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JD RUDKIN (BUILDERS) LTD

PROPOSED RESIDENTIAL DEVELOPMENT AT FORMER BRICKET WOOD SPORT & COUNTRY CLUB / PAINTBALL SITE, LYE LANE, BRICKET WOOD, AL2 3TF

TRANSPORT ASSESSMENT

July 2022

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Appendices

1.0 INTRODUCTION

1.1 Paul Mew Associates has been instructed by JK Rudkin (Builders) Ltd to provide an initial Transport Assessment in relation to the proposed development of land at Lye Lane, Bricket Wood, Hertfordshire, AL2 3TF. The site location and context are shown in Appendix A.

1.2 As part of the new St Albans District Council's Local Plan 2020-2038 consultation process, a 'Call for Sites 2021' has been made, inviting the submission of information on potential sites where new development could be carried out.

1.3 The following extract from the Council's website explains the background to the process;

'St Albans City and District Council is in the process of preparing a new Local Plan 2020-2038. The 'Call for Sites' is an early opportunity for individuals, landowners and developers to suggest sites within the District for development over the next 15-20 years. The site suggestions received by us will be used to inform the preparation of the new Local Plan 2020-2038.

You are invited to put forward any new sites that you would like the Council to consider in its Housing Economic Land Availability Assessment (HELAA). These should be capable of delivering 5 or more dwellings, or economic development on sites of 0.25 hectares or more (or 500 square metres of floor space or more).

The Council will take account of the Strategic Housing Land Availability Assessment (SHLAA) submissions previously received since 2009 and therefore there is no need to resubmit these unless circumstances have changed. Sites from previous SHLAAs will form part of the Council's assessment. Proposed land uses can include: Housing, Gypsy & Travellers, Mixed Use, Employment, Renewable and low carbon energy and heat, Biodiversity Improvement / Offsetting, Green Belt Compensatory Land, Land for Tree Planting and Other'

1.4 From information supplied by the client's agent, the approximate 6.5-hectare site would comprise 3.3 hectares for Woodland and 3.2 hectares of land designated for development. Of the 6.5 hectares in the ownership of the client, it's expected that the 3.2 hectares of brownfield land will be developed to deliver 109 dwellings of mixed sizes and tenures compromising of 21 x one-bedroom, 35 x two-bedroom, 34 x three-bedroom, 12 x four-bedroom and 7 x five bedroom dwellings. The scheme will implement the Local Plan's requirement for parking, open space and play areas. The proposal will also include; a new vehicular access, footpath improvements linking the site to Bricket Wood and additional planting of hedgerows and trees. The proposed site layout is shown in Appendix B.

1.5 Pre-application advice dated 04/04/22 relating to SA-11039 was provided by Hertfordshire County Council. In preparing this Transport Assessment, the Council advice has been studied and relevant issues addressed.

1.6 This Transport Assessment aims to address the pre-application comments / requirements and to demonstrate that the proposed development is satisfactory in highways terms.

2.0 LOCAL PLAN REVIEW & POLICY CONTEXT

2.1 With regard to policies relating to the relationship between new development and transport, the current means by which planning applications are assessed is set out in:

- 'District Local Plan Review' (Adopted 30 November 1994) - St Albans District Council.
- 'Revised Parking Policies and Standards' (January 2002) - St Albans District Council.
- 'Travel Plan Guidance' (May 2014) - Hertfordshire County Council.
- 'Local Transport Plan 2011-2031' (2011) - Hertfordshire County Council.
- 'Roads in Hertfordshire - Highway Design Guide' (2011) - Hertfordshire County Council.
- National Planning Policy Framework (July 2021) - Department for Communities and Local Government.

St Albans District Local Plan Review 1994

2.2 The existing Local Plan, adopted in 1994, is the subject of a current review which will result in a new Local Plan being adopted. As part of this the current Local Plan polices are liable to change, including on the issue of Green Belt development. However, the assessment of current Local Plan policies is considered relevant as they set out the general requirements that any future development may have to adhere to.

2.3 Policy 34 of the current Local Plan, Highways Considerations in Development Control, sets out that;

'Development likely to generate a significant amount of traffic, or which involves the creation or improvement of an access onto the public highway, will not normally be permitted unless acceptable in terms of the following highway considerations;

i. Road Safety. Particular requirements are adequate visibility, turning radii and provision for pedestrians and cyclists and for disabled and other disadvantaged people.
ii. Environmental impact of development, especially in residential areas.
iii. Road capacity including present and predicted future year assessments.
iv. Road hierarchy. New roads shall be of a design appropriate to their positions in the hierarchy. New accesses to primary roads and main distributor roads will normally be resisted, but where access is permitted a high standard of provision will be required
v. Car parking provision (see Policies 39-50)
vi. St Albans City Centre restraint on development (see Policy 30)
vii. Local Rural Roads

In assessing applications, account will be taken of the advice contained in current documents prepared by the Department of the Environment, Department of Transport, Hertfordshire County Council and this Council.'

2.4 As part of the new Local Pan, this policy may be amended or replaced but it is likely that the same general principles would be retained within any new policy.

2.5 With regards to Highways Improvements in Association with Development, Policy 35 of the current Local Plan sets out that:

'In order to mitigate the highways effects of development proposals the District Council, in conjunction with the County Council where appropriate, will seek highways improvements and / or improvements to the public transport system from developers whose proposals would otherwise result in detrimental highway conditions.'

2.6 Again, it is likely that as part of the new Local Plan, this policy may be amended or replaced but it is likely that the same general principles would be retained in any new policy.

2.7 With regards to public transport provision, Policy 36A – Location of New Development in Relation to Public Transport Network, sets out that;

'The District Council will generally encourage the use of public transport. In considering the impact of new development, account will be taken of its proximity to the public transport network and whether facilities will be provided within the development to cater for the use of the network'.

2.8 This sentiment is likely to be retained as part of the new Local Plan. As part of any proposed development at the Bricket Wood site, an assessment of local public transport has been carried out as reported in the following chapter.

2.9 Policy 39 of the current Local Plan, Parking Standards - General Requirements, sets out that development proposals should include off-street parking provision in accordance with specific advice for a variety of land uses detailed in subsequent Local Plan policies. It also sets out general advice / requirements of;

- Highways and environmental considerations,
- Underground car parking
- Changes of use and extensions
- Employee / staff numbers
- Fractions of parking spaces
- Bicycles and motor cycles
- Parking layout, and
- Parking for disabled people

2.10 It is also considered that Policy 50 Parking for Disabled People is relevant to this assessment.

Revised Parking Policies and Standards, January 2002

2.11 Continuing on from the Council's current Local Plan's parking policies, it is noted that revised parking standards were published by St Albans District Council in supplementary planning guidance in January 2002. These are likely to be amended further and incorporated in to the new Local Plan.

Travel Plan Guidance, March 2020

2.12 Hertfordshire County Council's 'Travel Plan Guidance' (March 2020) has been consulted with regards thresholds for the production of a Travel Plan. On the basis of the suggested level of development at the Bricket Wood site, a full Residential Travel Plan would be required.

Local Transport Plan 2011-2031

2.13 Challenge 1.2 of Hertfordshire County Council's Local Transport Plan which aims to support economic development and planned dwelling growth, sets out that:

'The key strategy therefore is to ensure new development is located and designed so that maximum use can be made of sustainable modes, including bus travel, to access services. Design and location can enhance existing passenger transport corridors improving levels of service so the bus provides a real alternative to the car. The provision of local services, located near to existing centres and employment opportunities, will help ensure that destinations can be accessed by walking and cycling.'

2.14 Policy 3.8 of the Local Transport Plan sets out that;

'The county council will:
A. Examine development proposals to establish whether their effects on the transport system can be accepted and to ensure that the access arrangements are constructed to an adequate and safe standard.
B. Ensure the transport and safety implications of development proposals are considered.
C. Assess development with regard to reducing the need to travel and ensure alternative modes of transport such as walking, cycling and the use of passenger transport are promoted.
D. Whenever possible, mitigate the effects of the movement demand generated by development with obligations from the promoters. The county council will seek to obtain the maximum private sector contribution compatible with Government guidelines and the county council's transportation objectives and, where appropriate, published local strategies.
E. Require a Transport Assessment and a Travel Plan for developments above certain thresholds.
F. Consider requiring a Transport Assessment or statement and/or a Travel Plan for smaller developments below general thresholds in sensitive locations.
G. Resist development where:
i. The proposals would increase the risk of accidents or endanger the safety of road or rights of way users.
ii. The proposals would cause or add significantly to road congestion, especially at peak travel times.
iii. The proposals would generate a significant change in the amount or type of traffic using local or rural roads or rights of way.
iv. The proposals would either significantly affect the rural or residential character of a road or right of way, or would significantly affect safety on rural

or local roads or rights of way especially amongst vulnerable users, or would be located by a poorly designed road.

H. New access to primary and main distributor routes will only be considered where special circumstances can be demonstrated in favour of the proposals. This will include consideration of why alternative proposals are not viable.'

2.15 The Local Transport Plan also sets out policy on travel planning and parking in relation to new development.

Roads in Hertfordshire - Highway Design Guide (2011)

2.16 With regards to specific highway design elements within the new development, advice given in Roads in Hertfordshire - Highway Design Guide would be adhered to.

National Planning Policy Framework

2.17 On a wider level, the National Planning Policy Framework (July 2021) is the relevant national policy pertaining to the development. The national policy has two key objectives: to facilitate economic growth by taking a positive approach to planning development; and to support reductions in greenhouse gas emissions and congestion and promote accessibility through planning for the location and mix development.

2.18 Relevant extracts from Section 9 'Promoting Sustainable Transport' of the NPPF (July 2021) are set out as follows:

104. Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
a) the potential impacts of development on transport networks can be addressed;
b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
c) opportunities to promote walking, cycling and public transport use are identified and pursued;
d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places.

105. The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.

108. Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists.

111. 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 would be severe.

112. Within this context, applications for development should:
a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and
e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

2.19 In preparing this Transport Assessment, the above policy guidance, or its replacement, has been considered.

3.0 SITE & AREA AUDIT

3.1 The site is located approx. 4.5km south of St Albans, 4.5km east of Abbots Langley and 7km north of Watford. The site is bounded to the west by Lye Lane and to the south by the M25.

3.2 Lye Lane in Bricket Wood is within the St Stephen ward/electoral division, which is in the constituency of St Albans. The site can be accessed from Lye Lane which leads from the A405 North Orbital. The site can also be accessed from the south from the West Riding / Oak Avenue junction with Lye Lane.

3.3 The nearest train station to the site is Bricket Wood Station which is 1km south of the site. How Wood railway station is also a short distance away from the site around 1km to the north of the site.

Pedestrian and Cycle Access

3.4 The connectivity of a development site includes factors that relate to pedestrian and cycle access. In relation to the site and surrounding area, this relates to public rights of way and footways adjacent to local roads.

3.5 In terms of public rights of way, Appendix C shows an extract from Hertfordshire County Council's public rights of way map. Routes 60, 15 and 30 run south of the site towards Bricket Wood Station while Route 18 can be accessed to the north of the site. No formal pedestrian crossing facilities are currently provided where these routes cross the A405 North Orbital and Lye Road.

3.6 Table 1 shows a selection of key public rights of way linking the site to Bricket Wood.

Table 1. Key Public Rights of Way from Site to Bricket Wood

Right of Way Number	Type	Description
60 (St Stephens)	Footpath	Commences at junction with Lye Lane at Black Green thence NE to rejoin Lye Lane opposite Blackgreen Wood.
15 (St Stephens)	Footpath	Commences at junction with FP60 at Black Green thence SE to junction with county road (Lye Lane).
30 (St Stephens)	Footpath	Commences at junction with Lye Lane opposite Black Green thence SE across Black Green Wood to junction with Lye Lane at W corner of Smug Oak Green.
29 (St Stephens)	Footpath	Commences at junction with slip road to M25 Motorway at Grid Ref: TL1266 0298 thence SE skirting NE boundary of Lower Lyes to junction with Woodside Road and The Meads.
11 (St Stephens)	Bridleway	Commences from County Road (South Riding) thence E to a junction with BR12 (at TL13515 02155) thence SE over the railway via a bridge to the edge of Bricket Wood Common (at TL13575 02105) then across the Common to join the County Road (Station Road (at TL13590 02095) opposite Drop Lane. Minimum 2.5 metres between TL13515 02155 and TL13575 02105 4 metres between TL13575 02105 and TL13590 02095
12 (St Stephens)	Footpath	Commences at junction with BR 11 N of Bricket Wood Station thence NE along NW boundary of Railway to junction with county road (Lye Lane).

18 (St Stephens)	Footpath	Commences at junction with North Orbital Road W of Burston Manor Farm thence SW to junction with Lye Lane opposite Hospital.
94 (St Stephens)	Footpath	Hyde Lane. Commences as FP from Hyde Lane public road at TL 1445 0341 running SE for approx. 10m across level crossing to TL 1446 0341. Continues as RB SE for approx. 670m passing junctions with FPs 33, 33a, 26 and 35a, across ford at River Ver adjacent to the footbridge to join Hyde Lane public road at TL 1504 0312. Varies between 3m and 12m as shown on the Order Plan forming part of the Hertfordshire County Council (St Stephen 94) Modification Order 2011. Kissing gates at TL 1445 0341 and TL 1446 0341.

Source: HCC

3.7 Lye Lane south of the site does not feature footways. The local footway network to the south commences at the junction with West Riding / Oak Avenue. To the north of the site, again, there are no footways until Lye Lane reaches the A405 North Orbital Road. Park Street Lane (to the east of the site) has footway facilities south towards Bricket Wood but these are of poor quality. It is proposed to provide a footway link from the site to West Riding to the south of the site.

3.8 Within the site, a series of footways alongside the internal road layout will link the new development with the local footway on Lye Lane via. South of the site between the site access on Lye Lane and West Riding junction there is currently limited footpath access. This stretch of footpath will be upgraded to provide adequate and safe walking routes for pedestrians and cyclists.

3.9 In summary, while there are a number of local footpaths, the proposed development will be supplemented with extensions to current footpaths and or creation of new footpaths so that residents of the scheme have viable and practical means of walking from the site to Bricket Wood, the station or How Wood. Improved cycle access to local National Cycle Routes will also benefit future residents.

3.10 Local cycle routes are shown in a map extract in Appendix C and includes National Cycle Routes 6 and 61 which run as a combined route through the Colne Valley between Watford and St Albans. Locally this provides a mixture of traffic free sections and quiet roads linking the two towns with Park Street, How Wood, Bricket Wood and Garston.

Vehicle Access

3.11 There is an existing vehicle access to the site from the Lye Lane on the western side of the site. As part of the proposed development a new vehicle access will be provided on Lye Lane further to the north of the existing vehicle access. The existing vehicle access will be stopped up as part of the development.

Public Transport

3.12 Appendix C presents an extract of the County bus map for the Bricket Wood area. This shows at present 2 bus routes serve Bricket Wood calling at stops on Lye Lane, approximately 560m to the south of the site. A summary of services is presented in Table 2.

Table 2. Local Bus Services

Route	Nearest Bus Stop	To / From	Service Information
361	West Riding	Garston/Bricket Wood	Mon-Fri 07:25 to 17:12 - Up to 1 per hour Saturday 09:28 to 17:28 - 1 per hour
		To St Albans	Mon-Fri 08:25 to 17:46 - Up to 1 per hour Saturday 08:40 to 18:00 - 1 per hour
635	West Riding	Hitchin to Watford, via Stevenage & Hatfield	Mon-Fri 06:54 to 14:04 - 1 per hour Saturday 08:40 to 18:00 - 1 per hour
		Watford to Hitchin	Mon-Fri 07:07 to 15:49 - 1 per hour Saturday 09:28 to 17:28 - 1 per hour

Source: Intalink

3.13 The above assessment shows there are relatively good service levels to St Albans, Bricket Wood, Hatfield, Watford and Hitchin with 1 to 2 services per hour.

3.14 Rail services are available from Bricket Wood Station which is located 1km to the south of the site. Rail services available are detailed in Table 3 while Appendix C presents an extract of the local rail network map.

Table 3. Local Rail Services

Station	Towards	Times / Days	Frequency
Bricket Wood	St. Albans Abbey	06:00-22:44 Mon-Fri 06:24-22:44 Sat 08:15-23:27 Sun	1 per hour 1 per hour 1 per hour
	Watford Junction	06:22-22:59 Mon-Fri 06:37-22:57 Sat 08:37-23:41 Sun	1 per hour 1 per hour 1 per hour

Source: London North Western

3.15 At Bricket Wood station there is level step-free access s to trains. At Watford Junction, interchange is available to direct services to London Euston, southern, central and north western England and Scotland as well as to London Overground services.

Local Amenities

3.16 Within a short distance of the site, via Lye Lane, the village of Bricket Wood provides a wide range of local amenities including; a food store, pharmacy, cafes, restaurants and public houses, a library and schools. Sustainable access to these facilities would require improvements to footpaths / pedestrian routes.

Local Road Network

3.17 As previously set out the site is bounded to the west by Lye Lane, with Park Street Lane running east of the site and the M25 running south of the site.

3.18 Lye Lane continues north west to the junction with the A405 North Orbital Road and then on to the M25 or the M1, and south to Watlford. Exit 4 of the North Orbital Roundabout heads towards St Albans. Adjacent to the site Lye Lane varies in width between 4.3m and 5.8m, widening to 6.0m over the M25 overbridge. North of the site, Lye Lane narrows to 4.2m.

3.19 Within Bricket Wood village the junction of Lye Lane, West Riding and Oak Avenue is provided as a priority junction with Lye Lane forming the northern and eastern arm, Oak Avenue the southern arm and West Riding the western arm. West Riding / Lye Lane (east) is the through traffic movement with the other two arms giving way. Sightlines at this junction could be improved by maintaining vegetation growth on highways land

3.20 Lye Lane and West Riding / Oak Avenue in the vicinity of the junction are subject to 30mph speed limits, while Lye Lane to the east of the junction is subject to a 40mph speed limit.

3.21 Tables 4 and 5 show average weekday flows and 85th percentile speeds for Lye Lane adjacent to the development site.

Table 4. Lye Lane Average Weekday Traffic Flows

Time	Northbound	Southbound	Total
0000-0100	3	3	6
0100-0200	2	3	6
0200-0300	1	2	3
0300-0400	1	1	2
0400-0500	2	1	3
0500-0600	11	1	12
0600-0700	17	12	29
0700-0800	41	82	123
0800-0900	38	91	128
0900-1000	59	61	120
1000-1100	46	49	94
1100-1200	42	53	95
1200-1300	40	61	101
1300-1400	49	65	114
1400-1500	45	47	93
1500-1600	41	82	123
1600-1700	40	102	142
1700-1800	38	76	114
1800-1900	27	47	74
1900-2000	24	28	52
2000-2100	15	18	33
2100-2200	12	12	24
2200-2300	9	10	19
2300-2400	8	6	14
Total	609	914	1523

Source: DCA Monisyst Survey 25th to 29th April 2022

Table 5. Lye Lane Average 85% Speed

Time	Northbound (mph)	Southbound (mph)
1000-1100	30.6	31.6
1100-1200	31.0	31.8
1400-1500	31.1	31.3
1500-1600	29.8	30.0
Interpeak Average 85%ile	31	31

Source: DCA Monisyst Survey 25th to 29th April 2022
Notes: A four second headway has been applied to the ATC speed data. Weekday non-peak design speed is taken from 1000-1200 and 1400-1600 in accordance with CA185

3.22 In terms of congestion, Appendix C presents a series of extracts from Google traffic mapping showing key locations where weekday peak hour speeds are low.

This may indicate congestion or where traffic speeds are reduced due to narrow roads / bends.

3.23 In the morning peak, slow traffic speeds are observed on Lye Lane southbound as it leaves the A405 North Orbital Road, on Lye Lane southbound north of the development site and on Lye Lane southbound as it approaches the junction with West Riding and Oak Avenue. Slow traffic speeds are also observed on Lye Lane eastbound as it approaches Park Street Lane. It is suggested that these slow speeds do not necessarily indicate congestion as queue length surveys at these junctions (Appendix J) do not show queuing traffic.

3.24 In the afternoon peak, slow traffic speeds are observed on Lye Lane northbound as it approaches the A405 North Orbital Road and on Lye Lane westbound west of Park Street Lane. Again, these slow speeds do not necessarily indicate congestion as queue length surveys at these junctions (Appendix J) do not show queuing traffic.

Road Traffic Accidents

3.25 Appendix C presents a map extract showing road traffic accidents by severity for the 5-year period 2017 to 2021 in the area around the development site which resulted in pedestrian or cyclist casualties. It is clear that there have been a small number of 'minor' and 'serious' accidents in the Bricket Wood area, however none took place in the vicinity of the development site.

Car Ownership

3.26 Data from the 2011 Census has been examined to determine local car ownership characteristics. Table 6 presents the results of the assessment. The development site is located within two census areas and so an average has been derived.

Table 6. Local Census Car Ownership Data

Number of Cars or Vans in Household	Number of Households	% of Households	Number of Households	% of Households	Average
No cars or vans	243	7.9%	259	10.3%	9%
1 car or van	1,113	36.1%	1,028	40.9%	38%
2 cars or vans	1,242	40.3%	919	36.6%	39%
3 cars or vans	313	10.2%	219	8.7%	10%
4 or more cars or	169	5.5%	88	3.5%	5%
Total	3,080	100.0%	2,513	100.0%	100%

Source: 2011 Census. Table KS404EW – St Albans (E02004943 and E02004942)

3.27 The Census data shows that only 9% of households in the area don't have access to a car or van, with the average household owning 1.6 cars or vans.

Mode Split Data

3.28 Data from the 2011 Census has been examined to determine the mode of transport used for 'journeys to work'. This gives an indication as to the availability of 'sustainable' forms of transport and its suitability for journeys to work. Table 7 presents the results of the assessment for those in employment.

3.29 The development site is located within two census areas (E02004943 and E02004942) and so an average has been derived. Appendix D shows maps of the census areas assessed.

Table 7. Census Journey to Work Mode Split

Mode of Transport	St Albans E02004942		St Albans E02004943		Average
	No. of Persons	% of Persons	No. of Persons	% of Persons	
Work mainly at or from home	233	8%	325	8%	8%
Underground, metro, light rail, tram	59	2%	60	2%	2%
Train	325	11%	322	8%	9%
Bus, minibus or coach	50	2%	63	2%	2%
Taxi	17	1%	18	0%	1%
Motorcycle, scooter or moped	27	1%	30	1%	1%
Driving a car or van	2,073	68%	2,639	69%	68%
Passenger in a car or van	113	4%	138	4%	4%
Bicycle	34	1%	33	1%	1%
On foot	124	4%	168	4%	4%
Other method of travel to work	13	0%	30	1%	1%
Total	3,068	100%	3,826	100%	100%

Source: 2011 Census. Table QS701EW - St Albans (E02004943 and E02004942)

3.30 The Census data shows that the majority of journeys to work (68%) are made as car driver, with 11% made by train or underground. It should be noted that the Census asks about the mode of transport used for the longest distance section of the journey, so does not indicate how trips are made from the area to local railway stations. These are likely to be made by car or bus or possibly by bike.

3.31 It is interesting to note that 8% of people in employment in the area work from home, a percentage that will likely have increased significantly since 2011 and recent changes to working habits following the Covid pandemic.

3.32 In summary, pedestrian and cycle links from the site will need to be improved to allow future residents viable, safe and practical access to local public transport and amenities. The local road network adjacent to the site will also need to be improved with a new site access junction and carriageway widening.

4.0 TRIP GENERATION & DISTRIBUTION

4.1 As part of this report, trip generation forecasts have been prepared for the existing and proposed uses by means of the TRICS database. The proposed development will 109 mixed (private and affordable) dwellings.

4.2 This assessment methodology uses TRICS data to determine the total number of person trips the developments will generate. These totals are then be distributed in line with local output area census mode splits as detailed in the previous chapter. It is suggested that this combined approach produces a robust assessment of total trip generation based on similar TRICS developments but is more reflective of travel options in the vicinity of the proposed development site.

4.3 With regards the proposed residential use, 18 TRICS 'mixed private and affordable house' sites have been used to prepare total person trip generation forecasts.

4.4 Table 8 presents a summary of total person trip forecast trips based on TRICS, and car and rail / underground trips based on Census data. Full details, including maps of Census areas used are presented in Appendix D.

Table 8. Proposed Residential Trip Generation

	Total Person Trips		Census Car Driver		Census Rail		Total Car Based Trips	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
07:00	11	59	8	40	1	7	9	47
08:00	**20**	**91**	**14**	**62**	**2**	**10**	**16**	**72**
09:00	23	29	16	20	3	3	18	23
10:00	19	26	13	18	2	3	15	21
11:00	21	23	15	16	2	3	17	18
12:00	23	22	15	15	3	2	18	18
13:00	22	23	15	15	2	3	18	18
14:00	27	31	18	21	3	3	21	24
15:00	**74**	**31**	**51**	**21**	**8**	**3**	**59**	**25**
16:00	55	26	38	18	6	3	44	20
17:00	62	25	42	17	7	3	49	20
18:00	52	26	35	18	6	3	41	21
Total	409	411	279	281	45	46	325	327

Source: TRICS / Census Note: due to rounding of numbers totals may not reflect cumulative hourly flows.

4.5 The results of the assessment suggest that the proposed residential development could generate a total of 651 car (driver) vehicle trips per day which includes those who drive to local stations to continue journeys by rail.

5.0 PARKING, ACCESS & LAYOUT

5.1 HCC's "Roads in Hertfordshire: A Design Guide, 3rd Edition" (January 2011) sets out the framework of advice and standards within which alterations and additions to the highway network in the County shall be constructed.

Car Parking

5.2 The calculation of parking provision for residential developments is set out in St Alban's City District Council's Local Plan Review. Policy 39 and 40 states the parking requirements at residential developments.

5.3 It is proposed to provide 109 dwellings of mixed sizes and tenures comprising of 21 x one-bedroom, 35 x two-bedroom, 34 x three-bedroom, 12 x four-bedroom and 7 x five bedroom dwellings with a minimum of one allocated parking space per unit. Table 9 shows the required parking provision for the proposed development.

Table 9. Required and Proposed Car Parking Provision

No. Bedrooms	Proposed No. Units	Requirement		Proposed Provision		
		No. Allocated Spaces per Unit	No. Unallocated Spaces per Unit	No. Allocated Spaces per Unit	No. Unallocated Spaces per Unit	Total No. Spaces
1	21	1	0.5	21	11	32
2	35	1	1.0	35	35	70
3	34	2	0.5	68	17	85
4	12	3	0.5	36	6	42
5	7	3	0.5	21	4	25
Total	109	-	-	181	72	253

Source: SADC / Tom Grsitwood Architects

5.4 A total of 253 car parking spaces will be provided within the curtilage of the development.

Cycle Parking

5.5 Cycle parking standards are also set out in St Alban's District Council's Local Plan Review. Policy 39 Part viii states that "*bicycle and motor cycle parking provision may be required for in large developments*".

5.6 HCC 'parking policies and standards 2002' sets out for residential development that 1 long-term space per unit should be provided if no garage or shed is provided.

5.7 The development will provide adequate and safe cycle storage within the boundary of each dwelling as per the HCC 'parking policies and standards 2002'.

Vehicle Access

5.8 There is an existing vehicle access to the site from Lye Lane on the western side of the site. As part of the development a replacement vehicle access will be provided on Lye Lane slightly north of the existing vehicle access which will be stopped up as part of the development. The layout of the proposed new site access is shown in Appendix E.

5.9 The new site vehicle access will take the form of priority junction. Detailed junction assessment of the new junction can be found in chapter 6.

5.10 A sightline assessment was carried out for the proposed site access based on 85th percentile speed data collected as part of a 5-day weekday automatic traffic count survey carried out on Lye Lane adjacent to the location of the previously and current proposed site access. The 85th percentile speed assessment was based on the interpeak period of 10:00 to 15:00 on dry weekdays in April 2022 with speeds corrected for wet weather conditions. Full results of the automatic traffic count survey are presented in Appendix F.

5.11 The surveys revealed that the 85th percentile southbound speed was 29.2mph and the 85th percentile northbound speed was 28.4mph. In line with Manual for Streets these equate to sightline requirements of 43m.

5.12 Appendix E demonstrates that these sightlines can be achieved from the proposed site access.

Pedestrian & Cycle Access

5.13 It is proposed that a new footway is provided on Lye Lane south of the site towards Bricket Wood village centre as shown in Appendix G.

5.14 The 2.0m wide footway on the south side of the proposed site access road would continue south of the site to link to the current M25 overbridge footway on the eastern side of the road.

5.15 Continuing south of the M25 overbridge, highways land ownership narrows to 1.0m. Prior to this point it is proposed that a crossing point with dropped kerbs with tactile paving would be provided so that pedestrians with buggies / wheelchairs who require a full 2.0m width can cross to a new section of 2.0m wide footway on the western side of Lye Lane. This would then cross back to the east side of Lye Lane at a point where highways land ownership allows a 2.0m wide footway to be provided. The section on the west side of Lye Lane will also benefit residents of dwellings / mobile homes on the west side of Lye Lane at this location.

5.16 The 2.0m wide footway on the eastern side of Lye Lane would then continue south to a point adjacent to Lye Cottage, at which point it would cross to the western side of Lye Lane and continue south to connect to the existing footway on the northside of West Riding. The new footways would be 2.0m in width and provided on Highways land. At the proposed crossing point (adjacent to Lye

Cottage) dropped kerbs with tactile paving would be provided. It is also proposed that street lighting will be provided on this new pedestrian link. The proposed layout of this facility is shown in Appendix G.

5.17 Appendix G also shows how the proposed footways would link with existing public rights of way which will provide additional links towards Bricket Wood village centre and Bricket Wood station.

Layout

5.18 It should be noted that the proposed layout presented in this report is indicative only as layout is a reserved matter and may be subject to change to accord with up-to-date highways policies. On this basis, the current proposed layout included in this report, will address the following issues;

- The new site access road will be provided with kerb radii of 6.0m at the junction with Lye Lane and a width of 6.0m, while internal roads will be provided at widths of a minimum 5.5m.
- Entry kerb radii from the local road network will be provided at 10.0m.
- Internal kerb radii will be provided at 6.0m minimum.
- Footways will be provided at widths of 2.0m.
- Parking spaces will be provided at dimensions of 2.4m x 4.8m
- Disabled parking spaces will be provided at the above dimensions with additional side and rear manoeuvring space of 1.2m minimum
- Aisle widths in communal parking areas will be provided at 6.0m.
- Individual houses will be provided with 'wheelie' bins which will be placed on the kerbside on collection days.
- Waste collection vehicles will be able to get to within 25m of dwelling.
- Parking areas will be clearly marked to deter unsociable, dangerous or illegal parking.

5.19 Swept path analysis has been carried out for a large refuse vehicle to demonstrate that the vehicle can negotiate its way around the internal road layout as shown in Appendix H. The Highways Authority's pre-app comments from 04/04/22 (Appendix I) sets out that 'the TA will need to include swept path analysis of refuse lorries and servicing / delivery vehicles, to ensure these can access and egress the site in forward gear.'

5.20 The swept path analysis shown in Appendix H has used the above vehicle of dimensions 9.010m by 2.450m the vehicle is shown entering the site from Lye Lane travelling around the internal road layout and making use of proposed 'hammerheads' for turning and turning back out on to Lye Lane.

5.21 By default smaller service vehicles (including delivery and emergency vehicles) will also be able to negotiate around the internal road layout.

6.0 HIGHWAY IMPACT

6.1 This chapter sets out the highways impact assessments carried out for the proposed 109 unit development.

Peak Hour Determination

6.2 As requested in the pre-application advice from the Council, the peak hours for assessment have been determined by means of automatic traffic count surveys undertaken on Park Street Lane between 25/04/22 and 01/05/22. The results of the ATC surveys are shown in Appendix F and demonstrate that the AM peak hour is 08:00 to 09:00 while the PM peak hour is 15:00 to 16:00. Full ATC survey data is shown in Appendix F.

Junction Capacity Assessment Methodology

6.3 As detailed earlier in this report, the proposed development has been shown to generate 114 vehicle trips in the AM peak hour and 103 vehicle trips in the PM peak hour.

6.4 Junction capacity assessments have been carried out to determine the impact of the development on the junctions of

- A405/Lye Lane,
- Lye Lane/Oak Avenue/West Riding Junction and
- Lye Lane/Park Street Lane

6.5 Baseline manual classified turning count surveys were undertaken at these junctions on 26/04/22. Full details of the 'baseline' manual classified turning count surveys are shown in Appendix J

6.6 To assess whether this was a 'typical' weekday, the ATC data collected for Lye Lane (as set out in Appendix I) has been examined. The average total weekday two-way flow on Lye Lane was 1145 vehicles per day. The 'median' total weekday two-way flow on Lye Lane was 1148 vehicles per day. Total weekday two-way flows on Lye Lane on the day of the manual classified turning count surveys was 1158 vehicles per day. As such it is concluded that the manual classified turning count survey data is typical

6.7 The 'baseline' manual classified turning counts were then growthed to the future year of 2035 (10 years after the assumed opening year of 2025) to reflect background traffic growth. Full details of the 'future year' classified turning count surveys are shown in Appendix J

6.8 Forecast development flows for peak hours, in terms of in and outbounds flows were then assigned to the local road network based on existing surveyed turning proportions / flow tidalities.

New Site Access / Lye Lane Junction Assessment

6.9 PICADY 10 assessments were carried out for the scheme for a proposed new site access junction on Lye Lane based on a priority junction layout.

6.10 The PICADY 10 assessment for the scheme, took into account base flows growth to the forecast year of 2035 with development flows assigned to the local road network. Junction geometry was taken from the proposed junction layout.

6.11 With regards to the distribution of proposed development flows, these were based on the north / south split of flows on Lye Lane from ATC data as shown in Table 10. For example, 27% of development flows departing from the site between 08:00 to 09:00 were assumed to be heading north on Lye Lane towards the A405, and 71% of development flows arriving at the site between 15:00 to 16:00 were assigned to have come from the north (southbound).

Table 10. Lye Lane Flow Direction Split (Average Weekday)

Hour	Northbound Flow	Southbound Flow	Northbound Split	Southbound Split
0800	30	82	27%	73%
1500	27	65	29%	71%
24 Hour	434	704	38%	62%

Source: ATC survey

6.12 Table 11 show a summary of the PICADY assessment results for the scheme while full results are shown in Appendix K.

Table 11. PICADY Assessment Results Summary – Site Access / Lye Lane Junction

Movement	AM Peak (08:00-09:00)			PM Peak (15:00-16:00)		
	RFC	End Queue (PCU)	Level of Service	RFC	End Queue (PCU)	Level of Service
B-AC Site Access to Lye Lane North & South	0.13	0.1	A	0.04	0.0	A
C-AB Lye Lane South to Site Access and Lye Lane North	0.02	0.0	A	0.08	0.1	A

Source: PICADY 10

6.13 The key movement was 'Lye Lane South to Site Access and Lye Lane North' as this represents southbound traffic on Lye Lane either continuing north or turning right in to the development site. As can be seen there was a very low RFC level during both peak periods and no queuing with Levels of Service of A for all movements during both peak periods. This suggested there are ample gaps in through traffic to allow traffic to turn right in to the site. As such, a right turn lane facility would not be required.

Lye Lane / A405 North Orbital Road Junction Assessment

6.14 Due to the central reserve on the A405 North Orbital Road, the only site traffic related movements are the left turn from the A405 in to Lye Lane, and the right turn movement out of Lye Lane on to the A405. It is noted that only a small proportion of site flows have been assigned to Lye Lane north of the site.

6.15 Table 12 shows a summary of the PICADY assessment for the Lye Lane / A405 North Orbital Road junction for the future year with development flows, while full results are shown in Appendix K.

Table 12. PICADY Assessment Results Summary – A405 / Lye Lane Junction

Movement	AM Peak (08:00-09:00)			PM Peak (15:00-16:00)		
	RFC	End Queue (PCU)	Level of Service	RFC	End Queue (PCU)	Level of Service
B-AC Lye Lane to A405 westbound	0.12	0.1	A	0.11	0.1	B

Source: PICADY 10

6.16 The assessment shows that in both the AM and PM peak hours, there would be low RFC's and minimal queuing. The Level of Service during both peak periods would be acceptable.

Lye Lane / West Riding / Oak Avenue Junction Assessment

6.17 The majority of site traffic would route to / from the south of the site and pass through the junction of Lye Lane / West Riding and Oak Avenue.

6.18 Table 13 shows a summary of the PICADY assessment for the Lye Lane / West Riding and Oak Avenue junction for the future year with development flows, while full results are shown in Appendix K.

Table 13. PICADY Assessment Results Summary – Lye Lane / West Riding and Oak Avenue Junction

Movement	AM Peak (08:00-09:00)			PM Peak (15:00-16:00)		
	RFC	End Queue (PCU)	Level of Service	RFC	End Queue (PCU)	Level of Service
B-ACD Oak Avenue to other arms	0.54	1.2	C	0.46	0.9	B
A-BCD Lye Lane East to other arms	0.23	0.3	A	0.09	0.1	A
D-ABC West Riding to other arms	0.46	0.9	B	0.33	0.5	B
C-ABD Lye Lane North (inc site) to other arms	0.05	0.1	A	0.03	0.0	A

Source: PICADY 10

6.19 The assessment shows that in both the AM and PM peak hours, there would be low RFC's and minimal queuing on all junction arms. The Level of Service during both peak periods would be acceptable.

Lye Lane / Park Street Lane Junction Assessment

6.20 Table 14 shows a summary of the PICADY assessment for the Lye Lane / Park Street Lane junction for the future year with development flows, while full results are shown in Appendix K.

Table 14. PICADY Assessment Results Summary – Lye Lane / West Riding and Oak Avenue Junction

Movement	AM Peak (08:00-09:00)			PM Peak (15:00-16:00)		
	RFC	End Queue (PCU)	Level of Service	RFC	End Queue (PCU)	Level of Service
B-AC Lye Lane to Park Street Lane north and south	0.46	0.9	B	0.31	0.5	A
C-AB Park Street Lane southbound, ahead and to Lye Lane	0.33	0.6	A	0.28	0.4	A

Source: PICADY 10

6.21 The assessment shows that in both the AM and PM peak hours, there would be low RFC's and minimal queuing on all junction arms. The Level of Service during both peak periods would be acceptable.

6.22 In summary, the impact of the proposed development for the future year of 2035 has been shown to be minimal in both peak hours at all junctions assessed.

7.0 SUMMARY & CONCLUSIONS

7.1 In summary, the site is located in an area with currently modest levels of public transport accessibility, with good pedestrian and cycle links and is in close proximity to the existing settlement of Bricket Wood for access to local amenities and services.

7.2 Local Census data suggests that the majority of trips to and from the area are made by, or involve use of, the private car. The impact of any development would require improvements / amendments to the local highway network.

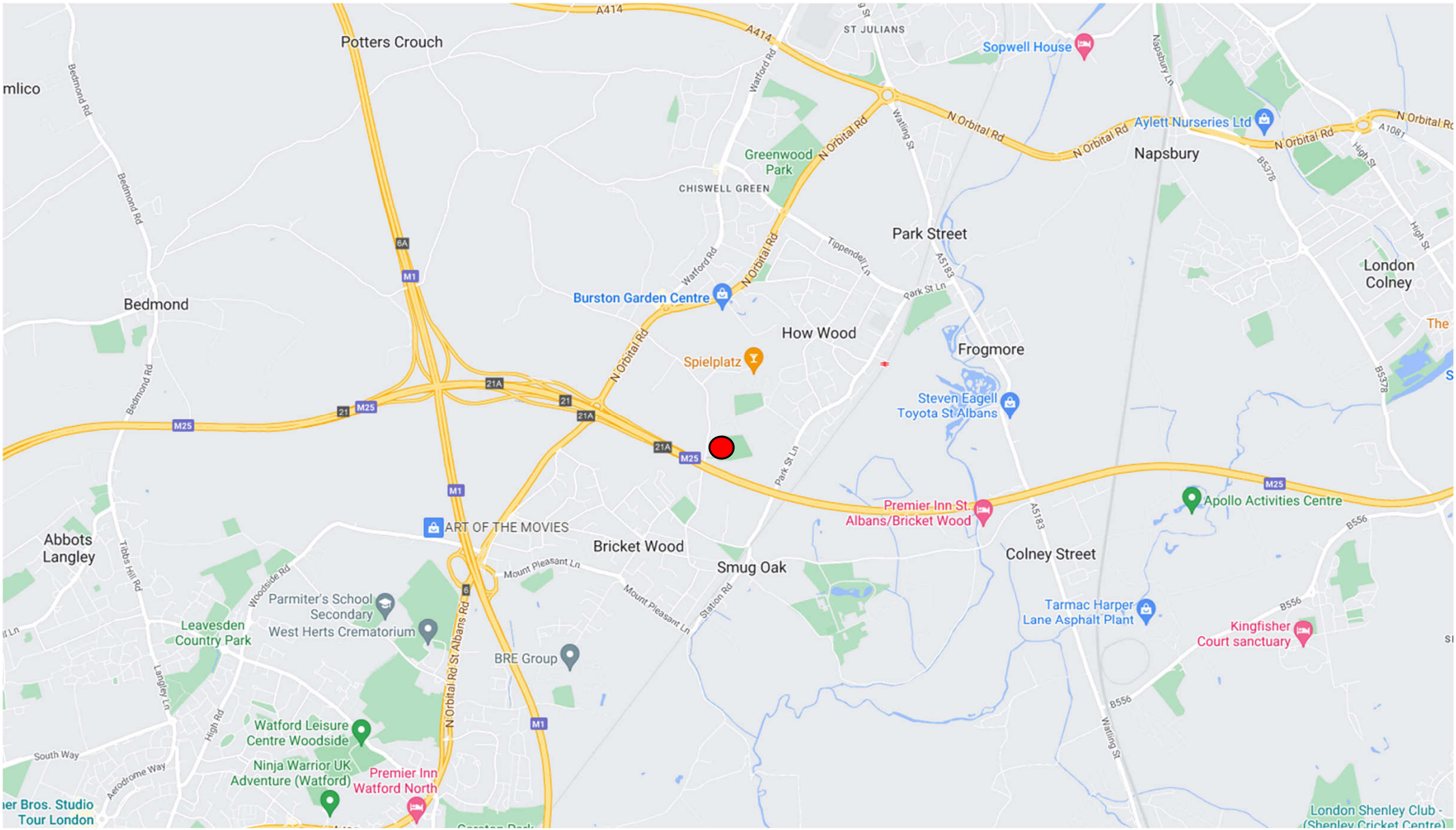
7.3 It is proposed that a new footway is provided on Lye Lane south of the site towards Bricket Wood village centre. This would be provided predominantly on the east side of Lye Lane with an additional section of new footway on the west side of Lye Lane to avoid a width restriction which would also benefit residents of dwellings / mobile homes on the west side of Lye Lane at this location. The proposed footways would link with existing public rights of way which will provide additional links towards Bricket Wood village centre and Bricket Wood station.

7.4 The internal layout of the site would provide good permeability by all modes and providing good links to local pedestrian and cycle routes.

7.5 PICADY 10 assessments were carried out for the scheme for a proposed new site access junction on Lye Lane based on a priority junction layout. The junction assessments show that in both the AM and PM peak hours, there would be low RFC's and minimal queuing on all junction arms. The Level of Service during both peak periods would be acceptable.

7.6 In summary, the impact of the proposed development for the future year of 2035 has been shown to be minimal in both peak hours at all junctions assessed. The Bricket Wood Development is considered suitable for the provision of new residential and related land use development.

Appendix A
Site Location & Context



Date: 29/06/22
Scale: NTS
Source: Google
Site Location

P2584. Bricket Wood Development, Hertfordshire
Site Location

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk

Date: 29/06/22
Scale: NTS
Source: Google
Site Location

P2584. Bricket Wood Development, Hertfordshire
Site Context

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Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
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Appendix B
Proposed Site Layout

UNIT NUMBERS

1-bed unit, 2 storey, 58sqm	21	20%
2-bed unit, 2 storey, 70sqm	35	32%
3-bed unit, 2 storey, 93sqm	34	31%
4-bed unit, 2 storey, 107sqm	12	11%
5-bed unit , 2.5 storey, 139sqm	7	6%
Total	109	100%

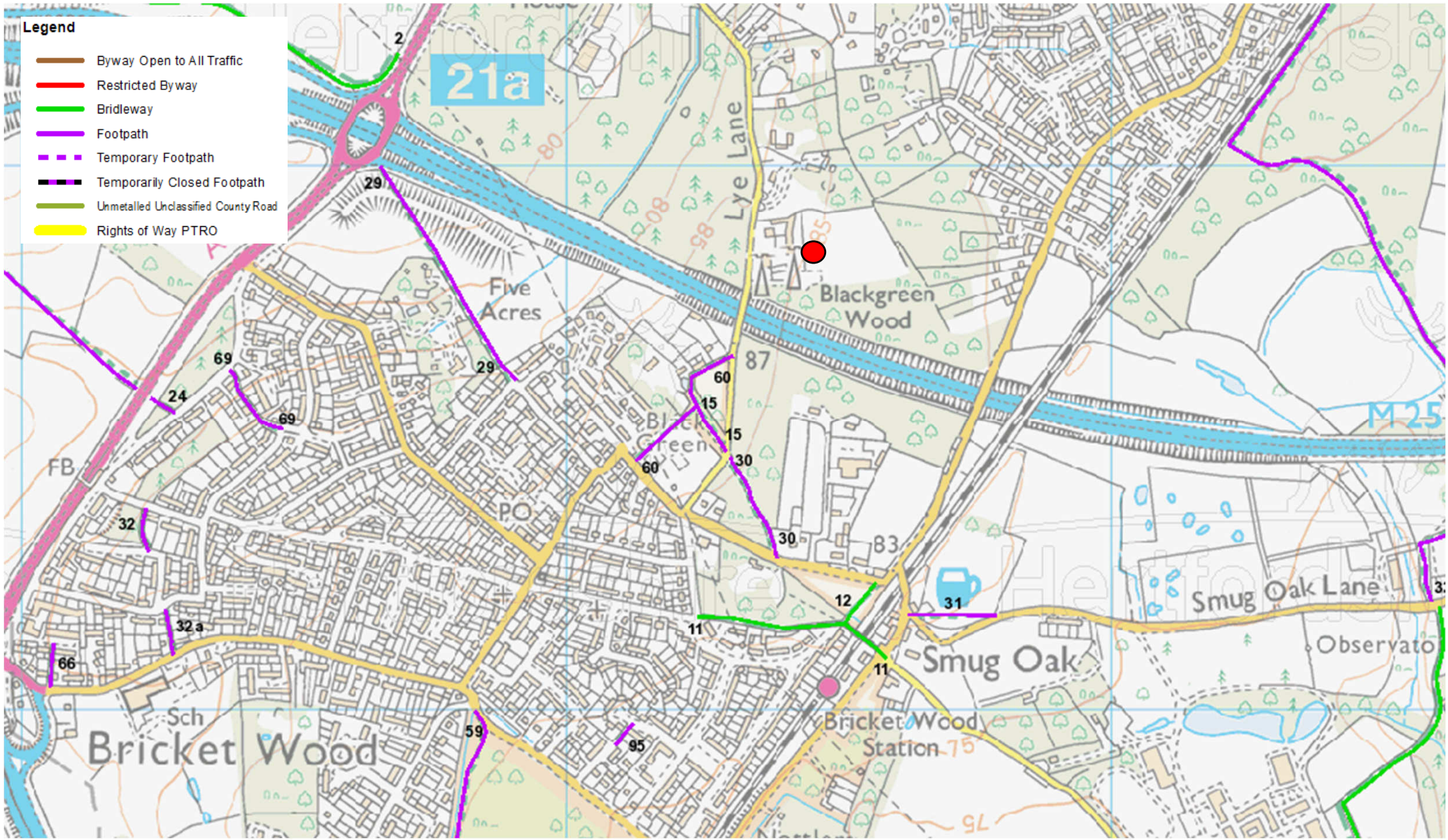
OPEN SPACE AREAS

Open frontage space	800sqm
Linear space A	600sqm
Linear space B	1,700sqm
Open Space	250sqm
Open space & play area	2,000sqm
Total	5,350sqm

Proposed Site Plan - Revision C - 1:1000@A3

Bricket Lodge
Tom Gristwood Architects e: tom@tomgristwoodarchitects.com t: 01367 615585

Appendix C
Site & Area Audit



Date: 29/06/22
Scale: NTS
Source: HCC
Site Location

P2584. Bricket Wood Development, Hertfordshire
Local Public Rights of Way

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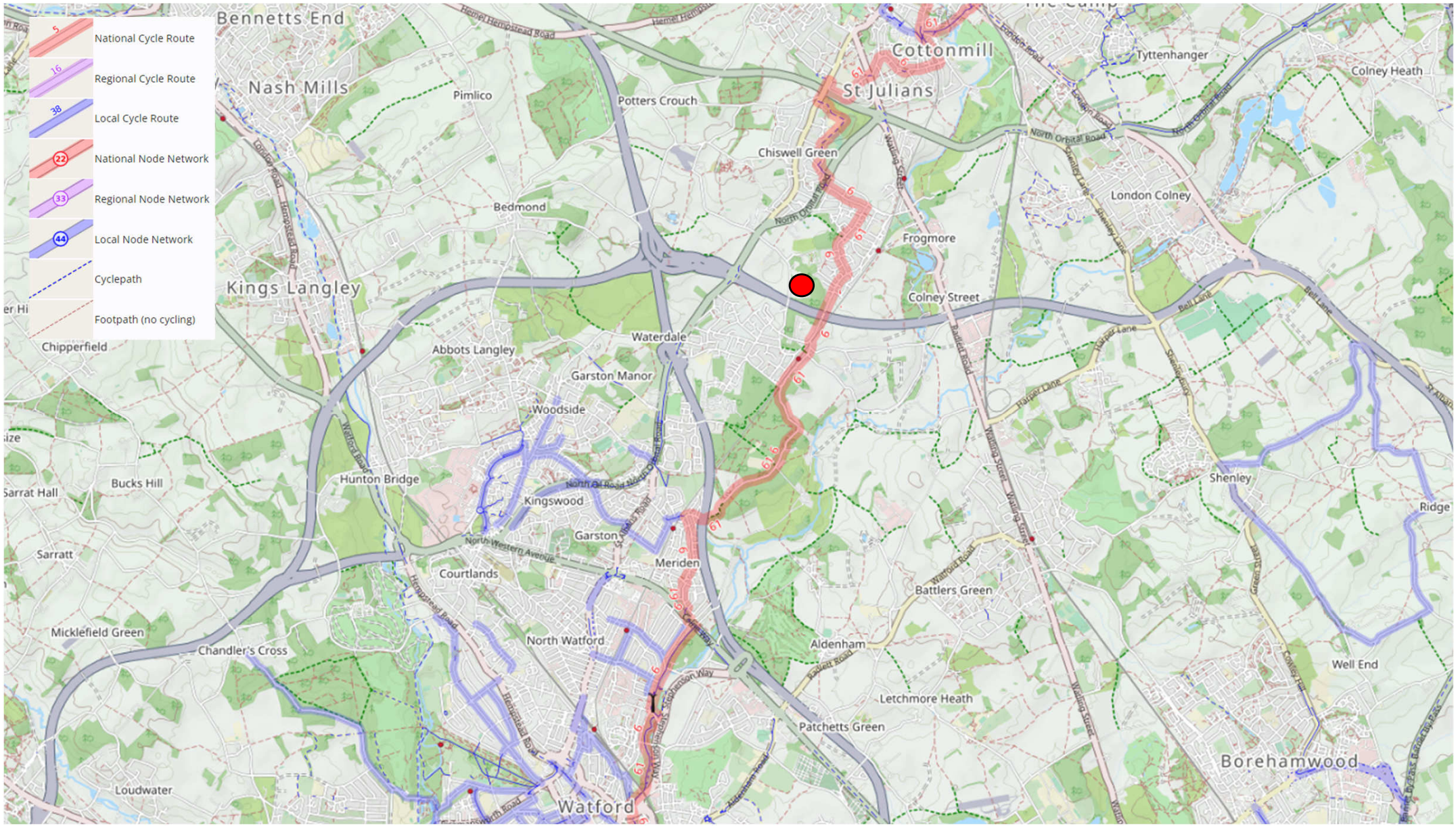

Date: 29/06/22
Scale: NTS
Source: OpenCycleMap
Site Location

P2584. Bricket Wood Development, Hertfordshire
Local Cycle Routes & Facilities

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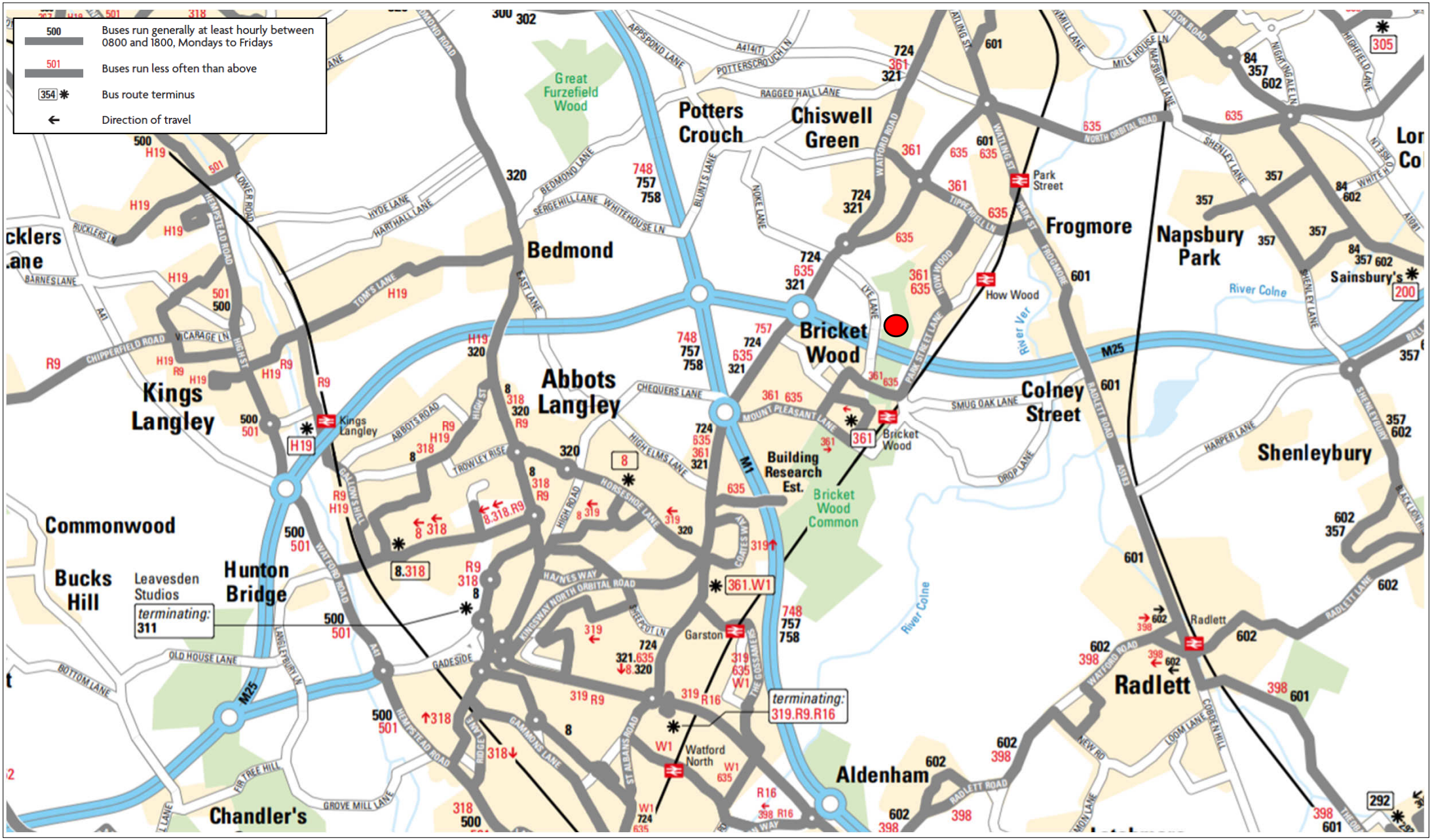

Date: 29/06/22
Scale: NTS
Source: Intalink
Site Location

P2584. Bricket Wood Development, Hertfordshire
Local Bus Routes & Stations

PAUL MEW ASSOCIATES
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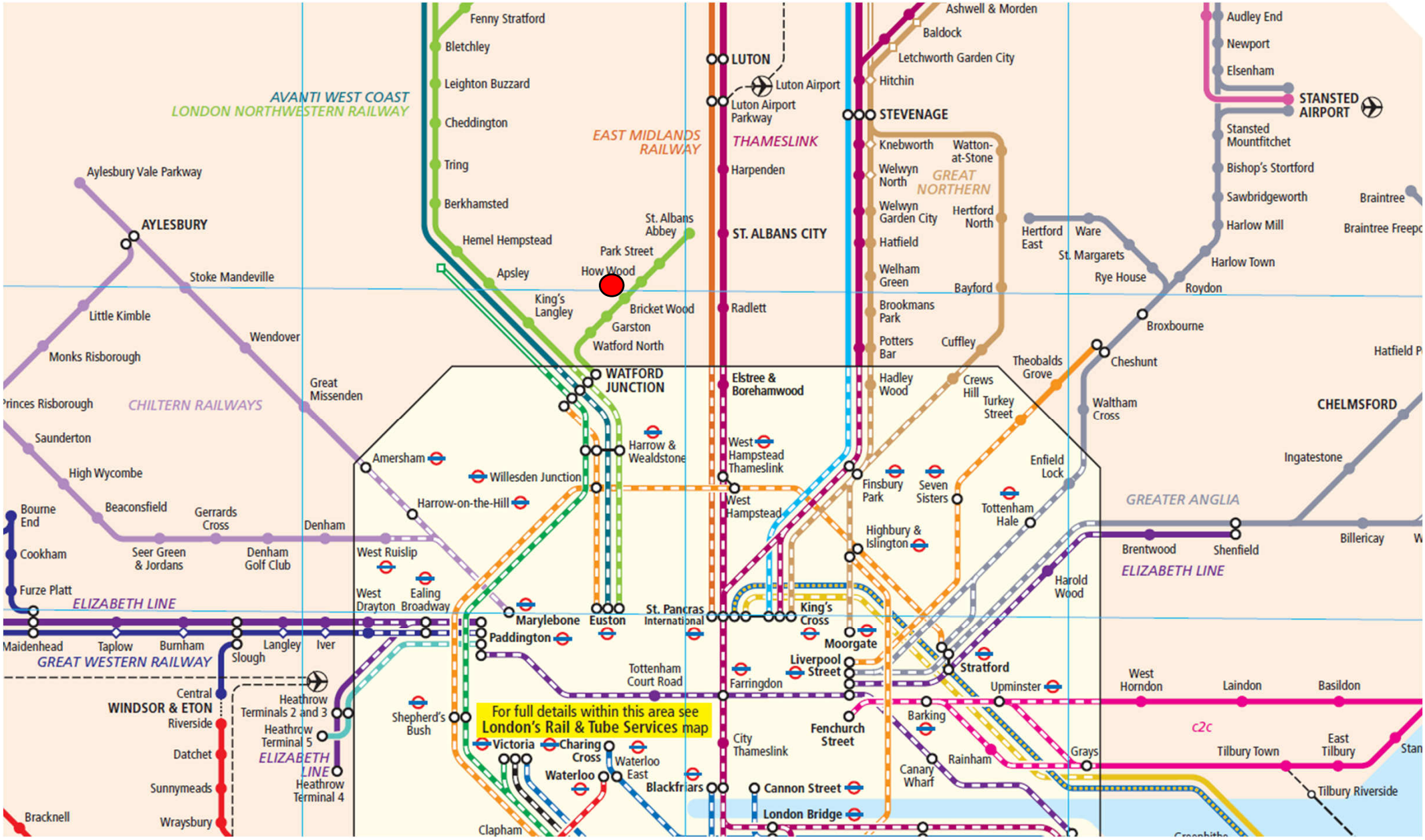

Date: 29/06/22
Scale: NTS
Source: National Rail
Site Location

P2584. Bricket Wood Development, Hertfordshire
Rail Network Map

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
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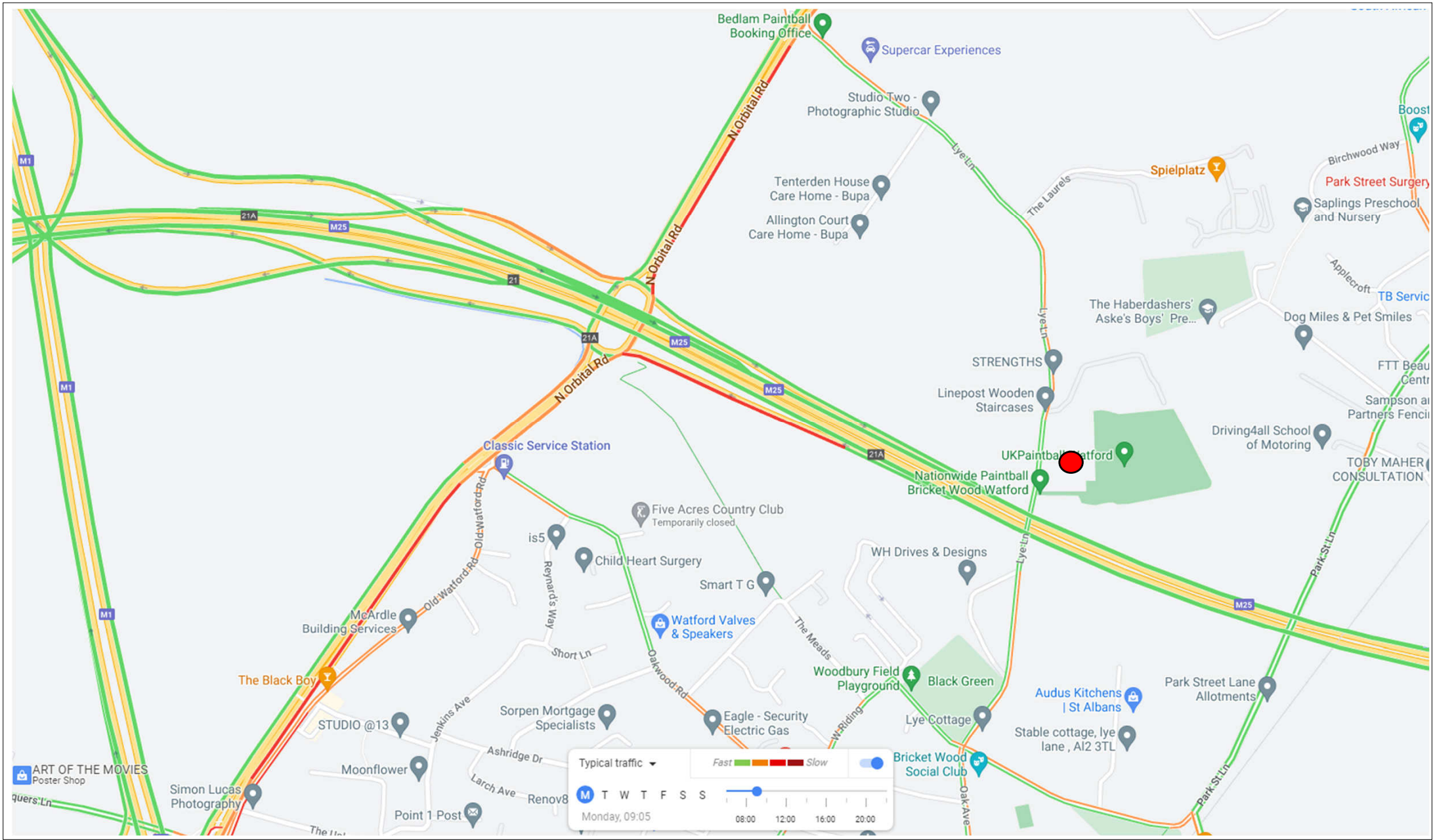

Date: 29/06/22
Scale: NTS
Source: Google Traffic
Site Location

P2584. Bricket Wood Development, Hertfordshire
Typical Weekday AM (Monday 09:05) Peak Hour Congestion

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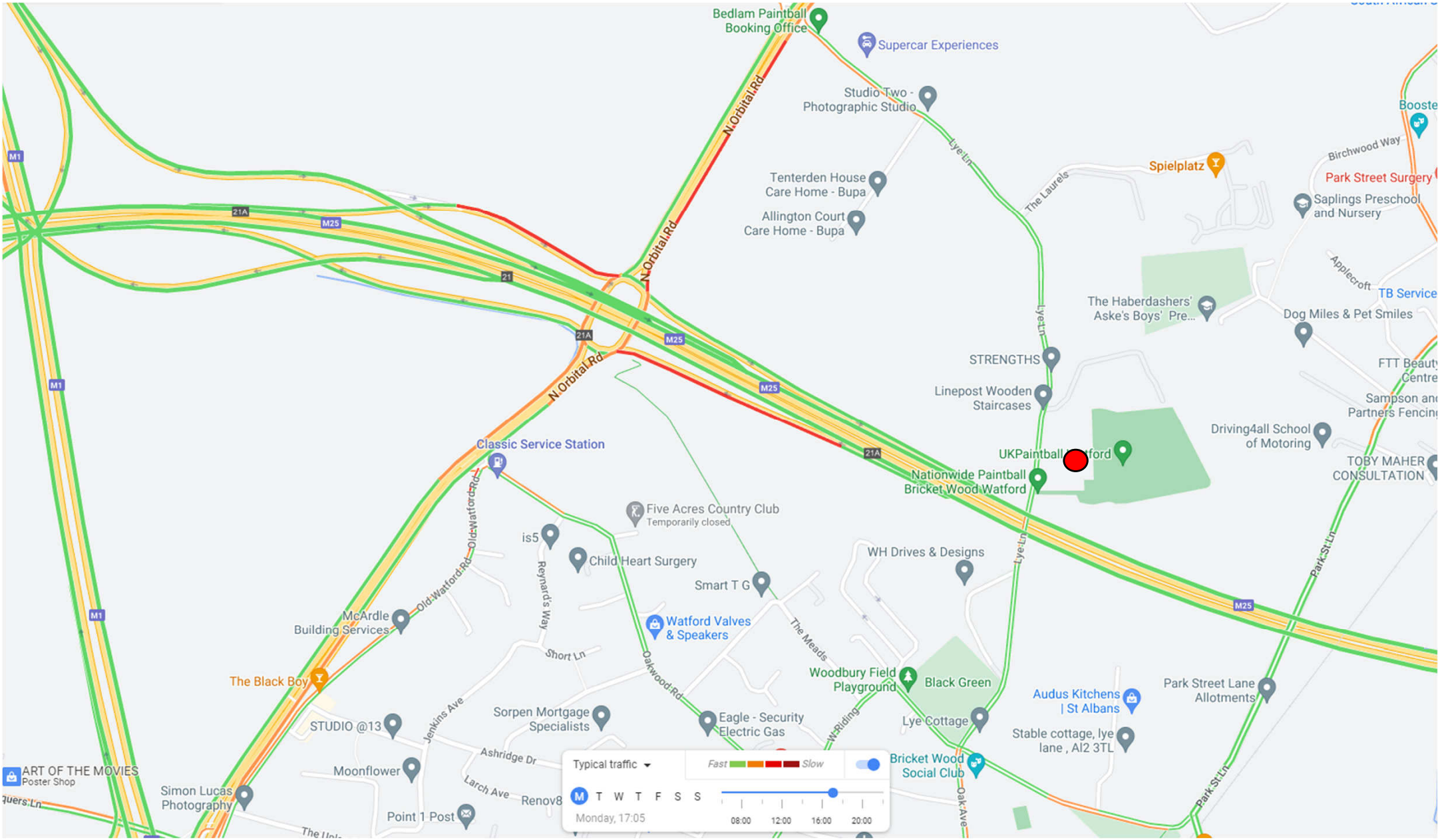

Date: 29/06/22
Scale: NTS
Source: Google Traffic
Site Location

P2584. Bricket Wood Development, Hertfordshire
Typical Weekday PM (Monday 17:05) Peak Hour Congestion

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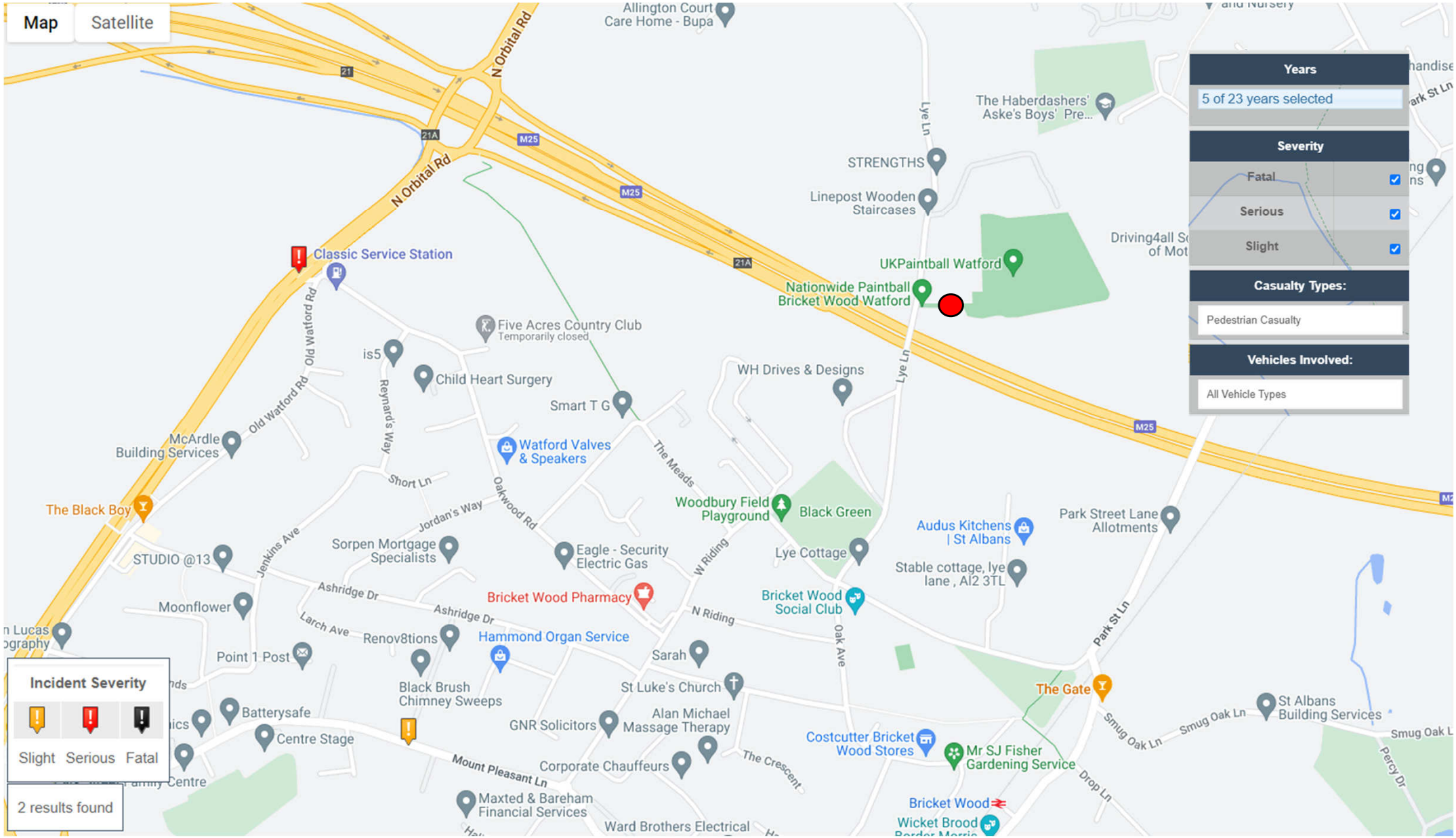
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 29/06/22
Scale: NTS
Source: CrashMap
Site Location

P2584. Bricket Wood Development, Hertfordshire
Road Traffic Accident Data Summary (2017-2021) – Pedestrian Casualties

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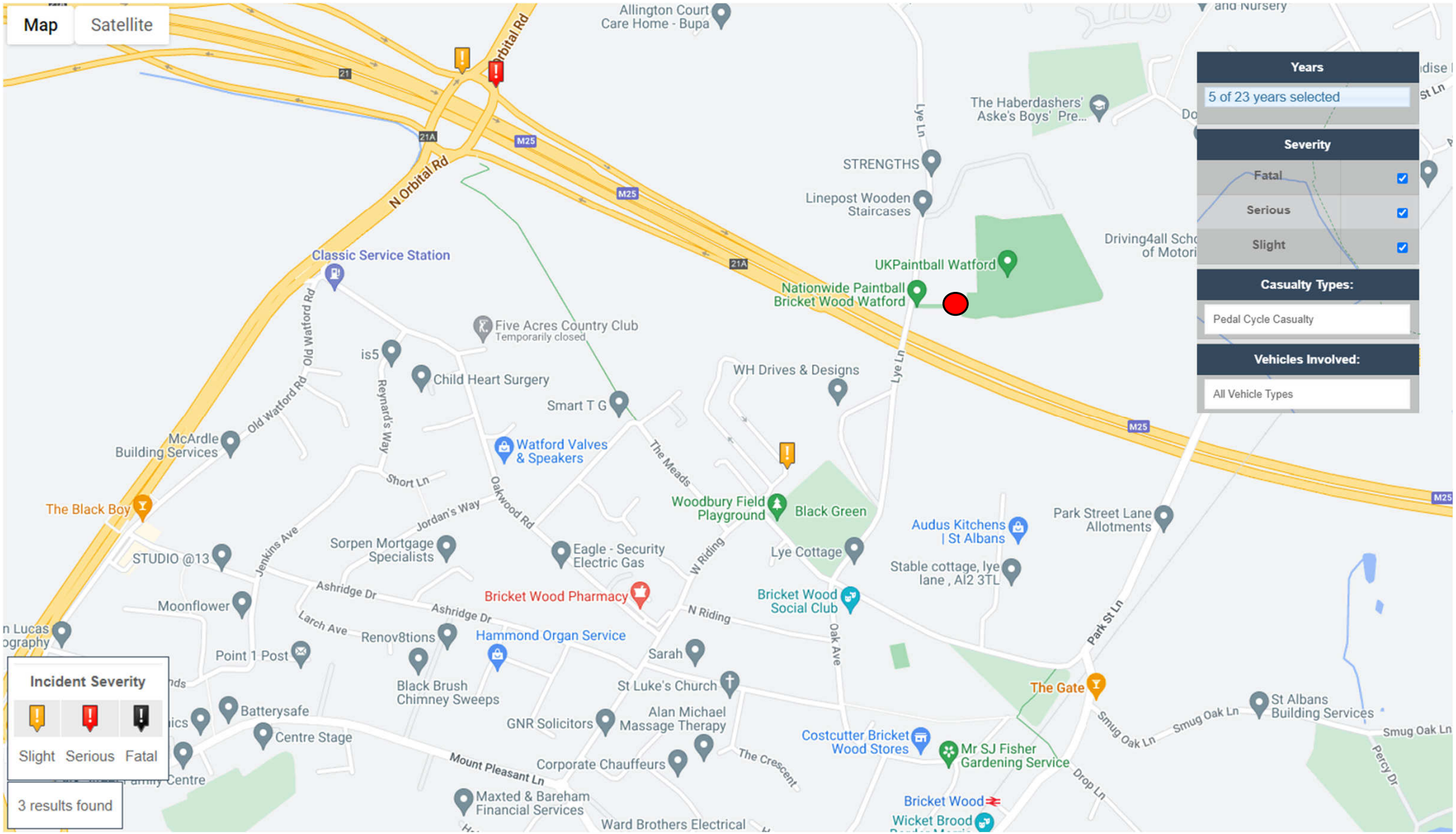

Date: 29/06/22
Scale: NTS
Source: CrashMap
Site Location

P2584. Bricket Wood Development, Hertfordshire
Road Traffic Accident Data Summary (2017-2021) – Cyclist Casualties

PAUL MEW ASSOCIATES
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Appendix D
TRICS & Census Trip Generation Assessment

TRICS 7.9.2
Trip Rate Parameter: No of Dwellings

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 03 - RESIDENTIAL
Category M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

2	SOUTH EAST		
	ES	EAST SUSSEX	4 days
	HC	HAMPSHIRE	1 days
	OX	OXFORDSHIRE	1 days
	SC	SURREY	1 days
	WS	WEST SUSSEX	3 days
3	SOUTH WEST		
	SM	SOMERSET	1 days
	WL	WILTSHIRE	1 days
4	EAST ANGLIA		
	NF	NORFOLK	6 days

Primary Filtering selection:

Parameter: No of Dwellings
Actual Range: 16 to 544 (units:)
Range Selected by User: 9 to 1412 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 28/03/22

Selected survey days:

Monday	2 days
Tuesday	5 days
Wednesday	7 days
Thursday	2 days
Friday	2 days

Selected survey types:

Manual count	18 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	0
Edge of Town Centre	0
Suburban Area (PPS6 Out of Centre	0
Edge of Town	2
Neighbourhood Centre (PPS6 Local	16
Free Standing (PPS6 Out of Town)	0
Not Known	0

Selected Location Sub Categories:

Industrial Zone	0
Commercial Zone	0
Development Zone	0
Residential Zone	0
Retail Zone	0
Built-Up Zone	0
Village	16
Out of Town	2
High Street	0
No Sub Category	0

Secondary Filtering selection:

Use Class:
C3 18 days

Population within 500m Range:
All Surveys Included

Population within 1 mile:
1,000 or Less 2 days
1,001 to 5,000 11 days
5,001 to 10,000 2 days
10,001 to 15,000 3 days

Population within 5 miles:
5,001 to 25,000 1 days
25,001 to 50,000 5 days
50,001 to 75,000 2 days
75,001 to 100,000 3 days
100,001 to 125,000 1 days
125,001 to 250,000 5 days
250,001 to 500,000 1 days

Car ownership within 5 miles:
0.6 to 1.0 1 days
1.1 to 1.5 14 days
1.6 to 2.0 3 days

Travel Plan:
Yes 17 days
No 1 days

PTAL Rating:
No PTAL Present 18 days

LIST OF SITES relevant to selection parameters

1 ES-03-M-05 HOUSES & FL EAST SUSSEX
A26 CROWBOROUGH RD
FIVE ASH DOWN VILLAGE
NEAR UCKFIELD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 138
Survey date: MONDAY 30/06/2014
Survey Type: MANUAL

2 ES-03-M-09 DETACHED/S EAST SUSSEX
STATION ROAD
NORTHIAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 16
Survey date: WEDNESDAY 17/05/2017
Survey Type: MANUAL

3 ES-03-M-18 MIXED HOUS EAST SUSSEX
NORTH COMMON ROAD
WIVELSFIELD GREEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 75
Survey date: TUESDAY 15/06/2021
Survey Type: MANUAL

10 NF-03-M-43 MIXED HOUS NORFOLK
PIGOT LANE
FRAMINGHAM EARL
NEAR NORWICH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 100
Survey date: TUESDAY 21/09/2021
Survey Type: MANUAL

11 NF-03-M-45 MIXED HOUS NORFOLK
MILL LANE
HORSFORD
NEAR NORWICH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 125
Survey date: WEDNESDAY 15/09/2021
Survey Type: MANUAL

12 OX-03-M-02 MIXED HOUS OXFORDSHIRE
GODSTOW ROAD
WOLVERCOTE
OXFORD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 117
Survey date: WEDNESDAY 20/10/2021

4 ES-03-M-20 MIXED HOUS EAST SUSSEX
HOREBEECH LANE
HORAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 47
Survey date: TUESDAY 05/10/2021
Survey Type: MANUAL

5 HC-03-M-12 MIXED HOUS HAMPSHIRE
BARNFIELD WAY
HEDGE END
NEAR SOUTHAMPTON
Edge of Town
Out of Town
Total No of Dwellings: 181
Survey date: WEDNESDAY 23/10/2019
Survey Type: MANUAL

6 NF-03-M-01 MIXED HOUS NORFOLK
LONG LANE
MULBARTON
NEAR NORWICH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 173
Survey date: FRIDAY 20/09/2019
Survey Type: MANUAL

7 NF-03-M-02 MIXED HOUS NORFOLK
CAWSTON ROAD
AYLSHAM
Edge of Town
Out of Town
Total No of Dwellings: 250
Survey date: TUESDAY 17/09/2019
Survey Type: MANUAL

8 NF-03-M-05 MIXED HOUS NORFOLK
CAISTOR LANE
PORINGLAND
NEAR NORWICH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 150
Survey date: MONDAY 16/09/2019
Survey Type: MANUAL

9 NF-03-M-42 MIXED HOUS NORFOLK
STALHAM ROAD
HOVETON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 120
Survey date: THURSDAY 16/09/2021
Survey Type: MANUAL

Survey Type: MANUAL

13 SC-03-M-08 MIXED HOUS SURREY
CHOBHAM LANE
LONGCROSS
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 107
Survey date: TUESDAY 12/11/2019
Survey Type: MANUAL

14 SM-03-M-01 DETACHED & SOMERSET
MILTON HILL
MONKTON HEATHFIELD
TAUNTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 135
Survey date: WEDNESDAY 26/09/2018
Survey Type: MANUAL

15 WL-03-M-04 MIXED HOUS WILTSHIRE
WARNEFORD CRESCENT
LONGHEDGE
NEAR SALISBURY
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 544
Survey date: THURSDAY 18/11/2021
Survey Type: MANUAL

16 WS-03-M-23 MIXED HOUS WEST SUSSEX
STANE STREET
WESTHAMPNETT
CHICHESTER
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 99
Survey date: WEDNESDAY 13/10/2021
Survey Type: MANUAL

17 WS-03-M-24 MIXED HOUS WEST SUSSEX
COPTHORNE WAY
COPTHORNE
NEAR CRAWLEY
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 80
Survey date: FRIDAY 08/10/2021
Survey Type: MANUAL

18 WS-03-M-26 MIXED HOUS WEST SUSSEX
MILL STRAIGHT
SOUTHWATER
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 193
Survey date: WEDNESDAY 16/03/2022
Survey Type: MANUAL

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
Calculation Factor: 1 DWELLS
Count Type: TOTAL PEOPLE

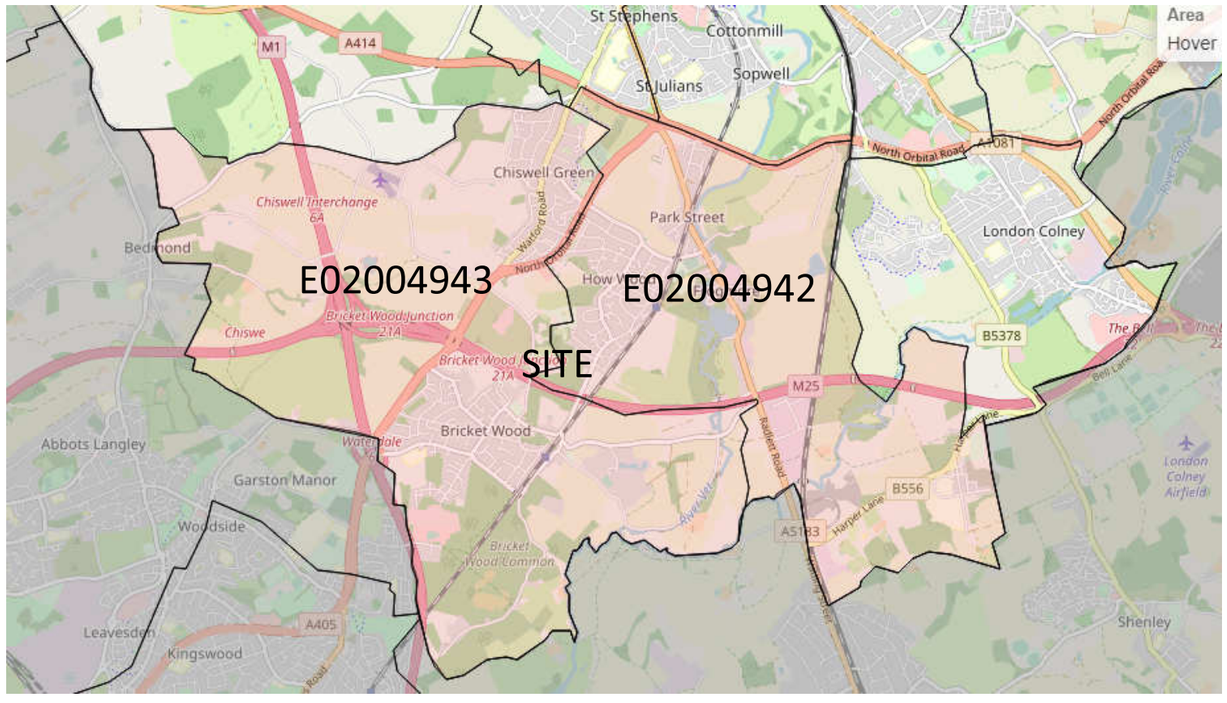
	ARRIVALS	DEPARTURES	TOTALS	Proposal	110	Units

Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Arr	Dep	Total
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	18	147	0.104	18	147	0.537	18	147	0.641	11	59	71
08:00-09:00	18	147	0.182	18	147	0.836	18	147	1.018	20	92	112
09:00-10:00	18	147	0.21	18	147	0.264	18	147	0.474	23	29	52
10:00-11:00	18	147	0.174	18	147	0.238	18	147	0.412	19	26	45
11:00-12:00	18	147	0.195	18	147	0.21	18	147	0.405	21	23	45
12:00-13:00	18	147	0.208	18	147	0.206	18	147	0.414	23	23	46
13:00-14:00	18	147	0.205	18	147	0.208	18	147	0.413	23	23	45
14:00-15:00	18	147	0.245	18	147	0.281	18	147	0.526	27	31	58
15:00-16:00	18	147	0.678	18	147	0.287	18	147	0.965	75	32	106
16:00-17:00	18	147	0.507	18	147	0.236	18	147	0.743	56	26	82
17:00-18:00	18	147	0.568	18	147	0.231	18	147	0.799	62	25	88
18:00-19:00	18	147	0.474	18	147	0.238	18	147	0.712	52	26	78
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:			3.75			3.772			7.522	413	415	827

QS701EW - Method of travel to work

population	All usual residents aged 16 to 74
units	Persons
date	2011
rural urban	Total

Method of Travel to Work	msoa2011:E02004942 St Albans 019		msoa2011:E02004943 St Albans 020		Average Split
	Persons	Split	Persons	Split	Split
Work mainly at or from home	233	8%	325	8%	8%
Underground, metro, light rail, tram	59	2%	60	2%	2%
Train	325	11%	322	8%	9%
Bus, minibus or coach	50	2%	63	2%	2%
Taxi	17	1%	18	0%	1%
Motorcycle, scooter or moped	27	1%	30	1%	1%
Driving a car or van	2,073	68%	2,639	69%	68%
Passenger in a car or van	113	4%	138	4%	4%
Bicycle	34	1%	33	1%	1%
On foot	124	4%	168	4%	4%
Other method of travel to work	13	0%	30	1%	1%
Total	3,068	100%	3,826	100%	100%

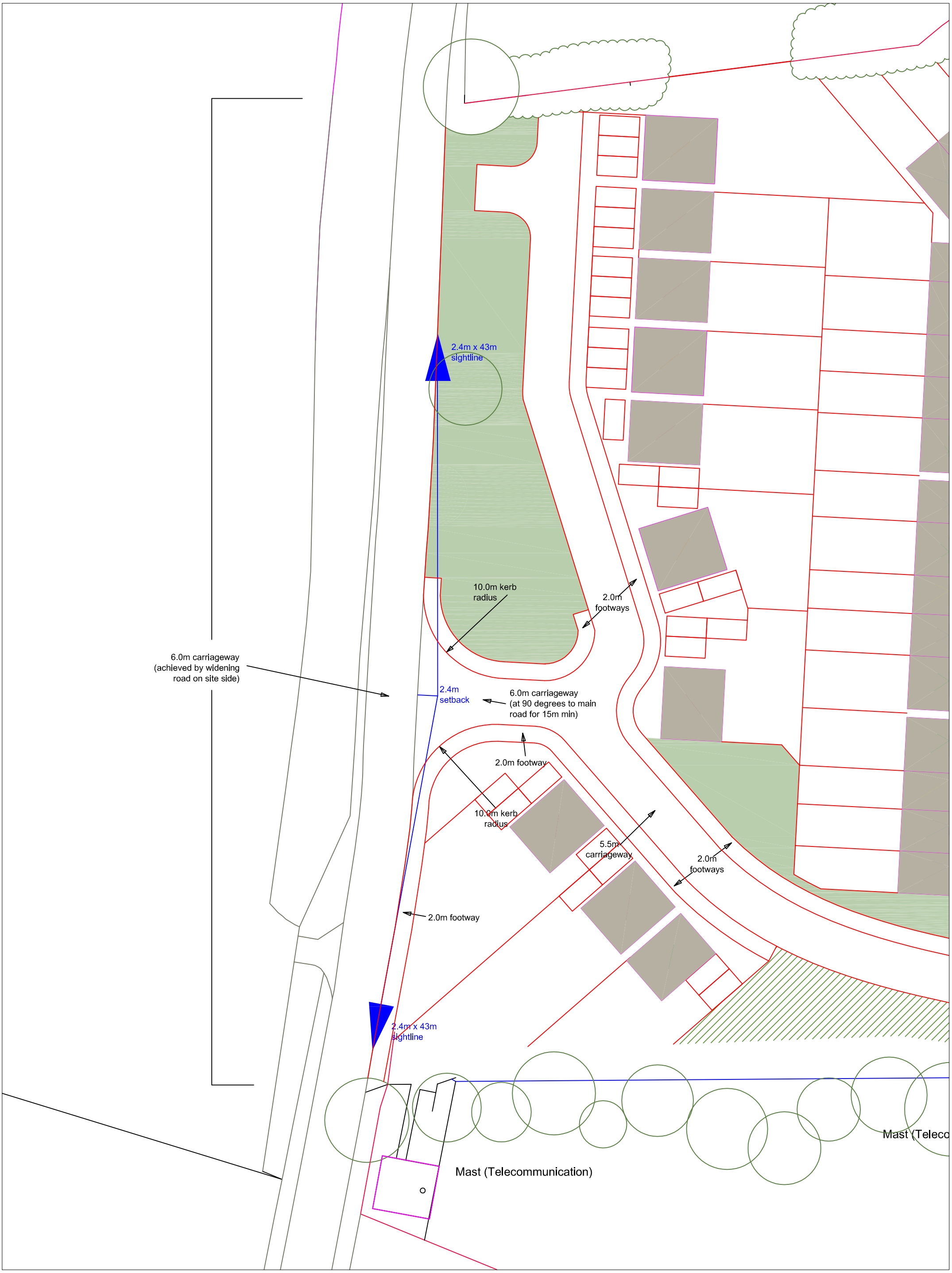


Proposed Development Trip Generations

	Total Person Trips		Census % Car Driver		Census % Rail + Underground		Total Census % Car Based Trips		
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Total
00:00	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0

04:00	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0
07:00	11	59	8	40	1	7	9	47	56
08:00	**20**	**92**	**14**	**63**	**2**	**10**	**16**	**73**	**89**
09:00	23	29	16	20	3	3	18	23	41
10:00	19	26	13	18	2	3	15	21	36
11:00	21	23	15	16	2	3	17	18	35
12:00	23	23	16	15	3	3	18	18	36
13:00	23	23	15	16	3	3	18	18	36
14:00	27	31	18	21	3	3	21	25	46
15:00	**75**	**32**	**51**	**22**	**8**	**4**	**59**	**25**	**84**
16:00	56	26	38	18	6	3	44	21	65
17:00	62	25	43	17	7	3	50	20	70
18:00	52	26	36	18	6	3	41	21	62
19:00	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0
Total	413	415	282	284	46	46	328	330	657

Appendix E
New Site Access & Sightlines



Date: 29/06/22
Scale: 1:400@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Proposed Site Access Junction Layout

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
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Appendix F
ATC Survey Results and Calculations

P2584: Bricket Wood ATC Survey Data - LYE LANE

Total Vehicle Flows - Monday 25th April to Sunday 1st May 2022

Time	Monday 25-04-2022		Tuesday 26-04-2022		Wednesday 27-04-2022		Thursday 28-04-2022		Friday 29-04-2022		Saturday 30-04-2022		Sunday 01-05-2022	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
0000-0100	2	2	1	1	1	1	0	1	2	3	5	4	3	3
0100-0200	1	0	1	0	0	2	0	3	1	3	7	5	2	4
0200-0300	2	1	0	3	0	0	2	0	0	1	2	3	1	2
0300-0400	0	0	0	1	1	2	0	2	0	0	2	1	1	0
0400-0500	2	1	1	2	1	0	1	0	0	0	2	2	1	2
0500-0600	10	0	10	0	11	1	7	1	4	2	6	2	5	1
0600-0700	15	10	14	13	15	17	16	10	15	4	5	3	3	3
0700-0800	22	50	44	99	23	104	39	70	42	67	22	9	9	2
0800-0900	**48**	**104**	**28**	**87**	**33**	**78**	**14**	**99**	**29**	**44**	**21**	**20**	**11**	**12**
0900-1000	131	28	21	64	32	55	30	48	22	43	35	35	17	27
1000-1100	32	81	31	22	34	25	23	24	22	24	53	51	29	11
1100-1200	22	44	26	23	21	28	31	33	37	37	41	72	28	25
1200-1300	28	59	28	30	25	30	32	31	26	26	35	58	23	64
1300-1400	21	53	19	21	22	23	44	36	28	26	58	119	46	42
1400-1500	31	47	24	35	32	20	52	37	30	45	26	32	28	15
1500-1600	26	81	25	60	21	55	34	56	30	71	26	55	39	22
1600-1700	32	57	21	99	23	99	24	93	29	85	47	38	20	31
1700-1800	**33**	**40**	**22**	**85**	**31**	**73**	**29**	**68**	**29**	**51**	**22**	**30**	**20**	**25**
1800-1900	21	26	25	63	13	45	26	25	21	33	13	19	13	18
1900-2000	13	14	19	27	12	17	22	26	18	21	23	16	10	15
2000-2100	9	15	8	15	10	12	8	9	15	12	12	12	12	13
2100-2200	8	10	11	7	8	10	5	8	13	10	8	11	4	4
2200-2300	3	5	7	7	5	6	11	6	5	14	4	7	7	5
2300-2400	7	1	5	3	3	0	7	5	10	9	2	8	6	4
Total	519	729	391	767	377	703	457	691	428	631	477	612	338	350
Total 2-Way	1248		1158		1080		1148		1059		1089		688	

Average Weekday		
Northbound	Southbound	Two Way
1	2	3
1	2	2
1	1	2
0	1	1
1	1	2
8	1	9
15	11	26
34	78	112
30	**82**	**113**
47	48	95
28	35	64
27	33	60
28	35	63
27	32	59
34	37	71
27	65	92
26	87	112
29	**63**	**92**
21	38	60
17	21	38
10	13	23
9	9	18
6	8	14
6	4	10
434	704	1139

Notes:
Values illustrate total vehicle flows
Source: DCA Monisyst

P2584: Bricket Wood ATC Survey Data - LYE LANE

85th Percentile Vehicle Speeds MPH - Monday 25th April to Sunday 1st May 2022

Time	Monday 25-04-2022		Tuesday 26-04-2022		Wednesday 27-04-2022		Thursday 28-04-2022		Friday 29-04-2022		Saturday 30-04-2022		Sunday 01-05-2022	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
0000-0100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0100-0200	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0200-0300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0300-0400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0400-0500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0500-0600	-	-	-	-	30.4	-	-	-	-	-	-	-	-	-
0600-0700	30.9	-	33.7	37.4	32.7	33.7	33.6	-	33.1	-	-	-	-	-
0700-0800	32.1	33.3	28.9	33.7	28.6	32.9	28.2	34.1	28.7	32.6	28.5	-	-	-
0800-0900	31.6	30	29.9	32.8	28.8	31.1	30.4	32.2	30.8	30.3	32	34.4	32.9	32.4
0900-1000	31.8	28.3	29.8	31.7	30.9	30.9	31.1	30.5	27.4	31.2	34.9	32.8	30.3	24.7
1000-1100	30.1	30.2	31	31.9	28.8	31.2	31.2	33.6	32.4	33.7	31.4	29.8	29.4	30.5
1100-1200	30.1	31.3	31.1	32.2	32.7	33.1	31.3	31.5	31.1	33.2	29.5	32.4	31	29
1200-1300	33.1	31.2	29.8	32.5	28.3	32.7	33.2	32.5	32.1	31.2	30.7	27.1	30.8	32
1300-1400	32.8	29.2	31.3	33.3	31	30.5	30.1	28.6	28.5	30.4	25.8	27	28.8	31.2
1400-1500	31.2	31.3	31.5	34.4	30	30.9	29	31.8	30	29.4	31.8	29.4	31.4	33.7
1500-1600	31.3	32.4	36.8	31.4	30.8	31.1	29.7	32.4	32.7	31.3	29.7	30.3	30.5	30.2
1600-1700	29.8	32.3	30.2	32.3	30	31.9	30.9	31	28.9	30.9	29.9	31.1	37	35.5
1700-1800	29.5	31.7	30.5	31.5	30.4	31.1	32.8	30.8	32.3	33.3	32.3	33.2	35	33.9
1800-1900	32.5	32	32.4	33.5	30.8	32.8	29.9	35.4	33.5	30.6	32.3	37.2	32.5	37.9
1900-2000	36.1	32.2	30.3	35	33.1	32.8	31.3	33.5	30.5	30.6	35.6	35.7	-	31.2
2000-2100	-	33.3	-	30	-	44	-	-	34.3	31	30.3	32.5	29.9	42.5
2100-2200	-	-	33.1	-	-	-	-	-	31.7	-	-	33.4	-	-
2200-2300	-	-	-	-	-	-	31	-	-	33.3	-	-	-	-
2300-2400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average 85th %ile	31.6	31.3	31.4	32.9	30.5	32.7	30.9	32.1	31.1	31.5	31.1	31.9	31.6	32.7

P2584: Bricket Wood ATC Survey Data - Park Street Lane

Total Vehicle Flows - Monday 25th April to Saturday 1st May 2022

Time	Monday 25-04-2022		Tuesday 26-04-2022		Wednesday 27-04-2022		Thursday 28-04-2022		Friday 29-04-2022		Saturday 30-04-2022		Sunday 01-05-2022	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
0000-0100	4	4	3	3	6	4	3	2	7	4	20	9	21	11
0100-0200	1	0	2	3	1	1	1	2	2	4	7	2	11	9
0200-0300	0	0	3	1	0	0	1	0	1	2	3	2	5	1
0300-0400	0	2	1	2	2	1	2	2	0	2	6	3	2	5
0400-0500	1	1	0	3	0	2	1	1	2	1	0	1	2	3
0500-0600	10	18	9	19	7	21	10	14	10	14	8	9	5	3
0600-0700	37	64	39	76	33	77	22	80	26	56	16	17	6	8
0700-0800	144	225	147	286	142	203	160	225	127	190	47	36	11	15
0800-0900	**274**	**557**	**219**	**282**	**211**	**284**	**216**	**313**	**216**	**244**	**80**	**69**	**39**	**47**
0900-1000	270	742	160	147	144	177	149	156	124	145	105	107	69	82
1000-1100	148	280	125	103	133	93	120	101	135	124	174	424	101	82
1100-1200	150	137	128	99	137	112	138	105	129	128	177	258	116	99
1200-1300	120	105	130	113	135	103	138	123	130	129	135	149	136	133
1300-1400	96	101	125	91	141	98	142	109	137	120	160	185	102	108
1400-1500	149	99	154	99	163	95	145	106	204	114	146	133	96	93
1500-1600	**186**	**205**	**179**	**209**	**182**	**185**	**183**	**205**	**217**	**228**	**155**	**113**	**100**	**78**
1600-1700	181	151	180	223	187	234	213	198	162	210	154	129	115	87
1700-1800	178	146	196	223	206	193	179	212	188	174	127	107	99	74
1800-1900	125	125	167	130	142	125	156	119	126	118	146	106	86	70
1900-2000	85	65	88	89	100	64	130	76	99	77	72	66	73	57
2000-2100	57	44	54	34	57	42	58	40	59	35	53	39	37	32
2100-2200	31	22	34	29	38	35	46	33	35	34	37	38	35	14
2200-2300	17	12	23	11	16	21	38	38	32	15	32	17	23	23
2300-2400	11	5	14	6	15	12	17	14	32	21	33	25	19	9
Total	2275	3110	2180	2281	2198	2182	2268	2274	2200	2189	1893	2044	1309	1143
Total 2-Way	5385		4461		4380		4542		4389		3937		2452	

Average Weekday		
Northbound	Southbound	Two Way
5	3	8
1	2	3
1	1	2
1	2	3
1	2	2
9	17	26
31	71	102
144	226	370
227	**336**	**563**
169	273	443
132	140	272
136	116	253
131	115	245
128	104	232
163	103	266
189	**206**	**396**
185	203	388
189	190	379
143	123	267
100	74	175
57	39	96
37	31	67
25	19	45
18	12	29
2224	2407	4631

Notes:
Values illustrate total vehicle flows
Source: DCA Monisyst

P2584: Bricket Wood ATC Survey Data - Park Street Lane

85th Percentile Vehicle Speeds MPH - Monday 25th April to Sunday 1st May 2022

Time	Monday 25-04-2022		Tuesday 26-04-2022		Wednesday 27-04-2022		Thursday 28-04-2022		Friday 29-04-2022		Saturday 30-04-2022		Sunday 01-05-2022	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
0000-0100	-	-	-	-	-	-	-	-	-	-	44	-	37.9	40.7
0100-0200	-	-	-	-	-	-	-	-	-	-	-	-	34.7	-
0200-0300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0300-0400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0400-0500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0500-0600	-	45.7	-	45.4	-	46.5	-	51	-	47.8	-	-	-	-
0600-0700	40.5	43.5	37.1	40.7	38	42.9	42.8	42	39.8	40.8	41.7	44	-	-
0700-0800	38.4	39.6	38.1	40.6	38.6	41.3	38.3	41.2	38.3	40.3	40.1	46.8	36.6	42.3
0800-0900	35.8	36.8	36.7	39.2	36.1	37.6	36.8	38.4	36.6	39.2	38.8	40.4	36.8	41
0900-1000	34.3	34.8	36.6	40	36.7	38.5	36.2	38.5	37.2	38.2	37.3	40.9	37.6	39.3
1000-1100	35	37.4	36.4	38.8	37.2	37.5	35.1	37.2	36.7	40.1	35.9	36.9	38.3	38.6
1100-1200	35.7	38.1	36	39.8	35.5	38.4	35.2	36.5	37	37.8	36.2	37.3	37.2	38.7
1200-1300	36.5	40.2	36.7	39.3	36.8	42.3	35.2	35.8	35.8	38.4	36.4	40.3	36.2	38
1300-1400	37.2	39.3	38.4	39.8	37.4	39.8	35	36.2	36.9	38.8	36	39.1	37.3	39.6
1400-1500	36.5	38	37.1	38	37.2	38.4	34.8	35.2	36.6	39.8	36.9	40.7	37.9	39.7
1500-1600	36.2	37.6	37.1	37.6	35.9	37.9	34.7	35.5	36.9	37.4	36.9	38.6	38.6	39.9
1600-1700	37	38.3	36.8	39.1	36.9	38.5	37.2	38.6	37.2	38.6	37.4	38.1	37.4	39.1
1700-1800	37.1	38.7	35.8	37.4	37	38.2	37.1	40	37.1	39.5	37.4	39.4	37.2	40.1
1800-1900	37.7	38.1	37.8	38.1	38.4	38.8	37.5	38.7	37.8	38.5	36.7	39.5	37.7	39
1900-2000	37.6	36.1	37	37	38.4	39.4	36.6	38.6	37.5	39.5	37.1	42	37.7	39.5
2000-2100	40.6	43.6	37.9	40.8	42.3	46.4	40.2	44.7	38.3	39.6	38.8	39.9	39.3	41.9
2100-2200	34.7	40.1	38.2	39.1	38.3	40.8	43.2	42	38.3	39.2	41.3	44.7	40.5	40.9
2200-2300	35.9	38.2	38.6	50.5	41.6	38.7	37.9	37.8	36.2	42.4	37.5	37.8	40.5	36.6
2300-2400	39.3	-	43.7	-	36.6	46.7	38	42.5	39.3	37.5	39.6	39.1	37.9	-
Average 85th %ile	37.0	39.1	37.6	40.1	37.7	40.5	37.3	39.5	37.4	39.7	38.2	40.3	37.8	39.7

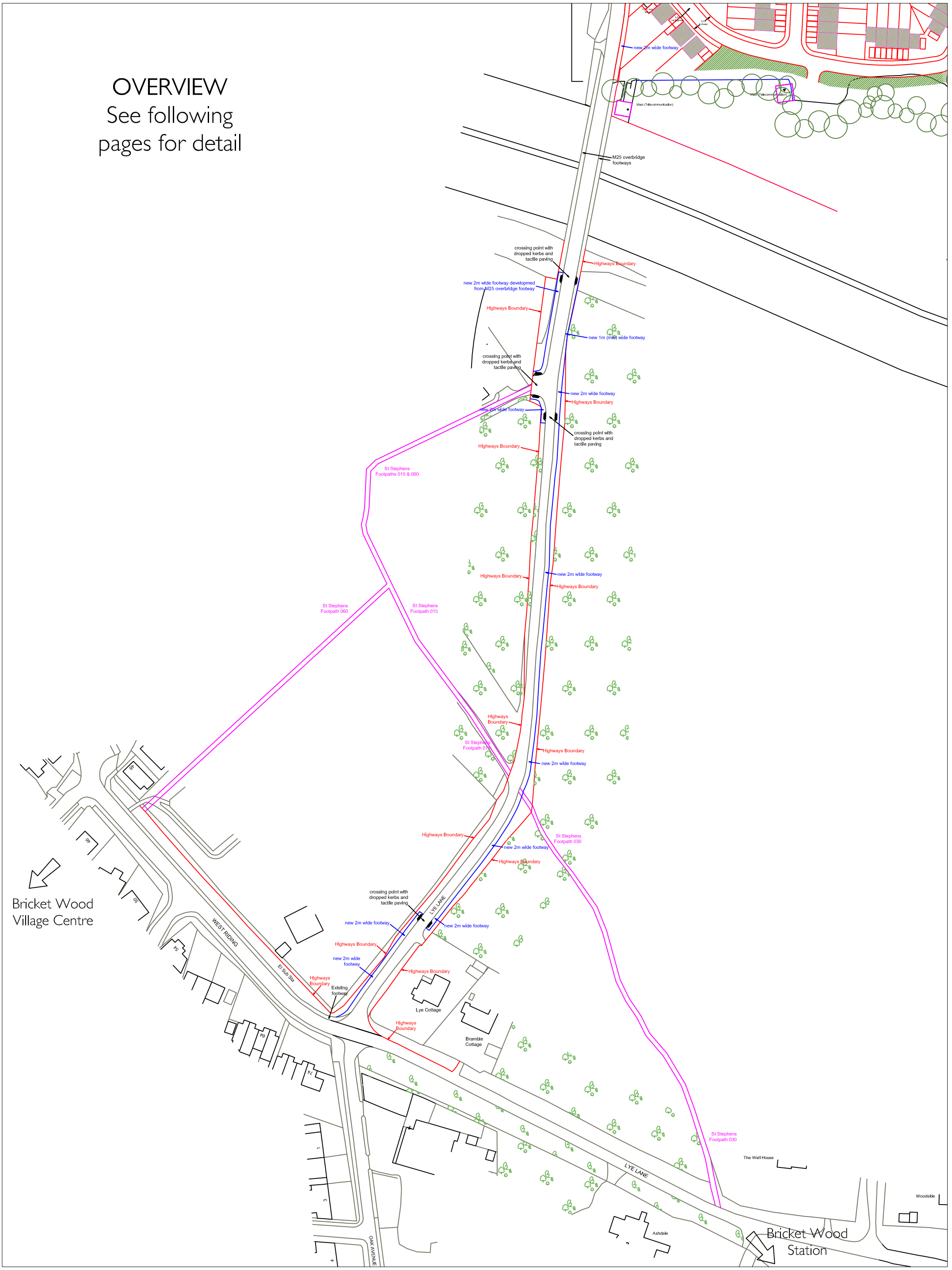
Notes:

All speeds are expressed in mph

- indicates where less than 10 vehicle hits were recorded in the hour

Appendix G
Proposed New Footpath on Lye Lane

OVERVIEW
See following pages for detail



Date: 29/06/22
Scale: 1:1500@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 1 of 4)

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10.0m kerb radius

5.5m carriageway

2.0m footways

new 2m wide footway

Mast (Telecommunication)

M25 overbridge footways

crossing point with dropped kerbs and tactile paving

Highways Boundary

new 2m wide footway developmed from M25 overbridge footway

Highways Boundary

new 1m (min) wide footway

crossing point with dropped kerbs and tactile paving

new 2m wide footway

Highways Boundary

new 2m wide footway

Date: 29/06/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 2 of 4)

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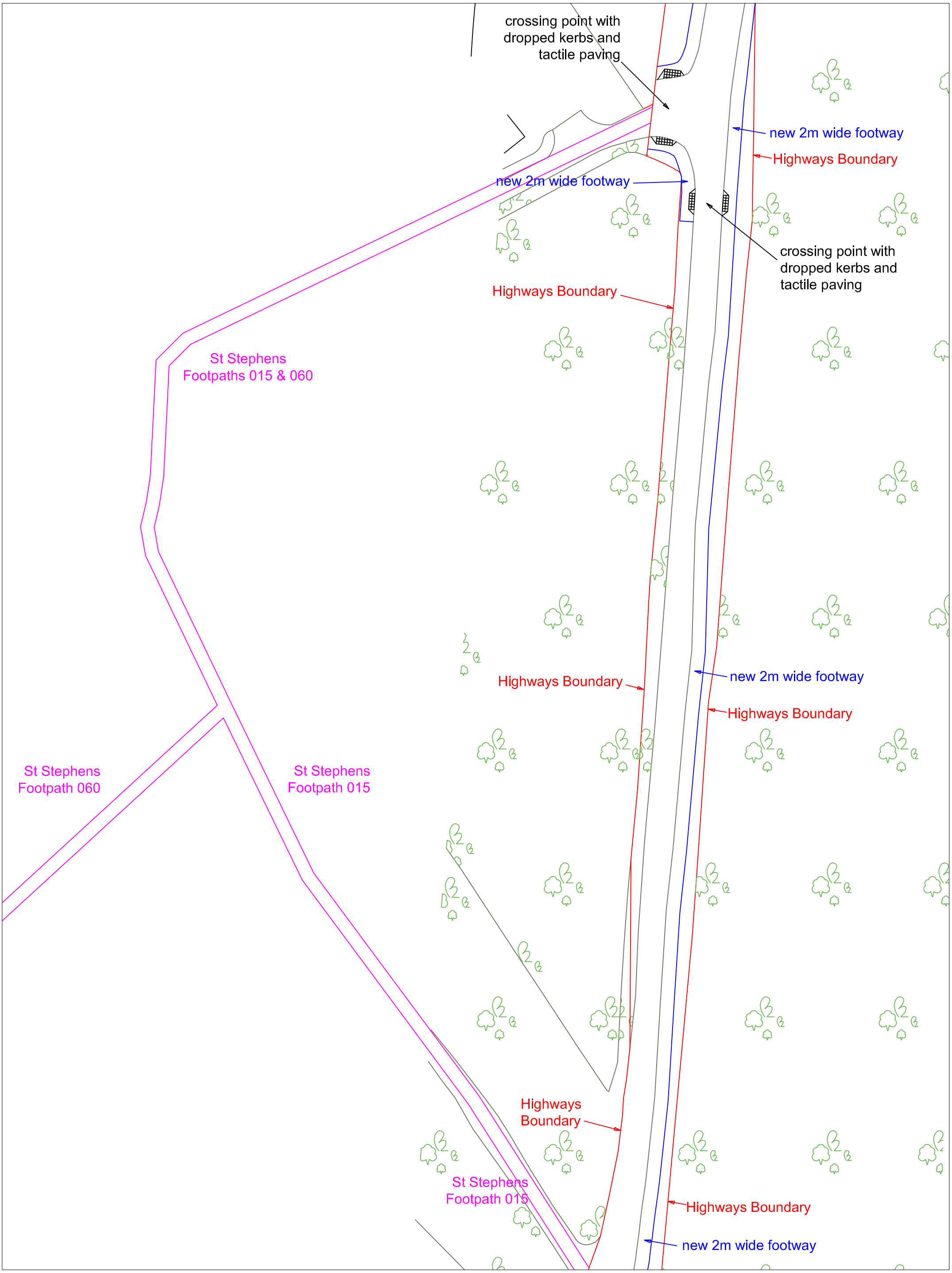

Date: 29/06/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 3 of 4)

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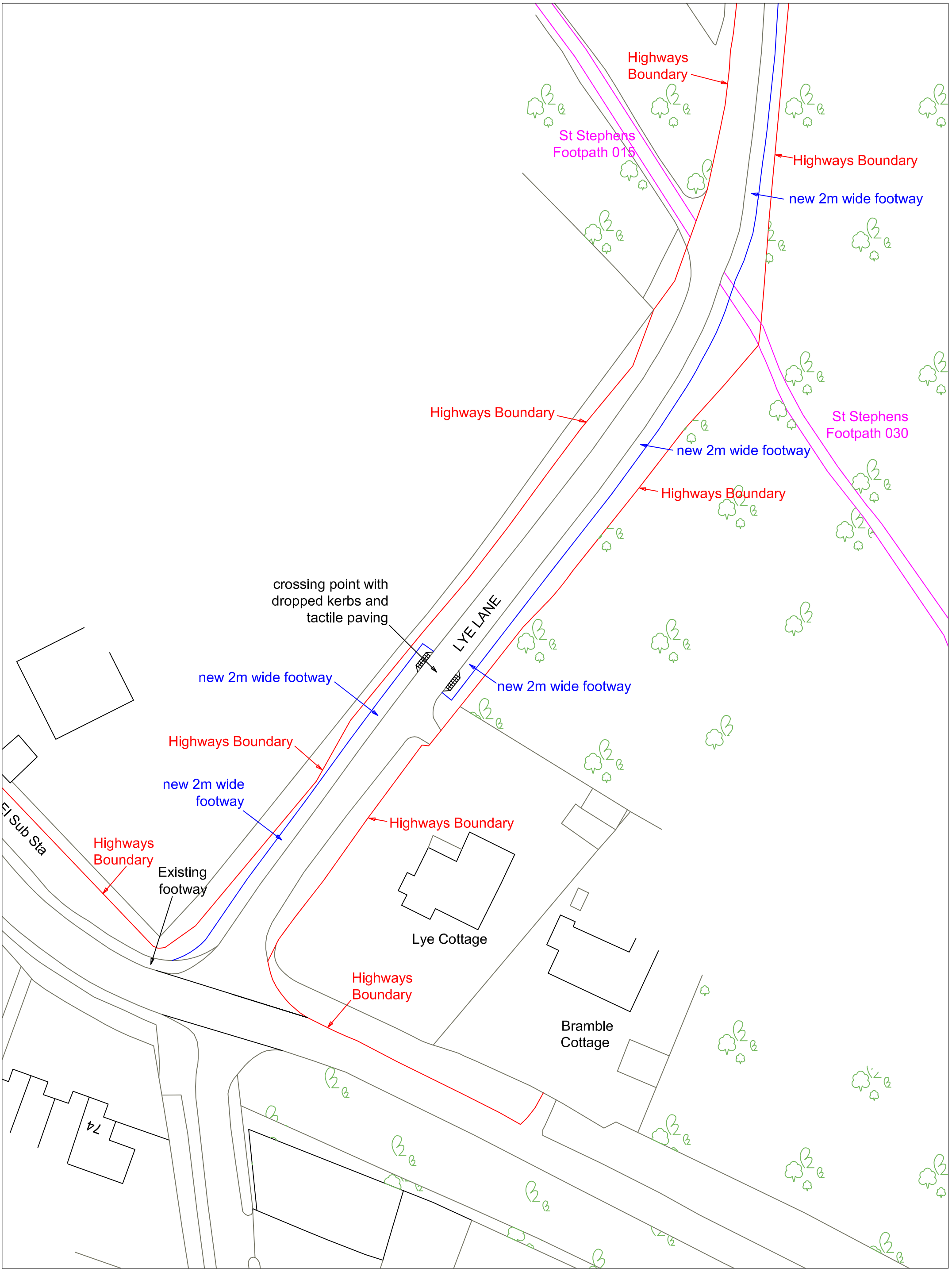

Date: 29/06/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 4 of 4)

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Appendix H
Swept Path Analysis – Refuse Vehicle

new 2m wide footway

Mast (Telecommunication)

Mast (Telecommunication)

Date: 29/06/22
Scale: 1:750@A3
Source: OS / AD Practic

N

P2584: Land North of Bricket Wood, Herts
Refuse Vehicle Swept Path Analysis

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Appendix I
HCC Pre App Response

113 Residential Units, with associated access and external highway modifications, Paintball Site, Lye Lane, Bricket Wood – HCC Highways Pre-App Response

District Application Reference	n/a	**HCC Application Reference**	SA-11039
District Name	St Alban's District Council	**HCC Case Officer**	Chris Carr
District Case Officer	-	**HCC Approval**	Pre-app response
Date Received		**Date Issued**	4 April 2022

Description of the Proposal

Pre-application advice is sought for a proposed development of 113 dwellings residential units with associated access, open space, and hedgerow / tree planting.

Additionally, off-site works are proposed as follows:

- Highways improvements to the West Riding/Oak Avenue junction to the south of the site;
- Footpath improvements linking the site to Bricket Wood.

Site Description

The site is in Bricket Wood, St Alban's, bounded to the west by Lye Lane, with Park Street Lane running east of the site and the M25 running south of the site.

The site is currently occupied by a paintball site, 30 dwellings and woodland.

The site is also close to the Strategic Road Network (SRN); we therefore suggest that the applicant seek pre-application advice from National Highways.

Documents to be Reviewed

The applicant has provided the following documents for review as part of this pre-application consultation:

- Paul Mews Associates, January 2022, *Bricket Lodge, Sport and Country Club and Paintball Site, Lye Lane, Bricket Wood, Feasibility Assessment* ("*the Feasibility Assessment*");
- A set of sketch plans from Tom Gristwood Architects, dated 8 February 2022 and titled "*Bricket Lodge - Developed Sketch Proposals*" ("*the Sketch Proposal*").

The Feasibility Assessment includes brief details of the assumptions and methodologies that will be adopted within the Transport Assessment ("TA").

This review of the Feasibility Assessment reviews each of the required sections of the TA; if any are not covered in the Feasibility Assessment at all, then these will be flagged as omissions.

The Sketch Proposal is referred to as needed in this review.

Furthermore, a pre-app meeting took place on 30 March 2022, at which various matters related to the proposal were discussed by representatives of Herts CC and the applicant's team. These discussions are referred to here as appropriate.

113 Residential Units, with associated access and external highway modifications, Paintball Site, Lye Lane, Bricket Wood – HCC Highways Pre-App Response

HCC Guidance

HCC's "*Roads in Hertfordshire: A Design Guide, 3rd Edition"* (January 2011)[1] (hereafter referred to as "*the Design Guide*") sets out the framework of advice and standards within which alterations and additions to the highway network in the County shall be constructed.

The Design Guide should mostly be referred to in the more detailed design stages: as such, most of it is beyond the scope of this Pre-App Response. However, preliminary references to the Design Guide and other appropriate documents are made as appropriate in this Response.

Policy Review

The review of policies in Chapter 2 of the Feasibility Assessment is appropriate.

In particular, the emphasis on walking, cycling and public transport is welcomed. As discussed at the 30 March meeting, this will be a significant challenge for this site, given its proximity to major roads including the strategic road network (SRN) as well as the current lack of safe, convenient pedestrian and cycle provision.

Review of existing transport networks

Chapter 3 of the Feasibility Assessment gives a reasonably detailed account of the existing transport networks. It is honest about the currently poor provision of the non-car transport facilities.

Chapter 3 did make an apparent error in the comment that the "*majority of Lye Lane are subject to 30mph speed limits".* From observations on Google Streetview, there does not appear to be any sign applying such a speed limit; as a result, this road would default to the national limit for a single carriageway, i.e. 60mph.

However, Google Streetview may be out of date. If a 30mph limit has been introduced, the TA should provide evidence. The TA should also provide speed data; as in such a location, speed limit enforcement is unlikely to be stringent.

Comments on the Census data of chapter 3 are given under "*Trip Generation" later in this response.*

Base Traffic Conditions

Traffic Surveys and Current Congestion

At the 30 March meeting, it was acknowledged that the TA will need to include traffic data and speed data.

In order to account for the probably greater day-to-day variability of traffic volumes in the post-Covid society (working from home part of the week), the classified turning counts (one day, both peak periods) will need to be accompanied by ATC data over the whole week. From this, we will be able to determine factors to apply to the turning count data.

In order to determine these factors meaningfully, the ATC data will need to be on a stretch of road that is busy enough such that the factors are not simply reflective of random variations. For

[1] https://www.hertfordshire.gov.uk/services/highways-roads-and-pavements/business-and-developer-information/development-management/highways-development-management.aspx

example, a variation of eight cars per peak hour on a Tuesday to two cars per peak hour on a Wednesday would be a proportionally huge variation but a very small change in absolute terms.

As a guide, the ATC data should be on a stretch of road where the peak-hour traffic is 500 vehicles or more.

The ATC data must also be used to determine the peak-hours for which to obtain classified turning counts.

Also, ATC **including speed data** will be required on Lye Lane at the site access, for the same period as the other ATC data.

The initial locations of the classified turning counts should be as follows, though if the data and the TA show that other junctions may be of concern, then further counts might be required.

- Junction of Lye Lane with A405 North Orbital Road;
- Junction of Lye Lane with Oak Avenue and West Riding;
- Junction of Lye Lane with Park Street Lane and Station Road.

The extent of additional classified turning counts will be assessed in the TA by considering:

- The percentage impact of development traffic; if the accurately predicted distribution shows that, beyond the above junctions, the percentage impact would be very low, then further counts may not be required, *subject to*:
- Existing congestion. At locations that are already congested, traffic impact could be a concern even if the percentage impact is low.

All data should be on neutral days, i.e. weekdays during school holidays and with no occasions or factors that may result in unusual volumes.

Traffic Growth Rates and Committed Developments

Future traffic volumes would need to be determined by an appropriate methodology such as Tempro. Full details of the Tempro inputs and outputs will be needed in the TA.

Future year assessments will be needed for 10 years after opening.

Parking (Car and Cycle)

Cycle parking

Refer to HCC Cycle Strategy & Cycle Parking Guide:
www.hertsdirect.org/infobase/docs/pdfstore/cycleparkguide.pdf

Car parking

Provision and standards of parking within developments are set by each Local Planning Authority, in this case St Alban's. Details are to be found in Supplementary Planning Guidance (or similar) available on St Alban's Council's website or from their planning department.

Accessibility for Disabled People

In line with National Planning Policy Framework (NPPF) 2021, the application must address the needs of people with disabilities and reduced mobility in relation to all modes of transport (extract of Paragraph 112).

113 Residential Units, with associated access and external highway modifications, Paintball Site, Lye Lane, Bricket Wood – HCC Highways Pre-App Response

Travel Plan; and Measures to Reduce the Need for Car travel

The proposed development will need to be accompanied by a Travel Plan, to maximise use of non-car transport modes.

The Feasibility Assessment includes a commitment to submit such a Travel Plan; also some initial recommendations are included in Chapter 5.

The Travel Plan will need to be approved by HCC and will need to include on-going periodic monitoring by HCC with the provision for remedial measures if targets are not met.

As discussed at the 30 March meeting, given the site's proximity to major roads, as well as the current lack of safe, convenient pedestrian and cycle provision, there is a significant challenge to make this site sustainable. Some key points to consider include, but may not be limited to:

- Significant improvements are needed to the walking and cycling links between the site and public transport (bus stops and Bricket Wood railway station). These improvements need to plug gaps in provision and also improve the provision that is there currently.
- The footways to and from the site have very little passive surveillance and no lighting. Security could be a serious concern.
- Traffic speeds may be a hazard for cyclists; visibility of cyclists could also be a concern, especially (but not only) at night.
- Contributions to improved bus services will also likely be sought.
- Even if the scale of the development were reduced, HCC would still require a significant betterment to non-car transport provision.
- It is acknowledged that Chapter 5 of the Feasibility Assessment contains some positive initial recommendations for non-car travel improvements. These will need to be developed further, including in line with the above comments. Further initiatives will likely also be needed.

Trip Generation and Distribution

Chapter 4 of the Feasibility Assessment gives an initial, broad-brush assessment of trip generation by all modes and of directions of travel.

The Feasibility Assessment acknowledges that this is broad-brush and that the TA will need a more detailed assessment.

In view of this, we give preliminary comments below, noting that we will review the TA's assessment in more detail.

- Full TRICS output will need to be provided so that we can assess the suitability of the TRIC site selection.
- The Census data on mode split seem to show a low car-driver percentage for journeys to work (68%). Details of the boundaries of these Census areas are required, to assess which other settlements and areas they include.
- The report does acknowledge that the Census data is only for the mode of transport used for the longest distance section of the journey, so does not indicate how trips are made from the area to local railway stations. The report does acknowledge that these

are likely to be made by car. This will of course need to be considered in the TA (as the Feasibility Assessment acknowledges).

Impact on the Highway

Junction Modelling

The extent of required junction modelling will need to be determined in the same way as the extent of required turning count data, as noted above under "*Traffic Surveys and Current Congestion".*

However, the following junctions will need to be modelled regardless:

- The site access;
- Junction of Lye Lane with A405 North Orbital Road;
- Junction of Lye Lane with Oak Avenue and West Riding.

Highway Layout

Vehicle Access

The Design Guide states that a Design and Access Statement is a requirement of all planning applications that have an impact on the highway (in addition to the Transport Assessment required for certain developments, including this one). The Design and Access Statement needs to include three potential aspects of access:

- Why the access points for the development have been chosen;
- How the site responds to road layout, road safety, and public transport provision; and
- How everyone can move through the place on equal terms regardless of age, disability, ethnicity or social grouping.

Clearly, further discussion on the access design will be undertaken at S278 / S38 negotiations.

Improvements to the West Riding/Oak Avenue junction

These proposed improvements will need to be assessed in the TA including the junction modelling.

Highway improvements should not seek to provide highway capacity that may induce additional traffic.

Clearly, further discussion on the design will be undertaken at S278 / S38 negotiations.

Parking and Loading / Servicing Areas

The layout of these areas should conform to Manual for Streets.

Also, the following from the Design Guide applies too:

- *"Unassigned parking bays at right angles to the carriageway shall not have a gradient in excess of 5%."*
- "*Parking areas should be clearly marked to deter unsociable, dangerous or illegal parking. Tactile paving should be used at dropped kerbs next to parking bays for wheelchair users as per the DfT document Inclusive Mobility."*

Refuse and Service Delivery: Swept Path Analysis

113 Residential Units, with associated access and external highway modifications, Paintball Site, Lye Lane, Bricket Wood – HCC Highways Pre-App Response

The TA will need to include swept path analysis of refuse lorries and servicing / delivery vehicles, to ensure these can access and egress the site in forward gear.

Swept Paths of Emergency Vehicles

The TA will need to include swept path analysis of emergency vehicles, to ensure these can access and egress the site in forward gear.

Road Safety Audit (RSA)

Road Safety Audits will be required as the design is progressed.

Traffic Safety

The TA should provide a crash data assessment: the latest five years of injury accident data at these locations:

- The locations on the crash data plan in Appendix B of the Feasibility Assessment;
- The area of Bricket Wood surrounded by the following roads, and including these roads themselves:
    - West Riding;
    - Oak Avenue;
    - Park Street Lane west of Station Road (also referred to as Lye Lane east);
    - Station Road;
    - Mount Pleasant Lane.
- Lye Lane up to and including the junction with A405 North Orbital Road.

Crash Map data is sufficient initially; if this illustrates areas of concern, more detailed data from HCC may be required.

Pedestrian and Cycle Access Strategy

Currently there are no safe and suitable pedestrian accesses to the site. No footways or street lighting are located on Lye Lane and connections to local amenities and public transport facilities is inadequate.

The proposed development is currently considered contrary to the following policies:

- HCC LTP Policy 1: Transport user hierarchy;
- HCC LTP Policy 2: Influencing land use planning;
- HCC LTP Policy 5: Development Management;
- HCC LTP Policy 6: Accessibility;
- HCC LTP Policy 7: Active Travel – Walking;
- HCC LTP Policy 8: Active Travel – Cycling;
- NPPF Para 110 (a);
- NPPF Para 110 (b);
- NPPF Para 112 (a);
- NPPF Para 112 (b);
- NPPF Para 112 (c).

Significant mitigation works (via S278) are required to resolve all of the above concerns. Any off-site works must be fully demonstrated in the anticipated TA with an RSA S1.

Mitigation Measures

Any required mitigation measures will be discussed following review of the TA. However, the TA can propose such measures for consideration also.

There is a strong preference for mitigation measures that provide for, and encourage, non-car travel.

Measures that increase capacity for vehicular traffic are less likely to be considered appropriate; partly because of the need to avoid inducing additional traffic onto the network.

Construction

A construction traffic management plan will need to be approved by HCC prior to construction.

Miscellaneous Comments

The aforementioned Design Guide is mostly to be referred to in the more detailed design stages; however, it is worth raising these points at this stage:

- Section 1: *Policy Information and General Guidance:*
    - Chapter 6.3 includes designing for climate change resilience, ensuring that assets are 'fit for purpose' in the longer term and under a future climate;
    - Chapter 6.3 also is also notes the importance of considering the emissions generated during the construction and maintenance of transport assets and infrastructure.

Planning Obligations

St Albans do not operate CIL and therefore the site will be subject to transport contributions. It is strongly advised the applicant reads the following:

https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/planning/developer-infrastructure-contributions-guide/technical-appendix-1-transport.pdf

Summary

HCC as highway authority has reviewed the pre-application submission and provides the above advice on the content of the forthcoming Transport Assessment ("TA").

We also appreciate that the Feasibility Assessment acknowledges the current shortfalls of the site in terms of sustainable transport, and the need to improve these, as well as the need for detailed assessment in the TA.

In the present form, the proposed development would be recommended refusal due to significant concerns regarding highway safety and sustainability.

The contents of this letter are an informal officer opinion and should not be taken as a formal response to a planning application. It may not reflect the contents of any formal reply made by the Highway Authority in response to an official consultation from the LPA on a planning application for a similar proposal.

Appendix J
MCC Turning Count Survey Data

P2584 Bricket Wood
Junction Assessment

TRICS AM Peak 08:00-09:00
TRICS PM Peak 15:00-16:00

Current Year 2022 Peak Hour Turning Counts

Site 1. A405 / Lye Lane (movements limited due to A405 central reserve)

Note: HGVs = OGV1+OGV2+PSV

AM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		85	1036
B Lye Lane			24
C A405 S			

AM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2	115
B Lye Lane			1
C A405 S			

AM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2%	11%
B Lye Lane			4%
C A405 S			

PM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		53	1352
B Lye Lane			33
A405 S			

PM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	78
B Lye Lane			0
C A405 S			

PM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	6%
B Lye Lane			0%
C A405 S			

Site 2. Lye Lane / Oak Ave / West Riding

AM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		8	8	74
B Lye Lane (E)	15		17	179
C Oak Ave	3	27		1
D West Riding	11	161	2	

AM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	1
B Lye Lane (E)	0		0	6
C Oak Ave	0	0		0
D West Riding	0	4	0	

AM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	1%
B Lye Lane (E)	0%		0%	3%
C Oak Ave	0%	0%		0%
D West Riding	0%	2%	0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		12	15	37
B Lye Lane (E)	16		30	128
C Oak Ave	5	19		3
D West Riding	9	108	5	

PM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0		1	1
C Oak Ave	0	0		0
D West Riding	1	4	0	

PAM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%		3%	1%
C Oak Ave	0%	0%		0%
D West Riding	11%	4%	0%	

Site 3. Lye Lane / Park Street Lane

AM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		65	98
B Lye Lane	82		116
C Park St Ln (N)	145	147	

AM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		3	1
B Lye Lane	2		2
C Park St Ln (N)	1	3	

AM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		5%	1%
B Lye Lane	2%		2%
C Park St Ln (N)	1%	2%	

PM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		55	89
B Lye Lane	43		96
C Park St Ln (N)	92	115	

PM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		1	1
B Lye Lane	1		3
C Park St Ln (N)	1	1	

PM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		2%	1%
B Lye Lane	2%		3%
C Park St Ln (N)	1%	1%	

Site 4. Location of Proposed Site Access / Lye Lane

AM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			82
B Site Access			
C Lye Lane S	30		

AM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			1
B Site Access			
C Lye Lane S	0		

AM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			1%
B Site Access			
C Lye Lane S	0%		

PM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			65
B Site Access			
C Lye Lane S	27		

PM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			0
B Site Access			
C Lye Lane S	0		

PM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			0%
B Site Access			
C Lye Lane S	0%		

Future Year Peak Hour Turning Counts

TEMPRO v7.2b St Albans

Current Year	Opening Year	Future Year	Origin	Destination	Average
2022	2025	2035	1.0689	1.0704	1.0697

Site 1. A405 / Lye Lane (movements limited due to A405 central reserve)

Note: HGVs = OGV1+OGV2+PSV

AM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		91	1108
B Lye Lane			26
C A405 S			

AM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2	123
B Lye Lane			1
C A405 S			

AM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2%	11%
B Lye Lane			4%
C A405 S			

PM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		57	1446
B Lye Lane			35
C A405 S			

PM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	83
B Lye Lane			0
C A405 S			

PM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	6%
B Lye Lane			0%
C A405 S			

Site 2. Lye Lane / Oak Ave / West Riding

AM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		9	9	79
B Lye Lane (E)	16		18	191
C Oak Ave	3	29		1
D West Riding	12	172	2	

AM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	1
B Lye Lane (E)	0		0	6
C Oak Ave	0	0		0
D West Riding	0	4	0	

AM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	1%
B Lye Lane (E)	0%		0%	3%
C Oak Ave	0%	0%		0%
D West Riding	0%	2%	0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		13	16	40
B Lye Lane (E)	17		32	137
C Oak Ave	5	20		3
D West Riding	10	116	5	

PM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0		1	1
C Oak Ave	0	0		0
D West Riding	1	4	0	

PAM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%		3%	1%
C Oak Ave	0%	0%		0%
D West Riding	11%	4%	0%	

Site 3. Lye Lane / Park Street Lane

AM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		70	105
B Lye Lane	88		124
C Park St Ln (N)	155	157	

AM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		3	1
B Lye Lane	2		2
C Park St Ln (N)	1	3	

AM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		5%	1%
B Lye Lane	2%		2%
C Park St Ln (N)	1%	2%	

PM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		59	95
B Lye Lane	46		103
C Park St Ln (N)	98	123	

PM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		1	1
B Lye Lane	1		3
C Park St Ln (N)	1	1	

PM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		2%	1%
B Lye Lane	2%		3%
C Park St Ln (N)	1%	1%	

Site 4. Location of Proposed Site Access / Lye Lane

AM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			88
B Site Access			
C Lye Lane S	33		

AM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			1
B Site Access			
C Lye Lane S	0		

AM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			1%
B Site Access			
C Lye Lane S	0%		

PM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			69
B Site Access			
C Lye Lane S	29		

PM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			0
B Site Access			
C Lye Lane S	0		

PM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			0%
B Site Access			
C Lye Lane S	0%		

Proposed Development Flows & Distribution

Site Forecast	Arrivals	Departures
AM	16	73
PM	59	25

Note: No HGVs

Lye Lane Split	North	South
AM	30	64
	32%	68%
PM	29	90
	24%	76%

Site Split	AM	PM
Out to North	23	6
Out to South	50	19
In from North	5	14
In from South	11	45

Site 1. A405 / Lye Lane (movements limited due to A405 central reserve)

Note: HGVs = OGV1+OGV2+PSV

AM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		5	
B Lye Lane			23
C A405 S			

AM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	
B Lye Lane			0
C A405 S			

AM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	
B Lye Lane			0%
C A405 S			

PM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	A405 S
A A405 N		14	
B Lye Lane			6
C A405 S			

PM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	
B Lye Lane			0
C A405 S			

PM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	
B Lye Lane			0%
C A405 S			

Site 2. Lye Lane / Oak Ave / West Riding

AM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		4	4	41
B Lye Lane (E)	6			
C Oak Ave	1			
D West Riding	4			

AM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0			
C Oak Ave	0			
D West Riding	0			

AM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%			
C Oak Ave	0%			
D West Riding	0%			

PM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		4	4	11
B Lye Lane (E)	24			
C Oak Ave	7			
D West Riding	13			

PM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0			
C Oak Ave	0			
D West Riding	0			

PAM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%			
C Oak Ave	0%			
D West Riding	0%			

Site 3. Lye Lane / Park Street Lane

AM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		2	
B Lye Lane	1		3
C Park St Ln (N)		4	

AM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		0	
B Lye Lane	0		0
C Park St Ln (N)		0	

AM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		0%	
B Lye Lane	0%		0%
C Park St Ln (N)		0%	

PM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		8	
B Lye Lane	1		2
C Park St Ln (N)		16	

PM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		0	
B Lye Lane	0		0
C Park St Ln (N)		0	

PM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		0%	
B Lye Lane	0%		0%
C Park St Ln (N)		0%	

Site 4. Site Access / Lye Lane

AM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		5	
B Site Access	23		50
C Lye Lane S		11	

AM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0	
B Site Access	0		0
C Lye Lane S		0	

AM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0%	
B Site Access	0%		0%
C Lye Lane S		0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		14	
B Site Access	6		19
C Lye Lane S		45	

PM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0	
B Site Access	0		0
C Lye Lane S		0	

PM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0%	
B Site Access	0%		0%
C Lye Lane S		0%	

Future Year + Proposed Development Flows

Site 1. A405 / Lye Lane (movements limited due to A405 central reserve)

Note: HGVs = OGV1+OGV2+PSV

AM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		96	1108
B Lye Lane			49
C A405 S			

0 AM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2	123
B Lye Lane			1
C A405 S			

AM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2%	11%
B Lye Lane			2%
C A405 S			

PM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		71	1446
B Lye Lane			41
C A405 S			

PM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	83
B Lye Lane			0
C A405 S			

PM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	6%
B Lye Lane			0%
C A405 S			

Site 2. Lye Lane / Oak Ave / West Riding

AM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		13	13	120
B Lye Lane (E)	22		18	191
C Oak Ave	4	29		1
D West Riding	16	172	2	

AM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	1
B Lye Lane (E)	0		0	6
C Oak Ave	0	0		0
D West Riding	0	4	0	

AM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	1%
B Lye Lane (E)	0%		0%	3%
C Oak Ave	0%	0%		0%
D West Riding	0%	2%	0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		16	20	51
B Lye Lane (E)	41		32	137
C Oak Ave	13	20		3
D West Riding	23	116	5	

PM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0		1	1
C Oak Ave	0	0		0
D West Riding	1	4	0	

PAM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%		3%	1%
C Oak Ave	0%	0%		0%
D West Riding	5%	4%	0%	

Site 3. Lye Lane / Park Street Lane

AM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		71	105
B Lye Lane	89		127
C Park St Ln (N)	155	161	

AM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		3	1
B Lye Lane	2		2
C Park St Ln (N)	1	3	

AM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		5%	1%
B Lye Lane	2%		2%
C Park St Ln (N)	1%	2%	

1

PM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		67	95
B Lye Lane	47		105
C Park St Ln (N)	98	139	

PM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		1	1
B Lye Lane	1		3
C Park St Ln (N)	1	1	

PM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		2%	1%
B Lye Lane	2%		3%
C Park St Ln (N)	1%	1%	

Site 4. Site Access / Lye Lane

AM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		5	88
B Site Access	23		50
C Lye Lane S	33	11	

AM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0	1
B Site Access	0		0
C Lye Lane S	0	0	

AM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0%	1%
B Site Access	0%		0%
C Lye Lane S	0%	0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		14	69
B Site Access	6		19
C Lye Lane S	29	45	

PM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0	0
B Site Access	0		0
C Lye Lane S	0	0	

PM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0%	0%
B Site Access	0%		0%
C Lye Lane S	0%	0%	

QUEUE LENGTHS

JOB REF: P2584

JOB NAME: ST ALBANS

SITE: 1 **DATE:** 26/04/2022

LOCATION: A405 NORTH ORBITAL ROAD (N) / LYE LANE / A405 NORTH ORBITAL ROAD (S) / NOKE LANE **DAY:** TUESDAY

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

TIME	ARM A A405 NORTH ORBITAL ROAD (N)		ARM B LYE LANE	ARM C A405 NORTH ORBITAL ROAD (S)		ARM D NOKE LANE
	LANE 1	LANE 2	LANE 1	LANE 1	LANE 2	LANE 1
07:00	0	0	0	0	0	0
07:05	0	0	0	0	0	0
07:10	0	0	0	0	0	1
07:15	0	0	0	0	0	2
07:20	0	0	0	0	0	0
07:25	0	0	0	0	0	0
07:30	9	7	1	0	0	0
07:35	0	0	0	0	0	0
07:40	0	0	0	0	0	1
07:45	0	0	0	0	0	0
07:50	0	0	0	0	0	0
07:55	0	0	0	0	0	1
08:00	0	0	0	0	0	0
08:05	0	0	0	0	0	0
08:10	15	11	0	0	0	0
08:15	0	0	0	0	0	0
08:20	0	8	0	0	0	0
08:25	0	0	0	0	0	0
08:30	0	0	0	0	0	0
08:35	0	0	0	0	0	0
08:40	0	0	0	0	0	0
08:45	5	6	0	0	0	0
08:50	0	0	0	0	0	0
08:55	0	0	0	0	0	0
09:00	0	0	0	0	0	0
09:05	0	0	0	0	0	0
09:10	0	0	0	0	0	0
09:15	0	0	0	0	0	0
09:20	3	0	0	0	0	0
09:25	0	0	0	0	0	0
09:30	2	6	0	0	0	0
09:35	0	0	0	0	0	0
09:40	10	6	0	0	0	1
09:45	0	0	0	0	0	0
09:50	0	0	0	0	0	1
09:55	0	0	0	0	0	0

TIME	ARM A A405 NORTH ORBITAL ROAD (N)		ARM B LYE LANE	ARM C A405 NORTH ORBITAL ROAD (S)		ARM D NOKE LANE
	LANE 1	LANE 2	LANE 1	LANE 1	LANE 2	LANE 1
16:00	0	0	0	0	0	0
16:05	0	0	0	0	0	0
16:10	0	10	0	0	0	0
16:15	0	0	0	0	0	0
16:20	0	0	0	0	0	0
16:25	0	0	0	0	0	0
16:30	0	0	0	0	0	0
16:35	0	0	0	0	0	0
16:40	0	0	0	0	0	0
16:45	0	0	0	0	0	1
16:50	0	0	0	0	0	0
16:55	0	0	0	0	0	0
17:00	0	0	0	0	0	0
17:05	0	0	0	0	0	0
17:10	0	0	0	0	0	0
17:15	0	9	0	0	0	1
17:20	0	0	0	0	0	0
17:25	0	0	0	0	0	0
17:30	0	0	0	0	0	0
17:35	0	0	0	0	0	0
17:40	0	0	0	0	0	0
17:45	0	7	0	0	0	0
17:50	0	0	0	0	0	0
17:55	0	0	0	0	0	0
18:00	11	0	0	0	0	0
18:05	0	0	0	0	0	0
18:10	0	0	0	0	0	0
18:15	0	0	0	0	0	0
18:20	3	7	0	0	0	0
18:25	0	0	0	0	0	1
18:30	0	0	0	0	0	0
18:35	0	0	0	0	0	2
18:40	0	0	0	0	0	0
18:45	0	0	0	0	0	0
18:50	0	0	0	0	0	1
18:55	0	0	0	0	0	0

QUEUE LENGTHS

JOB REF: P2584

JOB NAME: ST ALBANS

SITE: 2 **DATE:** 26/04/2022

LOCATION: LYE LANE / W RIDING (E) / OAK AVENUE / W RIDING (W) **DAY:** TUESDAY

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

TIME	ARM A LYE LANE	ARM B W RIDING (E)	ARM C OAK AVENUE	ARM D W RIDING (W)	TIME	ARM A LYE LANE	ARM B W RIDING (E)	ARM C OAK AVENUE	ARM D W RIDING (W)
	LANE 1	LANE 1	LANE 1	LANE 1		LANE 1	LANE 1	LANE 1	LANE 1
07:00	0	0	0	0	16:00	0	0	1	0
07:05	0	0	0	0	16:05	1	0	0	0
07:10	1	0	0	0	16:10	0	0	0	0
07:15	0	0	0	0	16:15	6	0	0	0
07:20	0	0	0	0	16:20	0	0	0	0
07:25	0	0	0	0	16:25	0	0	0	0
07:30	0	0	0	0	16:30	0	0	0	0
07:35	0	0	0	0	16:35	0	0	0	0
07:40	0	0	0	0	16:40	0	0	0	0
07:45	0	0	1	0	16:45	0	0	0	0
07:50	0	0	0	0	16:50	0	0	0	0
07:55	0	0	0	0	16:55	0	0	0	0
08:00	1	0	1	0	17:00	0	0	0	0
08:05	0	0	0	0	17:05	0	0	0	0
08:10	0	0	0	0	17:10	0	0	0	0
08:15	1	0	0	0	17:15	0	0	0	0
08:20	0	0	0	0	17:20	0	0	0	0
08:25	0	0	0	0	17:25	0	0	0	0
08:30	0	0	0	0	17:30	0	0	0	0
08:35	0	0	0	0	17:35	0	0	0	0
08:40	1	0	0	0	17:40	0	0	0	0
08:45	0	0	0	0	17:45	0	0	0	0
08:50	0	0	0	0	17:50	0	0	0	0
08:55	0	0	0	0	17:55	1	0	0	0
09:00	0	0	0	0	18:00	0	0	0	0
09:05	0	0	0	0	18:05	0	0	0	0
09:10	0	0	0	0	18:10	0	0	0	0
09:15	0	0	0	0	18:15	0	0	0	0
09:20	0	0	0	0	18:20	0	0	0	0
09:25	0	0	0	0	18:25	1	0	0	0
09:30	0	0	0	0	18:30	1	0	0	0
09:35	0	0	0	0	18:35	1	0	0	0
09:40	0	0	0	0	18:40	0	0	0	0
09:45	0	0	0	0	18:45	0	0	0	0
09:50	0	0	0	0	18:50	0	0	0	0
09:55	0	0	0	0	18:55	0	0	0	0

QUEUE LENGTHS

JOB REF: P2584

JOB NAME: ST ALBANS

SITE: 3 **DATE:** 26/04/2022

LOCATION: STATION ROAD / LYE LANE / PARK STREET LANE **DAY:** TUESDAY

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

TIME	ARM A STATION ROAD	ARM B LYE LANE	ARM C PARK STREET LANE	TIME	ARM A STATION ROAD	ARM B LYE LANE	ARM C PARK STREET LANE
	LANE 1	LANE 1	LANE 1		LANE 1	LANE 1	LANE 1
07:00	0	0	0	16:00	0	0	0
07:05	0	0	0	16:05	0	0	0
07:10	0	0	0	16:10	0	0	0
07:15	0	0	0	16:15	0	0	0
07:20	0	0	0	16:20	0	0	0
07:25	0	0	0	16:25	0	0	0
07:30	0	0	0	16:30	0	0	0
07:35	0	0	0	16:35	0	0	1
07:40	0	0	0	16:40	0	0	0
07:45	0	0	0	16:45	0	0	0
07:50	0	0	0	16:50	0	0	0
07:55	0	0	0	16:55	0	1	0
08:00	0	2	0	17:00	0	0	0
08:05	0	0	0	17:05	0	0	0
08:10	0	0	0	17:10	0	0	0
08:15	0	0	0	17:15	0	0	0
08:20	0	0	0	17:20	0	0	0
08:25	0	0	0	17:25	0	0	0
08:30	0	2	0	17:30	0	0	0
08:35	0	3	0	17:35	0	0	0
08:40	0	1	0	17:40	0	0	0
08:45	0	0	0	17:45	0	0	1
08:50	0	0	0	17:50	0	2	0
08:55	0	0	0	17:55	0	0	0
09:00	0	0	0	18:00	0	0	0
09:05	0	0	0	18:05	0	0	0
09:10	0	0	0	18:10	0	0	0
09:15	0	0	0	18:15	0	0	0
09:20	0	0	0	18:20	0	0	0
09:25	0	0	0	18:25	0	0	0
09:30	0	0	0	18:30	0	0	0
09:35	0	0	0	18:35	0	0	0
09:40	0	0	0	18:40	0	0	0
09:45	0	0	0	18:45	0	0	0
09:50	0	0	0	18:50	0	0	0
09:55	0	0	0	18:55	0	0	0

Appendix K
PICADY Junction Assessments

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.0.1499

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: P2584 Site 1.j10
Path: C:\Users\johnf\Paul Mew Associates Ltd\PMA - Projects\P2584\Junction Assessment
Report generation date: 30/06/2022 13:43:17

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	A405 Junction - 2035									
Stream B-AC	D1	0.1	9.18	0.12	A	D2	0.1	10.31	0.11	B
Stream C-AB		0.0	0.00	0.00	A		0.0	0.00	0.00	A

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	Site 1
Location	A405
Site number	
Date	23/05/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DESKTOP-QC0P2SR\johnf
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	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15
D2	2035	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	A405 Junction	100.000

A405 Junction - 2035, 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	A405	T-Junction	Entry Only	Two-way	Exit Only		0.33	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.33	A

Arms

Arms

Arm	Name	Description	Arm type
A	A405 N		Major
B	Lye Lane		Minor
C	A405 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)
C	6.70				✓	

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)
B	One lane	2.20	106	250

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	589	0.104	0.263	0.165	0.376
B-C	719	0.075	0.189	-	-
C-B	574	0.183	0.183	-	-

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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	1204	100.000
B		✓	49	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	96	1108
	B	0	0	49
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	11
	B	0	0	2
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.12	9.18	0.1	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	38	538	0.070	37	0.1	7.323	A
C-AB	0	391	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	74			74			
A-C	926			926			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	503	0.089	45	0.1	8.005	A
C-AB	0	355	0.000	0	0.0	0.000	A

C-A	0			0			
A-B	88			88			
A-C	1106			1106			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	455	0.121	55	0.1	9.173	A
C-AB	0	306	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	108			108			
A-C	1354			1354			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	455	0.121	55	0.1	9.180	A
C-AB	0	306	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	108			108			
A-C	1354			1354			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	503	0.089	45	0.1	8.016	A
C-AB	0	355	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	88			88			
A-C	1106			1106			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	38	538	0.070	38	0.1	7.334	A
C-AB	0	391	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	74			74			
A-C	926			926			

A405 Junction - 2035, 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	A405	T-Junction	Entry Only	Two-way	Exit Only		0.26	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.26	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2035	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	1517	100.000
B		✓	41	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	71	1446
	B	0	0	41
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.11	10.31	0.1	B
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	497	0.062	31	0.1	7.717	A
C-AB	0	353	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	53			53			
A-C	1154			1154			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37	454	0.081	37	0.1	8.630	A
C-AB	0	310	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	64			64			
A-C	1378			1378			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	394	0.115	45	0.1	10.303	B
C-AB	0	250	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	78			78			
A-C	1688			1688			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	394	0.115	45	0.1	10.311	B
C-AB	0	250	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	78			78			
A-C	1688			1688			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	37	454	0.081	37	0.1	8.640	A
C-AB	0	310	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	64			64			
A-C	1378			1378			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	31	497	0.062	31	0.1	7.729	A

C-AB	0	353	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	53			53			
A-C	1154			1154			

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: P2584 Site 2.j10
Path: C:\Users\johnf\Paul Mew Associates Ltd\PMA - Projects\P2584\Junction Assessment
Report generation date: 30/06/2022 13:46:02

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Lye Lane Oak Ave Junction - 2035									
Stream B-ACD	D1	1.2	16.41	0.54	C	D2	0.9	13.26	0.46	B
Stream A-BCD		0.3	7.89	0.23	A		0.1	6.69	0.09	A
Stream D-ABC		0.9	14.62	0.46	B		0.5	11.26	0.33	B
Stream C-ABD		0.1	5.98	0.05	A		0.0	5.63	0.03	A

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	P2584 J2 2022
Location	Bricket Wood
Site number	
Date	23/05/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DESKTOP-QC0P2SR\johnf
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	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15

D2	2035	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Lye Lane Oak Ave Junction	100.000

Lye Lane Oak Ave Junction - 2035, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm A - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	Site 2	Crossroads	Two-way	Two-way	Two-way	Two-way		12.84	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.84	B

Arms

Arms

Arm	Name	Description	Arm type
A	Lye Lane E		Major
B	Oak Avenue		Minor
C	West Riding		Major
D	Lye Lane N		Minor

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)
A	5.91			47.0	✓	1.00
C	5.91			205.0	✓	1.00

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)
B	One lane	2.97	152	15
D	One lane	3.28	25	22

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	601	-	-	-	-	-	-	0.234	0.334	0.234	-	-	-
B-A	532	0.097	0.246	0.246	-	-	-	0.155	0.351	-	0.246	0.246	0.123
B-C	632	0.097	0.246	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	532	0.097	0.246	0.246	-	-	-	0.155	0.351	0.155	-	-	-
B-D, offside lane	532	0.097	0.246	0.246	-	-	-	0.155	0.351	0.155	-	-	-
C-B	693	0.269	0.269	0.385	-	-	-	-	-	-	-	-	-
D-A	656	-	-	-	-	-	-	0.255	-	0.101	-	-	-

D-B, nearside lane	511	0.148	0.148	0.337	-	-	-	0.236	0.236	0.093	-	-	-
D-B, offside lane	511	0.148	0.148	0.337	-	-	-	0.236	0.236	0.093	-	-	-
D-C	511	-	0.148	0.337	0.118	0.236	0.236	0.236	0.236	0.093	-	-	-

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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	146	100.000
B		✓	231	100.000
C		✓	34	100.000
D		✓	190	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	13	13	120
	B	22	0	18	191
	C	4	29	0	1
	D	16	172	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	1
	B	0	0	0	3
	C	0	0	0	0
	D	0	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.54	16.41	1.2	C
A-BCD	0.23	7.89	0.3	A
A-B				
A-C				
D-ABC	0.46	14.62	0.9	B
C-ABD	0.05	5.98	0.1	A
C-D				
C-A				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	178	503	0.355	176	0.6	11.224	B
A-BCD	92	596	0.154	91	0.2	7.188	A
A-B	10			10			
A-C	10			10			
D-ABC	146	482	0.302	144	0.4	10.793	B
C-ABD	22	652	0.033	22	0.0	5.706	A
C-D	0.75			0.75			
C-A	3			3			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	213	495	0.430	212	0.8	12.988	B
A-BCD	110	596	0.184	110	0.2	7.477	A
A-B	11			11			
A-C	11			11			
D-ABC	174	474	0.367	173	0.6	12.164	B
C-ABD	26	644	0.040	26	0.0	5.822	A
C-D	0.90			0.90			
C-A	4			4			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	261	485	0.537	259	1.1	16.195	C
A-BCD	135	596	0.226	135	0.3	7.882	A
A-B	14			14			
A-C	14			14			
D-ABC	213	464	0.459	212	0.8	14.504	B
C-ABD	32	634	0.050	32	0.1	5.983	A
C-D	1			1			
C-A	4			4			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	261	485	0.537	261	1.2	16.413	C
A-BCD	135	596	0.227	135	0.3	7.889	A
A-B	14			14			
A-C	14			14			
D-ABC	213	463	0.460	213	0.9	14.624	B
C-ABD	32	633	0.050	32	0.1	5.984	A
C-D	1			1			
C-A	4			4			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	213	495	0.430	214	0.8	13.213	B
A-BCD	110	596	0.184	110	0.2	7.491	A
A-B	11			11			
A-C	11			11			
D-ABC	174	474	0.367	175	0.6	12.301	B

C-ABD	26	644	0.040	26	0.0	5.824	A
C-D	0.90			0.90			
C-A	4			4			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	178	502	0.355	179	0.6	11.449	B
A-BCD	92	596	0.154	92	0.2	7.216	A
A-B	10			10			
A-C	10			10			
D-ABC	146	481	0.302	146	0.4	10.956	B
C-ABD	22	652	0.033	22	0.0	5.712	A
C-D	0.75			0.75			
C-A	3			3			

Lye Lane Oak Ave Junction - 2035, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm A - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	Site 2	Crossroads	Two-way	Two-way	Two-way	Two-way		10.23	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.23	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2035	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	86	100.000
B		✓	210	100.000
C		✓	36	100.000
D		✓	144	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	16	20	50
	B	41	0	32	137
	C	13	20	0	3
	D	23	116	5	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D

From	A	0	0	0	0
	B	0	0	3	1
	C	0	0	0	0
	D	4	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.46	13.26	0.9	B
A-BCD	0.09	6.69	0.1	A
A-B				
A-C				
D-ABC	0.33	11.26	0.5	B
C-ABD	0.03	5.63	0.0	A
C-D				
C-A				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	160	520	0.307	158	0.4	10.001	B
A-BCD	38	595	0.063	37	0.1	6.453	A
A-B	12			12			
A-C	15			15			
D-ABC	113	507	0.222	111	0.3	9.421	A
C-ABD	15	671	0.022	15	0.0	5.486	A
C-D	2			2			
C-A	10			10			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	191	515	0.370	190	0.6	11.182	B
A-BCD	45	594	0.076	45	0.1	6.555	A
A-B	14			14			
A-C	18			18			
D-ABC	134	503	0.267	134	0.4	10.134	B
C-ABD	18	667	0.027	18	0.0	5.546	A
C-D	3			3			
C-A	12			12			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	234	508	0.460	233	0.8	13.164	B
A-BCD	55	593	0.093	55	0.1	6.690	A
A-B	17			17			
A-C	22			22			
D-ABC	165	497	0.332	164	0.5	11.227	B
C-ABD	22	661	0.033	22	0.0	5.631	A
C-D	3			3			
C-A	14			14			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	234	508	0.460	234	0.9	13.257	B
A-BCD	55	593	0.093	55	0.1	6.691	A
A-B	17			17			
A-C	22			22			
D-ABC	165	497	0.332	165	0.5	11.261	B
C-ABD	22	661	0.033	22	0.0	5.631	A
C-D	3			3			
C-A	14			14			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	191	515	0.371	192	0.6	11.293	B
A-BCD	45	594	0.076	45	0.1	6.560	A
A-B	14			14			
A-C	18			18			
D-ABC	134	503	0.267	135	0.4	10.182	B
C-ABD	18	667	0.027	18	0.0	5.547	A
C-D	3			3			
C-A	12			12			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	160	520	0.307	160	0.5	10.137	B
A-BCD	38	595	0.063	38	0.1	6.463	A
A-B	12			12			
A-C	15			15			
D-ABC	113	507	0.222	113	0.3	9.495	A
C-ABD	15	671	0.022	15	0.0	5.487	A
C-D	2			2			
C-A	10			10			

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.0.1499

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: P2584 Site 3.j10
Path: C:\Users\johnf\Paul Mew Associates Ltd\PMA - Projects\P2584\Junction Assessment
Report generation date: 30/06/2022 13:47:37

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Lye Lane Park Street - 2035									
Stream B-AC	D1	0.9	13.04	0.46	B	D2	0.5	9.50	0.31	A
Stream C-AB		0.6	9.07	0.33	A		0.4	8.70	0.28	A

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	24/05/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DESKTOP-QC0P2SR\johnf
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	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15
D2	2035	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Lye Lane Park Street	100.000

Lye Lane Park Street - 2035, 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
3	Park Street Lane	T-Junction	Two-way	Two-way	Two-way		6.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.21	A

Arms

Arms

Arm	Name	Description	Arm type
A	Park Street Lane (south)		Major
B	Lye Lane		Minor
C	Park Street Lane (north)		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)
C	6.20			30.0	✓	1.00

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)
B	One lane	3.55	124	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	554	0.100	0.253	0.159	0.361
B-C	668	0.102	0.257	-	-
C-B	591	0.227	0.227	-	-

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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	176	100.000
B		✓	216	100.000
C		✓	316	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	71	105
	B	89	0	127
	C	155	161	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	4	1
	B	2	0	2
	C	1	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.46	13.04	0.9	B
C-AB	0.33	9.07	0.6	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	166	555	0.299	164	0.4	9.360	A
C-AB	130	587	0.221	128	0.3	7.977	A
C-A	112			112			
A-B	56			56			
A-C	80			80			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	198	542	0.365	197	0.6	10.638	B
C-AB	158	593	0.266	157	0.4	8.422	A

C-A	131			131			
A-B	66			66			
A-C	95			95			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	243	524	0.463	241	0.9	12.934	B
C-AB	200	605	0.331	199	0.5	9.048	A
C-A	153			153			
A-B	81			81			
A-C	117			117			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	243	524	0.463	243	0.9	13.037	B
C-AB	200	605	0.331	200	0.6	9.075	A
C-A	153			153			
A-B	81			81			
A-C	117			117			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	198	542	0.366	199	0.6	10.752	B
C-AB	158	593	0.266	158	0.4	8.461	A
C-A	131			131			
A-B	66			66			
A-C	95			95			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	166	554	0.299	166	0.4	9.480	A
C-AB	130	587	0.221	130	0.3	8.033	A
C-A	112			112			
A-B	56			56			
A-C	80			80			

Lye Lane Park Street - 2035, 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
3	Park Street Lane	T-Junction	Two-way	Two-way	Two-way		4.93	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.93	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2035	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	161	100.000
B		✓	152	100.000
C		✓	237	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	66	95
	B	47	0	105
	C	98	139	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	1
	B	2	0	3
	C	1	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.31	9.50	0.5	A
C-AB	0.28	8.70	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	118	583	0.201	116	0.3	7.902	A
C-AB	108	578	0.188	107	0.2	7.719	A
C-A	72			72			
A-B	51			51			
A-C	72			72			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	140	574	0.244	140	0.3	8.511	A
C-AB	131	578	0.226	131	0.3	8.115	A
C-A	84			84			
A-B	61			61			
A-C	86			86			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	172	561	0.306	171	0.4	9.474	A
C-AB	163	581	0.281	163	0.4	8.680	A
C-A	100			100			
A-B	74			74			
A-C	106			106			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	172	561	0.306	172	0.5	9.498	A
C-AB	163	581	0.281	163	0.4	8.697	A
C-A	100			100			
A-B	74			74			
A-C	106			106			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	140	574	0.245	141	0.3	8.543	A
C-AB	131	578	0.226	131	0.3	8.141	A
C-A	84			84			
A-B	61			61			
A-C	86			86			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	118	583	0.202	118	0.3	7.951	A
C-AB	108	578	0.188	109	0.2	7.759	A
C-A	72			72			
A-B	51			51			
A-C	72			72			

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: P2584 Site 4.j10
Path: C:\Users\johnf\Paul Mew Associates Ltd\PMA - Projects\P2584\Junction Assessment
Report generation date: 30/06/2022 13:49:03

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Site Access - 2035									
Stream B-AC	D1	0.1	6.67	0.13	A	D2	0.0	5.93	0.04	A
Stream C-AB		0.0	6.08	0.02	A		0.1	6.42	0.08	A

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	Site 4
Location	
Site number	
Date	26/05/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DESKTOP-QC0P2SR\johnf
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	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	Site Access Juntion	ONE HOUR	07:45	09:15	15

D2	2035	PM	Site Access Junction	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Site Access	100.000

Site Access - 2035, 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		2.61	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.61	A

Arms

Arms

Arm	Name	Description	Arm type
A	Lye Lane N		Major
B	Site Access		Minor
C	Lye Lane 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)
C	6.00			95.0	✓	1.00

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)
B	One lane	3.42	30	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	554	0.101	0.255	0.160	0.364
B-C	709	0.109	0.275	-	-
C-B	629	0.244	0.244	-	-

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	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
			Site Access				

D1	2035	AM	Juntion	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	93	100.000
B		✓	72	100.000
C		✓	44	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	5	88
	B	23	0	49
	C	33	11	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	1
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.13	6.67	0.1	A
C-AB	0.02	6.08	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	629	0.086	54	0.1	6.251	A
C-AB	8	612	0.014	8	0.0	5.961	A
C-A	25			25			
A-B	4			4			
A-C	67			67			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-AC	65	625	0.104	65	0.1	6.423	A
C-AB	10	609	0.016	10	0.0	6.009	A
C-A	30			30			
A-B	4			4			
A-C	80			80			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	619	0.128	79	0.1	6.663	A
C-AB	12	605	0.020	12	0.0	6.076	A
C-A	36			36			
A-B	6			6			
A-C	98			98			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	79	619	0.128	79	0.1	6.666	A
C-AB	12	605	0.020	12	0.0	6.076	A
C-A	36			36			
A-B	6			6			
A-C	98			98			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	65	625	0.104	65	0.1	6.426	A
C-AB	10	609	0.016	10	0.0	6.009	A
C-A	30			30			
A-B	4			4			
A-C	80			80			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	629	0.086	54	0.1	6.261	A
C-AB	8	612	0.014	8	0.0	5.961	A
C-A	25			25			
A-B	4			4			
A-C	67			67			

Site Access - 2035, PM

Data Errors and Warnings

Severity	Area	Item	Description
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.

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		2.39	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.39	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2035	PM	Site Access Junction	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	83	100.000
B		✓	25	100.000
C		✓	73	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	14	69
	B	6	0	19
	C	29	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0

	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	5.93	0.0	A
C-AB	0.08	6.42	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	644	0.029	19	0.0	5.760	A
C-AB	33	615	0.054	33	0.1	6.186	A
C-A	22			22			
A-B	11			11			
A-C	52			52			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	640	0.035	22	0.0	5.832	A
C-AB	40	612	0.065	40	0.1	6.283	A
C-A	26			26			
A-B	13			13			
A-C	62			62			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	634	0.043	27	0.0	5.935	A
C-AB	49	609	0.080	49	0.1	6.420	A
C-A	32			32			
A-B	15			15			
A-C	76			76			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	634	0.043	28	0.0	5.935	A
C-AB	49	609	0.080	49	0.1	6.420	A
C-A	32			32			
A-B	15			15			
A-C	76			76			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	640	0.035	23	0.0	5.833	A
C-AB	40	612	0.065	40	0.1	6.285	A
C-A	26			26			

A-B	13			13			
A-C	62			62			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	644	0.029	19	0.0	5.760	A
C-AB	33	615	0.054	33	0.1	6.191	A
C-A	22			22			
A-B	11			11			
A-C	52			52			