419	364	0.9	0.5	4.652	A
2 - Broad Oak	829	207	703	1571	0.528	833	839	2.2	1.1	4.905	A
3 - Kings Copse Avenue	458	114	947	1515	0.302	458	589	0.7	0.4	3.408	A
4 - Lower Northam Road	475	119	849	1435	0.331	476	557	0.8	0.5	3.757	A
5 - Grange Road	802	201	682	1638	0.490	805	643	1.7	1.0	4.340	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	350	87	939	1299	0.269	350	305	0.5	0.4	3.795	A
2 - Broad Oak	694	174	588	1642	0.423	696	701	1.1	0.7	3.813	A
3 - Kings Copse Avenue	383	96	791	1613	0.237	384	492	0.4	0.3	2.930	A
4 - Lower Northam Road	398	99	709	1520	0.262	398	465	0.5	0.4	3.212	A
5 - Grange Road	672	168	570	1707	0.393	673	538	1.0	0.7	3.484	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.36	0.00	0.00	0.36	0.36			N/A	N/A
2 - Broad Oak	0.73	0.55	1.00	1.40	1.45			N/A	N/A
3 - Kings Copse Avenue	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4 - Lower Northam Road	0.35	0.00	0.00	0.35	0.35			N/A	N/A
5 - Grange Road	0.64	0.55	1.00	1.40	1.45			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.53	0.06	0.64	1.33	1.41			N/A	N/A
2 - Broad Oak	1.10	0.06	0.71	2.34	3.32			N/A	N/A
3 - Kings Copse Avenue	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4 - Lower Northam Road	0.49	0.00	0.00	0.49	0.49			N/A	N/A
5 - Grange Road	0.95	0.06	0.77	1.75	2.36			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.93	0.03	0.26	0.93	0.93			N/A	N/A
2 - Broad Oak	2.14	0.03	0.27	2.14	3.34			N/A	N/A
3 - Kings Copse Avenue	0.67	0.03	0.25	0.67	0.67			N/A	N/A
4 - Lower Northam Road	0.78	0.03	0.25	0.78	0.78			N/A	N/A
5 - Grange Road	1.72	0.03	0.27	1.72	1.72			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.94	0.03	0.28	0.94	3.11			N/A	N/A
2 - Broad Oak	2.17	0.03	0.27	2.17	2.17			N/A	N/A
3 - Kings Copse Avenue	0.68	0.03	0.29	1.20	2.97			N/A	N/A
4 - Lower Northam Road	0.78	0.03	0.28	0.78	2.88			N/A	N/A
5 - Grange Road	1.73	0.03	0.27	1.73	1.73			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2 - Broad Oak	1.13	0.09	0.99	1.91	2.58			N/A	N/A
3 - Kings Copse Avenue	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4 - Lower Northam Road	0.50	0.00	0.00	0.50	0.50			N/A	N/A
5 - Grange Road	0.97	0.14	0.97	1.36	1.73			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.37	0.03	0.27	0.49	0.85			N/A	N/A
2 - Broad Oak	0.74	0.05	0.47	1.44	1.95			N/A	N/A
3 - Kings Copse Avenue	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4 - Lower Northam Road	0.36	0.00	0.00	0.36	0.36			N/A	N/A
5 - Grange Road	0.65	0.05	0.58	1.22	1.22			N/A	N/A

2030 | + Committed Development + Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Maypole Roundabout	Standard Roundabout		1, 2, 3, 4, 5	6.51	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.51	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Woodhouse Lane		ONE HOUR	✓	481	100.000
2 - Broad Oak		ONE HOUR	✓	909	100.000
3 - Kings Copse Avenue		ONE HOUR	✓	707	100.000
4 - Lower Northam Road		ONE HOUR	✓	518	100.000
5 - Grange Road		ONE HOUR	✓	784	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	1	39	170	130	140
	2 - Broad Oak	48	10	137	236	478
	3 - Kings Copse Avenue	195	187	0	59	266
	4 - Lower Northam Road	125	242	30	1	120
	5 - Grange Road	124	421	154	80	5

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	0	0	0	0
	2 - Broad Oak	0	0	0	0	0
	3 - Kings Copse Avenue	0	0	0	0	0
	4 - Lower Northam Road	0	0	0	0	0
	5 - Grange Road	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Woodhouse Lane	0.47	6.03	0.9	3.0	A	441	662
2 - Broad Oak	0.66	6.90	1.9	2.8	A	834	1251
3 - Kings Copse Avenue	0.59	6.53	1.4	1.7	A	648	973
4 - Lower Northam Road	0.54	7.38	1.2	3.0	A	476	713
5 - Grange Road	0.58	5.77	1.4	1.5	A	719	1079

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	362	91	846	1352	0.268	361	371	0.0	0.4	3.628	A
2 - Broad Oak	684	171	534	1675	0.408	681	674	0.0	0.7	3.612	A
3 - Kings Copse Avenue	532	133	847	1578	0.337	530	368	0.0	0.5	3.429	A
4 - Lower Northam Road	390	98	997	1344	0.290	389	380	0.0	0.4	3.761	A
5 - Grange Road	590	148	629	1670	0.353	588	757	0.0	0.5	3.319	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	433	108	1013	1257	0.344	432	444	0.4	0.5	4.361	A
2 - Broad Oak	817	204	639	1611	0.507	816	806	0.7	1.0	4.522	A
3 - Kings Copse Avenue	635	159	1014	1473	0.431	634	441	0.5	0.8	4.284	A
4 - Lower Northam Road	466	116	1194	1224	0.381	465	455	0.4	0.6	4.740	A
5 - Grange Road	705	176	753	1593	0.442	704	906	0.5	0.8	4.044	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	530	132	1239	1128	0.469	528	542	0.5	0.9	5.984	A
2 - Broad Oak	1001	250	781	1523	0.657	997	986	1.0	1.9	6.802	A
3 - Kings Copse Avenue	778	194	1240	1331	0.584	775	539	0.8	1.4	6.445	A
4 - Lower Northam Road	571	143	1459	1061	0.538	568	556	0.6	1.1	7.274	A
5 - Grange Road	863	216	920	1489	0.580	861	1108	0.8	1.4	5.714	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	530	132	1243	1126	0.470	530	544	0.9	0.9	6.034	A
2 - Broad Oak	1001	250	784	1522	0.658	1001	989	1.9	1.9	6.905	A
3 - Kings Copse Avenue	778	194	1244	1329	0.585	778	540	1.4	1.4	6.529	A
4 - Lower Northam Road	571	143	1464	1058	0.539	571	558	1.1	1.2	7.377	A
5 - Grange Road	863	216	923	1487	0.581	863	1111	1.4	1.4	5.772	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	433	108	1018	1254	0.345	434	446	0.9	0.5	4.397	A
2 - Broad Oak	817	204	642	1609	0.508	820	810	1.9	1.0	4.588	A
3 - Kings Copse Avenue	635	159	1020	1470	0.432	638	443	1.4	0.8	4.338	A
4 - Lower Northam Road	466	116	1200	1220	0.382	468	457	1.2	0.6	4.801	A
5 - Grange Road	705	176	757	1590	0.443	707	911	1.4	0.8	4.087	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	362	91	851	1349	0.269	363	373	0.5	0.4	3.654	A
2 - Broad Oak	684	171	537	1673	0.409	686	677	1.0	0.7	3.649	A
3 - Kings Copse Avenue	532	133	852	1575	0.338	533	370	0.8	0.5	3.456	A
4 - Lower Northam Road	390	98	1003	1340	0.291	391	382	0.6	0.4	3.797	A
5 - Grange Road	590	148	633	1668	0.354	591	761	0.8	0.6	3.348	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.36	0.00	0.00	0.36	0.36			N/A	N/A
2 - Broad Oak	0.69	0.55	1.00	1.40	1.45			N/A	N/A
3 - Kings Copse Avenue	0.51	0.51	1.00	1.40	1.45			N/A	N/A
4 - Lower Northam Road	0.41	0.00	0.00	0.41	0.41			N/A	N/A
5 - Grange Road	0.54	0.54	1.00	1.40	1.45			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.52	0.06	0.61	1.32	1.41			N/A	N/A
2 - Broad Oak	1.02	0.06	0.76	1.94	2.76			N/A	N/A
3 - Kings Copse Avenue	0.75	0.07	0.77	1.33	1.33			N/A	N/A
4 - Lower Northam Road	0.61	0.07	0.74	1.35	1.43			N/A	N/A
5 - Grange Road	0.79	0.07	0.79	1.49	1.51			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.87	0.03	0.26	0.87	0.87			N/A	N/A
2 - Broad Oak	1.88	0.03	0.27	1.88	1.88			N/A	N/A
3 - Kings Copse Avenue	1.38	0.03	0.26	1.38	1.38			N/A	N/A
4 - Lower Northam Road	1.14	0.03	0.26	1.14	1.14			N/A	N/A
5 - Grange Road	1.36	0.03	0.26	1.36	1.36			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.88	0.03	0.28	0.88	2.96			N/A	N/A
2 - Broad Oak	1.90	0.03	0.27	1.90	1.90			N/A	N/A
3 - Kings Copse Avenue	1.40	0.03	0.27	1.40	1.71			N/A	N/A
4 - Lower Northam Road	1.16	0.03	0.28	1.16	2.99			N/A	N/A
5 - Grange Road	1.37	0.03	0.27	1.37	1.49			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.53	0.53	1.00	1.40	1.45			N/A	N/A
2 - Broad Oak	1.04	0.11	0.99	1.64	1.93			N/A	N/A
3 - Kings Copse Avenue	0.77	0.15	0.91	1.40	1.46			N/A	N/A
4 - Lower Northam Road	0.62	0.10	0.83	1.37	1.43			N/A	N/A
5 - Grange Road	0.80	0.21	0.94	1.40	1.46			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.37	0.03	0.26	0.47	0.49			N/A	N/A
2 - Broad Oak	0.70	0.05	0.55	1.03	1.63			N/A	N/A
3 - Kings Copse Avenue	0.51	0.05	0.46	1.28	1.40			N/A	N/A
4 - Lower Northam Road	0.41	0.03	0.34	1.12	1.31			N/A	N/A
5 - Grange Road	0.55	0.05	0.54	1.31	1.41			N/A	N/A

2030 | + Committed Development + Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Maypole Roundabout	Standard Roundabout		1, 2, 3, 4, 5	6.36	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.36	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Woodhouse Lane		ONE HOUR	✓	465	100.000
2 - Broad Oak		ONE HOUR	✓	925	100.000
3 - Kings Copse Avenue		ONE HOUR	✓	514	100.000
4 - Lower Northam Road		ONE HOUR	✓	531	100.000
5 - Grange Road		ONE HOUR	✓	898	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	49	191	153	72
	2 - Broad Oak	29	6	185	333	371
	3 - Kings Copse Avenue	177	144	0	48	145
	4 - Lower Northam Road	101	243	60	1	127
	5 - Grange Road	98	489	228	83	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To				
		1 - Woodhouse Lane	2 - Broad Oak	3 - Kings Copse Avenue	4 - Lower Northam Road	5 - Grange Road
From	1 - Woodhouse Lane	0	0	0	0	0
	2 - Broad Oak	0	0	0	0	0
	3 - Kings Copse Avenue	0	0	0	0	0
	4 - Lower Northam Road	0	0	0	0	0
	5 - Grange Road	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Woodhouse Lane	0.49	6.72	0.9	3.1	A	427	640
2 - Broad Oak	0.69	7.95	2.2	3.7	A	849	1273
3 - Kings Copse Avenue	0.41	4.40	0.7	3.0	A	472	708
4 - Lower Northam Road	0.44	4.91	0.8	2.9	A	488	731
5 - Grange Road	0.64	6.52	1.8	2.5	A	824	1235

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	350	87	941	1298	0.270	349	303	0.0	0.4	3.786	A
2 - Broad Oak	696	174	591	1640	0.425	693	698	0.0	0.7	3.792	A
3 - Kings Copse Avenue	387	97	786	1617	0.240	386	498	0.0	0.3	2.923	A
4 - Lower Northam Road	400	100	709	1521	0.263	399	464	0.0	0.4	3.203	A
5 - Grange Road	676	169	571	1707	0.396	673	536	0.0	0.7	3.474	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	418	104	1126	1193	0.350	417	363	0.4	0.5	4.638	A
2 - Broad Oak	831	208	707	1569	0.530	830	836	0.7	1.1	4.863	A
3 - Kings Copse Avenue	462	116	941	1519	0.304	462	596	0.3	0.4	3.402	A
4 - Lower Northam Road	478	119	848	1435	0.333	477	555	0.4	0.5	3.755	A
5 - Grange Road	807	202	683	1637	0.493	806	642	0.7	1.0	4.326	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	512	128	1377	1050	0.488	510	444	0.5	0.9	6.652	A
2 - Broad Oak	1018	255	865	1472	0.692	1014	1022	1.1	2.2	7.789	A
3 - Kings Copse Avenue	566	142	1150	1388	0.408	565	729	0.4	0.7	4.371	A
4 - Lower Northam Road	585	146	1037	1320	0.443	584	678	0.5	0.8	4.884	A
5 - Grange Road	988	247	836	1541	0.641	985	785	1.0	1.8	6.436	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	512	128	1381	1048	0.489	512	445	0.9	0.9	6.717	A
2 - Broad Oak	1018	255	867	1470	0.693	1018	1025	2.2	2.2	7.955	A
3 - Kings Copse Avenue	566	142	1155	1385	0.409	566	731	0.7	0.7	4.396	A
4 - Lower Northam Road	585	146	1040	1318	0.444	585	681	0.8	0.8	4.911	A
5 - Grange Road	988	247	838	1540	0.642	988	787	1.8	1.8	6.517	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	418	104	1131	1190	0.351	420	365	0.9	0.5	4.685	A
2 - Broad Oak	831	208	711	1566	0.531	836	840	2.2	1.1	4.957	A
3 - Kings Copse Avenue	462	116	947	1515	0.305	463	599	0.7	0.4	3.427	A
4 - Lower Northam Road	478	119	852	1433	0.333	479	558	0.8	0.5	3.780	A
5 - Grange Road	807	202	686	1635	0.493	810	645	1.8	1.0	4.379	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Woodhouse Lane	350	87	946	1295	0.270	351	305	0.5	0.4	3.813	A
2 - Broad Oak	696	174	594	1638	0.425	698	702	1.1	0.7	3.835	A
3 - Kings Copse Avenue	387	97	791	1613	0.240	388	501	0.4	0.3	2.937	A
4 - Lower Northam Road	400	100	713	1518	0.263	401	466	0.5	0.4	3.221	A
5 - Grange Road	676	169	574	1705	0.396	677	539	1.0	0.7	3.508	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2 - Broad Oak	0.73	0.55	1.00	1.40	1.45			N/A	N/A
3 - Kings Copse Avenue	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4 - Lower Northam Road	0.36	0.00	0.00	0.36	0.36			N/A	N/A
5 - Grange Road	0.65	0.55	1.00	1.40	1.45			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.54	0.06	0.66	1.33	1.42			N/A	N/A
2 - Broad Oak	1.12	0.06	0.70	2.40	3.43			N/A	N/A
3 - Kings Copse Avenue	0.44	0.00	0.00	0.44	0.44			N/A	N/A
4 - Lower Northam Road	0.50	0.00	0.00	0.50	0.50			N/A	N/A
5 - Grange Road	0.96	0.06	0.76	1.80	2.46			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.94	0.03	0.26	0.94	0.94			N/A	N/A
2 - Broad Oak	2.18	0.03	0.27	2.18	3.72			N/A	N/A
3 - Kings Copse Avenue	0.68	0.03	0.25	0.68	0.68			N/A	N/A
4 - Lower Northam Road	0.79	0.03	0.25	0.79	0.79			N/A	N/A
5 - Grange Road	1.75	0.03	0.27	1.75	1.75			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.95	0.03	0.28	0.95	3.11			N/A	N/A
2 - Broad Oak	2.22	0.03	0.27	2.22	2.22			N/A	N/A
3 - Kings Copse Avenue	0.69	0.03	0.29	1.16	2.97			N/A	N/A
4 - Lower Northam Road	0.79	0.03	0.28	0.79	2.87			N/A	N/A
5 - Grange Road	1.77	0.03	0.27	1.77	1.77			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.55	0.07	0.75	1.35	1.43			N/A	N/A
2 - Broad Oak	1.14	0.09	0.98	1.95	2.67			N/A	N/A
3 - Kings Copse Avenue	0.44	0.00	0.00	0.44	0.44			N/A	N/A
4 - Lower Northam Road	0.50	0.50	1.00	1.40	1.45			N/A	N/A
5 - Grange Road	0.98	0.13	0.98	1.43	1.78			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Woodhouse Lane	0.37	0.03	0.27	0.49	0.94			N/A	N/A
2 - Broad Oak	0.74	0.05	0.47	1.48	2.00			N/A	N/A
3 - Kings Copse Avenue	0.32	0.00	0.00	0.32	0.32			N/A	N/A
4 - Lower Northam Road	0.36	0.00	0.00	0.36	0.36			N/A	N/A
5 - Grange Road	0.66	0.05	0.57	1.33	1.33			N/A	N/A

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: Kings Copse Avenue_Whitebeam Road Rbt - 2030.j11
Path: S:\Projects\19000 Series\19785ITS - Kings Copse Avenue Hedge End\Tech\Junction Assessments\Arcady
Report generation date: 20/06/2025 11:21:56

»2024 | Baseline | AM
»2024 | Baseline | PM
»2030 | + Committed Development | AM
»2030 | + Committed Development | PM
»2030 | + Committed Development + Development | AM
»2030 | + Committed Development + Development | PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2024 - Baseline					
1 - Kings Copse Avenue (N)	0.8	6.00	0.43	1.4	8.20	0.59
2 - Marls Road	0.1	3.98	0.08	0.1	4.29	0.08
3 - Kings Copse Avenue (South)	1.0	6.00	0.51	0.5	4.46	0.34
4 - Whitebeam Road	0.1	4.51	0.08	0.0	3.79	0.03
	2030 - + Committed Development					
1 - Kings Copse Avenue (N)	1.1	7.12	0.52	1.8	9.70	0.65
2 - Marls Road	0.1	4.26	0.09	0.1	4.51	0.08
3 - Kings Copse Avenue (South)	1.3	6.74	0.56	0.7	4.94	0.40
4 - Whitebeam Road	0.1	4.76	0.09	0.0	3.99	0.04
	2030 - + Committed Development + Development					
1 - Kings Copse Avenue (N)	1.1	7.18	0.53	1.9	10.04	0.66
2 - Marls Road	0.1	4.28	0.09	0.1	4.55	0.09
3 - Kings Copse Avenue (South)	1.3	6.92	0.57	0.7	4.98	0.41
4 - Whitebeam Road	0.1	4.82	0.09	0.0	4.01	0.04

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	24/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\basingstoke.hotdesk
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75	✓					0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓		
D3	2030	Future Traffic	AM	ONE HOUR	07:45	09:15	15		Simple	D1*G1
D4	2030	Future Traffic	PM	ONE HOUR	16:15	17:45	15		Simple	D2*G2
D5		Committed Development	AM	ONE HOUR	07:45	09:15	15			
D6		Committed Development	PM	ONE HOUR	16:15	17:45	15			
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6
D9		Development	AM	ONE HOUR	07:45	09:15	15			
D10		Development	PM	ONE HOUR	16:15	17:45	15			
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2024-2030 AM		1.0646
G2	2024-2029 PM		1.0639

Growth factors are only active if a Demand Set references them in a Relationship.

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 | Baseline | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Whitebeam Road Rbt	Standard Roundabout		1, 2, 3, 4	5.79	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.79	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Kings Copse Avenue (N)		
2	Marls Road		
3	Kings Copse Avenue (South)		
4	Whitebeam Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Kings Copse Avenue (N)	3.80	4.40	9.0	6.0	23.0	47.0		
2 - Marls Road	3.64	4.00	14.0	18.0	23.0	18.0		
3 - Kings Copse Avenue (South)	3.75	4.50	4.0	78.0	23.0	42.0		
4 - Whitebeam Road	2.85	4.60	11.0	28.0	23.0	25.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Kings Copse Avenue (N)	0.480	1076
2 - Marls Road	0.581	1247
3 - Kings Copse Avenue (South)	0.573	1272
4 - Whitebeam Road	0.581	1253

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	418	100.000
2 - Marls Road		ONE HOUR	✓	70	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	562	100.000
4 - Whitebeam Road		ONE HOUR	✓	65	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	3	24	373	18
	2 - Marls Road	58	0	7	5
	3 - Kings Copse Avenue (South)	536	3	0	23
	4 - Whitebeam Road	38	4	23	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Marls Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Whitebeam Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.43	6.00	0.8	2.4	A	384	575
2 - Marls Road	0.08	3.98	0.1	0.5	A	64	96
3 - Kings Copse Avenue (South)	0.51	6.00	1.0	1.5	A	516	774
4 - Whitebeam Road	0.08	4.51	0.1	0.5	A	60	89

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	315	79	22	1065	0.295	313	476	0.0	0.4	4.775	A
2 - Marls Road	53	13	312	1066	0.049	52	23	0.0	0.1	3.552	A
3 - Kings Copse Avenue (South)	423	106	63	1235	0.342	421	302	0.0	0.5	4.410	A
4 - Whitebeam Road	49	12	450	992	0.049	49	34	0.0	0.1	3.816	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	376	94	27	1063	0.353	375	570	0.4	0.5	5.231	A
2 - Marls Road	63	16	374	1030	0.061	63	28	0.1	0.1	3.722	A
3 - Kings Copse Avenue (South)	505	126	75	1228	0.411	505	362	0.5	0.7	4.968	A
4 - Whitebeam Road	58	15	539	940	0.062	58	41	0.1	0.1	4.082	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	460	115	33	1060	0.434	459	698	0.5	0.8	5.983	A
2 - Marls Road	77	19	458	981	0.079	77	34	0.1	0.1	3.982	A
3 - Kings Copse Avenue (South)	619	155	92	1219	0.508	617	443	0.7	1.0	5.975	A
4 - Whitebeam Road	72	18	659	870	0.082	71	51	0.1	0.1	4.507	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	460	115	33	1060	0.434	460	699	0.8	0.8	6.000	A
2 - Marls Road	77	19	459	981	0.079	77	34	0.1	0.1	3.984	A
3 - Kings Copse Avenue (South)	619	155	92	1219	0.508	619	444	1.0	1.0	6.001	A
4 - Whitebeam Road	72	18	661	869	0.082	72	51	0.1	0.1	4.511	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	376	94	27	1063	0.353	377	572	0.8	0.6	5.250	A
2 - Marls Road	63	16	376	1029	0.061	63	28	0.1	0.1	3.729	A
3 - Kings Copse Avenue (South)	505	126	76	1228	0.411	507	363	1.0	0.7	4.998	A
4 - Whitebeam Road	58	15	541	939	0.062	59	41	0.1	0.1	4.090	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	315	79	23	1065	0.295	315	479	0.6	0.4	4.805	A
2 - Marls Road	53	13	314	1065	0.050	53	23	0.1	0.1	3.559	A
3 - Kings Copse Avenue (South)	423	106	63	1235	0.343	424	304	0.7	0.5	4.442	A
4 - Whitebeam Road	49	12	452	990	0.049	49	35	0.1	0.1	3.826	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2 - Marls Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.52	0.52	1.00	1.40	1.45			N/A	N/A
4 - Whitebeam Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2 - Marls Road	0.06	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.69	0.12	0.87	1.38	1.44			N/A	N/A
4 - Whitebeam Road	0.07	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.76	0.03	0.26	0.76	0.76			N/A	N/A
2 - Marls Road	0.08	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	1.02	0.03	0.26	1.02	1.02			N/A	N/A
4 - Whitebeam Road	0.09	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.76	0.03	0.28	0.76	2.43			N/A	N/A
2 - Marls Road	0.09	0.00	0.00	0.09	0.09			N/A	N/A
3 - Kings Copse Avenue (South)	1.02	0.03	0.27	1.02	1.47			N/A	N/A
4 - Whitebeam Road	0.09	0.00	0.00	0.09	0.09			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.55	0.55	1.00	1.40	1.45			N/A	N/A
2 - Marls Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3 - Kings Copse Avenue (South)	0.71	0.24	0.94	1.39	1.44			N/A	N/A
4 - Whitebeam Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2 - Marls Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.52	0.05	0.55	1.31	1.41			N/A	N/A
4 - Whitebeam Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A

2024 | Baseline | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Whitebeam Road Rbt	Standard Roundabout		1, 2, 3, 4	6.48	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.48	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	570	100.000
2 - Marls Road		ONE HOUR	✓	63	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	377	100.000
4 - Whitebeam Road		ONE HOUR	✓	31	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	1	48	496	25
	2 - Marls Road	51	0	10	2
	3 - Kings Copse Avenue (South)	362	8	0	7
	4 - Whitebeam Road	21	3	7	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Marls Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Whitebeam Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.59	8.20	1.4	1.7	A	523	785
2 - Marls Road	0.08	4.29	0.1	0.5	A	58	87
3 - Kings Copse Avenue (South)	0.34	4.46	0.5	2.4	A	346	519
4 - Whitebeam Road	0.03	3.79	0.0	0.5	A	28	43

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	429	107	13	1070	0.401	426	326	0.0	0.7	5.577	A
2 - Marls Road	47	12	396	1017	0.047	47	44	0.0	0.0	3.710	A
3 - Kings Copse Avenue (South)	284	71	59	1238	0.229	283	384	0.0	0.3	3.764	A
4 - Whitebeam Road	23	6	316	1069	0.022	23	25	0.0	0.0	3.441	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	512	128	16	1068	0.480	511	391	0.7	0.9	6.453	A
2 - Marls Road	57	14	475	972	0.058	57	53	0.0	0.1	3.934	A
3 - Kings Copse Avenue (South)	339	85	71	1231	0.275	339	460	0.3	0.4	4.034	A
4 - Whitebeam Road	28	7	379	1033	0.027	28	31	0.0	0.0	3.581	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	628	157	20	1066	0.588	626	478	0.9	1.4	8.128	A
2 - Marls Road	69	17	581	910	0.076	69	65	0.1	0.1	4.282	A
3 - Kings Copse Avenue (South)	415	104	87	1222	0.340	415	563	0.4	0.5	4.457	A
4 - Whitebeam Road	34	9	464	984	0.035	34	37	0.0	0.0	3.790	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	628	157	20	1066	0.588	628	479	1.4	1.4	8.198	A
2 - Marls Road	69	17	582	909	0.076	69	65	0.1	0.1	4.287	A
3 - Kings Copse Avenue (South)	415	104	87	1222	0.340	415	565	0.5	0.5	4.462	A
4 - Whitebeam Road	34	9	465	983	0.035	34	37	0.0	0.0	3.792	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	512	128	16	1068	0.480	514	392	1.4	0.9	6.523	A
2 - Marls Road	57	14	477	970	0.058	57	53	0.1	0.1	3.943	A
3 - Kings Copse Avenue (South)	339	85	71	1231	0.275	339	463	0.5	0.4	4.042	A
4 - Whitebeam Road	28	7	380	1032	0.027	28	31	0.0	0.0	3.586	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	429	107	14	1069	0.401	430	328	0.9	0.7	5.639	A
2 - Marls Road	47	12	399	1015	0.047	47	45	0.1	0.0	3.718	A
3 - Kings Copse Avenue (South)	284	71	60	1237	0.229	284	387	0.4	0.3	3.779	A
4 - Whitebeam Road	23	6	318	1068	0.022	23	26	0.0	0.0	3.444	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.66	0.55	1.00	1.40	1.45			N/A	N/A
2 - Marls Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4 - Whitebeam Road	0.02	0.00	0.00	0.02	0.02			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.91	0.11	0.92	1.27	1.69			N/A	N/A
2 - Marls Road	0.06	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.38	0.00	0.00	0.38	0.38			N/A	N/A
4 - Whitebeam Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.40	0.03	0.27	1.40	1.40			N/A	N/A
2 - Marls Road	0.08	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	0.51	0.03	0.25	0.51	0.51			N/A	N/A
4 - Whitebeam Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.41	0.03	0.27	1.41	1.41			N/A	N/A
2 - Marls Road	0.08	0.00	0.00	0.08	0.08			N/A	N/A
3 - Kings Copse Avenue (South)	0.51	0.03	0.30	1.33	2.37			N/A	N/A
4 - Whitebeam Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.93	0.12	0.94	1.30	1.70			N/A	N/A
2 - Marls Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.38	0.00	0.00	0.38	0.38			N/A	N/A
4 - Whitebeam Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.68	0.06	0.64	1.20	1.20			N/A	N/A
2 - Marls Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.30	0.00	0.00	0.30	0.30			N/A	N/A
4 - Whitebeam Road	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2030 | + Committed Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Whitebeam Road Rbt	Standard Roundabout		1, 2, 3, 4	6.64	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.64	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	503	100.000
2 - Marls Road		ONE HOUR	✓	75	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	618	100.000
4 - Whitebeam Road		ONE HOUR	✓	69	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	3	26	455	19
	2 - Marls Road	62	0	7	5
	3 - Kings Copse Avenue (South)	591	3	0	24
	4 - Whitebeam Road	40	4	24	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Marls Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Whitebeam Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.52	7.12	1.1	1.6	A	462	692
2 - Marls Road	0.09	4.26	0.1	0.5	A	68	103
3 - Kings Copse Avenue (South)	0.56	6.74	1.3	1.5	A	567	851
4 - Whitebeam Road	0.09	4.76	0.1	0.5	A	63	95

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	379	95	24	1065	0.356	376	521	0.0	0.5	5.215	A
2 - Marls Road	56	14	376	1029	0.055	56	25	0.0	0.1	3.699	A
3 - Kings Copse Avenue (South)	465	116	67	1233	0.377	463	365	0.0	0.6	4.661	A
4 - Whitebeam Road	52	13	493	966	0.054	52	37	0.0	0.1	3.935	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	452	113	29	1062	0.426	451	625	0.5	0.7	5.886	A
2 - Marls Road	67	17	451	986	0.068	67	30	0.1	0.1	3.919	A
3 - Kings Copse Avenue (South)	556	139	80	1226	0.454	555	437	0.6	0.8	5.362	A
4 - Whitebeam Road	62	16	591	910	0.068	62	44	0.1	0.1	4.247	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	554	138	35	1059	0.523	552	765	0.7	1.1	7.084	A
2 - Marls Road	82	21	551	927	0.089	82	36	0.1	0.1	4.260	A
3 - Kings Copse Avenue (South)	681	170	98	1215	0.560	679	535	0.8	1.3	6.693	A
4 - Whitebeam Road	76	19	724	833	0.091	76	54	0.1	0.1	4.757	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	554	138	35	1059	0.523	554	766	1.1	1.1	7.123	A
2 - Marls Road	82	21	553	926	0.089	82	36	0.1	0.1	4.264	A
3 - Kings Copse Avenue (South)	681	170	98	1215	0.560	681	536	1.3	1.3	6.736	A
4 - Whitebeam Road	76	19	725	832	0.092	76	54	0.1	0.1	4.763	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	452	113	29	1062	0.426	454	627	1.1	0.7	5.929	A
2 - Marls Road	67	17	453	984	0.068	67	30	0.1	0.1	3.924	A
3 - Kings Copse Avenue (South)	556	139	81	1225	0.454	558	439	1.3	0.8	5.405	A
4 - Whitebeam Road	62	16	594	908	0.069	62	44	0.1	0.1	4.258	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	379	95	24	1064	0.356	379	525	0.7	0.6	5.263	A
2 - Marls Road	56	14	379	1027	0.055	56	25	0.1	0.1	3.709	A
3 - Kings Copse Avenue (South)	465	116	67	1233	0.378	466	367	0.8	0.6	4.701	A
4 - Whitebeam Road	52	13	497	964	0.054	52	37	0.1	0.1	3.947	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.55	0.55	1.00	1.40	1.45			N/A	N/A
2 - Marls Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.60	0.55	1.00	1.40	1.45			N/A	N/A
4 - Whitebeam Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.73	0.14	0.89	1.39	1.45			N/A	N/A
2 - Marls Road	0.07	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.82	0.10	0.88	1.32	1.32			N/A	N/A
4 - Whitebeam Road	0.07	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.08	0.03	0.26	1.08	1.08			N/A	N/A
2 - Marls Road	0.10	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	1.25	0.03	0.26	1.25	1.25			N/A	N/A
4 - Whitebeam Road	0.10	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.09	0.03	0.27	1.09	1.56			N/A	N/A
2 - Marls Road	0.10	0.00	0.00	0.10	0.10			N/A	N/A
3 - Kings Copse Avenue (South)	1.26	0.03	0.27	1.26	1.50			N/A	N/A
4 - Whitebeam Road	0.10	0.00	0.00	0.10	0.10			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.75	0.17	0.92	1.39	1.45			N/A	N/A
2 - Marls Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3 - Kings Copse Avenue (South)	0.84	0.17	0.94	1.43	1.49			N/A	N/A
4 - Whitebeam Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.56	0.06	0.60	1.32	1.41			N/A	N/A
2 - Marls Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.61	0.06	0.66	1.35	1.43			N/A	N/A
4 - Whitebeam Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A

2030 | + Committed Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Whitebeam Road Rbt	Standard Roundabout		1, 2, 3, 4	7.45	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.45	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	631	100.000
2 - Marls Road		ONE HOUR	✓	67	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	445	100.000
4 - Whitebeam Road		ONE HOUR	✓	33	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	1	51	553	27
	2 - Marls Road	54	0	11	2
	3 - Kings Copse Avenue (South)	429	9	0	7
	4 - Whitebeam Road	22	3	7	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Marls Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Whitebeam Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.65	9.70	1.8	3.5	A	579	869
2 - Marls Road	0.08	4.51	0.1	0.5	A	62	92
3 - Kings Copse Avenue (South)	0.40	4.94	0.7	2.6	A	408	613
4 - Whitebeam Road	0.04	3.99	0.0	0.5	A	30	45

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	475	119	14	1069	0.445	472	380	0.0	0.8	6.001	A
2 - Marls Road	50	13	440	992	0.051	50	47	0.0	0.1	3.823	A
3 - Kings Copse Avenue (South)	335	84	63	1235	0.271	334	427	0.0	0.4	3.985	A
4 - Whitebeam Road	25	6	369	1038	0.024	25	27	0.0	0.0	3.550	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	568	142	17	1068	0.532	566	455	0.8	1.1	7.161	A
2 - Marls Road	60	15	527	941	0.064	60	56	0.1	0.1	4.087	A
3 - Kings Copse Avenue (South)	400	100	75	1228	0.326	400	512	0.4	0.5	4.343	A
4 - Whitebeam Road	30	7	443	996	0.030	30	32	0.0	0.0	3.724	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	695	174	21	1066	0.652	692	557	1.1	1.8	9.565	A
2 - Marls Road	74	18	645	873	0.085	74	69	0.1	0.1	4.505	A
3 - Kings Copse Avenue (South)	490	123	92	1219	0.402	489	626	0.5	0.7	4.931	A
4 - Whitebeam Road	36	9	542	938	0.039	36	40	0.0	0.0	3.991	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	695	174	21	1066	0.652	695	558	1.8	1.8	9.702	A
2 - Marls Road	74	18	647	871	0.085	74	69	0.1	0.1	4.513	A
3 - Kings Copse Avenue (South)	490	123	93	1219	0.402	490	628	0.7	0.7	4.941	A
4 - Whitebeam Road	36	9	543	938	0.039	36	40	0.0	0.0	3.993	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	568	142	17	1068	0.532	570	456	1.8	1.2	7.280	A
2 - Marls Road	60	15	531	939	0.064	60	57	0.1	0.1	4.099	A
3 - Kings Copse Avenue (South)	400	100	76	1228	0.326	401	516	0.7	0.5	4.356	A
4 - Whitebeam Road	30	7	444	995	0.030	30	33	0.0	0.0	3.730	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	475	119	14	1069	0.445	477	382	1.2	0.8	6.091	A
2 - Marls Road	50	13	444	989	0.051	51	47	0.1	0.1	3.836	A
3 - Kings Copse Avenue (South)	335	84	63	1235	0.271	336	431	0.5	0.4	4.004	A
4 - Whitebeam Road	25	6	372	1037	0.024	25	27	0.0	0.0	3.555	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.79	0.55	1.00	1.40	1.45			N/A	N/A
2 - Marls Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.37	0.00	0.00	0.37	0.37			N/A	N/A
4 - Whitebeam Road	0.02	0.00	0.00	0.02	0.02			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.12	0.08	0.96	1.92	2.63			N/A	N/A
2 - Marls Road	0.07	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.48	0.00	0.00	0.48	0.48			N/A	N/A
4 - Whitebeam Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.82	0.03	0.27	1.82	3.52			N/A	N/A
2 - Marls Road	0.09	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	0.67	0.03	0.25	0.67	0.67			N/A	N/A
4 - Whitebeam Road	0.04	0.03	0.25	0.45	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.85	0.03	0.27	1.85	1.85			N/A	N/A
2 - Marls Road	0.09	0.00	0.00	0.09	0.09			N/A	N/A
3 - Kings Copse Avenue (South)	0.67	0.03	0.28	0.84	2.63			N/A	N/A
4 - Whitebeam Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.15	0.08	0.97	2.00	2.77			N/A	N/A
2 - Marls Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3 - Kings Copse Avenue (South)	0.49	0.00	0.00	0.49	0.49			N/A	N/A
4 - Whitebeam Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.81	0.05	0.54	1.58	2.11			N/A	N/A
2 - Marls Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.37	0.00	0.00	0.37	0.37			N/A	N/A
4 - Whitebeam Road	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2030 | + Committed Development + Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Whitebeam Road Rbt	Standard Roundabout		1, 2, 3, 4	6.75	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.75	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	507	100.000
2 - Marls Road		ONE HOUR	✓	75	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	631	100.000
4 - Whitebeam Road		ONE HOUR	✓	69	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	3	26	459	19
	2 - Marls Road	62	0	7	5
	3 - Kings Copse Avenue (South)	603	3	0	24
	4 - Whitebeam Road	40	4	24	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Marls Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Whitebeam Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.53	7.18	1.1	1.5	A	465	698
2 - Marls Road	0.09	4.28	0.1	0.5	A	68	103
3 - Kings Copse Avenue (South)	0.57	6.92	1.3	1.5	A	579	869
4 - Whitebeam Road	0.09	4.82	0.1	0.5	A	63	95

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	382	95	24	1065	0.358	379	531	0.0	0.6	5.237	A
2 - Marls Road	56	14	379	1027	0.055	56	25	0.0	0.1	3.705	A
3 - Kings Copse Avenue (South)	475	119	67	1233	0.385	473	367	0.0	0.6	4.718	A
4 - Whitebeam Road	52	13	503	961	0.054	52	37	0.0	0.1	3.959	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	456	114	29	1062	0.429	455	636	0.6	0.7	5.919	A
2 - Marls Road	67	17	454	984	0.068	67	30	0.1	0.1	3.927	A
3 - Kings Copse Avenue (South)	567	142	80	1226	0.463	566	441	0.6	0.9	5.453	A
4 - Whitebeam Road	62	16	603	903	0.069	62	44	0.1	0.1	4.281	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	558	139	35	1059	0.527	557	778	0.7	1.1	7.143	A
2 - Marls Road	82	21	555	925	0.089	82	36	0.1	0.1	4.272	A
3 - Kings Copse Avenue (South)	695	174	98	1215	0.572	693	539	0.9	1.3	6.867	A
4 - Whitebeam Road	76	19	737	825	0.092	76	54	0.1	0.1	4.808	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	558	139	35	1059	0.527	558	780	1.1	1.1	7.183	A
2 - Marls Road	82	21	557	924	0.089	82	36	0.1	0.1	4.276	A
3 - Kings Copse Avenue (South)	695	174	98	1215	0.572	695	540	1.3	1.3	6.917	A
4 - Whitebeam Road	76	19	739	824	0.093	76	54	0.1	0.1	4.815	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	456	114	29	1062	0.429	457	639	1.1	0.8	5.961	A
2 - Marls Road	67	17	456	982	0.068	67	30	0.1	0.1	3.935	A
3 - Kings Copse Avenue (South)	567	142	81	1225	0.463	569	443	1.3	0.9	5.499	A
4 - Whitebeam Road	62	16	605	901	0.069	62	44	0.1	0.1	4.290	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	382	95	24	1064	0.358	382	535	0.8	0.6	5.285	A
2 - Marls Road	56	14	382	1026	0.055	56	25	0.1	0.1	3.715	A
3 - Kings Copse Avenue (South)	475	119	67	1233	0.385	476	370	0.9	0.6	4.761	A
4 - Whitebeam Road	52	13	506	959	0.054	52	37	0.1	0.1	3.972	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.55	0.55	1.00	1.40	1.45			N/A	N/A
2 - Marls Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.62	0.55	1.00	1.40	1.45			N/A	N/A
4 - Whitebeam Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.74	0.13	0.89	1.39	1.45			N/A	N/A
2 - Marls Road	0.07	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.85	0.10	0.88	1.50	1.53			N/A	N/A
4 - Whitebeam Road	0.07	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.10	0.03	0.26	1.10	1.10			N/A	N/A
2 - Marls Road	0.10	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	1.31	0.03	0.26	1.31	1.31			N/A	N/A
4 - Whitebeam Road	0.10	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.10	0.03	0.27	1.10	1.54			N/A	N/A
2 - Marls Road	0.10	0.00	0.00	0.10	0.10			N/A	N/A
3 - Kings Copse Avenue (South)	1.32	0.03	0.27	1.32	1.47			N/A	N/A
4 - Whitebeam Road	0.10	0.00	0.00	0.10	0.10			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.76	0.16	0.92	1.39	1.45			N/A	N/A
2 - Marls Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3 - Kings Copse Avenue (South)	0.87	0.16	0.94	1.25	1.25			N/A	N/A
4 - Whitebeam Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.56	0.06	0.61	1.32	1.41			N/A	N/A
2 - Marls Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.63	0.06	0.66	1.36	1.45			N/A	N/A
4 - Whitebeam Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A

2030 | + Committed Development + Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Whitebeam Road Rbt	Standard Roundabout		1, 2, 3, 4	7.65	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.65	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	643	100.000
2 - Marls Road		ONE HOUR	✓	67	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	451	100.000
4 - Whitebeam Road		ONE HOUR	✓	33	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	1	51	564	27
	2 - Marls Road	54	0	11	2
	3 - Kings Copse Avenue (South)	435	9	0	7
	4 - Whitebeam Road	22	3	7	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Marls Road	3 - Kings Copse Avenue (South)	4 - Whitebeam Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Marls Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Whitebeam Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.66	10.04	1.9	4.3	B	590	885
2 - Marls Road	0.09	4.55	0.1	0.5	A	62	92
3 - Kings Copse Avenue (South)	0.41	4.98	0.7	2.6	A	413	620
4 - Whitebeam Road	0.04	4.01	0.0	0.5	A	30	45

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	484	121	14	1069	0.453	481	384	0.0	0.8	6.085	A
2 - Marls Road	50	13	448	987	0.051	50	47	0.0	0.1	3.842	A
3 - Kings Copse Avenue (South)	339	85	63	1235	0.275	338	435	0.0	0.4	4.003	A
4 - Whitebeam Road	25	6	374	1036	0.024	25	27	0.0	0.0	3.559	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	578	144	17	1068	0.541	576	460	0.8	1.2	7.306	A
2 - Marls Road	60	15	537	935	0.064	60	56	0.1	0.1	4.114	A
3 - Kings Copse Avenue (South)	405	101	75	1228	0.330	405	522	0.4	0.5	4.368	A
4 - Whitebeam Road	30	7	448	993	0.030	30	32	0.0	0.0	3.735	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	708	177	21	1066	0.664	705	563	1.2	1.9	9.879	A
2 - Marls Road	74	18	657	866	0.085	74	69	0.1	0.1	4.545	A
3 - Kings Copse Avenue (South)	496	124	92	1219	0.407	495	638	0.5	0.7	4.971	A
4 - Whitebeam Road	36	9	548	935	0.039	36	40	0.0	0.0	4.006	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	708	177	21	1066	0.664	708	564	1.9	1.9	10.036	B
2 - Marls Road	74	18	660	864	0.085	74	69	0.1	0.1	4.554	A
3 - Kings Copse Avenue (South)	496	124	93	1219	0.407	496	641	0.7	0.7	4.982	A
4 - Whitebeam Road	36	9	549	934	0.039	36	40	0.0	0.0	4.008	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	578	144	17	1068	0.541	581	461	1.9	1.2	7.439	A
2 - Marls Road	60	15	541	933	0.065	60	57	0.1	0.1	4.126	A
3 - Kings Copse Avenue (South)	405	101	76	1228	0.330	406	526	0.7	0.5	4.382	A
4 - Whitebeam Road	30	7	449	992	0.030	30	33	0.0	0.0	3.738	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	484	121	14	1069	0.453	485	386	1.2	0.8	6.184	A
2 - Marls Road	50	13	452	984	0.051	51	47	0.1	0.1	3.856	A
3 - Kings Copse Avenue (South)	339	85	63	1235	0.275	340	439	0.5	0.4	4.023	A
4 - Whitebeam Road	25	6	376	1035	0.024	25	27	0.0	0.0	3.566	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.82	0.55	1.00	1.40	1.45			N/A	N/A
2 - Marls Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.38	0.00	0.00	0.38	0.38			N/A	N/A
4 - Whitebeam Road	0.02	0.00	0.00	0.02	0.02			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.16	0.08	0.96	2.05	2.82			N/A	N/A
2 - Marls Road	0.07	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.49	0.00	0.00	0.49	0.49			N/A	N/A
4 - Whitebeam Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.91	0.03	0.28	1.91	4.31			N/A	N/A
2 - Marls Road	0.09	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	0.68	0.03	0.25	0.68	0.68			N/A	N/A
4 - Whitebeam Road	0.04	0.03	0.25	0.45	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.94	0.03	0.27	1.94	1.96			N/A	N/A
2 - Marls Road	0.09	0.00	0.00	0.09	0.09			N/A	N/A
3 - Kings Copse Avenue (South)	0.68	0.03	0.28	0.78	2.61			N/A	N/A
4 - Whitebeam Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.20	0.08	0.96	2.26	2.98			N/A	N/A
2 - Marls Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3 - Kings Copse Avenue (South)	0.50	0.00	0.00	0.50	0.50			N/A	N/A
4 - Whitebeam Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.84	0.05	0.50	1.70	2.41			N/A	N/A
2 - Marls Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.38	0.00	0.00	0.38	0.38			N/A	N/A
4 - Whitebeam Road	0.02	0.00	0.00	0.02	0.02			N/A	N/A

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: Import of Kings Copse Avenue_Sovereign Drive Rbt.j11
Path: S:\Projects\19000 Series\19785ITS - Kings Copse Avenue Hedge End\Tech\Junction Assessments\Arcady
Report generation date: 20/06/2025 11:26:52

»2024 | Baseline | AM
»2024 | Baseline | PM
»2030 | + Committed Development | AM
»2030 | + Committed Development | PM
»2030 | + Committed Development + Development | AM
»2030 | + Committed Development + Development | PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2024 - Baseline					
1 - Kings Copse Avenue (N)	0.6	4.99	0.38	0.9	5.91	0.48
2 - Sovereign Drive (E)	0.1	4.19	0.06	0.0	4.35	0.04
3 - Kings Copse Avenue (South)	1.0	6.29	0.49	0.5	4.83	0.35
4 - Sovereign Drive (W)	0.2	5.58	0.14	0.0	4.52	0.04
	2030 - + Committed Development					
1 - Kings Copse Avenue (N)	0.8	5.74	0.46	1.1	6.60	0.54
2 - Sovereign Drive (E)	0.1	4.47	0.07	0.0	4.54	0.05
3 - Kings Copse Avenue (South)	1.2	7.04	0.55	0.7	5.38	0.41
4 - Sovereign Drive (W)	0.2	5.89	0.16	0.0	4.74	0.04
	2030 - + Committed Development + Development					
1 - Kings Copse Avenue (N)	0.9	5.78	0.46	1.2	6.76	0.55
2 - Sovereign Drive (E)	0.1	4.48	0.07	0.0	4.58	0.05
3 - Kings Copse Avenue (South)	1.3	7.24	0.56	0.7	5.42	0.42
4 - Sovereign Drive (W)	0.2	5.95	0.16	0.0	4.76	0.04

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	24/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\basingstoke.hotdesk
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75	✓					0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓		
D3	2030	Future Traffic	AM	ONE HOUR	07:45	09:15	15		Simple	D1*G1
D4	2030	Future Traffic	PM	ONE HOUR	16:15	17:45	15		Simple	D2*G2
D5		Committed Development	AM	ONE HOUR	07:45	09:15	15			
D6		Committed Development	PM	ONE HOUR	16:15	17:45	15			
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6
D9		Development	AM	ONE HOUR	07:45	09:15	15			
D10		Development	PM	ONE HOUR	16:15	17:45	15			
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2024-2030 AM		1.0646
G2	2024-2029 PM		1.0639

Growth factors are only active if a Demand Set references them in a Relationship.

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 | Baseline | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Sovereign Drive Rbt	Standard Roundabout		1, 2, 3, 4	5.63	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.63	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Kings Copse Avenue (N)		
2	Sovereign Drive (E)		
3	Kings Copse Avenue (South)		
4	Sovereign Drive (W)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Kings Copse Avenue (N)	3.68	4.30	12.3	9.0	22.0	33.0		
2 - Sovereign Drive (E)	3.10	4.60	9.0	9.0	22.0	33.0		
3 - Kings Copse Avenue (South)	3.58	4.60	11.0	7.0	22.0	35.0		
4 - Sovereign Drive (W)	3.08	4.50	11.0	5.0	22.0	39.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Kings Copse Avenue (N)	0.536	1187
2 - Sovereign Drive (E)	0.528	1149
3 - Kings Copse Avenue (South)	0.522	1180
4 - Sovereign Drive (W)	0.467	1017

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	401	100.000
2 - Sovereign Drive (E)		ONE HOUR	✓	48	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	507	100.000
4 - Sovereign Drive (W)		ONE HOUR	✓	97	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	1	15	329	56
	2 - Sovereign Drive (E)	22	3	19	4
	3 - Kings Copse Avenue (South)	472	15	3	17
	4 - Sovereign Drive (W)	76	1	20	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Sovereign Drive (E)	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Sovereign Drive (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.38	4.99	0.6	2.6	A	368	552
2 - Sovereign Drive (E)	0.06	4.19	0.1	0.5	A	44	66
3 - Kings Copse Avenue (South)	0.49	6.29	1.0	1.8	A	465	698
4 - Sovereign Drive (W)	0.14	5.58	0.2	0.5	A	89	134

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	302	75	31	1170	0.258	301	428	0.0	0.3	4.132	A
2 - Sovereign Drive (E)	36	9	306	987	0.037	36	25	0.0	0.0	3.784	A
3 - Kings Copse Avenue (South)	382	95	64	1146	0.333	380	278	0.0	0.5	4.684	A
4 - Sovereign Drive (W)	73	18	386	837	0.087	73	58	0.0	0.1	4.708	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	360	90	38	1167	0.309	360	513	0.3	0.4	4.459	A
2 - Sovereign Drive (E)	43	11	367	955	0.045	43	31	0.0	0.0	3.947	A
3 - Kings Copse Avenue (South)	456	114	77	1140	0.400	455	333	0.5	0.7	5.253	A
4 - Sovereign Drive (W)	87	22	463	801	0.109	87	69	0.1	0.1	5.042	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	442	110	46	1162	0.380	441	627	0.4	0.6	4.985	A
2 - Sovereign Drive (E)	53	13	450	912	0.058	53	37	0.0	0.1	4.191	A
3 - Kings Copse Avenue (South)	558	140	95	1131	0.494	557	408	0.7	1.0	6.264	A
4 - Sovereign Drive (W)	107	27	567	753	0.142	107	85	0.1	0.2	5.570	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	442	110	46	1162	0.380	441	629	0.6	0.6	4.993	A
2 - Sovereign Drive (E)	53	13	450	911	0.058	53	37	0.1	0.1	4.193	A
3 - Kings Copse Avenue (South)	558	140	95	1131	0.494	558	408	1.0	1.0	6.289	A
4 - Sovereign Drive (W)	107	27	568	752	0.142	107	85	0.2	0.2	5.577	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	360	90	38	1167	0.309	361	515	0.6	0.5	4.472	A
2 - Sovereign Drive (E)	43	11	368	955	0.045	43	31	0.1	0.0	3.950	A
3 - Kings Copse Avenue (South)	456	114	77	1140	0.400	457	334	1.0	0.7	5.283	A
4 - Sovereign Drive (W)	87	22	465	800	0.109	87	69	0.2	0.1	5.050	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	302	75	32	1170	0.258	302	431	0.5	0.3	4.149	A
2 - Sovereign Drive (E)	36	9	308	986	0.037	36	26	0.0	0.0	3.788	A
3 - Kings Copse Avenue (South)	382	95	65	1146	0.333	382	280	0.7	0.5	4.717	A
4 - Sovereign Drive (W)	73	18	389	836	0.087	73	58	0.1	0.1	4.720	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.35	0.00	0.00	0.35	0.35			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.50	0.00	0.00	0.50	0.50			N/A	N/A
4 - Sovereign Drive (W)	0.10	0.00	0.00	0.10	0.10			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.44	0.00	0.00	0.44	0.44			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.66	0.13	0.88	1.38	1.44			N/A	N/A
4 - Sovereign Drive (W)	0.12	0.00	0.00	0.12	0.12			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.61	0.03	0.25	0.61	0.61			N/A	N/A
2 - Sovereign Drive (E)	0.06	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	0.96	0.03	0.26	0.96	0.96			N/A	N/A
4 - Sovereign Drive (W)	0.16	0.03	0.26	0.46	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.61	0.03	0.29	1.07	2.63			N/A	N/A
2 - Sovereign Drive (E)	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.97	0.03	0.27	0.97	1.75			N/A	N/A
4 - Sovereign Drive (W)	0.16	0.03	0.25	0.45	0.48			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.45	0.00	0.00	0.45	0.45			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.67	0.20	0.93	1.39	1.44			N/A	N/A
4 - Sovereign Drive (W)	0.12	0.00	0.00	0.12	0.12			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.35	0.00	0.00	0.35	0.35			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.50	0.05	0.47	1.29	1.39			N/A	N/A
4 - Sovereign Drive (W)	0.10	0.00	0.00	0.10	0.10			N/A	N/A

2024 | Baseline | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Sovereign Drive Rbt	Standard Roundabout		1, 2, 3, 4	5.39	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.39	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	514	100.000
2 - Sovereign Drive (E)		ONE HOUR	✓	32	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	362	100.000
4 - Sovereign Drive (W)		ONE HOUR	✓	30	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	29	439	46
	2 - Sovereign Drive (E)	15	0	16	1
	3 - Kings Copse Avenue (South)	341	11	0	10
	4 - Sovereign Drive (W)	21	1	8	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Sovereign Drive (E)	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Sovereign Drive (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.48	5.91	0.9	1.8	A	472	707
2 - Sovereign Drive (E)	0.04	4.35	0.0	0.5	A	29	44
3 - Kings Copse Avenue (South)	0.35	4.83	0.5	2.5	A	332	498
4 - Sovereign Drive (W)	0.04	4.52	0.0	0.5	A	28	41

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	387	97	15	1179	0.328	385	283	0.0	0.5	4.522	A
2 - Sovereign Drive (E)	24	6	369	954	0.025	24	31	0.0	0.0	3.870	A
3 - Kings Copse Avenue (South)	273	68	46	1156	0.236	271	347	0.0	0.3	4.064	A
4 - Sovereign Drive (W)	23	6	275	889	0.025	22	43	0.0	0.0	4.154	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	462	116	18	1178	0.392	461	339	0.5	0.6	5.023	A
2 - Sovereign Drive (E)	29	7	443	915	0.031	29	37	0.0	0.0	4.060	A
3 - Kings Copse Avenue (South)	325	81	56	1151	0.283	325	416	0.3	0.4	4.357	A
4 - Sovereign Drive (W)	27	7	330	864	0.031	27	51	0.0	0.0	4.302	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	566	141	22	1175	0.481	565	415	0.6	0.9	5.885	A
2 - Sovereign Drive (E)	35	9	542	863	0.041	35	45	0.0	0.0	4.348	A
3 - Kings Copse Avenue (South)	399	100	68	1144	0.348	398	509	0.4	0.5	4.820	A
4 - Sovereign Drive (W)	33	8	404	829	0.040	33	63	0.0	0.0	4.522	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	566	141	22	1175	0.481	566	415	0.9	0.9	5.906	A
2 - Sovereign Drive (E)	35	9	543	862	0.041	35	45	0.0	0.0	4.351	A
3 - Kings Copse Avenue (South)	399	100	68	1144	0.348	399	510	0.5	0.5	4.826	A
4 - Sovereign Drive (W)	33	8	404	829	0.040	33	63	0.0	0.0	4.523	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	462	116	18	1178	0.392	463	339	0.9	0.7	5.048	A
2 - Sovereign Drive (E)	29	7	444	914	0.031	29	37	0.0	0.0	4.064	A
3 - Kings Copse Avenue (South)	325	81	56	1151	0.283	326	417	0.5	0.4	4.367	A
4 - Sovereign Drive (W)	27	7	330	863	0.031	27	51	0.0	0.0	4.307	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	387	97	15	1179	0.328	388	284	0.7	0.5	4.553	A
2 - Sovereign Drive (E)	24	6	372	953	0.025	24	31	0.0	0.0	3.876	A
3 - Kings Copse Avenue (South)	273	68	47	1156	0.236	273	349	0.4	0.3	4.081	A
4 - Sovereign Drive (W)	23	6	277	888	0.025	23	43	0.0	0.0	4.160	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.48	0.00	0.00	0.48	0.48			N/A	N/A
2 - Sovereign Drive (E)	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4 - Sovereign Drive (W)	0.03	0.00	0.00	0.03	0.03			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.64	0.13	0.88	1.38	1.44			N/A	N/A
2 - Sovereign Drive (E)	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4 - Sovereign Drive (W)	0.03	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.92	0.03	0.26	0.92	0.92			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.53	0.03	0.25	0.53	0.53			N/A	N/A
4 - Sovereign Drive (W)	0.04	0.03	0.25	0.45	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.92	0.03	0.27	0.92	1.77			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.53	0.03	0.30	1.29	2.48			N/A	N/A
4 - Sovereign Drive (W)	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.65	0.23	0.94	1.39	1.44			N/A	N/A
2 - Sovereign Drive (E)	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.40	0.00	0.00	0.40	0.40			N/A	N/A
4 - Sovereign Drive (W)	0.03	0.00	0.00	0.03	0.03			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.49	0.04	0.45	1.27	1.39			N/A	N/A
2 - Sovereign Drive (E)	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.31	0.00	0.00	0.31	0.31			N/A	N/A
4 - Sovereign Drive (W)	0.03	0.00	0.00	0.03	0.03			N/A	N/A

2030 | + Committed Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Sovereign Drive Rbt	Standard Roundabout		1, 2, 3, 4	6.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.31	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	485	100.000
2 - Sovereign Drive (E)		ONE HOUR	✓	51	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	560	100.000
4 - Sovereign Drive (W)		ONE HOUR	✓	103	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	1	16	408	60
	2 - Sovereign Drive (E)	23	3	20	4
	3 - Kings Copse Avenue (South)	522	16	3	18
	4 - Sovereign Drive (W)	81	1	21	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Sovereign Drive (E)	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Sovereign Drive (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.46	5.74	0.8	2.0	A	445	667
2 - Sovereign Drive (E)	0.07	4.47	0.1	0.5	A	47	70
3 - Kings Copse Avenue (South)	0.55	7.04	1.2	1.5	A	514	770
4 - Sovereign Drive (W)	0.16	5.89	0.2	0.5	A	95	142

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	365	91	33	1169	0.312	363	470	0.0	0.5	4.456	A
2 - Sovereign Drive (E)	38	10	370	954	0.040	38	27	0.0	0.0	3.932	A
3 - Kings Copse Avenue (South)	421	105	69	1144	0.368	419	339	0.0	0.6	4.949	A
4 - Sovereign Drive (W)	78	19	426	818	0.095	77	61	0.0	0.1	4.856	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	436	109	40	1166	0.374	435	564	0.5	0.6	4.924	A
2 - Sovereign Drive (E)	46	11	443	915	0.050	46	32	0.0	0.1	4.141	A
3 - Kings Copse Avenue (South)	503	126	82	1137	0.443	502	407	0.6	0.8	5.665	A
4 - Sovereign Drive (W)	93	23	511	779	0.119	93	74	0.1	0.1	5.247	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	534	133	49	1161	0.460	533	690	0.6	0.8	5.723	A
2 - Sovereign Drive (E)	56	14	542	863	0.065	56	40	0.1	0.1	4.463	A
3 - Kings Copse Avenue (South)	616	154	101	1127	0.547	615	498	0.8	1.2	6.998	A
4 - Sovereign Drive (W)	114	28	625	725	0.157	113	90	0.1	0.2	5.881	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	534	133	49	1161	0.460	534	691	0.8	0.8	5.741	A
2 - Sovereign Drive (E)	56	14	543	862	0.065	56	40	0.1	0.1	4.466	A
3 - Kings Copse Avenue (South)	616	154	101	1127	0.547	616	499	1.2	1.2	7.044	A
4 - Sovereign Drive (W)	114	28	627	725	0.157	114	90	0.2	0.2	5.891	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	436	109	40	1166	0.374	437	566	0.8	0.6	4.948	A
2 - Sovereign Drive (E)	46	11	445	914	0.050	46	33	0.1	0.1	4.146	A
3 - Kings Copse Avenue (South)	503	126	82	1137	0.443	505	408	1.2	0.8	5.708	A
4 - Sovereign Drive (W)	93	23	513	778	0.119	93	74	0.2	0.1	5.258	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	365	91	34	1169	0.312	366	474	0.6	0.5	4.485	A
2 - Sovereign Drive (E)	38	10	372	953	0.040	39	27	0.1	0.0	3.939	A
3 - Kings Copse Avenue (South)	421	105	69	1144	0.368	422	342	0.8	0.6	4.994	A
4 - Sovereign Drive (W)	78	19	429	817	0.095	78	62	0.1	0.1	4.871	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.45	0.00	0.00	0.45	0.45			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.58	0.55	1.00	1.40	1.45			N/A	N/A
4 - Sovereign Drive (W)	0.10	0.00	0.00	0.10	0.10			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.59	0.12	0.86	1.37	1.44			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.79	0.12	0.88	1.42	1.49			N/A	N/A
4 - Sovereign Drive (W)	0.13	0.00	0.00	0.13	0.13			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.84	0.03	0.26	0.84	0.84			N/A	N/A
2 - Sovereign Drive (E)	0.07	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	1.19	0.03	0.26	1.19	1.19			N/A	N/A
4 - Sovereign Drive (W)	0.18	0.03	0.26	0.46	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.85	0.03	0.27	0.85	2.04			N/A	N/A
2 - Sovereign Drive (E)	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3 - Kings Copse Avenue (South)	1.20	0.03	0.27	1.20	1.31			N/A	N/A
4 - Sovereign Drive (W)	0.19	0.03	0.25	0.45	0.48			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.60	0.55	1.00	1.40	1.45			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.80	0.17	0.92	1.41	1.47			N/A	N/A
4 - Sovereign Drive (W)	0.14	0.00	0.00	0.14	0.14			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.46	0.04	0.35	1.16	1.33			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.59	0.06	0.63	1.33	1.42			N/A	N/A
4 - Sovereign Drive (W)	0.11	0.00	0.00	0.11	0.11			N/A	N/A

2030 | + Committed Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Sovereign Drive Rbt	Standard Roundabout		1, 2, 3, 4	5.99	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.99	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	572	100.000
2 - Sovereign Drive (E)		ONE HOUR	✓	34	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	429	100.000
4 - Sovereign Drive (W)		ONE HOUR	✓	32	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	31	492	49
	2 - Sovereign Drive (E)	16	0	17	1
	3 - Kings Copse Avenue (South)	407	12	0	11
	4 - Sovereign Drive (W)	22	1	9	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Sovereign Drive (E)	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Sovereign Drive (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.54	6.60	1.1	1.5	A	525	787
2 - Sovereign Drive (E)	0.05	4.54	0.0	0.5	A	31	47
3 - Kings Copse Avenue (South)	0.41	5.38	0.7	2.6	A	394	591
4 - Sovereign Drive (W)	0.04	4.74	0.0	0.5	A	29	44

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	431	108	16	1179	0.365	428	333	0.0	0.6	4.783	A
2 - Sovereign Drive (E)	26	6	412	932	0.028	26	33	0.0	0.0	3.972	A
3 - Kings Copse Avenue (South)	323	81	49	1154	0.280	322	388	0.0	0.4	4.316	A
4 - Sovereign Drive (W)	24	6	326	865	0.028	24	45	0.0	0.0	4.278	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	514	129	19	1177	0.437	513	400	0.6	0.8	5.417	A
2 - Sovereign Drive (E)	31	8	493	889	0.034	31	39	0.0	0.0	4.195	A
3 - Kings Copse Avenue (South)	386	96	59	1149	0.336	385	465	0.4	0.5	4.710	A
4 - Sovereign Drive (W)	29	7	390	835	0.034	29	54	0.0	0.0	4.462	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	630	157	23	1175	0.536	628	489	0.8	1.1	6.567	A
2 - Sovereign Drive (E)	37	9	604	830	0.045	37	48	0.0	0.0	4.540	A
3 - Kings Copse Avenue (South)	472	118	72	1142	0.414	472	569	0.5	0.7	5.363	A
4 - Sovereign Drive (W)	35	9	478	794	0.044	35	67	0.0	0.0	4.740	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	630	157	23	1175	0.536	630	490	1.1	1.1	6.604	A
2 - Sovereign Drive (E)	37	9	605	830	0.045	37	48	0.0	0.0	4.544	A
3 - Kings Copse Avenue (South)	472	118	73	1142	0.414	472	570	0.7	0.7	5.376	A
4 - Sovereign Drive (W)	35	9	478	794	0.044	35	67	0.0	0.0	4.743	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	514	129	19	1177	0.437	516	401	1.1	0.8	5.456	A
2 - Sovereign Drive (E)	31	8	495	887	0.034	31	39	0.0	0.0	4.203	A
3 - Kings Copse Avenue (South)	386	96	59	1149	0.336	387	467	0.7	0.5	4.728	A
4 - Sovereign Drive (W)	29	7	391	835	0.034	29	55	0.0	0.0	4.468	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	431	108	16	1179	0.365	431	336	0.8	0.6	4.822	A
2 - Sovereign Drive (E)	26	6	414	930	0.028	26	33	0.0	0.0	3.979	A
3 - Kings Copse Avenue (South)	323	81	50	1154	0.280	324	390	0.5	0.4	4.338	A
4 - Sovereign Drive (W)	24	6	328	865	0.028	24	46	0.0	0.0	4.284	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.57	0.55	1.00	1.40	1.45			N/A	N/A
2 - Sovereign Drive (E)	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4 - Sovereign Drive (W)	0.03	0.00	0.00	0.03	0.03			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.77	0.12	0.88	1.40	1.47			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.50	0.50	1.00	1.40	1.45			N/A	N/A
4 - Sovereign Drive (W)	0.04	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.14	0.03	0.26	1.14	1.14			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.03	0.25	0.46	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.70	0.03	0.25	0.70	0.70			N/A	N/A
4 - Sovereign Drive (W)	0.05	0.03	0.25	0.46	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.15	0.03	0.27	1.15	1.20			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.70	0.03	0.28	0.70	2.57			N/A	N/A
4 - Sovereign Drive (W)	0.05	0.00	0.00	0.05	0.05			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.78	0.19	0.93	1.40	1.46			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.51	0.51	1.00	1.40	1.45			N/A	N/A
4 - Sovereign Drive (W)	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.58	0.06	0.65	1.33	1.42			N/A	N/A
2 - Sovereign Drive (E)	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4 - Sovereign Drive (W)	0.03	0.00	0.00	0.03	0.03			N/A	N/A

2030 | + Committed Development + Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Sovereign Drive Rbt	Standard Roundabout		1, 2, 3, 4	6.43	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.43	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	489	100.000
2 - Sovereign Drive (E)		ONE HOUR	✓	51	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	572	100.000
4 - Sovereign Drive (W)		ONE HOUR	✓	103	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	1	16	412	60
	2 - Sovereign Drive (E)	23	3	20	4
	3 - Kings Copse Avenue (South)	535	16	3	18
	4 - Sovereign Drive (W)	81	1	21	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Sovereign Drive (E)	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Sovereign Drive (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.46	5.78	0.9	2.0	A	448	673
2 - Sovereign Drive (E)	0.07	4.48	0.1	0.5	A	47	70
3 - Kings Copse Avenue (South)	0.56	7.24	1.3	1.5	A	525	788
4 - Sovereign Drive (W)	0.16	5.95	0.2	0.5	A	95	142

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	368	92	33	1169	0.315	366	480	0.0	0.5	4.472	A
2 - Sovereign Drive (E)	38	10	372	952	0.040	38	27	0.0	0.0	3.938	A
3 - Kings Copse Avenue (South)	431	108	69	1144	0.377	429	342	0.0	0.6	5.015	A
4 - Sovereign Drive (W)	78	19	436	814	0.096	77	61	0.0	0.1	4.885	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	439	110	40	1166	0.377	439	575	0.5	0.6	4.947	A
2 - Sovereign Drive (E)	46	11	446	913	0.050	46	32	0.0	0.1	4.150	A
3 - Kings Copse Avenue (South)	515	129	82	1137	0.453	514	410	0.6	0.8	5.767	A
4 - Sovereign Drive (W)	93	23	522	774	0.120	93	74	0.1	0.1	5.288	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	538	135	49	1161	0.464	537	704	0.6	0.9	5.761	A
2 - Sovereign Drive (E)	56	14	546	861	0.065	56	40	0.1	0.1	4.475	A
3 - Kings Copse Avenue (South)	630	158	101	1127	0.559	629	502	0.8	1.2	7.192	A
4 - Sovereign Drive (W)	114	28	639	719	0.158	113	90	0.1	0.2	5.944	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	538	135	49	1161	0.464	538	705	0.9	0.9	5.780	A
2 - Sovereign Drive (E)	56	14	547	860	0.065	56	40	0.1	0.1	4.478	A
3 - Kings Copse Avenue (South)	630	158	101	1127	0.559	630	503	1.2	1.3	7.242	A
4 - Sovereign Drive (W)	114	28	641	718	0.158	114	90	0.2	0.2	5.954	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	439	110	40	1166	0.377	440	578	0.9	0.6	4.969	A
2 - Sovereign Drive (E)	46	11	448	912	0.050	46	33	0.1	0.1	4.154	A
3 - Kings Copse Avenue (South)	515	129	82	1137	0.453	516	412	1.3	0.8	5.816	A
4 - Sovereign Drive (W)	93	23	525	772	0.120	93	74	0.2	0.1	5.300	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	368	92	34	1169	0.315	369	483	0.6	0.5	4.501	A
2 - Sovereign Drive (E)	38	10	375	951	0.040	39	27	0.1	0.0	3.944	A
3 - Kings Copse Avenue (South)	431	108	69	1144	0.377	432	344	0.8	0.6	5.063	A
4 - Sovereign Drive (W)	78	19	439	812	0.096	78	62	0.1	0.1	4.903	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.46	0.00	0.00	0.46	0.46			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.60	0.55	1.00	1.40	1.45			N/A	N/A
4 - Sovereign Drive (W)	0.10	0.00	0.00	0.10	0.10			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.60	0.12	0.87	1.37	1.44			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.82	0.11	0.89	1.21	1.21			N/A	N/A
4 - Sovereign Drive (W)	0.14	0.00	0.00	0.14	0.14			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.85	0.03	0.26	0.85	0.85			N/A	N/A
2 - Sovereign Drive (E)	0.07	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	1.25	0.03	0.26	1.25	1.25			N/A	N/A
4 - Sovereign Drive (W)	0.19	0.03	0.26	0.46	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.86	0.03	0.27	0.86	1.99			N/A	N/A
2 - Sovereign Drive (E)	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3 - Kings Copse Avenue (South)	1.26	0.03	0.27	1.26	1.26			N/A	N/A
4 - Sovereign Drive (W)	0.19	0.03	0.25	0.45	0.48			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.61	0.55	1.00	1.40	1.45			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.84	0.15	0.93	1.43	1.50			N/A	N/A
4 - Sovereign Drive (W)	0.14	0.00	0.00	0.14	0.14			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.46	0.04	0.37	1.19	1.34			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.61	0.06	0.64	1.35	1.44			N/A	N/A
4 - Sovereign Drive (W)	0.11	0.00	0.00	0.11	0.11			N/A	N/A

2030 | + Committed Development + Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Sovereign Drive Rbt	Standard Roundabout		1, 2, 3, 4	6.10	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.10	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	583	100.000
2 - Sovereign Drive (E)		ONE HOUR	✓	34	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	435	100.000
4 - Sovereign Drive (W)		ONE HOUR	✓	32	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	31	503	49
	2 - Sovereign Drive (E)	16	0	17	1
	3 - Kings Copse Avenue (South)	412	12	0	11
	4 - Sovereign Drive (W)	22	1	9	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Sovereign Drive (E)	3 - Kings Copse Avenue (South)	4 - Sovereign Drive (W)
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Sovereign Drive (E)	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Sovereign Drive (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.55	6.76	1.2	1.5	A	535	803
2 - Sovereign Drive (E)	0.05	4.58	0.0	0.5	A	31	47
3 - Kings Copse Avenue (South)	0.42	5.42	0.7	2.5	A	399	598
4 - Sovereign Drive (W)	0.04	4.76	0.0	0.5	A	29	44

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	439	110	16	1179	0.372	437	338	0.0	0.6	4.836	A
2 - Sovereign Drive (E)	26	6	420	927	0.028	26	33	0.0	0.0	3.992	A
3 - Kings Copse Avenue (South)	327	82	49	1154	0.283	326	396	0.0	0.4	4.337	A
4 - Sovereign Drive (W)	24	6	330	864	0.028	24	45	0.0	0.0	4.287	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	524	131	19	1177	0.445	523	405	0.6	0.8	5.501	A
2 - Sovereign Drive (E)	31	8	503	883	0.035	31	39	0.0	0.0	4.221	A
3 - Kings Copse Avenue (South)	391	98	59	1149	0.340	390	475	0.4	0.5	4.740	A
4 - Sovereign Drive (W)	29	7	395	833	0.034	29	54	0.0	0.0	4.475	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	642	161	23	1175	0.547	640	495	0.8	1.2	6.718	A
2 - Sovereign Drive (E)	37	9	616	824	0.046	37	48	0.0	0.0	4.577	A
3 - Kings Copse Avenue (South)	478	120	72	1142	0.419	478	581	0.5	0.7	5.411	A
4 - Sovereign Drive (W)	35	9	483	792	0.044	35	67	0.0	0.0	4.758	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	642	161	23	1175	0.547	642	496	1.2	1.2	6.758	A
2 - Sovereign Drive (E)	37	9	617	823	0.046	37	48	0.0	0.0	4.582	A
3 - Kings Copse Avenue (South)	478	120	73	1142	0.419	478	582	0.7	0.7	5.424	A
4 - Sovereign Drive (W)	35	9	484	791	0.044	35	67	0.0	0.0	4.760	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	524	131	19	1177	0.445	526	406	1.2	0.8	5.543	A
2 - Sovereign Drive (E)	31	8	506	882	0.035	31	39	0.0	0.0	4.228	A
3 - Kings Copse Avenue (South)	391	98	59	1149	0.340	391	477	0.7	0.5	4.757	A
4 - Sovereign Drive (W)	29	7	396	832	0.034	29	55	0.0	0.0	4.479	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	439	110	16	1179	0.372	440	340	0.8	0.6	4.880	A
2 - Sovereign Drive (E)	26	6	423	926	0.028	26	33	0.0	0.0	3.999	A
3 - Kings Copse Avenue (South)	327	82	50	1154	0.284	328	399	0.5	0.4	4.360	A
4 - Sovereign Drive (W)	24	6	332	863	0.028	24	46	0.0	0.0	4.294	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.59	0.55	1.00	1.40	1.45			N/A	N/A
2 - Sovereign Drive (E)	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4 - Sovereign Drive (W)	0.03	0.00	0.00	0.03	0.03			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.79	0.12	0.88	1.43	1.49			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.51	0.51	1.00	1.40	1.45			N/A	N/A
4 - Sovereign Drive (W)	0.04	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.19	0.03	0.26	1.19	1.19			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.03	0.25	0.46	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.71	0.03	0.25	0.71	0.71			N/A	N/A
4 - Sovereign Drive (W)	0.05	0.03	0.25	0.46	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	1.20	0.03	0.27	1.20	1.20			N/A	N/A
2 - Sovereign Drive (E)	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.72	0.03	0.28	0.72	2.54			N/A	N/A
4 - Sovereign Drive (W)	0.05	0.00	0.00	0.05	0.05			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.81	0.18	0.93	1.41	1.47			N/A	N/A
2 - Sovereign Drive (E)	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.52	0.52	1.00	1.40	1.45			N/A	N/A
4 - Sovereign Drive (W)	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.60	0.06	0.66	1.34	1.42			N/A	N/A
2 - Sovereign Drive (E)	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.40	0.00	0.00	0.40	0.40			N/A	N/A
4 - Sovereign Drive (W)	0.03	0.00	0.00	0.03	0.03			N/A	N/A

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: Kings Copse Avenue_Duke Road Rbt - 2030.j11
Path: S:\Projects\19000 Series\19785ITS - Kings Copse Avenue Hedge End\Tech\Junction Assessments\Arcady
Report generation date: 20/06/2025 11:33:05

»2024 | Baseline | AM
»2024 | Baseline | PM
»2030 | + Committed Development | AM
»2030 | + Committed Development | PM
»2030 | + Committed Development + Development | AM
»2030 | + Committed Development + Development | PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2024 - Baseline					
1 - Kings Copse Avenue (N)	0.5	4.67	0.35	0.8	5.36	0.43
2 - Salwey Road	0.1	4.66	0.08	0.0	4.63	0.04
3 - Kings Copse Avenue (South)	0.9	6.12	0.49	0.7	5.19	0.40
4 - Duke Road	0.1	4.21	0.06	0.0	3.81	0.04
	2030 - + Committed Development					
1 - Kings Copse Avenue (N)	0.7	5.31	0.43	0.9	5.91	0.48
2 - Salwey Road	0.1	4.98	0.09	0.0	4.82	0.04
3 - Kings Copse Avenue (South)	1.2	6.80	0.54	0.9	5.86	0.46
4 - Duke Road	0.1	4.39	0.07	0.0	4.00	0.04
	2030 - + Committed Development + Development					
1 - Kings Copse Avenue (N)	0.8	5.34	0.43	1.0	6.03	0.49
2 - Salwey Road	0.1	4.99	0.09	0.0	4.86	0.04
3 - Kings Copse Avenue (South)	1.2	6.99	0.55	0.9	5.92	0.47
4 - Duke Road	0.1	4.43	0.07	0.0	4.01	0.04

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	24/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\basingstoke.hotdesk
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75	✓					0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓		
D3	2030	Future Traffic	AM	ONE HOUR	07:45	09:15	15		Simple	D1*G1
D4	2030	Future Traffic	PM	ONE HOUR	16:15	17:45	15		Simple	D2*G2
D5		Committed Development	AM	ONE HOUR	07:45	09:15	15			
D6		Committed Development	PM	ONE HOUR	16:15	17:45	15			
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6
D9		Development	AM	ONE HOUR	07:45	09:15	15			
D10		Development	PM	ONE HOUR	16:15	17:45	15			
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2024-2030 AM		1.0646
G2	2024-2030 PM		1.0639

Growth factors are only active if a Demand Set references them in a Relationship.

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 | Baseline | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Duke Road Rbt	Standard Roundabout		1, 2, 3, 4	5.38	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.38	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Kings Copse Avenue (N)		
2	Salwey Road		
3	Kings Copse Avenue (South)		
4	Duke Road		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Kings Copse Avenue (N)	4.00	4.90	7.0	6.0	21.0	35.0		
2 - Salwey Road	2.98	4.30	30.0	5.0	21.0	34.0		
3 - Kings Copse Avenue (South)	3.60	4.50	6.5	8.0	21.0	34.0		
4 - Duke Road	3.22	4.70	12.5	10.0	21.0	35.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Kings Copse Avenue (N)	0.524	1220
2 - Salwey Road	0.480	1052
3 - Kings Copse Avenue (South)	0.527	1168
4 - Duke Road	0.543	1215

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	381	100.000
2 - Salwey Road		ONE HOUR	✓	63	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	506	100.000
4 - Duke Road		ONE HOUR	✓	52	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	13	360	8
	2 - Salwey Road	29	1	32	1
	3 - Kings Copse Avenue (South)	459	17	0	30
	4 - Duke Road	18	3	31	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Salwey Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Duke Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.35	4.67	0.5	2.5	A	350	524
2 - Salwey Road	0.08	4.66	0.1	0.5	A	58	87
3 - Kings Copse Avenue (South)	0.49	6.12	0.9	1.8	A	464	696
4 - Duke Road	0.06	4.21	0.1	0.5	A	48	72

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	287	72	39	1200	0.239	286	379	0.0	0.3	3.932	A
2 - Salwey Road	47	12	299	909	0.052	47	25	0.0	0.1	4.178	A
3 - Kings Copse Avenue (South)	381	95	29	1153	0.330	379	317	0.0	0.5	4.642	A
4 - Duke Road	39	10	379	1009	0.039	39	29	0.0	0.0	3.711	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	343	86	47	1196	0.286	342	454	0.3	0.4	4.214	A
2 - Salwey Road	57	14	358	880	0.064	57	31	0.1	0.1	4.370	A
3 - Kings Copse Avenue (South)	455	114	35	1150	0.396	454	380	0.5	0.6	5.172	A
4 - Duke Road	47	12	454	968	0.048	47	35	0.0	0.1	3.907	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	419	105	57	1191	0.352	419	556	0.4	0.5	4.663	A
2 - Salwey Road	69	17	439	842	0.082	69	37	0.1	0.1	4.661	A
3 - Kings Copse Avenue (South)	557	139	43	1146	0.486	556	465	0.6	0.9	6.093	A
4 - Duke Road	57	14	556	913	0.063	57	43	0.1	0.1	4.207	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	419	105	57	1191	0.352	419	557	0.5	0.5	4.668	A
2 - Salwey Road	69	17	439	841	0.082	69	37	0.1	0.1	4.662	A
3 - Kings Copse Avenue (South)	557	139	43	1146	0.486	557	466	0.9	0.9	6.117	A
4 - Duke Road	57	14	557	912	0.063	57	43	0.1	0.1	4.210	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	343	86	47	1196	0.286	343	456	0.5	0.4	4.224	A
2 - Salwey Road	57	14	359	880	0.064	57	31	0.1	0.1	4.375	A
3 - Kings Copse Avenue (South)	455	114	35	1150	0.396	456	381	0.9	0.7	5.197	A
4 - Duke Road	47	12	456	967	0.048	47	35	0.1	0.1	3.911	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	287	72	39	1200	0.239	287	382	0.4	0.3	3.945	A
2 - Salwey Road	47	12	301	908	0.052	47	26	0.1	0.1	4.185	A
3 - Kings Copse Avenue (South)	381	95	29	1153	0.330	382	319	0.7	0.5	4.672	A
4 - Duke Road	39	10	382	1007	0.039	39	29	0.1	0.0	3.720	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.31	0.00	0.00	0.31	0.31			N/A	N/A
2 - Salwey Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.49	0.00	0.00	0.49	0.49			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2 - Salwey Road	0.07	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.65	0.13	0.88	1.38	1.44			N/A	N/A
4 - Duke Road	0.05	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.54	0.03	0.25	0.54	0.54			N/A	N/A
2 - Salwey Road	0.09	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	0.93	0.03	0.26	0.93	0.93			N/A	N/A
4 - Duke Road	0.07	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.54	0.03	0.29	1.28	2.52			N/A	N/A
2 - Salwey Road	0.09	0.00	0.00	0.09	0.09			N/A	N/A
3 - Kings Copse Avenue (South)	0.94	0.03	0.27	0.94	1.77			N/A	N/A
4 - Duke Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2 - Salwey Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A
3 - Kings Copse Avenue (South)	0.66	0.21	0.93	1.39	1.44			N/A	N/A
4 - Duke Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2 - Salwey Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.50	0.05	0.46	1.28	1.39			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

2024 | Baseline | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Duke Road Rbt	Standard Roundabout		1, 2, 3, 4	5.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.21	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	465	100.000
2 - Salwey Road		ONE HOUR	✓	29	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	413	100.000
4 - Duke Road		ONE HOUR	✓	33	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	26	413	26
	2 - Salwey Road	9	0	20	0
	3 - Kings Copse Avenue (South)	343	41	0	29
	4 - Duke Road	10	2	21	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Salwey Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Duke Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.43	5.36	0.8	2.4	A	427	640
2 - Salwey Road	0.04	4.63	0.0	0.5	A	27	40
3 - Kings Copse Avenue (South)	0.40	5.19	0.7	2.6	A	379	568
4 - Duke Road	0.04	3.81	0.0	0.5	A	30	45

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	350	88	48	1195	0.293	348	271	0.0	0.4	4.243	A
2 - Salwey Road	22	5	345	887	0.025	22	52	0.0	0.0	4.161	A
3 - Kings Copse Avenue (South)	311	78	26	1154	0.269	309	340	0.0	0.4	4.254	A
4 - Duke Road	25	6	294	1055	0.024	25	41	0.0	0.0	3.494	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	418	105	57	1190	0.351	418	325	0.4	0.5	4.655	A
2 - Salwey Road	26	7	413	854	0.031	26	62	0.0	0.0	4.347	A
3 - Kings Copse Avenue (South)	371	93	31	1152	0.322	371	408	0.4	0.5	4.609	A
4 - Duke Road	30	7	353	1023	0.029	30	49	0.0	0.0	3.623	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	512	128	70	1184	0.433	511	398	0.5	0.8	5.346	A
2 - Salwey Road	32	8	506	810	0.039	32	76	0.0	0.0	4.629	A
3 - Kings Copse Avenue (South)	455	114	38	1148	0.396	454	499	0.5	0.6	5.183	A
4 - Duke Road	36	9	432	980	0.037	36	60	0.0	0.0	3.813	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	512	128	70	1184	0.433	512	399	0.8	0.8	5.359	A
2 - Salwey Road	32	8	506	809	0.039	32	76	0.0	0.0	4.631	A
3 - Kings Copse Avenue (South)	455	114	39	1148	0.396	455	500	0.6	0.7	5.193	A
4 - Duke Road	36	9	433	980	0.037	36	61	0.0	0.0	3.815	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	418	105	58	1190	0.351	419	326	0.8	0.5	4.671	A
2 - Salwey Road	26	7	414	853	0.031	26	62	0.0	0.0	4.351	A
3 - Kings Copse Avenue (South)	371	93	32	1152	0.322	372	409	0.7	0.5	4.621	A
4 - Duke Road	30	7	354	1022	0.029	30	50	0.0	0.0	3.628	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	350	88	48	1195	0.293	351	273	0.5	0.4	4.264	A
2 - Salwey Road	22	5	347	886	0.025	22	52	0.0	0.0	4.166	A
3 - Kings Copse Avenue (South)	311	78	26	1154	0.269	311	342	0.5	0.4	4.274	A
4 - Duke Road	25	6	296	1054	0.024	25	41	0.0	0.0	3.498	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.37	0.00	0.00	0.37	0.37			N/A	N/A
4 - Duke Road	0.02	0.00	0.00	0.02	0.02			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2 - Salwey Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.47	0.00	0.00	0.47	0.47			N/A	N/A
4 - Duke Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.75	0.03	0.25	0.75	0.75			N/A	N/A
2 - Salwey Road	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.65	0.03	0.25	0.65	0.65			N/A	N/A
4 - Duke Road	0.04	0.03	0.25	0.45	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.76	0.03	0.28	0.76	2.40			N/A	N/A
2 - Salwey Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - Kings Copse Avenue (South)	0.65	0.03	0.28	0.89	2.62			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.55	0.55	1.00	1.40	1.45			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.48	0.00	0.00	0.48	0.48			N/A	N/A
4 - Duke Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.37	0.00	0.00	0.37	0.37			N/A	N/A
4 - Duke Road	0.02	0.00	0.00	0.02	0.02			N/A	N/A

2030 | + Committed Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Duke Road Rbt	Standard Roundabout		1, 2, 3, 4	5.97	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.97	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	464	100.000
2 - Salwey Road		ONE HOUR	✓	67	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	559	100.000
4 - Duke Road		ONE HOUR	✓	55	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	14	441	9
	2 - Salwey Road	31	1	34	1
	3 - Kings Copse Avenue (South)	509	18	0	32
	4 - Duke Road	19	3	33	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Salwey Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Duke Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.43	5.31	0.7	2.4	A	425	638
2 - Salwey Road	0.09	4.98	0.1	0.5	A	62	92
3 - Kings Copse Avenue (South)	0.54	6.80	1.2	1.5	A	513	769
4 - Duke Road	0.07	4.39	0.1	0.5	A	51	76

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	349	87	41	1199	0.291	347	418	0.0	0.4	4.221	A
2 - Salwey Road	50	13	362	879	0.057	50	27	0.0	0.1	4.345	A
3 - Kings Copse Avenue (South)	421	105	31	1152	0.365	418	381	0.0	0.6	4.894	A
4 - Duke Road	42	10	418	988	0.042	42	31	0.0	0.0	3.805	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	417	104	50	1194	0.349	416	501	0.4	0.5	4.623	A
2 - Salwey Road	60	15	433	844	0.071	60	32	0.1	0.1	4.592	A
3 - Kings Copse Avenue (South)	502	126	37	1148	0.437	501	456	0.6	0.8	5.557	A
4 - Duke Road	50	12	501	942	0.053	50	37	0.0	0.1	4.032	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	510	128	61	1189	0.429	510	614	0.5	0.7	5.295	A
2 - Salwey Road	74	18	531	798	0.093	74	40	0.1	0.1	4.974	A
3 - Kings Copse Avenue (South)	615	154	46	1144	0.538	614	559	0.8	1.1	6.767	A
4 - Duke Road	61	15	614	881	0.069	61	46	0.1	0.1	4.387	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	510	128	61	1189	0.429	510	615	0.7	0.7	5.308	A
2 - Salwey Road	74	18	532	797	0.093	74	40	0.1	0.1	4.976	A
3 - Kings Copse Avenue (South)	615	154	46	1144	0.538	615	560	1.1	1.2	6.805	A
4 - Duke Road	61	15	615	881	0.069	61	46	0.1	0.1	4.391	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	417	104	50	1194	0.349	418	504	0.7	0.5	4.639	A
2 - Salwey Road	60	15	435	844	0.071	60	33	0.1	0.1	4.598	A
3 - Kings Copse Avenue (South)	502	126	37	1148	0.437	504	458	1.2	0.8	5.596	A
4 - Duke Road	50	12	504	941	0.053	50	37	0.1	0.1	4.039	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	349	87	42	1199	0.291	350	421	0.5	0.4	4.242	A
2 - Salwey Road	50	13	364	878	0.058	51	27	0.1	0.1	4.353	A
3 - Kings Copse Avenue (South)	421	105	31	1152	0.365	421	383	0.8	0.6	4.937	A
4 - Duke Road	42	10	421	986	0.042	42	31	0.1	0.0	3.815	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2 - Salwey Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.57	0.55	1.00	1.40	1.45			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.53	0.53	1.00	1.40	1.45			N/A	N/A
2 - Salwey Road	0.08	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.77	0.12	0.88	1.40	1.47			N/A	N/A
4 - Duke Road	0.06	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.75	0.03	0.25	0.75	0.75			N/A	N/A
2 - Salwey Road	0.10	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	1.14	0.03	0.26	1.14	1.14			N/A	N/A
4 - Duke Road	0.07	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.75	0.03	0.28	0.75	2.42			N/A	N/A
2 - Salwey Road	0.10	0.00	0.00	0.10	0.10			N/A	N/A
3 - Kings Copse Avenue (South)	1.15	0.03	0.27	1.15	1.27			N/A	N/A
4 - Duke Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2 - Salwey Road	0.08	0.00	0.00	0.08	0.08			N/A	N/A
3 - Kings Copse Avenue (South)	0.79	0.18	0.93	1.40	1.46			N/A	N/A
4 - Duke Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2 - Salwey Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.58	0.06	0.64	1.33	1.42			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

2030 | + Committed Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Duke Road Rbt	Standard Roundabout		1, 2, 3, 4	5.79	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.79	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	520	100.000
2 - Salwey Road		ONE HOUR	✓	31	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	483	100.000
4 - Duke Road		ONE HOUR	✓	35	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	28	464	28
	2 - Salwey Road	10	0	21	0
	3 - Kings Copse Avenue (South)	409	44	0	31
	4 - Duke Road	11	2	22	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Salwey Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Duke Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.48	5.91	0.9	1.8	A	477	715
2 - Salwey Road	0.04	4.82	0.0	0.5	A	28	42
3 - Kings Copse Avenue (South)	0.46	5.86	0.9	2.0	A	444	665
4 - Duke Road	0.04	4.00	0.0	0.5	A	32	48

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	391	98	51	1194	0.328	389	321	0.0	0.5	4.464	A
2 - Salwey Road	23	6	385	867	0.027	23	55	0.0	0.0	4.264	A
3 - Kings Copse Avenue (South)	364	91	28	1153	0.316	362	381	0.0	0.5	4.539	A
4 - Duke Road	26	7	346	1027	0.026	26	44	0.0	0.0	3.598	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	467	117	61	1188	0.393	467	385	0.5	0.6	4.983	A
2 - Salwey Road	28	7	462	831	0.033	28	66	0.0	0.0	4.483	A
3 - Kings Copse Avenue (South)	435	109	33	1151	0.378	434	456	0.5	0.6	5.019	A
4 - Duke Road	32	8	415	989	0.032	32	53	0.0	0.0	3.757	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	572	143	75	1181	0.484	571	472	0.6	0.9	5.889	A
2 - Salwey Road	34	8	565	781	0.044	34	81	0.0	0.0	4.819	A
3 - Kings Copse Avenue (South)	532	133	41	1147	0.464	531	558	0.6	0.9	5.840	A
4 - Duke Road	39	10	508	939	0.041	39	64	0.0	0.0	3.998	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	572	143	75	1181	0.484	572	472	0.9	0.9	5.910	A
2 - Salwey Road	34	8	566	780	0.044	34	81	0.0	0.0	4.822	A
3 - Kings Copse Avenue (South)	532	133	41	1147	0.464	532	559	0.9	0.9	5.859	A
4 - Duke Road	39	10	509	938	0.041	39	64	0.0	0.0	4.000	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	467	117	61	1188	0.393	468	387	0.9	0.7	5.007	A
2 - Salwey Road	28	7	464	830	0.033	28	66	0.0	0.0	4.488	A
3 - Kings Copse Avenue (South)	435	109	34	1150	0.378	436	458	0.9	0.6	5.042	A
4 - Duke Road	32	8	416	989	0.032	32	53	0.0	0.0	3.763	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	391	98	51	1194	0.328	392	324	0.7	0.5	4.493	A
2 - Salwey Road	23	6	388	866	0.027	23	55	0.0	0.0	4.272	A
3 - Kings Copse Avenue (South)	364	91	28	1153	0.316	365	383	0.6	0.5	4.566	A
4 - Duke Road	26	7	348	1025	0.026	26	44	0.0	0.0	3.602	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.48	0.00	0.00	0.48	0.48			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.46	0.00	0.00	0.46	0.46			N/A	N/A
4 - Duke Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.64	0.13	0.88	1.38	1.44			N/A	N/A
2 - Salwey Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.60	0.12	0.87	1.37	1.44			N/A	N/A
4 - Duke Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.93	0.03	0.26	0.93	0.93			N/A	N/A
2 - Salwey Road	0.05	0.03	0.25	0.46	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.86	0.03	0.26	0.86	0.86			N/A	N/A
4 - Duke Road	0.04	0.03	0.25	0.45	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.93	0.03	0.27	0.93	1.77			N/A	N/A
2 - Salwey Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.86	0.03	0.27	0.86	1.99			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.65	0.23	0.94	1.39	1.44			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.61	0.55	1.00	1.40	1.45			N/A	N/A
4 - Duke Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.49	0.04	0.45	1.27	1.39			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.46	0.04	0.37	1.20	1.35			N/A	N/A
4 - Duke Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

2030 | + Committed Development + Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Duke Road Rbt	Standard Roundabout		1, 2, 3, 4	6.09	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.09	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	467	100.000
2 - Salwey Road		ONE HOUR	✓	67	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	571	100.000
4 - Duke Road		ONE HOUR	✓	55	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	14	445	9
	2 - Salwey Road	31	1	34	1
	3 - Kings Copse Avenue (South)	521	18	0	32
	4 - Duke Road	19	3	33	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Salwey Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Duke Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.43	5.34	0.8	2.4	A	429	643
2 - Salwey Road	0.09	4.99	0.1	0.5	A	62	92
3 - Kings Copse Avenue (South)	0.55	6.99	1.2	1.5	A	524	786
4 - Duke Road	0.07	4.43	0.1	0.5	A	51	76

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	352	88	41	1199	0.294	350	428	0.0	0.4	4.235	A
2 - Salwey Road	50	13	365	877	0.058	50	27	0.0	0.1	4.352	A
3 - Kings Copse Avenue (South)	430	108	31	1152	0.373	428	384	0.0	0.6	4.957	A
4 - Duke Road	42	10	428	982	0.042	42	31	0.0	0.0	3.826	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	420	105	50	1194	0.352	420	513	0.4	0.5	4.643	A
2 - Salwey Road	60	15	437	843	0.072	60	32	0.1	0.1	4.601	A
3 - Kings Copse Avenue (South)	514	128	37	1148	0.447	513	460	0.6	0.8	5.656	A
4 - Duke Road	50	12	513	936	0.053	50	37	0.0	0.1	4.061	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	515	129	61	1189	0.433	514	628	0.5	0.8	5.328	A
2 - Salwey Road	74	18	535	796	0.093	74	40	0.1	0.1	4.987	A
3 - Kings Copse Avenue (South)	629	157	46	1144	0.550	628	563	0.8	1.2	6.946	A
4 - Duke Road	61	15	628	874	0.070	61	46	0.1	0.1	4.428	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	515	129	61	1189	0.433	515	629	0.8	0.8	5.341	A
2 - Salwey Road	74	18	536	795	0.093	74	40	0.1	0.1	4.990	A
3 - Kings Copse Avenue (South)	629	157	46	1144	0.550	629	564	1.2	1.2	6.990	A
4 - Duke Road	61	15	629	873	0.070	61	46	0.1	0.1	4.432	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	420	105	50	1194	0.352	421	515	0.8	0.5	4.659	A
2 - Salwey Road	60	15	438	842	0.072	60	33	0.1	0.1	4.608	A
3 - Kings Copse Avenue (South)	514	128	37	1148	0.447	515	461	1.2	0.8	5.701	A
4 - Duke Road	50	12	515	935	0.053	50	37	0.1	0.1	4.069	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	352	88	42	1199	0.294	352	431	0.5	0.4	4.256	A
2 - Salwey Road	50	13	367	876	0.058	51	27	0.1	0.1	4.360	A
3 - Kings Copse Avenue (South)	430	108	31	1152	0.374	431	386	0.8	0.6	5.003	A
4 - Duke Road	42	10	431	981	0.043	42	31	0.1	0.0	3.833	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2 - Salwey Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.59	0.55	1.00	1.40	1.45			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.54	0.54	1.00	1.40	1.45			N/A	N/A
2 - Salwey Road	0.08	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.80	0.12	0.89	1.43	1.50			N/A	N/A
4 - Duke Road	0.06	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.76	0.03	0.25	0.76	0.76			N/A	N/A
2 - Salwey Road	0.10	0.03	0.26	0.47	0.49			N/A	N/A
3 - Kings Copse Avenue (South)	1.20	0.03	0.26	1.20	1.20			N/A	N/A
4 - Duke Road	0.07	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.76	0.03	0.28	0.76	2.38			N/A	N/A
2 - Salwey Road	0.10	0.00	0.00	0.10	0.10			N/A	N/A
3 - Kings Copse Avenue (South)	1.21	0.03	0.27	1.21	1.21			N/A	N/A
4 - Duke Road	0.07	0.00	0.00	0.07	0.07			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.55	0.55	1.00	1.40	1.45			N/A	N/A
2 - Salwey Road	0.08	0.00	0.00	0.08	0.08			N/A	N/A
3 - Kings Copse Avenue (South)	0.82	0.17	0.93	1.42	1.48			N/A	N/A
4 - Duke Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2 - Salwey Road	0.06	0.00	0.00	0.06	0.06			N/A	N/A
3 - Kings Copse Avenue (South)	0.60	0.06	0.65	1.34	1.43			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

2030 | + Committed Development + Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Duke Road Rbt	Standard Roundabout		1, 2, 3, 4	5.88	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.88	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Avenue (N)		ONE HOUR	✓	531	100.000
2 - Salwey Road		ONE HOUR	✓	31	100.000
3 - Kings Copse Avenue (South)		ONE HOUR	✓	489	100.000
4 - Duke Road		ONE HOUR	✓	35	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	28	476	28
	2 - Salwey Road	10	0	21	0
	3 - Kings Copse Avenue (South)	414	44	0	31
	4 - Duke Road	11	2	22	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Avenue (N)	2 - Salwey Road	3 - Kings Copse Avenue (South)	4 - Duke Road
From	1 - Kings Copse Avenue (N)	0	0	0	0
	2 - Salwey Road	0	0	0	0
	3 - Kings Copse Avenue (South)	0	0	0	0
	4 - Duke Road	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Avenue (N)	0.49	6.03	1.0	1.7	A	487	731
2 - Salwey Road	0.04	4.86	0.0	0.5	A	28	42
3 - Kings Copse Avenue (South)	0.47	5.92	0.9	1.9	A	449	673
4 - Duke Road	0.04	4.01	0.0	0.5	A	32	48

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	400	100	51	1194	0.335	398	326	0.0	0.5	4.512	A
2 - Salwey Road	23	6	394	863	0.027	23	55	0.0	0.0	4.285	A
3 - Kings Copse Avenue (South)	368	92	28	1153	0.319	366	389	0.0	0.5	4.566	A
4 - Duke Road	26	7	350	1025	0.026	26	44	0.0	0.0	3.606	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	477	119	61	1188	0.402	477	390	0.5	0.7	5.054	A
2 - Salwey Road	28	7	472	826	0.034	28	66	0.0	0.0	4.511	A
3 - Kings Copse Avenue (South)	439	110	33	1151	0.382	439	466	0.5	0.6	5.054	A
4 - Duke Road	32	8	420	987	0.032	32	53	0.0	0.0	3.767	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	585	146	75	1181	0.495	583	478	0.7	1.0	6.009	A
2 - Salwey Road	34	8	578	775	0.044	34	81	0.0	0.0	4.857	A
3 - Kings Copse Avenue (South)	538	135	41	1147	0.469	537	571	0.6	0.9	5.898	A
4 - Duke Road	39	10	514	936	0.041	39	64	0.0	0.0	4.012	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	585	146	75	1181	0.495	585	478	1.0	1.0	6.033	A
2 - Salwey Road	34	8	579	774	0.044	34	81	0.0	0.0	4.861	A
3 - Kings Copse Avenue (South)	538	135	41	1147	0.469	538	572	0.9	0.9	5.916	A
4 - Duke Road	39	10	515	935	0.041	39	64	0.0	0.0	4.015	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	477	119	61	1188	0.402	479	392	1.0	0.7	5.081	A
2 - Salwey Road	28	7	474	825	0.034	28	66	0.0	0.0	4.518	A
3 - Kings Copse Avenue (South)	439	110	34	1150	0.382	440	468	0.9	0.6	5.079	A
4 - Duke Road	32	8	421	986	0.032	32	53	0.0	0.0	3.774	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Avenue (N)	400	100	51	1194	0.335	400	328	0.7	0.5	4.542	A
2 - Salwey Road	23	6	396	862	0.027	23	55	0.0	0.0	4.292	A
3 - Kings Copse Avenue (South)	368	92	28	1153	0.319	369	392	0.6	0.5	4.590	A
4 - Duke Road	26	7	353	1023	0.026	26	44	0.0	0.0	3.610	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.50	0.00	0.00	0.50	0.50			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.47	0.00	0.00	0.47	0.47			N/A	N/A
4 - Duke Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.67	0.13	0.88	1.38	1.44			N/A	N/A
2 - Salwey Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.61	0.12	0.87	1.38	1.44			N/A	N/A
4 - Duke Road	0.03	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.97	0.03	0.26	0.97	0.97			N/A	N/A
2 - Salwey Road	0.05	0.03	0.25	0.46	0.48			N/A	N/A
3 - Kings Copse Avenue (South)	0.87	0.03	0.26	0.87	0.87			N/A	N/A
4 - Duke Road	0.04	0.03	0.25	0.45	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.97	0.03	0.27	0.97	1.65			N/A	N/A
2 - Salwey Road	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - Kings Copse Avenue (South)	0.88	0.03	0.27	0.88	1.94			N/A	N/A
4 - Duke Road	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.68	0.23	0.94	1.39	1.44			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.62	0.20	0.93	1.39	1.44			N/A	N/A
4 - Duke Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Avenue (N)	0.51	0.05	0.49	1.30	1.40			N/A	N/A
2 - Salwey Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - Kings Copse Avenue (South)	0.47	0.04	0.39	1.23	1.36			N/A	N/A
4 - Duke Road	0.03	0.00	0.00	0.03	0.03			N/A	N/A

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: Kings Copse Avenue_Heath House Lane Rbt - 2030.j11
Path: S:\Projects\19000 Series\19785ITS - Kings Copse Avenue Hedge End\Tech\Junction Assessments\Arcady
Report generation date: 20/06/2025 11:44:14

»2024 | Baseline | AM
»2024 | Baseline | PM
»2030 | + Committed Development | AM
»2030 | + Committed Development | PM
»2030 | + Committed Development + Development | AM
»2030 | + Committed Development + Development | PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2024 - Baseline					
1 - Kings Copse Road	0.2	4.12	0.17	0.2	3.83	0.15
2 - Kings Copse Avenue	0.5	3.81	0.33	0.6	3.95	0.36
3 - Heath House Lane	0.6	3.76	0.37	0.6	3.77	0.36
4 - Sherwood Avenue	0.1	4.01	0.08	0.0	3.74	0.04
	2030 - + Committed Development					
1 - Kings Copse Road	0.2	4.33	0.19	0.2	4.06	0.16
2 - Kings Copse Avenue	0.7	4.26	0.40	0.7	4.26	0.40
3 - Heath House Lane	0.7	4.02	0.41	0.7	4.15	0.42
4 - Sherwood Avenue	0.1	4.21	0.09	0.1	3.96	0.05
	2030 - + Committed Development + Development					
1 - Kings Copse Road	0.2	4.37	0.19	0.2	4.16	0.17
2 - Kings Copse Avenue	0.7	4.48	0.43	0.7	4.35	0.41
3 - Heath House Lane	0.7	4.08	0.42	0.8	4.32	0.44
4 - Sherwood Avenue	0.1	4.26	0.09	0.1	4.06	0.05

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	24/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\basingstoke.hotdesk
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75	✓					0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓		
D3	2030	Future Traffic	AM	ONE HOUR	07:45	09:15	15		Simple	D1*G1
D4	2030	Future Traffic	PM	ONE HOUR	16:15	17:45	15		Simple	D2*G2
D5		Committed Development	AM	ONE HOUR	07:45	09:15	15			
D6		Committed Development	PM	ONE HOUR	16:15	17:45	15			
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6
D9		Development	AM	ONE HOUR	07:45	09:15	15			
D10		Development	PM	ONE HOUR	16:15	17:45	15			
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2024-2030 AM		1.0646
G2	2024-2030 PM		1.0639

Growth factors are only active if a Demand Set references them in a Relationship.

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 | Baseline | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Heath House Lane Rbt	Standard Roundabout		1, 2, 3, 4	3.85	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.85	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Kings Copse Road		
2	Kings Copse Avenue		
3	Heath House Lane		
4	Sherwood Avenue		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Kings Copse Road	3.20	6.70	9.4	9.5	26.0	36.5		
2 - Kings Copse Avenue	3.80	5.60	5.3	36.0	25.0	18.5		
3 - Heath House Lane	3.80	7.20	18.0	7.0	26.0	40.5		
4 - Sherwood Avenue	3.00	5.60	7.2	32.0	25.0	18.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Kings Copse Road	0.564	1342
2 - Kings Copse Avenue	0.640	1500
3 - Heath House Lane	0.594	1565
4 - Sherwood Avenue	0.609	1351

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Road		ONE HOUR	✓	162	100.000
2 - Kings Copse Avenue		ONE HOUR	✓	421	100.000
3 - Heath House Lane		ONE HOUR	✓	516	100.000
4 - Sherwood Avenue		ONE HOUR	✓	73	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	1	59	98	4
	2 - Kings Copse Avenue	39	2	363	17
	3 - Heath House Lane	102	409	4	1
	4 - Sherwood Avenue	20	30	23	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	0	0	0
	2 - Kings Copse Avenue	0	0	0	0
	3 - Heath House Lane	0	0	0	0
	4 - Sherwood Avenue	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Road	0.17	4.12	0.2	0.5	A	149	223
2 - Kings Copse Avenue	0.33	3.81	0.5	2.2	A	386	579
3 - Heath House Lane	0.37	3.76	0.6	2.7	A	473	710
4 - Sherwood Avenue	0.08	4.01	0.1	0.5	A	67	100

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	122	30	351	1144	0.107	121	122	0.0	0.1	3.517	A
2 - Kings Copse Avenue	317	79	97	1437	0.221	316	375	0.0	0.3	3.207	A
3 - Heath House Lane	388	97	47	1537	0.253	387	366	0.0	0.3	3.128	A
4 - Sherwood Avenue	55	14	418	1097	0.050	55	17	0.0	0.1	3.455	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	146	36	420	1105	0.132	146	146	0.1	0.2	3.750	A
2 - Kings Copse Avenue	378	95	117	1425	0.266	378	449	0.3	0.4	3.438	A
3 - Heath House Lane	464	116	57	1532	0.303	463	438	0.3	0.4	3.370	A
4 - Sherwood Avenue	66	16	500	1046	0.063	66	20	0.1	0.1	3.669	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	178	45	515	1052	0.170	178	178	0.2	0.2	4.118	A
2 - Kings Copse Avenue	464	116	143	1408	0.329	463	550	0.4	0.5	3.806	A
3 - Heath House Lane	568	142	69	1524	0.373	567	537	0.4	0.6	3.761	A
4 - Sherwood Avenue	80	20	613	978	0.082	80	24	0.1	0.1	4.010	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	178	45	515	1052	0.170	178	178	0.2	0.2	4.121	A
2 - Kings Copse Avenue	464	116	143	1408	0.329	464	551	0.5	0.5	3.809	A
3 - Heath House Lane	568	142	69	1524	0.373	568	537	0.6	0.6	3.764	A
4 - Sherwood Avenue	80	20	613	978	0.082	80	24	0.1	0.1	4.012	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	146	36	421	1105	0.132	146	146	0.2	0.2	3.754	A
2 - Kings Copse Avenue	378	95	117	1425	0.266	379	450	0.5	0.4	3.442	A
3 - Heath House Lane	464	116	57	1532	0.303	464	439	0.6	0.4	3.374	A
4 - Sherwood Avenue	66	16	501	1046	0.063	66	20	0.1	0.1	3.673	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	122	30	353	1143	0.107	122	122	0.2	0.1	3.524	A
2 - Kings Copse Avenue	317	79	98	1437	0.221	317	377	0.4	0.3	3.214	A
3 - Heath House Lane	388	97	47	1537	0.253	389	368	0.4	0.3	3.138	A
4 - Sherwood Avenue	55	14	420	1095	0.050	55	17	0.1	0.1	3.462	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.12	0.00	0.00	0.12	0.12			N/A	N/A
2 - Kings Copse Avenue	0.28	0.00	0.00	0.28	0.28			N/A	N/A
3 - Heath House Lane	0.34	0.00	0.00	0.34	0.34			N/A	N/A
4 - Sherwood Avenue	0.05	0.00	0.00	0.05	0.05			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.15	0.00	0.00	0.15	0.15			N/A	N/A
2 - Kings Copse Avenue	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3 - Heath House Lane	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4 - Sherwood Avenue	0.07	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.20	0.03	0.25	0.46	0.48			N/A	N/A
2 - Kings Copse Avenue	0.49	0.03	0.25	0.49	0.49			N/A	N/A
3 - Heath House Lane	0.59	0.03	0.25	0.59	0.59			N/A	N/A
4 - Sherwood Avenue	0.09	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.20	0.03	0.25	0.45	0.48			N/A	N/A
2 - Kings Copse Avenue	0.49	0.03	0.30	1.38	2.19			N/A	N/A
3 - Heath House Lane	0.59	0.03	0.29	1.16	2.65			N/A	N/A
4 - Sherwood Avenue	0.09	0.00	0.00	0.09	0.09			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.15	0.00	0.00	0.15	0.15			N/A	N/A
2 - Kings Copse Avenue	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3 - Heath House Lane	0.44	0.00	0.00	0.44	0.44			N/A	N/A
4 - Sherwood Avenue	0.07	0.00	0.00	0.07	0.07			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.12	0.00	0.00	0.12	0.12			N/A	N/A
2 - Kings Copse Avenue	0.28	0.00	0.00	0.28	0.28			N/A	N/A
3 - Heath House Lane	0.34	0.00	0.00	0.34	0.34			N/A	N/A
4 - Sherwood Avenue	0.05	0.00	0.00	0.05	0.05			N/A	N/A

2024 | Baseline | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Heath House Lane Rbt	Standard Roundabout		1, 2, 3, 4	3.85	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.85	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Road		ONE HOUR	✓	145	100.000
2 - Kings Copse Avenue		ONE HOUR	✓	458	100.000
3 - Heath House Lane		ONE HOUR	✓	496	100.000
4 - Sherwood Avenue		ONE HOUR	✓	39	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	38	80	27
	2 - Kings Copse Avenue	37	2	388	31
	3 - Heath House Lane	112	363	1	20
	4 - Sherwood Avenue	15	12	12	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	0	0	0
	2 - Kings Copse Avenue	0	0	0	0
	3 - Heath House Lane	0	0	0	0
	4 - Sherwood Avenue	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Road	0.15	3.83	0.2	0.5	A	133	200
2 - Kings Copse Avenue	0.36	3.95	0.6	2.6	A	420	630
3 - Heath House Lane	0.36	3.77	0.6	2.6	A	455	683
4 - Sherwood Avenue	0.04	3.74	0.0	0.5	A	36	54

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	109	27	293	1177	0.093	109	123	0.0	0.1	3.369	A
2 - Kings Copse Avenue	345	86	90	1442	0.239	344	311	0.0	0.3	3.274	A
3 - Heath House Lane	373	93	73	1522	0.245	372	361	0.0	0.3	3.128	A
4 - Sherwood Avenue	29	7	386	1116	0.026	29	59	0.0	0.0	3.313	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	130	33	350	1145	0.114	130	147	0.1	0.1	3.548	A
2 - Kings Copse Avenue	412	103	108	1431	0.288	411	373	0.3	0.4	3.531	A
3 - Heath House Lane	446	111	87	1514	0.295	446	432	0.3	0.4	3.371	A
4 - Sherwood Avenue	35	9	463	1069	0.033	35	70	0.0	0.0	3.479	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	160	40	429	1100	0.145	159	180	0.1	0.2	3.825	A
2 - Kings Copse Avenue	504	126	132	1415	0.356	504	456	0.4	0.5	3.946	A
3 - Heath House Lane	546	137	107	1502	0.364	545	529	0.4	0.6	3.762	A
4 - Sherwood Avenue	43	11	566	1006	0.043	43	86	0.0	0.0	3.736	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	160	40	429	1100	0.145	160	181	0.2	0.2	3.827	A
2 - Kings Copse Avenue	504	126	132	1415	0.356	504	457	0.5	0.6	3.951	A
3 - Heath House Lane	546	137	107	1502	0.364	546	530	0.6	0.6	3.765	A
4 - Sherwood Avenue	43	11	567	1006	0.043	43	86	0.0	0.0	3.738	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	130	33	351	1144	0.114	131	148	0.2	0.1	3.550	A
2 - Kings Copse Avenue	412	103	108	1431	0.288	412	374	0.6	0.4	3.536	A
3 - Heath House Lane	446	111	87	1513	0.295	446	433	0.6	0.4	3.375	A
4 - Sherwood Avenue	35	9	464	1069	0.033	35	70	0.0	0.0	3.482	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	109	27	294	1176	0.093	109	124	0.1	0.1	3.375	A
2 - Kings Copse Avenue	345	86	90	1442	0.239	345	313	0.4	0.3	3.282	A
3 - Heath House Lane	373	93	73	1522	0.245	374	362	0.4	0.3	3.136	A
4 - Sherwood Avenue	29	7	388	1115	0.026	29	59	0.0	0.0	3.319	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.10	0.00	0.00	0.10	0.10			N/A	N/A
2 - Kings Copse Avenue	0.31	0.00	0.00	0.31	0.31			N/A	N/A
3 - Heath House Lane	0.32	0.00	0.00	0.32	0.32			N/A	N/A
4 - Sherwood Avenue	0.03	0.00	0.00	0.03	0.03			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.13	0.00	0.00	0.13	0.13			N/A	N/A
2 - Kings Copse Avenue	0.40	0.00	0.00	0.40	0.40			N/A	N/A
3 - Heath House Lane	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4 - Sherwood Avenue	0.03	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.17	0.03	0.26	0.46	0.48			N/A	N/A
2 - Kings Copse Avenue	0.55	0.03	0.25	0.55	0.55			N/A	N/A
3 - Heath House Lane	0.57	0.03	0.25	0.57	0.57			N/A	N/A
4 - Sherwood Avenue	0.04	0.03	0.25	0.46	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.17	0.03	0.25	0.45	0.48			N/A	N/A
2 - Kings Copse Avenue	0.55	0.03	0.29	1.29	2.57			N/A	N/A
3 - Heath House Lane	0.57	0.03	0.29	1.25	2.62			N/A	N/A
4 - Sherwood Avenue	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.13	0.00	0.00	0.13	0.13			N/A	N/A
2 - Kings Copse Avenue	0.41	0.00	0.00	0.41	0.41			N/A	N/A
3 - Heath House Lane	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4 - Sherwood Avenue	0.03	0.00	0.00	0.03	0.03			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.10	0.00	0.00	0.10	0.10			N/A	N/A
2 - Kings Copse Avenue	0.32	0.00	0.00	0.32	0.32			N/A	N/A
3 - Heath House Lane	0.33	0.00	0.00	0.33	0.33			N/A	N/A
4 - Sherwood Avenue	0.03	0.00	0.00	0.03	0.03			N/A	N/A

2030 | + Committed Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Heath House Lane Rbt	Standard Roundabout		1, 2, 3, 4	4.17	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.17	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Road		ONE HOUR	✓	172	100.000
2 - Kings Copse Avenue		ONE HOUR	✓	506	100.000
3 - Heath House Lane		ONE HOUR	✓	569	100.000
4 - Sherwood Avenue		ONE HOUR	✓	78	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	1	63	104	4
	2 - Kings Copse Avenue	42	2	444	18
	3 - Heath House Lane	109	455	4	1
	4 - Sherwood Avenue	21	32	24	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	0	0	0
	2 - Kings Copse Avenue	0	0	0	0
	3 - Heath House Lane	0	0	0	0
	4 - Sherwood Avenue	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Road	0.19	4.33	0.2	0.5	A	158	237
2 - Kings Copse Avenue	0.40	4.26	0.7	2.7	A	464	697
3 - Heath House Lane	0.41	4.02	0.7	2.5	A	522	784
4 - Sherwood Avenue	0.09	4.21	0.1	0.5	A	71	107

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	130	32	389	1123	0.116	129	129	0.0	0.1	3.621	A
2 - Kings Copse Avenue	381	95	104	1433	0.266	380	414	0.0	0.4	3.412	A
3 - Heath House Lane	429	107	50	1535	0.279	427	433	0.0	0.4	3.244	A
4 - Sherwood Avenue	59	15	460	1071	0.055	58	18	0.0	0.1	3.554	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	155	39	465	1080	0.144	155	155	0.1	0.2	3.892	A
2 - Kings Copse Avenue	455	114	124	1420	0.320	455	496	0.4	0.5	3.725	A
3 - Heath House Lane	512	128	60	1529	0.335	511	519	0.4	0.5	3.533	A
4 - Sherwood Avenue	70	17	551	1016	0.069	70	21	0.1	0.1	3.804	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	190	47	570	1021	0.186	190	190	0.2	0.2	4.330	A
2 - Kings Copse Avenue	557	139	152	1402	0.397	557	607	0.5	0.7	4.252	A
3 - Heath House Lane	627	157	74	1521	0.412	626	635	0.5	0.7	4.017	A
4 - Sherwood Avenue	86	21	674	941	0.091	85	26	0.1	0.1	4.210	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	190	47	571	1020	0.186	190	190	0.2	0.2	4.333	A
2 - Kings Copse Avenue	557	139	152	1402	0.397	557	608	0.7	0.7	4.260	A
3 - Heath House Lane	627	157	74	1521	0.412	627	636	0.7	0.7	4.024	A
4 - Sherwood Avenue	86	21	675	940	0.091	86	26	0.1	0.1	4.212	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	155	39	467	1079	0.144	155	155	0.2	0.2	3.899	A
2 - Kings Copse Avenue	455	114	125	1420	0.320	456	497	0.7	0.5	3.735	A
3 - Heath House Lane	512	128	60	1529	0.335	513	520	0.7	0.5	3.545	A
4 - Sherwood Avenue	70	17	552	1015	0.069	70	21	0.1	0.1	3.812	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	130	32	391	1122	0.116	130	130	0.2	0.1	3.628	A
2 - Kings Copse Avenue	381	95	104	1433	0.266	382	416	0.5	0.4	3.424	A
3 - Heath House Lane	429	107	51	1535	0.279	429	435	0.5	0.4	3.257	A
4 - Sherwood Avenue	59	15	462	1070	0.055	59	18	0.1	0.1	3.562	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.13	0.00	0.00	0.13	0.13			N/A	N/A
2 - Kings Copse Avenue	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3 - Heath House Lane	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4 - Sherwood Avenue	0.06	0.00	0.00	0.06	0.06			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.17	0.00	0.00	0.17	0.17			N/A	N/A
2 - Kings Copse Avenue	0.47	0.00	0.00	0.47	0.47			N/A	N/A
3 - Heath House Lane	0.50	0.50	1.00	1.40	1.45			N/A	N/A
4 - Sherwood Avenue	0.07	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.23	0.03	0.25	0.46	0.48			N/A	N/A
2 - Kings Copse Avenue	0.65	0.03	0.25	0.65	0.65			N/A	N/A
3 - Heath House Lane	0.70	0.03	0.25	0.70	0.70			N/A	N/A
4 - Sherwood Avenue	0.10	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.23	0.03	0.26	0.47	0.50			N/A	N/A
2 - Kings Copse Avenue	0.66	0.03	0.28	0.91	2.65			N/A	N/A
3 - Heath House Lane	0.70	0.03	0.28	0.70	2.52			N/A	N/A
4 - Sherwood Avenue	0.10	0.00	0.00	0.10	0.10			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.17	0.00	0.00	0.17	0.17			N/A	N/A
2 - Kings Copse Avenue	0.47	0.00	0.00	0.47	0.47			N/A	N/A
3 - Heath House Lane	0.51	0.51	1.00	1.40	1.45			N/A	N/A
4 - Sherwood Avenue	0.07	0.00	0.00	0.07	0.07			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.13	0.00	0.00	0.13	0.13			N/A	N/A
2 - Kings Copse Avenue	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3 - Heath House Lane	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4 - Sherwood Avenue	0.06	0.00	0.00	0.06	0.06			N/A	N/A

2030 | + Committed Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Heath House Lane Rbt	Standard Roundabout		1, 2, 3, 4	4.17	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.17	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Road		ONE HOUR	✓	154	100.000
2 - Kings Copse Avenue		ONE HOUR	✓	512	100.000
3 - Heath House Lane		ONE HOUR	✓	572	100.000
4 - Sherwood Avenue		ONE HOUR	✓	41	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	40	85	29
	2 - Kings Copse Avenue	39	2	438	33
	3 - Heath House Lane	119	430	1	21
	4 - Sherwood Avenue	16	13	13	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	0	0	0
	2 - Kings Copse Avenue	0	0	0	0
	3 - Heath House Lane	0	0	0	0
	4 - Sherwood Avenue	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Road	0.16	4.06	0.2	0.5	A	142	212
2 - Kings Copse Avenue	0.40	4.26	0.7	2.6	A	470	705
3 - Heath House Lane	0.42	4.15	0.7	2.5	A	525	787
4 - Sherwood Avenue	0.05	3.96	0.1	0.5	A	38	57

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	116	29	344	1148	0.101	116	131	0.0	0.1	3.484	A
2 - Kings Copse Avenue	386	96	96	1439	0.268	384	364	0.0	0.4	3.410	A
3 - Heath House Lane	430	108	77	1519	0.283	429	403	0.0	0.4	3.297	A
4 - Sherwood Avenue	31	8	444	1081	0.029	31	62	0.0	0.0	3.429	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	139	35	412	1110	0.125	139	157	0.1	0.1	3.706	A
2 - Kings Copse Avenue	461	115	115	1426	0.323	460	436	0.4	0.5	3.723	A
3 - Heath House Lane	514	128	93	1510	0.340	513	482	0.4	0.5	3.609	A
4 - Sherwood Avenue	37	9	532	1027	0.036	37	75	0.0	0.0	3.635	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	170	42	505	1058	0.161	170	192	0.1	0.2	4.053	A
2 - Kings Copse Avenue	564	141	140	1410	0.400	563	534	0.5	0.7	4.248	A
3 - Heath House Lane	629	157	113	1498	0.420	629	590	0.5	0.7	4.138	A
4 - Sherwood Avenue	46	11	651	955	0.048	46	91	0.0	0.1	3.960	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	170	42	505	1057	0.161	170	192	0.2	0.2	4.056	A
2 - Kings Copse Avenue	564	141	141	1410	0.400	564	535	0.7	0.7	4.255	A
3 - Heath House Lane	629	157	114	1498	0.420	629	591	0.7	0.7	4.145	A
4 - Sherwood Avenue	46	11	652	954	0.048	46	91	0.1	0.1	3.962	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	139	35	413	1109	0.125	139	157	0.2	0.1	3.712	A
2 - Kings Copse Avenue	461	115	115	1426	0.323	461	437	0.7	0.5	3.732	A
3 - Heath House Lane	514	128	93	1510	0.340	515	483	0.7	0.5	3.621	A
4 - Sherwood Avenue	37	9	533	1026	0.036	37	75	0.1	0.0	3.641	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	116	29	346	1147	0.101	116	132	0.1	0.1	3.494	A
2 - Kings Copse Avenue	386	96	96	1438	0.268	386	366	0.5	0.4	3.422	A
3 - Heath House Lane	430	108	78	1519	0.283	431	405	0.5	0.4	3.308	A
4 - Sherwood Avenue	31	8	446	1079	0.029	31	63	0.0	0.0	3.434	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.11	0.00	0.00	0.11	0.11			N/A	N/A
2 - Kings Copse Avenue	0.36	0.00	0.00	0.36	0.36			N/A	N/A
3 - Heath House Lane	0.39	0.00	0.00	0.39	0.39			N/A	N/A
4 - Sherwood Avenue	0.03	0.00	0.00	0.03	0.03			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.14	0.00	0.00	0.14	0.14			N/A	N/A
2 - Kings Copse Avenue	0.47	0.00	0.00	0.47	0.47			N/A	N/A
3 - Heath House Lane	0.51	0.51	1.00	1.40	1.45			N/A	N/A
4 - Sherwood Avenue	0.04	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.19	0.03	0.25	0.46	0.48			N/A	N/A
2 - Kings Copse Avenue	0.66	0.03	0.25	0.66	0.66			N/A	N/A
3 - Heath House Lane	0.72	0.03	0.25	0.72	0.72			N/A	N/A
4 - Sherwood Avenue	0.05	0.03	0.26	0.46	0.48			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.19	0.03	0.25	0.45	0.48			N/A	N/A
2 - Kings Copse Avenue	0.66	0.03	0.28	0.87	2.64			N/A	N/A
3 - Heath House Lane	0.72	0.03	0.28	0.72	2.46			N/A	N/A
4 - Sherwood Avenue	0.05	0.00	0.00	0.05	0.05			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.14	0.00	0.00	0.14	0.14			N/A	N/A
2 - Kings Copse Avenue	0.48	0.00	0.00	0.48	0.48			N/A	N/A
3 - Heath House Lane	0.52	0.52	1.00	1.40	1.45			N/A	N/A
4 - Sherwood Avenue	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.11	0.00	0.00	0.11	0.11			N/A	N/A
2 - Kings Copse Avenue	0.37	0.00	0.00	0.37	0.37			N/A	N/A
3 - Heath House Lane	0.40	0.00	0.00	0.40	0.40			N/A	N/A
4 - Sherwood Avenue	0.03	0.00	0.00	0.03	0.03			N/A	N/A

2030 | + Committed Development + Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Heath House Lane Rbt	Standard Roundabout		1, 2, 3, 4	4.29	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.29	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Road		ONE HOUR	✓	173	100.000
2 - Kings Copse Avenue		ONE HOUR	✓	544	100.000
3 - Heath House Lane		ONE HOUR	✓	580	100.000
4 - Sherwood Avenue		ONE HOUR	✓	78	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	1	64	104	4
	2 - Kings Copse Avenue	45	2	479	18
	3 - Heath House Lane	109	466	4	1
	4 - Sherwood Avenue	21	32	24	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	0	0	0
	2 - Kings Copse Avenue	0	0	0	0
	3 - Heath House Lane	0	0	0	0
	4 - Sherwood Avenue	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Road	0.19	4.37	0.2	0.6	A	159	239
2 - Kings Copse Avenue	0.43	4.48	0.7	2.4	A	499	748
3 - Heath House Lane	0.42	4.08	0.7	2.4	A	532	798
4 - Sherwood Avenue	0.09	4.26	0.1	0.5	A	71	107

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	131	33	396	1119	0.117	130	132	0.0	0.1	3.639	A
2 - Kings Copse Avenue	409	102	104	1433	0.286	408	423	0.0	0.4	3.506	A
3 - Heath House Lane	436	109	53	1534	0.284	435	459	0.0	0.4	3.271	A
4 - Sherwood Avenue	59	15	470	1065	0.055	58	18	0.0	0.1	3.576	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	156	39	475	1075	0.145	156	158	0.1	0.2	3.918	A
2 - Kings Copse Avenue	489	122	124	1420	0.344	488	506	0.4	0.5	3.861	A
3 - Heath House Lane	521	130	63	1528	0.341	521	549	0.4	0.5	3.572	A
4 - Sherwood Avenue	70	17	563	1008	0.069	70	21	0.1	0.1	3.834	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	191	48	581	1015	0.188	191	193	0.2	0.2	4.369	A
2 - Kings Copse Avenue	599	150	152	1402	0.427	598	620	0.5	0.7	4.469	A
3 - Heath House Lane	638	160	77	1519	0.420	637	672	0.5	0.7	4.078	A
4 - Sherwood Avenue	86	21	689	932	0.092	85	26	0.1	0.1	4.255	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	191	48	582	1014	0.188	191	194	0.2	0.2	4.372	A
2 - Kings Copse Avenue	599	150	152	1402	0.427	599	620	0.7	0.7	4.478	A
3 - Heath House Lane	638	160	77	1519	0.420	638	673	0.7	0.7	4.085	A
4 - Sherwood Avenue	86	21	690	931	0.092	86	26	0.1	0.1	4.257	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	156	39	476	1074	0.145	156	158	0.2	0.2	3.924	A
2 - Kings Copse Avenue	489	122	125	1420	0.344	490	507	0.7	0.5	3.873	A
3 - Heath House Lane	521	130	63	1528	0.341	522	551	0.7	0.5	3.581	A
4 - Sherwood Avenue	70	17	564	1008	0.069	70	21	0.1	0.1	3.839	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	131	33	398	1118	0.117	131	132	0.2	0.1	3.647	A
2 - Kings Copse Avenue	409	102	104	1433	0.286	410	425	0.5	0.4	3.521	A
3 - Heath House Lane	436	109	53	1534	0.284	437	461	0.5	0.4	3.282	A
4 - Sherwood Avenue	59	15	472	1063	0.055	59	18	0.1	0.1	3.581	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.13	0.00	0.00	0.13	0.13			N/A	N/A
2 - Kings Copse Avenue	0.40	0.00	0.00	0.40	0.40			N/A	N/A
3 - Heath House Lane	0.40	0.00	0.00	0.40	0.40			N/A	N/A
4 - Sherwood Avenue	0.06	0.00	0.00	0.06	0.06			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.17	0.00	0.00	0.17	0.17			N/A	N/A
2 - Kings Copse Avenue	0.52	0.52	1.00	1.40	1.45			N/A	N/A
3 - Heath House Lane	0.51	0.51	1.00	1.40	1.45			N/A	N/A
4 - Sherwood Avenue	0.07	0.03	0.25	0.45	0.48			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.23	0.03	0.25	0.46	0.48			N/A	N/A
2 - Kings Copse Avenue	0.74	0.03	0.25	0.74	0.74			N/A	N/A
3 - Heath House Lane	0.72	0.03	0.25	0.72	0.72			N/A	N/A
4 - Sherwood Avenue	0.10	0.03	0.26	0.47	0.49			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.23	0.03	0.26	0.48	0.61			N/A	N/A
2 - Kings Copse Avenue	0.74	0.03	0.28	0.74	2.44			N/A	N/A
3 - Heath House Lane	0.72	0.03	0.28	0.72	2.43			N/A	N/A
4 - Sherwood Avenue	0.10	0.00	0.00	0.10	0.10			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.17	0.00	0.00	0.17	0.17			N/A	N/A
2 - Kings Copse Avenue	0.53	0.53	1.00	1.40	1.45			N/A	N/A
3 - Heath House Lane	0.52	0.52	1.00	1.40	1.45			N/A	N/A
4 - Sherwood Avenue	0.07	0.00	0.00	0.07	0.07			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.13	0.00	0.00	0.13	0.13			N/A	N/A
2 - Kings Copse Avenue	0.40	0.00	0.00	0.40	0.40			N/A	N/A
3 - Heath House Lane	0.40	0.00	0.00	0.40	0.40			N/A	N/A
4 - Sherwood Avenue	0.06	0.00	0.00	0.06	0.06			N/A	N/A

2030 | + Committed Development + Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Kings Copse Avenue / Heath House Lane Rbt	Standard Roundabout		1, 2, 3, 4	4.30	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.30	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Kings Copse Road		ONE HOUR	✓	157	100.000
2 - Kings Copse Avenue		ONE HOUR	✓	528	100.000
3 - Heath House Lane		ONE HOUR	✓	602	100.000
4 - Sherwood Avenue		ONE HOUR	✓	41	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	43	85	29
	2 - Kings Copse Avenue	41	2	452	33
	3 - Heath House Lane	119	461	1	21
	4 - Sherwood Avenue	16	13	13	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Kings Copse Road	2 - Kings Copse Avenue	3 - Heath House Lane	4 - Sherwood Avenue
From	1 - Kings Copse Road	0	0	0	0
	2 - Kings Copse Avenue	0	0	0	0
	3 - Heath House Lane	0	0	0	0
	4 - Sherwood Avenue	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Kings Copse Road	0.17	4.16	0.2	0.5	A	144	216
2 - Kings Copse Avenue	0.41	4.35	0.7	2.6	A	485	727
3 - Heath House Lane	0.44	4.32	0.8	2.1	A	552	829
4 - Sherwood Avenue	0.05	4.06	0.1	0.5	A	38	57

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	118	30	367	1135	0.104	118	132	0.0	0.1	3.536	A
2 - Kings Copse Avenue	398	99	96	1439	0.276	396	389	0.0	0.4	3.449	A
3 - Heath House Lane	453	113	78	1519	0.298	452	413	0.0	0.4	3.367	A
4 - Sherwood Avenue	31	8	468	1066	0.029	31	62	0.0	0.0	3.477	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	141	35	439	1094	0.129	141	158	0.1	0.1	3.776	A
2 - Kings Copse Avenue	475	119	115	1426	0.333	474	466	0.4	0.5	3.779	A
3 - Heath House Lane	541	135	94	1509	0.359	541	495	0.4	0.6	3.714	A
4 - Sherwood Avenue	37	9	560	1010	0.037	37	75	0.0	0.0	3.700	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	173	43	538	1039	0.167	173	193	0.1	0.2	4.156	A
2 - Kings Copse Avenue	582	145	140	1410	0.412	581	570	0.5	0.7	4.336	A
3 - Heath House Lane	663	166	115	1497	0.443	662	606	0.6	0.8	4.307	A
4 - Sherwood Avenue	46	11	686	933	0.049	46	91	0.0	0.1	4.054	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	173	43	539	1038	0.167	173	194	0.2	0.2	4.159	A
2 - Kings Copse Avenue	582	145	141	1410	0.413	582	571	0.7	0.7	4.345	A
3 - Heath House Lane	663	166	115	1497	0.443	663	607	0.8	0.8	4.316	A
4 - Sherwood Avenue	46	11	687	933	0.049	46	91	0.1	0.1	4.057	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	141	35	441	1094	0.129	142	158	0.2	0.1	3.783	A
2 - Kings Copse Avenue	475	119	115	1426	0.333	476	467	0.7	0.5	3.789	A
3 - Heath House Lane	541	135	94	1509	0.359	542	496	0.8	0.6	3.724	A
4 - Sherwood Avenue	37	9	562	1009	0.037	37	75	0.1	0.0	3.704	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Kings Copse Road	118	30	369	1134	0.104	118	133	0.1	0.1	3.546	A
2 - Kings Copse Avenue	398	99	96	1438	0.277	398	391	0.5	0.4	3.461	A
3 - Heath House Lane	453	113	79	1518	0.298	454	416	0.6	0.4	3.384	A
4 - Sherwood Avenue	31	8	470	1065	0.029	31	63	0.0	0.0	3.485	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.12	0.00	0.00	0.12	0.12			N/A	N/A
2 - Kings Copse Avenue	0.38	0.00	0.00	0.38	0.38			N/A	N/A
3 - Heath House Lane	0.42	0.00	0.00	0.42	0.42			N/A	N/A
4 - Sherwood Avenue	0.03	0.00	0.00	0.03	0.03			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.15	0.00	0.00	0.15	0.15			N/A	N/A
2 - Kings Copse Avenue	0.50	0.00	0.00	0.50	0.50			N/A	N/A
3 - Heath House Lane	0.56	0.08	0.78	1.36	1.43			N/A	N/A
4 - Sherwood Avenue	0.04	0.03	0.25	0.45	0.48			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.20	0.03	0.25	0.46	0.48			N/A	N/A
2 - Kings Copse Avenue	0.70	0.03	0.25	0.70	0.70			N/A	N/A
3 - Heath House Lane	0.79	0.03	0.25	0.79	0.79			N/A	N/A
4 - Sherwood Avenue	0.05	0.03	0.26	0.46	0.49			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.20	0.03	0.25	0.45	0.48			N/A	N/A
2 - Kings Copse Avenue	0.70	0.03	0.28	0.70	2.57			N/A	N/A
3 - Heath House Lane	0.79	0.03	0.27	0.79	2.12			N/A	N/A
4 - Sherwood Avenue	0.05	0.00	0.00	0.05	0.05			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.15	0.00	0.00	0.15	0.15			N/A	N/A
2 - Kings Copse Avenue	0.50	0.50	1.00	1.40	1.45			N/A	N/A
3 - Heath House Lane	0.56	0.55	1.00	1.40	1.45			N/A	N/A
4 - Sherwood Avenue	0.04	0.00	0.00	0.04	0.04			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Kings Copse Road	0.12	0.00	0.00	0.12	0.12			N/A	N/A
2 - Kings Copse Avenue	0.38	0.00	0.00	0.38	0.38			N/A	N/A
3 - Heath House Lane	0.43	0.00	0.00	0.43	0.43			N/A	N/A
4 - Sherwood Avenue	0.03	0.00	0.00	0.03	0.03			N/A	N/A

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: Dodwell Lane_Barnfield Way Rbt - 2030.j11
Path: S:\Projects\19000 Series\19785ITS - Kings Copse Avenue Hedge End\Tech\Junction Assessments\Arcady
Report generation date: 20/06/2025 11:47:33

»2024 | Baseline | AM
»2024 | Baseline | PM
»2030 | + Committed Development | AM
»2030 | + Committed Development | PM
»2030 | + Committed Development + Development | AM
»2030 | + Committed Development + Development | PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2024 - Baseline					
1 - Dodwell Lane N	0.5	5.52	0.35	0.3	4.96	0.24
2 - Barnfield Way	0.7	5.30	0.43	0.6	4.67	0.39
3 - Pylands Lane	0.1	5.33	0.07	0.2	5.38	0.15
4 - Dodwell Lane S	0.8	4.23	0.46	1.0	4.72	0.51
	2030 - + Committed Development					
1 - Dodwell Lane N	0.6	6.00	0.38	0.4	5.42	0.27
2 - Barnfield Way	1.2	6.86	0.55	0.8	5.25	0.46
3 - Pylands Lane	0.1	6.17	0.09	0.2	5.86	0.17
4 - Dodwell Lane S	1.0	4.63	0.50	1.5	5.74	0.60
	2030 - + Committed Development + Development					
1 - Dodwell Lane N	0.6	6.06	0.39	0.4	5.56	0.28
2 - Barnfield Way	1.4	7.34	0.58	0.9	5.36	0.47
3 - Pylands Lane	0.1	6.36	0.09	0.2	5.93	0.18
4 - Dodwell Lane S	1.0	4.69	0.51	1.6	6.03	0.62

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	24/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\basingstoke.hotdesk
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75	✓					0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓		
D3	2030	Future Traffic	AM	ONE HOUR	07:45	09:15	15		Simple	D1*G1
D4	2030	Future Traffic	PM	ONE HOUR	16:15	17:45	15		Simple	D2*G2
D5		Committed Development	AM	ONE HOUR	07:45	09:15	15			
D6		Committed Development	PM	ONE HOUR	16:15	17:45	15			
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6
D9		Development	AM	ONE HOUR	07:45	09:15	15			
D10		Development	PM	ONE HOUR	16:15	17:45	15			
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2024-2030 AM		1.0646
G2	2024-2030 PM		1.0639

Growth factors are only active if a Demand Set references them in a Relationship.

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 | Baseline | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Dodwell Lane / Barnfield Way / Pylands Lane Rbt	Standard Roundabout		1, 2, 3, 4	4.87	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.87	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Dodwell Lane N		
2	Barnfield Way		
3	Pylands Lane		
4	Dodwell Lane S		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Dodwell Lane N	3.50	5.25	5.0	12.5	38.0	30.5		
2 - Barnfield Way	3.50	5.00	13.0	20.0	38.0	23.0		
3 - Pylands Lane	3.75	4.00	3.8	10.0	38.0	27.5		
4 - Dodwell Lane S	3.75	6.00	8.9	40.0	38.0	21.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Dodwell Lane N	0.550	1270
2 - Barnfield Way	0.599	1426
3 - Pylands Lane	0.524	1151
4 - Dodwell Lane S	0.643	1597

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Dodwell Lane N		ONE HOUR	✓	319	100.000
2 - Barnfield Way		ONE HOUR	✓	465	100.000
3 - Pylands Lane		ONE HOUR	✓	44	100.000
4 - Dodwell Lane S		ONE HOUR	✓	656	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	12	14	293
	2 - Barnfield Way	5	1	20	439
	3 - Pylands Lane	14	13	0	17
	4 - Dodwell Lane S	230	377	47	2

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	0	0	0
	2 - Barnfield Way	0	0	0	0
	3 - Pylands Lane	0	0	0	0
	4 - Dodwell Lane S	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Dodwell Lane N	0.35	5.52	0.5	2.5	A	293	439
2 - Barnfield Way	0.43	5.30	0.7	2.7	A	427	640
3 - Pylands Lane	0.07	5.33	0.1	0.5	A	40	61
4 - Dodwell Lane S	0.46	4.23	0.8	1.8	A	602	903

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	240	60	330	1088	0.221	239	187	0.0	0.3	4.234	A
2 - Barnfield Way	350	88	267	1267	0.276	349	302	0.0	0.4	3.915	A
3 - Pylands Lane	33	8	555	860	0.039	33	61	0.0	0.0	4.352	A
4 - Dodwell Lane S	494	123	25	1581	0.312	492	563	0.0	0.5	3.298	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	287	72	395	1052	0.272	286	224	0.3	0.4	4.697	A
2 - Barnfield Way	418	105	320	1235	0.339	418	362	0.4	0.5	4.401	A
3 - Pylands Lane	40	10	664	803	0.049	40	73	0.0	0.1	4.716	A
4 - Dodwell Lane S	590	147	30	1578	0.374	589	674	0.5	0.6	3.637	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	351	88	484	1004	0.350	351	274	0.4	0.5	5.506	A
2 - Barnfield Way	512	128	391	1192	0.429	511	443	0.5	0.7	5.278	A
3 - Pylands Lane	48	12	813	725	0.067	48	89	0.1	0.1	5.321	A
4 - Dodwell Lane S	722	181	36	1574	0.459	721	825	0.6	0.8	4.215	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	351	88	484	1003	0.350	351	274	0.5	0.5	5.520	A
2 - Barnfield Way	512	128	392	1192	0.430	512	444	0.7	0.7	5.296	A
3 - Pylands Lane	48	12	815	724	0.067	48	89	0.1	0.1	5.328	A
4 - Dodwell Lane S	722	181	36	1574	0.459	722	827	0.8	0.8	4.226	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	287	72	396	1052	0.273	287	224	0.5	0.4	4.712	A
2 - Barnfield Way	418	105	321	1234	0.339	419	363	0.7	0.5	4.420	A
3 - Pylands Lane	40	10	667	802	0.049	40	73	0.1	0.1	4.725	A
4 - Dodwell Lane S	590	147	30	1578	0.374	591	677	0.8	0.6	3.650	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	240	60	332	1087	0.221	241	188	0.4	0.3	4.252	A
2 - Barnfield Way	350	88	268	1266	0.277	351	304	0.5	0.4	3.938	A
3 - Pylands Lane	33	8	558	858	0.039	33	61	0.1	0.0	4.363	A
4 - Dodwell Lane S	494	123	25	1581	0.312	494	566	0.6	0.5	3.315	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.28	0.00	0.00	0.28	0.28			N/A	N/A
2 - Barnfield Way	0.38	0.00	0.00	0.38	0.38			N/A	N/A
3 - Pylands Lane	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4 - Dodwell Lane S	0.45	0.00	0.00	0.45	0.45			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2 - Barnfield Way	0.51	0.51	1.00	1.40	1.45			N/A	N/A
3 - Pylands Lane	0.05	0.03	0.25	0.45	0.48			N/A	N/A
4 - Dodwell Lane S	0.59	0.10	0.83	1.37	1.43			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.53	0.03	0.25	0.53	0.53			N/A	N/A
2 - Barnfield Way	0.75	0.03	0.25	0.75	0.75			N/A	N/A
3 - Pylands Lane	0.07	0.03	0.26	0.47	0.49			N/A	N/A
4 - Dodwell Lane S	0.84	0.03	0.25	0.84	0.84			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.54	0.03	0.30	1.36	2.50			N/A	N/A
2 - Barnfield Way	0.75	0.03	0.28	0.75	2.66			N/A	N/A
3 - Pylands Lane	0.07	0.00	0.00	0.07	0.07			N/A	N/A
4 - Dodwell Lane S	0.84	0.03	0.27	0.84	1.78			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.38	0.00	0.00	0.38	0.38			N/A	N/A
2 - Barnfield Way	0.52	0.52	1.00	1.40	1.45			N/A	N/A
3 - Pylands Lane	0.05	0.00	0.00	0.05	0.05			N/A	N/A
4 - Dodwell Lane S	0.60	0.55	1.00	1.40	1.45			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.29	0.00	0.00	0.29	0.29			N/A	N/A
2 - Barnfield Way	0.38	0.00	0.00	0.38	0.38			N/A	N/A
3 - Pylands Lane	0.04	0.00	0.00	0.04	0.04			N/A	N/A
4 - Dodwell Lane S	0.46	0.00	0.00	0.46	0.46			N/A	N/A

2024 | Baseline | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Dodwell Lane / Barnfield Way / Pylands Lane Rbt	Standard Roundabout		1, 2, 3, 4	4.79	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.79	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Dodwell Lane N		ONE HOUR	✓	212	100.000
2 - Barnfield Way		ONE HOUR	✓	456	100.000
3 - Pylands Lane		ONE HOUR	✓	108	100.000
4 - Dodwell Lane S		ONE HOUR	✓	727	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	1	11	14	186
	2 - Barnfield Way	6	0	15	435
	3 - Pylands Lane	19	22	0	67
	4 - Dodwell Lane S	236	459	31	1

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	0	0	0
	2 - Barnfield Way	0	0	0	0
	3 - Pylands Lane	0	0	0	0
	4 - Dodwell Lane S	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Dodwell Lane N	0.24	4.96	0.3	1.4	A	195	292
2 - Barnfield Way	0.39	4.67	0.6	2.7	A	418	628
3 - Pylands Lane	0.15	5.38	0.2	0.5	A	99	149
4 - Dodwell Lane S	0.51	4.72	1.0	1.5	A	667	1001

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	160	40	385	1058	0.151	159	196	0.0	0.2	3.997	A
2 - Barnfield Way	343	86	175	1322	0.260	342	369	0.0	0.3	3.669	A
3 - Pylands Lane	81	20	472	904	0.090	81	45	0.0	0.1	4.373	A
4 - Dodwell Lane S	547	137	36	1574	0.348	545	517	0.0	0.5	3.491	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	191	48	461	1016	0.188	190	235	0.2	0.2	4.357	A
2 - Barnfield Way	410	102	209	1301	0.315	410	442	0.3	0.5	4.036	A
3 - Pylands Lane	97	24	565	855	0.114	97	54	0.1	0.1	4.750	A
4 - Dodwell Lane S	654	163	43	1570	0.416	653	619	0.5	0.7	3.923	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	233	58	564	960	0.243	233	288	0.2	0.3	4.953	A
2 - Barnfield Way	502	126	256	1273	0.394	501	541	0.5	0.6	4.660	A
3 - Pylands Lane	119	30	691	789	0.151	119	66	0.1	0.2	5.373	A
4 - Dodwell Lane S	800	200	53	1563	0.512	799	757	0.7	1.0	4.702	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	233	58	565	959	0.243	233	288	0.3	0.3	4.960	A
2 - Barnfield Way	502	126	257	1273	0.394	502	542	0.6	0.6	4.671	A
3 - Pylands Lane	119	30	693	788	0.151	119	66	0.2	0.2	5.379	A
4 - Dodwell Lane S	800	200	53	1563	0.512	800	759	1.0	1.0	4.717	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	191	48	462	1016	0.188	191	236	0.3	0.2	4.366	A
2 - Barnfield Way	410	102	210	1301	0.315	411	443	0.6	0.5	4.049	A
3 - Pylands Lane	97	24	566	854	0.114	97	54	0.2	0.1	4.758	A
4 - Dodwell Lane S	654	163	43	1570	0.416	655	621	1.0	0.7	3.942	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	160	40	387	1057	0.151	160	198	0.2	0.2	4.014	A
2 - Barnfield Way	343	86	176	1321	0.260	344	371	0.5	0.4	3.686	A
3 - Pylands Lane	81	20	474	902	0.090	81	45	0.1	0.1	4.385	A
4 - Dodwell Lane S	547	137	36	1574	0.348	548	519	0.7	0.5	3.510	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.18	0.00	0.00	0.18	0.18			N/A	N/A
2 - Barnfield Way	0.35	0.00	0.00	0.35	0.35			N/A	N/A
3 - Pylands Lane	0.10	0.00	0.00	0.10	0.10			N/A	N/A
4 - Dodwell Lane S	0.53	0.53	1.00	1.40	1.45			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.23	0.00	0.00	0.23	0.23			N/A	N/A
2 - Barnfield Way	0.46	0.00	0.00	0.46	0.46			N/A	N/A
3 - Pylands Lane	0.13	0.00	0.00	0.13	0.13			N/A	N/A
4 - Dodwell Lane S	0.71	0.10	0.84	1.38	1.45			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.32	0.03	0.25	0.46	0.48			N/A	N/A
2 - Barnfield Way	0.65	0.03	0.25	0.65	0.65			N/A	N/A
3 - Pylands Lane	0.18	0.03	0.26	0.46	0.49			N/A	N/A
4 - Dodwell Lane S	1.04	0.03	0.26	1.04	1.04			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.32	0.03	0.32	1.10	1.37			N/A	N/A
2 - Barnfield Way	0.65	0.03	0.28	1.00	2.70			N/A	N/A
3 - Pylands Lane	0.18	0.03	0.25	0.45	0.48			N/A	N/A
4 - Dodwell Lane S	1.04	0.03	0.27	1.04	1.42			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.23	0.00	0.00	0.23	0.23			N/A	N/A
2 - Barnfield Way	0.46	0.00	0.00	0.46	0.46			N/A	N/A
3 - Pylands Lane	0.13	0.00	0.00	0.13	0.13			N/A	N/A
4 - Dodwell Lane S	0.72	0.51	0.98	1.40	1.45			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.18	0.00	0.00	0.18	0.18			N/A	N/A
2 - Barnfield Way	0.35	0.00	0.00	0.35	0.35			N/A	N/A
3 - Pylands Lane	0.10	0.00	0.00	0.10	0.10			N/A	N/A
4 - Dodwell Lane S	0.54	0.06	0.65	1.33	1.41			N/A	N/A

2030 | + Committed Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Dodwell Lane / Barnfield Way / Pylands Lane Rbt	Standard Roundabout		1, 2, 3, 4	5.73	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.73	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Dodwell Lane N		ONE HOUR	✓	341	100.000
2 - Barnfield Way		ONE HOUR	✓	592	100.000
3 - Pylands Lane		ONE HOUR	✓	52	100.000
4 - Dodwell Lane S		ONE HOUR	✓	719	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	14	15	312
	2 - Barnfield Way	5	1	21	564
	3 - Pylands Lane	15	19	0	18
	4 - Dodwell Lane S	252	415	50	2

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	0	0	0
	2 - Barnfield Way	0	0	0	0
	3 - Pylands Lane	0	0	0	0
	4 - Dodwell Lane S	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Dodwell Lane N	0.38	6.00	0.6	2.8	A	313	469
2 - Barnfield Way	0.55	6.86	1.2	1.5	A	543	815
3 - Pylands Lane	0.09	6.17	0.1	0.5	A	48	71
4 - Dodwell Lane S	0.50	4.63	1.0	1.5	A	660	990

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	256	64	366	1069	0.240	255	204	0.0	0.3	4.419	A
2 - Barnfield Way	446	111	284	1256	0.355	444	337	0.0	0.5	4.418	A
3 - Pylands Lane	39	10	663	804	0.049	39	65	0.0	0.1	4.706	A
4 - Dodwell Lane S	542	135	30	1578	0.343	540	672	0.0	0.5	3.458	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	306	77	438	1029	0.298	306	244	0.3	0.4	4.974	A
2 - Barnfield Way	532	133	340	1223	0.435	531	403	0.5	0.8	5.201	A
3 - Pylands Lane	47	12	794	735	0.063	47	77	0.1	0.1	5.230	A
4 - Dodwell Lane S	647	162	36	1574	0.411	646	805	0.5	0.7	3.876	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	375	94	536	975	0.385	374	299	0.4	0.6	5.985	A
2 - Barnfield Way	652	163	416	1177	0.554	650	494	0.8	1.2	6.809	A
3 - Pylands Lane	57	14	972	642	0.089	57	95	0.1	0.1	6.153	A
4 - Dodwell Lane S	792	198	44	1569	0.505	791	985	0.7	1.0	4.618	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	375	94	537	975	0.385	375	300	0.6	0.6	6.003	A
2 - Barnfield Way	652	163	417	1176	0.554	652	494	1.2	1.2	6.861	A
3 - Pylands Lane	57	14	974	641	0.089	57	95	0.1	0.1	6.168	A
4 - Dodwell Lane S	792	198	44	1569	0.505	792	987	1.0	1.0	4.633	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	306	77	439	1028	0.298	307	245	0.6	0.4	4.995	A
2 - Barnfield Way	532	133	342	1222	0.436	534	404	1.2	0.8	5.249	A
3 - Pylands Lane	47	12	798	733	0.064	47	78	0.1	0.1	5.247	A
4 - Dodwell Lane S	647	162	36	1574	0.411	648	808	1.0	0.7	3.893	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	256	64	367	1068	0.240	257	205	0.4	0.3	4.443	A
2 - Barnfield Way	446	111	286	1255	0.355	447	339	0.8	0.6	4.456	A
3 - Pylands Lane	39	10	667	801	0.049	39	65	0.1	0.1	4.725	A
4 - Dodwell Lane S	542	135	30	1578	0.343	542	676	0.7	0.5	3.480	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.31	0.00	0.00	0.31	0.31			N/A	N/A
2 - Barnfield Way	0.55	0.55	1.00	1.40	1.45			N/A	N/A
3 - Pylands Lane	0.05	0.00	0.00	0.05	0.05			N/A	N/A
4 - Dodwell Lane S	0.52	0.52	1.00	1.40	1.45			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2 - Barnfield Way	0.76	0.10	0.85	1.42	1.49			N/A	N/A
3 - Pylands Lane	0.07	0.03	0.25	0.45	0.48			N/A	N/A
4 - Dodwell Lane S	0.69	0.10	0.84	1.38	1.44			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.62	0.03	0.25	0.62	0.62			N/A	N/A
2 - Barnfield Way	1.22	0.03	0.26	1.22	1.22			N/A	N/A
3 - Pylands Lane	0.10	0.03	0.26	0.47	0.49			N/A	N/A
4 - Dodwell Lane S	1.01	0.03	0.26	1.01	1.01			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.62	0.03	0.29	1.22	2.80			N/A	N/A
2 - Barnfield Way	1.23	0.03	0.27	1.23	1.48			N/A	N/A
3 - Pylands Lane	0.10	0.00	0.00	0.10	0.10			N/A	N/A
4 - Dodwell Lane S	1.01	0.03	0.27	1.01	1.48			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.43	0.00	0.00	0.43	0.43			N/A	N/A
2 - Barnfield Way	0.78	0.16	0.92	1.40	1.46			N/A	N/A
3 - Pylands Lane	0.07	0.00	0.00	0.07	0.07			N/A	N/A
4 - Dodwell Lane S	0.70	0.51	0.98	1.40	1.45			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2 - Barnfield Way	0.55	0.05	0.55	1.32	1.41			N/A	N/A
3 - Pylands Lane	0.05	0.00	0.00	0.05	0.05			N/A	N/A
4 - Dodwell Lane S	0.53	0.06	0.61	1.32	1.41			N/A	N/A

2030 | + Committed Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Dodwell Lane / Barnfield Way / Pylands Lane Rbt	Standard Roundabout		1, 2, 3, 4	5.56	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.56	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Dodwell Lane N		ONE HOUR	✓	227	100.000
2 - Barnfield Way		ONE HOUR	✓	524	100.000
3 - Pylands Lane		ONE HOUR	✓	117	100.000
4 - Dodwell Lane S		ONE HOUR	✓	847	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	1	13	15	198
	2 - Barnfield Way	6	0	17	501
	3 - Pylands Lane	20	25	0	71
	4 - Dodwell Lane S	284	529	33	1

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	0	0	0
	2 - Barnfield Way	0	0	0	0
	3 - Pylands Lane	0	0	0	0
	4 - Dodwell Lane S	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Dodwell Lane N	0.27	5.42	0.4	1.2	A	208	312
2 - Barnfield Way	0.46	5.25	0.8	2.2	A	481	721
3 - Pylands Lane	0.17	5.86	0.2	0.5	A	107	161
4 - Dodwell Lane S	0.60	5.74	1.5	1.9	A	778	1166

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	171	43	441	1027	0.166	170	234	0.0	0.2	4.196	A
2 - Barnfield Way	395	99	186	1315	0.300	393	425	0.0	0.4	3.897	A
3 - Pylands Lane	88	22	530	873	0.101	88	49	0.0	0.1	4.581	A
4 - Dodwell Lane S	638	160	40	1572	0.406	635	578	0.0	0.7	3.833	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	204	51	529	979	0.208	203	280	0.2	0.3	4.640	A
2 - Barnfield Way	471	118	223	1293	0.364	471	509	0.4	0.6	4.374	A
3 - Pylands Lane	105	26	635	818	0.128	105	58	0.1	0.1	5.046	A
4 - Dodwell Lane S	762	190	48	1567	0.486	761	692	0.7	0.9	4.461	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	249	62	647	914	0.273	249	342	0.3	0.4	5.410	A
2 - Barnfield Way	577	144	272	1263	0.457	576	623	0.6	0.8	5.232	A
3 - Pylands Lane	129	32	777	744	0.173	128	71	0.1	0.2	5.848	A
4 - Dodwell Lane S	933	233	58	1560	0.598	931	847	0.9	1.5	5.704	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	249	62	648	913	0.273	249	343	0.4	0.4	5.423	A
2 - Barnfield Way	577	144	273	1263	0.457	577	625	0.8	0.8	5.248	A
3 - Pylands Lane	129	32	779	743	0.173	129	71	0.2	0.2	5.860	A
4 - Dodwell Lane S	933	233	58	1560	0.598	933	849	1.5	1.5	5.743	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	204	51	531	978	0.208	204	281	0.4	0.3	4.656	A
2 - Barnfield Way	471	118	223	1293	0.365	472	511	0.8	0.6	4.395	A
3 - Pylands Lane	105	26	637	817	0.129	105	58	0.2	0.1	5.061	A
4 - Dodwell Lane S	762	190	48	1567	0.486	764	695	1.5	1.0	4.496	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	171	43	444	1026	0.166	171	235	0.3	0.2	4.212	A
2 - Barnfield Way	395	99	187	1314	0.300	395	428	0.6	0.4	3.918	A
3 - Pylands Lane	88	22	533	871	0.101	88	49	0.1	0.1	4.596	A
4 - Dodwell Lane S	638	160	40	1572	0.406	639	581	1.0	0.7	3.864	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.20	0.00	0.00	0.20	0.20			N/A	N/A
2 - Barnfield Way	0.43	0.00	0.00	0.43	0.43			N/A	N/A
3 - Pylands Lane	0.11	0.00	0.00	0.11	0.11			N/A	N/A
4 - Dodwell Lane S	0.68	0.55	1.00	1.40	1.45			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.26	0.00	0.00	0.26	0.26			N/A	N/A
2 - Barnfield Way	0.57	0.09	0.81	1.36	1.43			N/A	N/A
3 - Pylands Lane	0.15	0.00	0.00	0.15	0.15			N/A	N/A
4 - Dodwell Lane S	0.94	0.08	0.86	1.58	1.93			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.37	0.03	0.25	0.46	0.48			N/A	N/A
2 - Barnfield Way	0.83	0.03	0.26	0.83	0.83			N/A	N/A
3 - Pylands Lane	0.21	0.03	0.26	0.46	0.49			N/A	N/A
4 - Dodwell Lane S	1.47	0.03	0.26	1.47	1.47			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.37	0.03	0.32	1.22	1.22			N/A	N/A
2 - Barnfield Way	0.84	0.03	0.27	0.84	2.21			N/A	N/A
3 - Pylands Lane	0.21	0.03	0.26	0.46	0.49			N/A	N/A
4 - Dodwell Lane S	1.48	0.03	0.26	1.48	1.48			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.26	0.00	0.00	0.26	0.26			N/A	N/A
2 - Barnfield Way	0.58	0.55	1.00	1.40	1.45			N/A	N/A
3 - Pylands Lane	0.15	0.00	0.00	0.15	0.15			N/A	N/A
4 - Dodwell Lane S	0.96	0.21	0.99	1.06	1.55			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.20	0.00	0.00	0.20	0.20			N/A	N/A
2 - Barnfield Way	0.43	0.00	0.00	0.43	0.43			N/A	N/A
3 - Pylands Lane	0.11	0.00	0.00	0.11	0.11			N/A	N/A
4 - Dodwell Lane S	0.69	0.07	0.73	1.40	1.48			N/A	N/A

2030 | + Committed Development + Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Dodwell Lane / Barnfield Way / Pylands Lane Rbt	Standard Roundabout		1, 2, 3, 4	5.95	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.95	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Dodwell Lane N		ONE HOUR	✓	341	100.000
2 - Barnfield Way		ONE HOUR	✓	623	100.000
3 - Pylands Lane		ONE HOUR	✓	52	100.000
4 - Dodwell Lane S		ONE HOUR	✓	729	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	14	15	312
	2 - Barnfield Way	5	1	21	595
	3 - Pylands Lane	15	19	0	18
	4 - Dodwell Lane S	252	425	50	2

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	0	0	0
	2 - Barnfield Way	0	0	0	0
	3 - Pylands Lane	0	0	0	0
	4 - Dodwell Lane S	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Dodwell Lane N	0.39	6.06	0.6	2.8	A	313	469
2 - Barnfield Way	0.58	7.34	1.4	1.5	A	572	858
3 - Pylands Lane	0.09	6.36	0.1	0.5	A	48	71
4 - Dodwell Lane S	0.51	4.69	1.0	1.5	A	669	1003

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	256	64	372	1065	0.241	255	204	0.0	0.3	4.440	A
2 - Barnfield Way	469	117	284	1256	0.373	467	344	0.0	0.6	4.545	A
3 - Pylands Lane	39	10	686	791	0.049	39	65	0.0	0.1	4.782	A
4 - Dodwell Lane S	549	137	30	1578	0.348	546	695	0.0	0.5	3.482	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	306	77	446	1024	0.299	306	244	0.3	0.4	5.005	A
2 - Barnfield Way	560	140	340	1223	0.458	559	412	0.6	0.8	5.418	A
3 - Pylands Lane	47	12	822	720	0.065	47	77	0.1	0.1	5.343	A
4 - Dodwell Lane S	655	164	36	1574	0.416	654	832	0.5	0.7	3.907	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	375	94	546	969	0.387	374	299	0.4	0.6	6.041	A
2 - Barnfield Way	686	172	416	1177	0.583	684	504	0.8	1.4	7.268	A
3 - Pylands Lane	57	14	1006	624	0.091	57	95	0.1	0.1	6.345	A
4 - Dodwell Lane S	802	201	44	1569	0.511	801	1018	0.7	1.0	4.679	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	375	94	547	969	0.387	375	300	0.6	0.6	6.060	A
2 - Barnfield Way	686	172	417	1176	0.583	686	505	1.4	1.4	7.336	A
3 - Pylands Lane	57	14	1008	623	0.092	57	95	0.1	0.1	6.363	A
4 - Dodwell Lane S	802	201	44	1569	0.511	802	1021	1.0	1.0	4.694	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	306	77	447	1024	0.299	307	245	0.6	0.4	5.028	A
2 - Barnfield Way	560	140	342	1222	0.458	562	413	1.4	0.9	5.477	A
3 - Pylands Lane	47	12	826	718	0.065	47	78	0.1	0.1	5.364	A
4 - Dodwell Lane S	655	164	36	1574	0.416	656	837	1.0	0.7	3.927	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	256	64	374	1064	0.241	257	205	0.4	0.3	4.465	A
2 - Barnfield Way	469	117	286	1255	0.374	470	346	0.9	0.6	4.591	A
3 - Pylands Lane	39	10	691	789	0.049	39	65	0.1	0.1	4.801	A
4 - Dodwell Lane S	549	137	30	1578	0.348	549	700	0.7	0.5	3.501	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2 - Barnfield Way	0.59	0.55	1.00	1.40	1.45			N/A	N/A
3 - Pylands Lane	0.05	0.00	0.00	0.05	0.05			N/A	N/A
4 - Dodwell Lane S	0.53	0.53	1.00	1.40	1.45			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.42	0.00	0.00	0.42	0.42			N/A	N/A
2 - Barnfield Way	0.84	0.09	0.86	1.50	1.54			N/A	N/A
3 - Pylands Lane	0.07	0.03	0.25	0.45	0.48			N/A	N/A
4 - Dodwell Lane S	0.71	0.10	0.84	1.38	1.45			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.62	0.03	0.25	0.62	0.62			N/A	N/A
2 - Barnfield Way	1.37	0.03	0.26	1.37	1.37			N/A	N/A
3 - Pylands Lane	0.10	0.03	0.26	0.47	0.49			N/A	N/A
4 - Dodwell Lane S	1.04	0.03	0.26	1.04	1.04			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.63	0.03	0.29	1.21	2.82			N/A	N/A
2 - Barnfield Way	1.38	0.03	0.27	1.38	1.38			N/A	N/A
3 - Pylands Lane	0.10	0.00	0.00	0.10	0.10			N/A	N/A
4 - Dodwell Lane S	1.04	0.03	0.27	1.04	1.42			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.43	0.00	0.00	0.43	0.43			N/A	N/A
2 - Barnfield Way	0.86	0.14	0.92	1.29	1.29			N/A	N/A
3 - Pylands Lane	0.07	0.00	0.00	0.07	0.07			N/A	N/A
4 - Dodwell Lane S	0.72	0.51	0.98	1.40	1.45			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.32	0.00	0.00	0.32	0.32			N/A	N/A
2 - Barnfield Way	0.60	0.05	0.58	1.35	1.45			N/A	N/A
3 - Pylands Lane	0.05	0.00	0.00	0.05	0.05			N/A	N/A
4 - Dodwell Lane S	0.54	0.06	0.65	1.33	1.41			N/A	N/A

2030 | + Committed Development + Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Dodwell Lane / Barnfield Way / Pylands Lane Rbt	Standard Roundabout		1, 2, 3, 4	5.76	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.76	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Dodwell Lane N		ONE HOUR	✓	227	100.000
2 - Barnfield Way		ONE HOUR	✓	537	100.000
3 - Pylands Lane		ONE HOUR	✓	117	100.000
4 - Dodwell Lane S		ONE HOUR	✓	875	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	1	13	15	198
	2 - Barnfield Way	6	0	17	514
	3 - Pylands Lane	20	25	0	71
	4 - Dodwell Lane S	284	557	33	1

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - Dodwell Lane N	2 - Barnfield Way	3 - Pylands Lane	4 - Dodwell Lane S
From	1 - Dodwell Lane N	0	0	0	0
	2 - Barnfield Way	0	0	0	0
	3 - Pylands Lane	0	0	0	0
	4 - Dodwell Lane S	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Dodwell Lane N	0.28	5.56	0.4	1.3	A	208	312
2 - Barnfield Way	0.47	5.36	0.9	2.0	A	493	740
3 - Pylands Lane	0.18	5.93	0.2	0.5	A	107	161
4 - Dodwell Lane S	0.62	6.03	1.6	2.3	A	803	1204

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	171	43	462	1016	0.168	170	234	0.0	0.2	4.252	A
2 - Barnfield Way	405	101	186	1315	0.308	403	446	0.0	0.4	3.939	A
3 - Pylands Lane	88	22	540	868	0.101	88	49	0.0	0.1	4.611	A
4 - Dodwell Lane S	659	165	40	1572	0.419	656	588	0.0	0.7	3.919	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	204	51	553	965	0.211	203	280	0.2	0.3	4.723	A
2 - Barnfield Way	483	121	223	1293	0.374	482	534	0.4	0.6	4.439	A
3 - Pylands Lane	105	26	647	812	0.129	105	58	0.1	0.1	5.090	A
4 - Dodwell Lane S	787	197	48	1567	0.502	785	704	0.7	1.0	4.601	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	249	62	677	897	0.278	249	342	0.3	0.4	5.549	A
2 - Barnfield Way	592	148	272	1263	0.468	591	654	0.6	0.9	5.343	A
3 - Pylands Lane	129	32	792	736	0.175	128	71	0.1	0.2	5.921	A
4 - Dodwell Lane S	963	241	58	1560	0.618	961	862	1.0	1.6	5.987	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	249	62	679	896	0.278	249	343	0.4	0.4	5.563	A
2 - Barnfield Way	592	148	273	1263	0.468	592	655	0.9	0.9	5.362	A
3 - Pylands Lane	129	32	793	735	0.175	129	71	0.2	0.2	5.933	A
4 - Dodwell Lane S	963	241	58	1560	0.618	963	863	1.6	1.6	6.035	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	204	51	556	964	0.211	204	281	0.4	0.3	4.739	A
2 - Barnfield Way	483	121	223	1293	0.374	484	536	0.9	0.6	4.460	A
3 - Pylands Lane	105	26	649	811	0.130	105	58	0.2	0.1	5.106	A
4 - Dodwell Lane S	787	197	48	1567	0.502	789	707	1.6	1.0	4.644	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dodwell Lane N	171	43	465	1014	0.168	171	235	0.3	0.2	4.270	A
2 - Barnfield Way	405	101	187	1314	0.308	405	449	0.6	0.4	3.961	A
3 - Pylands Lane	88	22	543	866	0.102	88	49	0.1	0.1	4.629	A
4 - Dodwell Lane S	659	165	40	1572	0.419	660	591	1.0	0.7	3.953	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.20	0.00	0.00	0.20	0.20			N/A	N/A
2 - Barnfield Way	0.44	0.00	0.00	0.44	0.44			N/A	N/A
3 - Pylands Lane	0.11	0.00	0.00	0.11	0.11			N/A	N/A
4 - Dodwell Lane S	0.72	0.55	1.00	1.40	1.45			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.27	0.00	0.00	0.27	0.27			N/A	N/A
2 - Barnfield Way	0.59	0.10	0.83	1.37	1.43			N/A	N/A
3 - Pylands Lane	0.15	0.00	0.00	0.15	0.15			N/A	N/A
4 - Dodwell Lane S	1.00	0.07	0.86	1.77	2.33			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.38	0.03	0.25	0.46	0.48			N/A	N/A
2 - Barnfield Way	0.87	0.03	0.26	0.87	0.87			N/A	N/A
3 - Pylands Lane	0.21	0.03	0.26	0.46	0.49			N/A	N/A
4 - Dodwell Lane S	1.59	0.03	0.26	1.59	1.59			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.38	0.03	0.32	1.27	1.33			N/A	N/A
2 - Barnfield Way	0.88	0.03	0.27	0.88	2.03			N/A	N/A
3 - Pylands Lane	0.21	0.03	0.26	0.46	0.49			N/A	N/A
4 - Dodwell Lane S	1.60	0.03	0.26	1.60	1.60			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.27	0.00	0.00	0.27	0.27			N/A	N/A
2 - Barnfield Way	0.60	0.55	1.00	1.40	1.45			N/A	N/A
3 - Pylands Lane	0.15	0.00	0.00	0.15	0.15			N/A	N/A
4 - Dodwell Lane S	1.02	0.17	1.01	1.44	1.77			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Dodwell Lane N	0.20	0.00	0.00	0.20	0.20			N/A	N/A
2 - Barnfield Way	0.45	0.03	0.33	1.09	1.30			N/A	N/A
3 - Pylands Lane	0.11	0.00	0.00	0.11	0.11			N/A	N/A
4 - Dodwell Lane S	0.73	0.07	0.72	1.33	1.33			N/A	N/A

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: M27 Junction 8 - 2030.j11
Path: S:\Projects\19000 Series\19785ITS - Kings Copse Avenue Hedge End\Tech\Junction Assessments\Arcady
Report generation date: 20/06/2025 11:50:38

»2024 | Baseline | AM
»2024 | Baseline | PM
»2030 | + Committed Development | AM
»2030 | + Committed Development | PM
»2030 | + Committed Development + Development | AM
»2030 | + Committed Development + Development | PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2024 - Baseline					
1 - M27 North	1.1	4.90	0.53	1.8	6.46	0.65
2 - Dodwell Lane	2.3	9.50	0.71	1.2	5.91	0.55
3 - M27 South	1.0	5.16	0.51	1.6	6.47	0.62
4 - A3024 Bert Betts Way	4.0	8.53	0.80	4.8	10.05	0.83
	2030 - + Committed Development					
1 - M27 North	1.5	6.13	0.60	2.9	9.64	0.75
2 - Dodwell Lane	8.6	29.32	0.91	1.9	8.12	0.66
3 - M27 South	1.6	6.82	0.61	2.6	9.45	0.73
4 - A3024 Bert Betts Way	7.4	15.21	0.89	10.6	21.40	0.92
	2030 - + Committed Development + Development					
1 - M27 North	1.5	6.19	0.60	3.1	10.12	0.76
2 - Dodwell Lane	11.2	37.20	0.94	2.0	8.36	0.67
3 - M27 South	1.6	7.00	0.62	2.8	9.86	0.74
4 - A3024 Bert Betts Way	7.7	15.77	0.89	11.6	23.33	0.93

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	24/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\basingstoke.hotdesk
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75	✓					0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓		
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓		
D3	2030	Future Traffic	AM	ONE HOUR	07:45	09:15	15		Simple	D1*G1
D4	2030	Future Traffic	PM	ONE HOUR	16:15	17:45	15		Simple	D2*G2
D5		Committed Development	AM	ONE HOUR	07:45	09:15	15			
D6		Committed Development	PM	ONE HOUR	16:15	17:45	15			
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6
D9		Development	AM	ONE HOUR	07:45	09:15	15			
D10		Development	PM	ONE HOUR	16:15	17:45	15			
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Growth Factors

ID	Description	Use TEMPRO	Growth Factor
G1	2024-2030 AM		1.0646
G2	2024-2030 PM		1.0639

Growth factors are only active if a Demand Set references them in a Relationship.

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 | Baseline | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M27 Junction 8 Interchange	Standard Roundabout		1, 2, 3, 4	7.44	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.44	A

Arms

Arms

Arm	Name	Description	No give-way line
1	M27 North		
2	Dodwell Lane		
3	M27 South		
4	A3024 Bert Betts Way		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - M27 North	7.20	7.20	0.0	41.5	128.0	22.0		
2 - Dodwell Lane	4.40	7.00	29.8	42.8	128.0	22.0		
3 - M27 South	6.00	6.00	0.0	43.9	128.0	9.5		
4 - A3024 Bert Betts Way	7.40	7.40	0.0	47.6	128.0	15.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - M27 North	0.540	2297
2 - Dodwell Lane	0.506	2054
3 - M27 South	0.507	1996
4 - A3024 Bert Betts Way	0.563	2422

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024	Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - M27 North		ONE HOUR	✓	742	100.000
2 - Dodwell Lane		ONE HOUR	✓	821	100.000
3 - M27 South		ONE HOUR	✓	659	100.000
4 - A3024 Bert Betts Way		ONE HOUR	✓	1557	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	1	224	2	515
	2 - Dodwell Lane	296	0	316	209
	3 - M27 South	16	141	10	492
	4 - A3024 Bert Betts Way	453	247	852	5

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	0	0	0	0
	2 - Dodwell Lane	0	0	0	0
	3 - M27 South	0	0	0	0
	4 - A3024 Bert Betts Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - M27 North	0.53	4.90	1.1	1.7	A	681	1021
2 - Dodwell Lane	0.71	9.50	2.3	5.9	A	753	1130
3 - M27 South	0.51	5.16	1.0	1.9	A	605	907
4 - A3024 Bert Betts Way	0.80	8.53	4.0	14.5	A	1429	2143

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	559	140	941	1789	0.312	557	574	0.0	0.5	2.917	A
2 - Dodwell Lane	618	155	1039	1528	0.405	615	459	0.0	0.7	3.934	A
3 - M27 South	496	124	769	1605	0.309	494	885	0.0	0.4	3.234	A
4 - A3024 Bert Betts Way	1172	293	348	2227	0.526	1168	916	0.0	1.1	3.386	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	667	167	1126	1689	0.395	666	687	0.5	0.6	3.517	A
2 - Dodwell Lane	738	185	1243	1425	0.518	737	549	0.7	1.1	5.220	A
3 - M27 South	592	148	921	1528	0.388	592	1059	0.4	0.6	3.839	A
4 - A3024 Bert Betts Way	1400	350	416	2188	0.640	1397	1096	1.1	1.8	4.537	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	817	204	1375	1555	0.525	815	839	0.6	1.1	4.855	A
2 - Dodwell Lane	904	226	1519	1285	0.704	899	672	1.1	2.3	9.212	A
3 - M27 South	726	181	1125	1425	0.509	724	1293	0.6	1.0	5.126	A
4 - A3024 Bert Betts Way	1714	429	509	2136	0.803	1706	1341	1.8	3.9	8.206	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	817	204	1382	1552	0.527	817	843	1.1	1.1	4.900	A
2 - Dodwell Lane	904	226	1525	1282	0.705	904	674	2.3	2.3	9.505	A
3 - M27 South	726	181	1129	1423	0.510	726	1299	1.0	1.0	5.164	A
4 - A3024 Bert Betts Way	1714	429	511	2135	0.803	1714	1344	3.9	4.0	8.531	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	667	167	1135	1685	0.396	669	693	1.1	0.7	3.551	A
2 - Dodwell Lane	738	185	1251	1420	0.520	743	552	2.3	1.1	5.352	A
3 - M27 South	592	148	927	1525	0.388	594	1068	1.0	0.6	3.871	A
4 - A3024 Bert Betts Way	1400	350	419	2186	0.640	1408	1101	4.0	1.8	4.677	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	559	140	947	1786	0.313	559	578	0.7	0.5	2.935	A
2 - Dodwell Lane	618	155	1045	1525	0.405	620	462	1.1	0.7	3.985	A
3 - M27 South	496	124	774	1603	0.310	497	891	0.6	0.5	3.256	A
4 - A3024 Bert Betts Way	1172	293	350	2225	0.527	1175	921	1.8	1.1	3.435	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.45	0.00	0.00	0.45	0.45			N/A	N/A
2 - Dodwell Lane	0.67	0.55	1.00	1.40	1.45			N/A	N/A
3 - M27 South	0.45	0.00	0.00	0.45	0.45			N/A	N/A
4 - A3024 Bert Betts Way	1.10	0.55	1.00	1.40	1.45			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.65	0.08	0.76	1.36	1.44			N/A	N/A
2 - Dodwell Lane	1.06	0.06	0.67	2.22	3.16			N/A	N/A
3 - M27 South	0.63	0.08	0.79	1.36	1.43			N/A	N/A
4 - A3024 Bert Betts Way	1.75	0.04	0.43	4.70	7.93			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.09	0.03	0.26	1.09	1.09			N/A	N/A
2 - Dodwell Lane	2.29	0.03	0.28	2.29	5.88			N/A	N/A
3 - M27 South	1.03	0.03	0.26	1.03	1.03			N/A	N/A
4 - A3024 Bert Betts Way	3.89	0.03	0.29	3.89	14.47			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.10	0.03	0.27	1.10	1.66			N/A	N/A
2 - Dodwell Lane	2.35	0.03	0.27	2.35	3.29			N/A	N/A
3 - M27 South	1.03	0.03	0.27	1.03	1.86			N/A	N/A
4 - A3024 Bert Betts Way	3.98	0.03	0.27	3.98	4.07			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.66	0.31	0.96	1.39	1.45			N/A	N/A
2 - Dodwell Lane	1.09	0.07	0.90	1.96	2.73			N/A	N/A
3 - M27 South	0.64	0.25	0.94	1.39	1.44			N/A	N/A
4 - A3024 Bert Betts Way	1.80	0.06	0.92	4.40	6.41			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.46	0.04	0.37	1.19	1.35			N/A	N/A
2 - Dodwell Lane	0.69	0.04	0.42	1.43	2.05			N/A	N/A
3 - M27 South	0.45	0.04	0.36	1.16	1.33			N/A	N/A
4 - A3024 Bert Betts Way	1.12	0.04	0.40	2.83	4.84			N/A	N/A

2024 | Baseline | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M27 Junction 8 Interchange	Standard Roundabout		1, 2, 3, 4	7.80	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.80	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024	Baseline	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - M27 North		ONE HOUR	✓	934	100.000
2 - Dodwell Lane		ONE HOUR	✓	672	100.000
3 - M27 South		ONE HOUR	✓	810	100.000
4 - A3024 Bert Betts Way		ONE HOUR	✓	1596	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	3	394	0	537
	2 - Dodwell Lane	254	0	231	187
	3 - M27 South	3	231	8	568
	4 - A3024 Bert Betts Way	636	243	717	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	0	0	0	0
	2 - Dodwell Lane	0	0	0	0
	3 - M27 South	0	0	0	0
	4 - A3024 Bert Betts Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - M27 North	0.65	6.46	1.8	2.5	A	857	1286
2 - Dodwell Lane	0.55	5.91	1.2	1.8	A	617	925
3 - M27 South	0.62	6.47	1.6	1.9	A	743	1115
4 - A3024 Bert Betts Way	0.83	10.05	4.8	21.3	B	1465	2197

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	703	176	899	1812	0.388	701	672	0.0	0.6	3.233	A
2 - Dodwell Lane	506	126	949	1574	0.322	504	651	0.0	0.5	3.360	A
3 - M27 South	610	152	736	1622	0.376	607	717	0.0	0.6	3.542	A
4 - A3024 Bert Betts Way	1202	300	374	2212	0.543	1197	969	0.0	1.2	3.532	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	840	210	1076	1717	0.489	838	804	0.6	0.9	4.093	A
2 - Dodwell Lane	604	151	1135	1479	0.408	603	779	0.5	0.7	4.105	A
3 - M27 South	728	182	881	1549	0.470	727	858	0.6	0.9	4.374	A
4 - A3024 Bert Betts Way	1435	359	448	2170	0.661	1432	1160	1.2	1.9	4.855	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	1028	257	1313	1589	0.647	1025	981	0.9	1.8	6.349	A
2 - Dodwell Lane	740	185	1386	1352	0.547	738	952	0.7	1.2	5.841	A
3 - M27 South	892	223	1077	1449	0.615	889	1047	0.9	1.6	6.393	A
4 - A3024 Bert Betts Way	1757	439	548	2114	0.831	1746	1418	1.9	4.6	9.518	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	1028	257	1320	1585	0.649	1028	986	1.8	1.8	6.465	A
2 - Dodwell Lane	740	185	1392	1349	0.548	740	956	1.2	1.2	5.910	A
3 - M27 South	892	223	1080	1448	0.616	892	1052	1.6	1.6	6.473	A
4 - A3024 Bert Betts Way	1757	439	549	2113	0.832	1757	1422	4.6	4.8	10.053	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	840	210	1085	1711	0.491	843	811	1.8	1.0	4.161	A
2 - Dodwell Lane	604	151	1144	1475	0.410	606	784	1.2	0.7	4.156	A
3 - M27 South	728	182	885	1547	0.471	731	865	1.6	0.9	4.430	A
4 - A3024 Bert Betts Way	1435	359	450	2169	0.661	1446	1166	4.8	2.0	5.055	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	703	176	905	1809	0.389	704	676	1.0	0.6	3.265	A
2 - Dodwell Lane	506	126	955	1571	0.322	507	655	0.7	0.5	3.388	A
3 - M27 South	610	152	740	1620	0.376	611	721	0.9	0.6	3.570	A
4 - A3024 Bert Betts Way	1202	300	376	2211	0.544	1205	975	2.0	1.2	3.589	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.63	0.55	1.00	1.40	1.45			N/A	N/A
2 - Dodwell Lane	0.47	0.00	0.00	0.47	0.47			N/A	N/A
3 - M27 South	0.60	0.55	1.00	1.40	1.45			N/A	N/A
4 - A3024 Bert Betts Way	1.18	0.55	1.05	1.44	1.44			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.95	0.06	0.72	1.81	2.51			N/A	N/A
2 - Dodwell Lane	0.69	0.08	0.78	1.38	1.45			N/A	N/A
3 - M27 South	0.88	0.07	0.79	1.49	1.89			N/A	N/A
4 - A3024 Bert Betts Way	1.92	0.04	0.42	5.19	8.96			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.80	0.03	0.27	1.80	1.80			N/A	N/A
2 - Dodwell Lane	1.19	0.03	0.26	1.19	1.19			N/A	N/A
3 - M27 South	1.57	0.03	0.26	1.57	1.57			N/A	N/A
4 - A3024 Bert Betts Way	4.64	0.03	0.31	4.83	21.27			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.83	0.03	0.27	1.83	1.83			N/A	N/A
2 - Dodwell Lane	1.20	0.03	0.27	1.20	1.78			N/A	N/A
3 - M27 South	1.59	0.03	0.27	1.59	1.59			N/A	N/A
4 - A3024 Bert Betts Way	4.78	0.03	0.28	4.78	9.15			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.97	0.13	0.97	1.39	1.75			N/A	N/A
2 - Dodwell Lane	0.70	0.19	0.92	1.39	1.44			N/A	N/A
3 - M27 South	0.90	0.15	0.95	1.48	1.48			N/A	N/A
4 - A3024 Bert Betts Way	1.98	0.06	0.73	5.14	7.85			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.64	0.05	0.53	1.27	1.27			N/A	N/A
2 - Dodwell Lane	0.48	0.04	0.42	1.25	1.38			N/A	N/A
3 - M27 South	0.61	0.05	0.56	1.36	1.47			N/A	N/A
4 - A3024 Bert Betts Way	1.20	0.04	0.37	3.00	5.69			N/A	N/A

2030 | + Committed Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M27 Junction 8 Interchange	Standard Roundabout		1, 2, 3, 4	15.40	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	15.40	C

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2030	+ Committed Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D3+D5

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - M27 North		ONE HOUR	✓	797	100.000
2 - Dodwell Lane		ONE HOUR	✓	1019	100.000
3 - M27 South		ONE HOUR	✓	754	100.000
4 - A3024 Bert Betts Way		ONE HOUR	✓	1673	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	1	245	2	548
	2 - Dodwell Lane	336	0	428	255
	3 - M27 South	17	202	11	524
	4 - A3024 Bert Betts Way	482	278	907	5

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	0	0	0	0
	2 - Dodwell Lane	0	0	0	0
	3 - M27 South	0	0	0	0
	4 - A3024 Bert Betts Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - M27 North	0.60	6.13	1.5	1.6	A	731	1097
2 - Dodwell Lane	0.91	29.32	8.6	47.1	D	935	1403
3 - M27 South	0.61	6.82	1.6	1.8	A	691	1037
4 - A3024 Bert Betts Way	0.89	15.21	7.4	38.2	C	1535	2302

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	600	150	1052	1730	0.347	598	627	0.0	0.5	3.176	A
2 - Dodwell Lane	767	192	1106	1494	0.513	763	544	0.0	1.0	4.897	A
3 - M27 South	567	142	858	1560	0.364	565	1010	0.0	0.6	3.610	A
4 - A3024 Bert Betts Way	1259	315	425	2183	0.577	1254	999	0.0	1.3	3.851	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	716	179	1258	1618	0.443	715	750	0.5	0.8	3.984	A
2 - Dodwell Lane	916	229	1323	1384	0.662	913	651	1.0	1.9	7.577	A
3 - M27 South	677	169	1027	1475	0.459	676	1208	0.6	0.8	4.503	A
4 - A3024 Bert Betts Way	1504	376	508	2136	0.704	1500	1195	1.3	2.3	5.620	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	877	219	1531	1471	0.597	875	908	0.8	1.5	6.013	A
2 - Dodwell Lane	1122	280	1611	1238	0.906	1100	794	1.9	7.5	23.046	C
3 - M27 South	830	207	1246	1363	0.609	827	1465	0.8	1.5	6.676	A
4 - A3024 Bert Betts Way	1842	460	616	2076	0.887	1823	1457	2.3	6.9	13.374	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	877	219	1543	1464	0.599	877	919	1.5	1.5	6.133	A
2 - Dodwell Lane	1122	280	1622	1233	0.910	1118	798	7.5	8.6	29.318	D
3 - M27 South	830	207	1258	1357	0.611	830	1482	1.5	1.6	6.822	A
4 - A3024 Bert Betts Way	1842	460	623	2072	0.889	1840	1465	6.9	7.4	15.206	C

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	716	179	1276	1608	0.445	719	766	1.5	0.8	4.060	A
2 - Dodwell Lane	916	229	1338	1376	0.666	942	657	8.6	2.0	8.767	A
3 - M27 South	677	169	1047	1465	0.463	680	1234	1.6	0.9	4.606	A
4 - A3024 Bert Betts Way	1504	376	519	2130	0.706	1524	1208	7.4	2.5	6.120	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	600	150	1060	1725	0.348	601	632	0.8	0.5	3.207	A
2 - Dodwell Lane	767	192	1113	1490	0.515	771	548	2.0	1.1	5.031	A
3 - M27 South	567	142	865	1557	0.364	568	1019	0.9	0.6	3.649	A
4 - A3024 Bert Betts Way	1259	315	428	2181	0.577	1263	1005	2.5	1.4	3.942	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.53	0.53	1.00	1.40	1.45			N/A	N/A
2 - Dodwell Lane	1.04	0.54	1.03	1.33	1.33			N/A	N/A
3 - M27 South	0.57	0.55	1.00	1.40	1.45			N/A	N/A
4 - A3024 Bert Betts Way	1.35	0.56	1.25	1.73	1.89			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.79	0.07	0.76	1.09	1.61			N/A	N/A
2 - Dodwell Lane	1.91	0.04	0.44	5.15	8.63			N/A	N/A
3 - M27 South	0.84	0.07	0.79	1.32	1.76			N/A	N/A
4 - A3024 Bert Betts Way	2.33	0.04	0.42	6.38	11.32			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.45	0.03	0.26	1.45	1.45			N/A	N/A
2 - Dodwell Lane	7.51	0.05	0.57	21.69	38.29			N/A	N/A
3 - M27 South	1.53	0.03	0.26	1.53	1.53			N/A	N/A
4 - A3024 Bert Betts Way	6.95	0.04	0.37	16.10	38.16			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.48	0.03	0.27	1.48	1.48			N/A	N/A
2 - Dodwell Lane	8.57	0.04	0.38	20.65	47.15			N/A	N/A
3 - M27 South	1.55	0.03	0.27	1.55	1.55			N/A	N/A
4 - A3024 Bert Betts Way	7.43	0.03	0.31	7.43	32.95			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.81	0.17	0.93	1.41	1.47			N/A	N/A
2 - Dodwell Lane	2.04	0.04	0.41	5.53	9.94			N/A	N/A
3 - M27 South	0.87	0.14	0.93	1.33	1.33			N/A	N/A
4 - A3024 Bert Betts Way	2.45	0.05	0.47	6.76	11.23			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.54	0.05	0.48	1.30	1.41			N/A	N/A
2 - Dodwell Lane	1.07	0.03	0.30	1.56	5.24			N/A	N/A
3 - M27 South	0.58	0.05	0.50	1.34	1.45			N/A	N/A
4 - A3024 Bert Betts Way	1.38	0.03	0.33	2.97	7.08			N/A	N/A

2030 | + Committed Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M27 Junction 8 Interchange	Standard Roundabout		1, 2, 3, 4	13.89	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	13.89	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2030	+ Committed Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D4+D6

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - M27 North		ONE HOUR	✓	1015	100.000
2 - Dodwell Lane		ONE HOUR	✓	783	100.000
3 - M27 South		ONE HOUR	✓	925	100.000
4 - A3024 Bert Betts Way		ONE HOUR	✓	1721	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	3	440	0	571
	2 - Dodwell Lane	277	0	288	218
	3 - M27 South	3	309	9	604
	4 - A3024 Bert Betts Way	677	282	763	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	0	0	0	0
	2 - Dodwell Lane	0	0	0	0
	3 - M27 South	0	0	0	0
	4 - A3024 Bert Betts Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - M27 North	0.75	9.64	2.9	9.1	A	931	1397
2 - Dodwell Lane	0.66	8.12	1.9	2.4	A	718	1078
3 - M27 South	0.73	9.45	2.6	7.5	A	849	1273
4 - A3024 Bert Betts Way	0.92	21.40	10.6	58.3	C	1579	2369

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	764	191	1020	1746	0.437	761	720	0.0	0.8	3.642	A
2 - Dodwell Lane	589	147	1009	1543	0.382	587	772	0.0	0.6	3.755	A
3 - M27 South	696	174	802	1589	0.438	693	794	0.0	0.8	4.006	A
4 - A3024 Bert Betts Way	1296	324	450	2169	0.597	1290	1045	0.0	1.5	4.069	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	912	228	1221	1638	0.557	910	861	0.8	1.2	4.931	A
2 - Dodwell Lane	704	176	1207	1443	0.488	703	924	0.6	0.9	4.852	A
3 - M27 South	831	208	960	1509	0.551	830	950	0.8	1.2	5.287	A
4 - A3024 Bert Betts Way	1547	387	539	2119	0.730	1542	1250	1.5	2.6	6.193	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	1117	279	1481	1498	0.746	1111	1045	1.2	2.8	9.149	A
2 - Dodwell Lane	862	216	1466	1312	0.657	858	1125	0.9	1.9	7.874	A
3 - M27 South	1018	255	1172	1401	0.727	1013	1152	1.2	2.6	9.144	A
4 - A3024 Bert Betts Way	1895	474	658	2052	0.923	1867	1526	2.6	9.6	17.382	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	1117	279	1497	1489	0.750	1117	1056	2.8	2.9	9.636	A
2 - Dodwell Lane	862	216	1480	1305	0.661	862	1134	1.9	1.9	8.121	A
3 - M27 South	1018	255	1177	1398	0.728	1018	1164	2.6	2.6	9.451	A
4 - A3024 Bert Betts Way	1895	474	661	2050	0.924	1891	1534	9.6	10.6	21.397	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	912	228	1245	1625	0.561	919	877	2.9	1.3	5.140	A
2 - Dodwell Lane	704	176	1227	1432	0.491	708	936	1.9	1.0	4.993	A
3 - M27 South	831	208	968	1505	0.553	837	967	2.6	1.3	5.435	A
4 - A3024 Bert Betts Way	1547	387	543	2117	0.731	1578	1261	10.6	2.8	7.061	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	764	191	1029	1742	0.439	766	725	1.3	0.8	3.698	A
2 - Dodwell Lane	589	147	1017	1539	0.383	591	778	1.0	0.6	3.800	A
3 - M27 South	696	174	807	1586	0.439	698	800	1.3	0.8	4.062	A
4 - A3024 Bert Betts Way	1296	324	454	2167	0.598	1301	1052	2.8	1.5	4.179	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.77	0.55	1.00	1.40	1.45			N/A	N/A
2 - Dodwell Lane	0.61	0.55	1.00	1.40	1.45			N/A	N/A
3 - M27 South	0.77	0.55	1.00	1.40	1.45			N/A	N/A
4 - A3024 Bert Betts Way	1.47	0.54	1.36	1.92	2.34			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.24	0.05	0.49	2.95	4.55			N/A	N/A
2 - Dodwell Lane	0.94	0.06	0.75	1.76	2.38			N/A	N/A
3 - M27 South	1.21	0.05	0.62	2.78	4.04			N/A	N/A
4 - A3024 Bert Betts Way	2.64	0.04	0.42	7.27	13.02			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	2.82	0.03	0.28	2.82	9.13			N/A	N/A
2 - Dodwell Lane	1.87	0.03	0.27	1.87	2.21			N/A	N/A
3 - M27 South	2.57	0.03	0.28	2.57	7.52			N/A	N/A
4 - A3024 Bert Betts Way	9.56	0.05	0.49	27.20	50.10			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	2.93	0.03	0.27	2.93	4.19			N/A	N/A
2 - Dodwell Lane	1.92	0.03	0.27	1.92	2.06			N/A	N/A
3 - M27 South	2.62	0.03	0.27	2.62	3.20			N/A	N/A
4 - A3024 Bert Betts Way	10.61	0.04	0.37	22.66	58.27			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.30	0.07	0.91	2.71	3.75			N/A	N/A
2 - Dodwell Lane	0.98	0.10	0.94	1.55	1.88			N/A	N/A
3 - M27 South	1.25	0.07	0.92	2.56	3.50			N/A	N/A
4 - A3024 Bert Betts Way	2.79	0.04	0.43	7.73	13.67			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.79	0.04	0.40	1.80	2.87			N/A	N/A
2 - Dodwell Lane	0.62	0.05	0.46	1.46	1.52			N/A	N/A
3 - M27 South	0.79	0.04	0.42	1.76	2.73			N/A	N/A
4 - A3024 Bert Betts Way	1.50	0.03	0.31	2.66	7.73			N/A	N/A

2030 | + Committed Development + Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M27 Junction 8 Interchange	Standard Roundabout		1, 2, 3, 4	17.68	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	17.68	C

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D11	2030	+ Committed Development + Development	AM	ONE HOUR	07:45	09:15	15	✓	Simple	D7+D9

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - M27 North		ONE HOUR	✓	799	100.000
2 - Dodwell Lane		ONE HOUR	✓	1049	100.000
3 - M27 South		ONE HOUR	✓	758	100.000
4 - A3024 Bert Betts Way		ONE HOUR	✓	1675	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	1	247	2	548
	2 - Dodwell Lane	344	0	440	265
	3 - M27 South	17	206	11	524
	4 - A3024 Bert Betts Way	482	280	907	5

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	0	0	0	0
	2 - Dodwell Lane	0	0	0	0
	3 - M27 South	0	0	0	0
	4 - A3024 Bert Betts Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - M27 North	0.60	6.19	1.5	1.6	A	733	1100
2 - Dodwell Lane	0.94	37.20	11.2	59.2	E	963	1444
3 - M27 South	0.62	7.00	1.6	1.8	A	695	1043
4 - A3024 Bert Betts Way	0.89	15.77	7.7	39.3	C	1537	2305

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	601	150	1056	1727	0.348	599	633	0.0	0.5	3.187	A
2 - Dodwell Lane	790	197	1106	1494	0.529	785	550	0.0	1.1	5.048	A
3 - M27 South	570	143	872	1553	0.367	568	1019	0.0	0.6	3.646	A
4 - A3024 Bert Betts Way	1261	315	434	2178	0.579	1255	1006	0.0	1.4	3.878	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	718	180	1264	1615	0.445	717	757	0.5	0.8	4.003	A
2 - Dodwell Lane	943	236	1323	1384	0.681	939	658	1.1	2.1	8.018	A
3 - M27 South	681	170	1043	1467	0.464	680	1219	0.6	0.9	4.569	A
4 - A3024 Bert Betts Way	1505	376	519	2130	0.707	1501	1204	1.4	2.4	5.687	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	880	220	1537	1468	0.599	877	915	0.8	1.5	6.066	A
2 - Dodwell Lane	1155	289	1611	1238	0.933	1126	803	2.1	9.3	27.054	D
3 - M27 South	834	209	1262	1355	0.615	831	1475	0.9	1.6	6.833	A
4 - A3024 Bert Betts Way	1844	461	627	2069	0.891	1825	1466	2.4	7.2	13.739	B

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	880	220	1550	1461	0.602	880	927	1.5	1.5	6.192	A
2 - Dodwell Lane	1155	289	1622	1233	0.937	1148	807	9.3	11.2	37.202	E
3 - M27 South	834	209	1276	1348	0.619	834	1493	1.6	1.6	6.999	A
4 - A3024 Bert Betts Way	1844	461	635	2065	0.893	1842	1475	7.2	7.7	15.768	C

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	718	180	1282	1605	0.447	721	777	1.5	0.8	4.085	A
2 - Dodwell Lane	943	236	1339	1376	0.685	979	665	11.2	2.2	9.845	A
3 - M27 South	681	170	1068	1454	0.469	684	1249	1.6	0.9	4.696	A
4 - A3024 Bert Betts Way	1505	376	533	2122	0.709	1526	1219	7.7	2.5	6.240	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	601	150	1064	1723	0.349	603	639	0.8	0.5	3.218	A
2 - Dodwell Lane	790	197	1113	1490	0.530	794	554	2.2	1.1	5.203	A
3 - M27 South	570	143	879	1550	0.368	572	1028	0.9	0.6	3.687	A
4 - A3024 Bert Betts Way	1261	315	438	2176	0.579	1265	1013	2.5	1.4	3.970	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.53	0.53	1.00	1.40	1.45			N/A	N/A
2 - Dodwell Lane	1.11	0.52	1.08	1.37	1.70			N/A	N/A
3 - M27 South	0.58	0.55	1.00	1.40	1.45			N/A	N/A
4 - A3024 Bert Betts Way	1.36	0.56	1.26	1.75	1.90			N/A	N/A

08:00 - 08:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.79	0.07	0.76	1.13	1.64			N/A	N/A
2 - Dodwell Lane	2.08	0.04	0.44	5.68	9.60			N/A	N/A
3 - M27 South	0.86	0.07	0.79	1.41	1.82			N/A	N/A
4 - A3024 Bert Betts Way	2.36	0.04	0.42	6.47	11.49			N/A	N/A

08:15 - 08:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.47	0.03	0.26	1.47	1.47			N/A	N/A
2 - Dodwell Lane	9.35	0.07	1.28	27.15	43.50			N/A	N/A
3 - M27 South	1.57	0.03	0.26	1.57	1.57			N/A	N/A
4 - A3024 Bert Betts Way	7.16	0.04	0.38	17.11	39.29			N/A	N/A

08:30 - 08:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.50	0.03	0.27	1.50	1.50			N/A	N/A
2 - Dodwell Lane	11.18	0.05	0.49	31.69	59.15			N/A	N/A
3 - M27 South	1.60	0.03	0.27	1.60	1.60			N/A	N/A
4 - A3024 Bert Betts Way	7.70	0.03	0.31	8.08	35.37			N/A	N/A

08:45 - 09:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.82	0.17	0.93	1.42	1.48			N/A	N/A
2 - Dodwell Lane	2.24	0.04	0.39	5.97	11.26			N/A	N/A
3 - M27 South	0.89	0.14	0.94	1.48	1.48			N/A	N/A
4 - A3024 Bert Betts Way	2.49	0.05	0.47	6.89	11.52			N/A	N/A

09:00 - 09:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.54	0.05	0.48	1.31	1.41			N/A	N/A
2 - Dodwell Lane	1.14	0.03	0.29	1.23	5.24			N/A	N/A
3 - M27 South	0.59	0.05	0.50	1.36	1.46			N/A	N/A
4 - A3024 Bert Betts Way	1.39	0.03	0.33	2.95	7.17			N/A	N/A

2030 | + Committed Development + Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D7 - 2030 | + Committed Development | AM	Demand Set relationships are chained. This may slow down the file.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M27 Junction 8 Interchange	Standard Roundabout		1, 2, 3, 4	14.85	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	14.85	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D12	2030	+ Committed Development + Development	PM	ONE HOUR	16:15	17:45	15	✓	Simple	D8+D10

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - M27 North		ONE HOUR	✓	1022	100.000
2 - Dodwell Lane		ONE HOUR	✓	795	100.000
3 - M27 South		ONE HOUR	✓	936	100.000
4 - A3024 Bert Betts Way		ONE HOUR	✓	1728	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	3	447	0	571
	2 - Dodwell Lane	280	0	293	222
	3 - M27 South	3	320	9	604
	4 - A3024 Bert Betts Way	677	289	763	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - M27 North	2 - Dodwell Lane	3 - M27 South	4 - A3024 Bert Betts Way
From	1 - M27 North	0	0	0	0
	2 - Dodwell Lane	0	0	0	0
	3 - M27 South	0	0	0	0
	4 - A3024 Bert Betts Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max 95th percentile Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - M27 North	0.76	10.12	3.1	10.6	B	938	1406
2 - Dodwell Lane	0.67	8.36	2.0	2.8	A	729	1094
3 - M27 South	0.74	9.86	2.8	8.8	A	859	1288
4 - A3024 Bert Betts Way	0.93	23.33	11.6	64.1	C	1586	2378

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	769	192	1034	1739	0.442	766	722	0.0	0.8	3.687	A
2 - Dodwell Lane	598	150	1009	1543	0.388	596	791	0.0	0.6	3.791	A
3 - M27 South	704	176	807	1586	0.444	701	798	0.0	0.8	4.054	A
4 - A3024 Bert Betts Way	1301	325	461	2163	0.601	1295	1048	0.0	1.5	4.120	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	918	230	1237	1630	0.564	917	864	0.8	1.3	5.033	A
2 - Dodwell Lane	715	179	1207	1443	0.495	713	947	0.6	1.0	4.924	A
3 - M27 South	841	210	966	1506	0.559	839	954	0.8	1.2	5.388	A
4 - A3024 Bert Betts Way	1553	388	552	2112	0.736	1549	1254	1.5	2.7	6.334	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	1125	281	1498	1488	0.756	1118	1047	1.3	3.0	9.553	A
2 - Dodwell Lane	875	219	1465	1312	0.667	871	1152	1.0	2.0	8.089	A
3 - M27 South	1030	258	1179	1397	0.737	1024	1157	1.2	2.7	9.510	A
4 - A3024 Bert Betts Way	1903	476	674	2043	0.931	1872	1530	2.7	10.3	18.469	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	1125	281	1516	1479	0.761	1124	1058	3.0	3.1	10.123	B
2 - Dodwell Lane	875	219	1479	1305	0.671	875	1161	2.0	2.0	8.364	A
3 - M27 South	1030	258	1185	1394	0.739	1030	1169	2.7	2.8	9.862	A
4 - A3024 Bert Betts Way	1903	476	677	2041	0.932	1897	1538	10.3	11.6	23.327	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	918	230	1264	1615	0.569	925	881	3.1	1.3	5.270	A
2 - Dodwell Lane	715	179	1229	1432	0.499	719	960	2.0	1.0	5.078	A
3 - M27 South	841	210	974	1501	0.560	847	973	2.8	1.3	5.553	A
4 - A3024 Bert Betts Way	1553	388	556	2109	0.736	1588	1265	11.6	2.9	7.351	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - M27 North	769	192	1043	1735	0.443	771	728	1.3	0.8	3.747	A
2 - Dodwell Lane	598	150	1017	1539	0.389	600	797	1.0	0.6	3.838	A
3 - M27 South	704	176	813	1583	0.445	706	804	1.3	0.8	4.114	A
4 - A3024 Bert Betts Way	1301	325	464	2161	0.602	1306	1055	2.9	1.5	4.236	A

Queue Variation Results for each time segment

16:15 - 16:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.79	0.55	1.00	1.40	1.45			N/A	N/A
2 - Dodwell Lane	0.63	0.55	1.00	1.40	1.45			N/A	N/A
3 - M27 South	0.79	0.55	1.00	1.40	1.45			N/A	N/A
4 - A3024 Bert Betts Way	1.49	0.53	1.37	1.96	2.49			N/A	N/A

16:30 - 16:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.28	0.05	0.48	3.08	4.76			N/A	N/A
2 - Dodwell Lane	0.97	0.06	0.74	1.84	2.57			N/A	N/A
3 - M27 South	1.25	0.05	0.59	2.90	4.34			N/A	N/A
4 - A3024 Bert Betts Way	2.71	0.04	0.42	7.49	13.41			N/A	N/A

16:45 - 17:00

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	2.97	0.03	0.29	2.97	10.57			N/A	N/A
2 - Dodwell Lane	1.95	0.03	0.27	1.95	2.80			N/A	N/A
3 - M27 South	2.70	0.03	0.28	2.70	8.79			N/A	N/A
4 - A3024 Bert Betts Way	10.30	0.05	0.81	29.92	52.88			N/A	N/A

17:00 - 17:15

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	3.09	0.03	0.27	3.09	5.05			N/A	N/A
2 - Dodwell Lane	2.00	0.03	0.27	2.00	2.24			N/A	N/A
3 - M27 South	2.77	0.03	0.27	2.77	3.80			N/A	N/A
4 - A3024 Bert Betts Way	11.58	0.04	0.39	27.54	64.10			N/A	N/A

17:15 - 17:30

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	1.34	0.07	0.89	2.87	3.99			N/A	N/A
2 - Dodwell Lane	1.01	0.09	0.94	1.65	1.96			N/A	N/A
3 - M27 South	1.29	0.07	0.90	2.73	3.78			N/A	N/A
4 - A3024 Bert Betts Way	2.87	0.04	0.43	7.95	14.24			N/A	N/A

17:30 - 17:45

Arm	Mean (Veh)	Q05 (Veh)	Q50 (Veh)	Q90 (Veh)	Q95 (Veh)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - M27 North	0.80	0.04	0.39	1.86	3.03			N/A	N/A
2 - Dodwell Lane	0.64	0.05	0.45	1.00	1.65			N/A	N/A
3 - M27 South	0.81	0.04	0.41	1.84	2.91			N/A	N/A
4 - A3024 Bert Betts Way	1.53	0.03	0.31	2.56	7.79			N/A	N/A