

LAND NORTH OF ARBORFIELD ROAD

TRANSPORT ASSESSMENT

BELLWAY HOMES LTD (THAMES VALLEY)

28 AUGUST 2024



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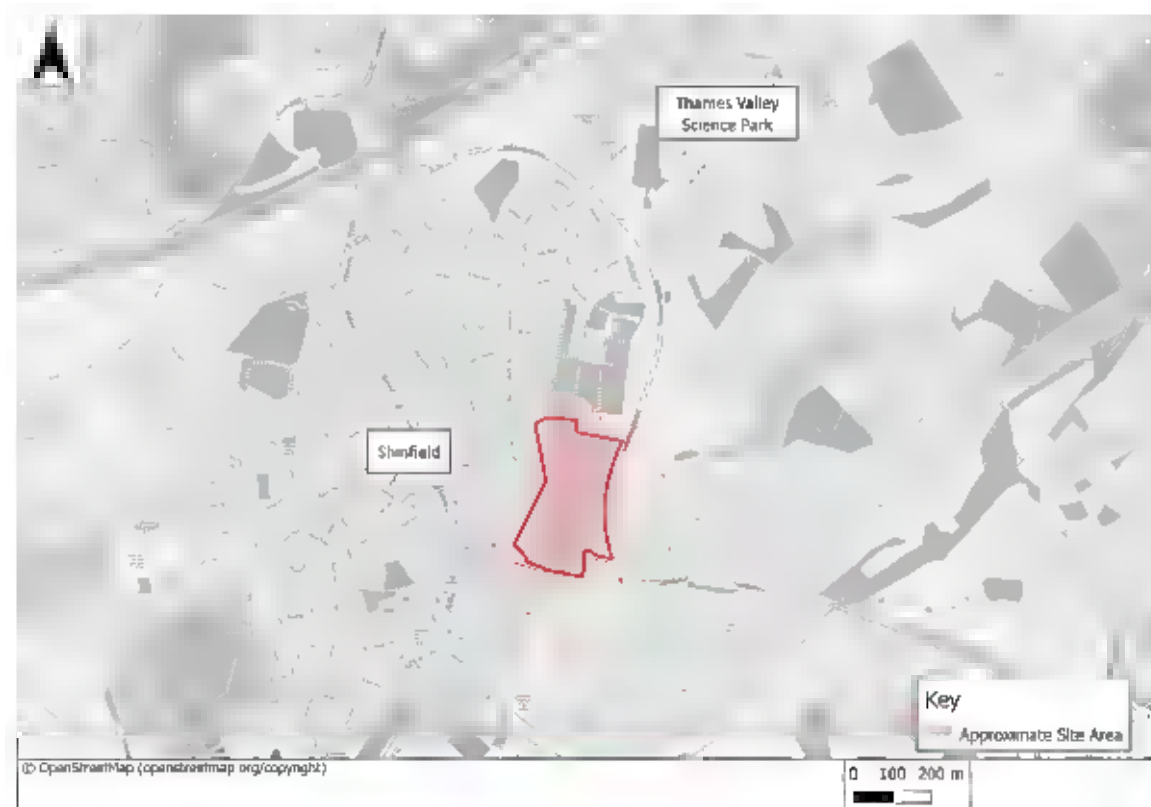
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1.0 Introduction

Context

- 1.1. This Transport Assessment has been prepared by Abley Letchford Partnership Ltd, on behalf of Bellway Homes Ltd (Thames valley), in relation to the proposed residential development on Land North of Arborfield Road, Shinfield. The site is located in Shinfield, to the south of Reading. **Figure 1.1** shows the site in its local geographic context.
- 1.2. The description of the development proposals for the site is as follows:
“Full planning application for the erection of new dwellings, open space, landscaping, supporting infrastructure and associated works.”

Figure 1.1: Site Location





Development Proposals

- 1.3. This Transport Assessment relates to a full planning application for a development of 191 residential dwellings with access to be formed from the south onto Arborfield Road. It is also proposed to connect to the existing spine road which routes through the Littlebrook and Long Acre residential estates which lie to the north of the site, thereby providing a second point of access which will deliver a through route between Arborfield Road and the Shinfield Eastern Relief Road / Thames Valley Science Park roundabout.
- 1.4. Of note is that Wokingham Borough Council is currently preparing a Local Plan Update which includes identification of the land for delivery of 191 residential units within the wider South of M4 SDL allocation site (Emerging Policy SS5 & Appendix D of the Local Plan Update, November 2021 refers).
- 1.5. A copy of the proposed Layout for the development is included at **Appendix A** of this report.

Form of Assessment

- 1.6. The planning application is a full application and as such the internal layout of the development alongside details for all points of vehicular and non-vehicle accesses are to be determined in detail.
- 1.7. Based on the thresholds set out in Appendix B of 'Guidance for Transport Assessments', published by DfT in 2007, the scale of development proposed requires a Transport Assessment Report to be prepared to analyse the impact of the development.
- 1.8. A Transport Scoping Report (ALP Report Ref: HD008-R002) has been submitted to Wokingham Borough Council (WBC). The scoping exercise set out the methodology of assessment and included the approach that should be taken to appraise the transport aspects of the proposed development. Similarly, the approach being taking in respect of the traffic modelling methodology was presented within a separate report (ALP Report Ref: HD008-R003) which was also submitted to Wokingham borough Council for review. Highway officers at Wokingham Borough Council provided confirmation in June 2024 that the approach being taken in both respects is acceptable. Of particular note is that the traffic modelling of the development proposals is being undertaken on an agreed basis using the Wokingham Strategic Transport Model (WSTM).

Structure of the Transport Assessment Report

- 1.9. This Transport Assessment Report has been produced to demonstrate the suitability of the proposed development in transport terms with all modes of travel considered and is structured as follows:
 - Section 2 : Transport Policy
 - Section 3 : Existing Transport Conditions
 - Section 4 : Development Proposals
 - Section 5 : Travel Demand
 - Section 6 : Wokingham Strategic Traffic Model (WSTM)
 - Section 7 : Assessment of Vehicular Impact
 - Section 8 : Appraisal of Non Car Travel
 - Section 9 : Summary and Conclusions

2.0 Transport Policy

Context

2.1. The following national and local planning policies have been reviewed and analysed with relevance to the development proposals and their locational context.

- National Planning Policy Framework (Updated December 2023).
- NPPG 'Travel Plans, Transport Assessments and Statements in Decision-Taking' (March 2014).
- Wokingham Borough Adopted Core Strategy (2006-2026).
- Wokingham Borough Council : Emerging Local Plan Update (November 2021)
- Wokingham Borough Third Local Transport Plan (LTP3) 2011-2026.
- Shinfield Parish Council Neighbourhood Development Plan (February 2017).

National Planning Policy Framework (Updated December 2023)

2.2. The Department of Community's and Local Government published the 'National Planning Policy Framework' (NPPF) document in March 2012, the latest update to this has occurred in December 2023. The NPPF sets out the governments planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and development can be produced.

2.3. The purpose of the planning system is to contribute to the achievement of sustainable development. So that sustainable development is pursued in a positive way, at the heart of the framework is a presumption in favour of sustainable development.

2.4. The NPPF states that transport issues should be considered from the earliest stages of plan making and development proposals. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering genuine choice of transport modes.

2.5. In respect of promoting sustainable travel the NPPF advocates that planning policies and decisions should consider whether:

- Appropriate opportunities to promote sustainable transport modes can be – or have been - taken up, given the type of development and its location;
- Safe and suitable access to the site can be achieved for all users;
- The design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and
- Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.6. The guidance advises that, subject to the above considerations, development should not be prevented or refused on transport grounds unless the residual impacts of the development are severe.



Planning Practice Guidance (March 2014)

- 2.7. The National Planning Practice Guidance web based resource was launched in March 2014 by the Department for Communities and Local Government. The guidance covers all aspects and procedures of the planning process and supports the National Planning Policy Framework.
- 2.8. The guidance states that supporting transport statements for planning applications are important as they should support national planning policy which sets out that the planning process should actively manage patterns of growth in order to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.
- 2.9. Such statements should be proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible. Further to this they should be tailored to particular local circumstances.

Wokingham Borough Adopted Core Strategy (2006-2026)

- 2.10. The Wokingham Borough Core Strategy was adopted in January 2010 and sets out a vision for how the Borough will develop in the period to 2026. Policies of relevance to this development site include:
- CP1 establishes a requirement to provide sustainable development and in particular to provide attractive, functional, accessible, safe, secure and adaptable schemes with the aim of enhancing the overall sustainability of the area through minimising impact on the environment, including access to facilities.
 - CP4 establishes the need for proposals to demonstrate that there is either sufficient infrastructure capacity or that this can be readily provided as part of any scheme. Infrastructure includes roads and other transport requirements.
 - CP6 establishes a desire to manage travel demand rather than designing for the private car. The aim of policy CP6 is to ensure that all proposals achieve sustainable development and that people have the widest range of choice in selecting transport modes thereby helping to reduce the use of the private car.
 - CP10 sets out a need to make improvements to the Strategic Transport Network including improvements to the quality and frequency of public transport services along any part of the network and improvements to increase the use of bicycles, including cycle paths.
 - CP19 establishes the need for a proposed mixed use strategic development South of the M4. The development areas encompass land at Three Mile Cross, Spencers Wood and Shinfield and requires the delivery of the Shinfield Eastern Relief Road.
- 2.11. Also of note is that Policy CP19 of the Core Strategy advocates the implementation of the Eastern Relief Road which has since been completed and opened.

Wokingham Borough Third Local Transport Plan (LTP3) 2011-2026

- 2.12. The Third Local Transport Plan for Wokingham Borough (LTP3) covers the fifteen year period between 2011-2026. The main objective articulated by the LTP3 is to provide a cost effective, inclusive transport network that enhances the economic, social and environmental prospects of the Borough whilst promoting the safety, health and well being of those that use it.



- 2.13. The following five goals for the LTP3 are identified which reflect the local priorities set out in Wokingham Borough's Sustainable Community Strategy and the overarching national transport priorities:
- To have a resilient, safe highway network that balances capacity for all users, enhances the economic prospects of the Borough, and promotes sustainable travel.
 - To work with partners to promote walking and cycling as a health enhancing physical activity for all of our residents through providing; connected, convenient, safe and signed pedestrian networks across the Borough to enhance existing networks; new cycleways integrated with the existing cycle network; and improved cycle parking at stations, businesses and schools.
 - To promote an integrated and inclusive public transport network that provides a convenient, acceptable, reliable and affordable alternative to car travel.
 - To enable people who live, visit and work in the Borough to make informed, safe and sustainable travel decisions from a range of transport options.
 - To manage the demand for travel in order to ensure that people have a high level of access to different destinations, with sufficient choice, whilst minimising the adverse effects of congestion.

Wokingham Borough Council – Emerging Local Plan Update (November 2018)

- 2.14. Wokingham Borough Council's Local Plan Update: Right Homes, Right Places - Revised Growth Strategy, was issued in November 2021 and then subject to public consultation during January 2022.
- 2.15. Of note is that the Land North of Arborfield Road site is identified as a preferred site allocation for the delivery of 191 dwellings as part of the wider South of M4 SDL allocation set out under Draft Policy SS5.
- 2.16. Following a formal Regulation 19 consultation (which is anticipated to commence in August and close in September 2024), the Local Plan Update is anticipated to go through Examination in Public during 2024 with a view to becoming adopted in 2025-26.

Shinfield Parish Council Neighbourhood Development Plan (February 2017)

- 2.17. Following examination and a referendum, the Shinfield Parish Council Neighbourhood Plan is part of the WBC's Development Plan and will be given full weight in the determination of all planning applications within Shinfield Parish.
- 2.18. The Neighbourhood Plan seeks to achieve the objectives of:
- Ensuring that new developments enhance the character of existing settlements;
 - Developing a vibrant and prosperous neighbourhood by encouraging development that supports a good range of housing, schools, shops and services that meets the needs of local people and protects the quality of the local environment.
 - Providing new and diverse leisure and recreational activities in order to promote healthy and crime free lifestyles for everyone.
- 2.19. In relation to transport and highways the Neighbourhood Plan sets out the following policies in Policy 4 stating that all development proposals should demonstrate appropriate levels of accessibility and highway safety. The following issues should be considered when forming such proposals.



- Restricting traffic speed through traffic calming measures such as the use of chicanes within residential streets, restricted speed limits within development roads and pedestrian priority zones.
- Make the fullest possible use of public transport, walking and cycling to school, work places and local amenities, through measures such as (but not limited to):
 - The provision of additional pedestrian footpath and cycle routes;
 - Accessibility improvements to bus stops from existing developments;
 - Real time travel information at bus stops;
 - Practical walking routes from developments to public transport, schools, work places and local amenities with proper footpaths, street lighting and safe crossing points.
- Steps to actively encourage the integration of walking and cycling routes and facilities into key destinations within the Parish
- Provision of safe routes for equestrians.

2.20. Policy 5 of the Neighbourhood Plan relates to parking. The Parish Council have stated that developments should look to deliver a parking provision of one parking space per bedroom either on-site or on-street depending on the parking capacity available in the area, unless otherwise justified. Clearly the parking levels provided, whilst being sympathetic to the aspirations of the Neighbourhood Plan, will also have to take account of Wokingham Borough Council's adopted parking standards, as set out in their Managing Development delivery DPD which was adopted in February 2014.

Summary

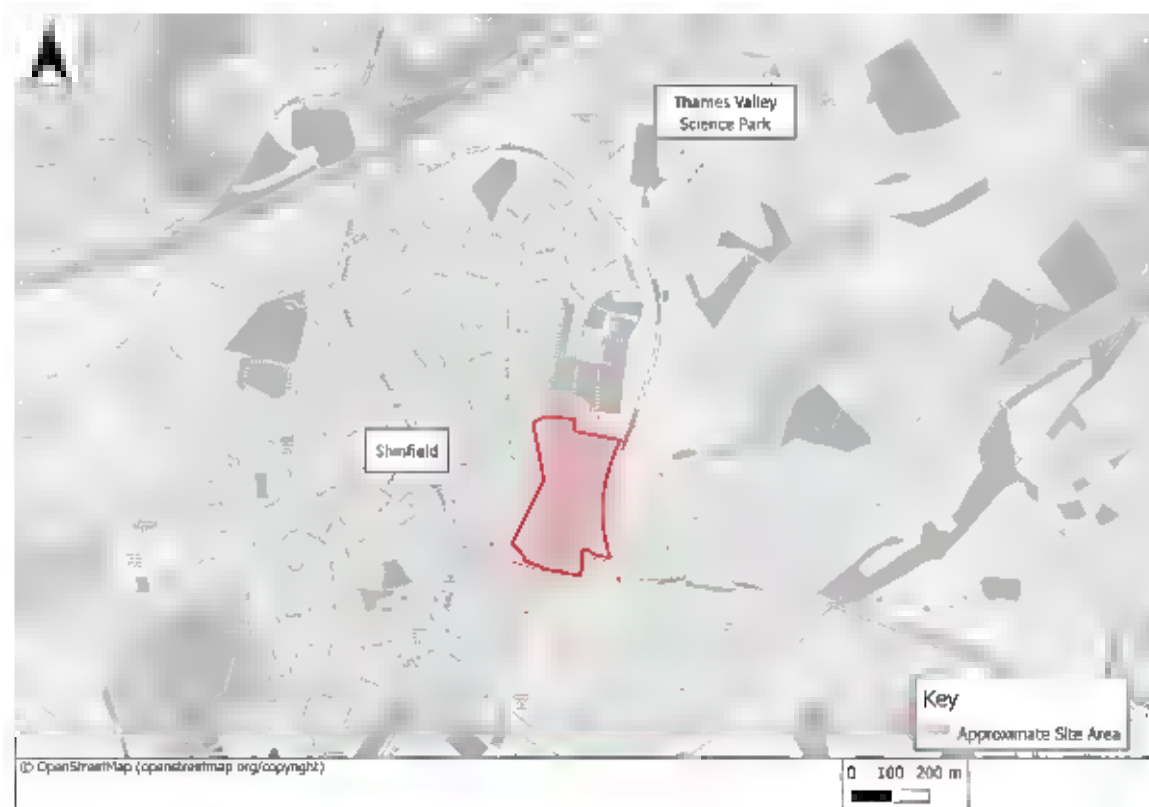
- 2.21. The overarching principle of national and local transport policy is for new development to be located where it is accessible by a range of transport including walking, cycling and public transport. Safe access and appropriate parking should be provided. Fundamentally, development should only be prevented from coming forward for transport reasons if the residual impact would be severe.
- 2.22. The following sections of the Transport Assessment describe how the development proposal complies with these national and local policy considerations.

3.0 Existing Transport Conditions

Context

- 3.1. The location of the proposed development in the context of the neighbouring area is depicted at **Figure 3.1** below.

Figure 3.1: Site Location



- 3.2. The proposed site is currently undeveloped land used for agricultural purposes. The site is bound by the earlier phase of residential development at the Long Acre estate to the north, the Shinfield Eastern Relief Road to the east, the A327 Arborfield Road to the south and existing residential dwellings on Oatlands Road to the west.
- 3.3. This Section of the Transport Assessment Report examines the existing transport provision in the vicinity of the site with all modes of travel considered.

Local Highway Network

Arborfield Road and Hollow Lane

- 3.4. The main vehicular access to the proposed development will be provided from a new priority junction to the south onto Arborfield Road. The A327 Arborfield Road routes along the southern frontage of the site and is a lit single carriageway road with a 40mph speed limit and a footway along its southern side. Approximately 200m east of the proposed site access, it forms a roundabout with the Shinfield Eastern Relief Road and 200m west of the access point there is a 4-arm roundabout with Hollow Lane/Beke Avenue and Hyde End Road.
- 3.5. Hollow Lane is a lit single carriageway road with a 40mph speed limit which changes to 30mph as it routes northwards through Shinfield village, whilst the B3349 Hyde End Road provides access to Basingstoke Road at Spencers Wood, c2.8km further to the west.
- 3.6. The Brookers Hill / Church Lane corridor connects with Hollow Lane to form a signal junction c700m north of the Hollow Lane/Beke Avenue/Hyde End Lane roundabout. The Brookers Hill / Church Lane corridor then leads to Three Mile Cross a further c2km to the west.
- 3.7. Alternatively, travelling east of the Arborfield Road / Shinfield Eastern Relief Road roundabout along the A327 corridor serves a number of settlements en-route to Wokingham, c9km east of the site.

Cutbush Lane & Eastern Relief Road

- 3.8. It is also proposed to provide a northern connection onto the spine road which routes through the Littlebrook and Long Acre residential estates which lie to the north of the site. The spine road routes through the Long Acre estate as Shepherd Road before crossing Cutbush Lane in the form of a crossroads priority junction. It then continues northwards through the Littlebrook Estate as Hawthorn before connecting onto the Shinfield Eastern Relief Road / Thanes Valley Science Park roundabout.
- 3.9. Cutbush Lane is a 30mph single carriageway road which connects with the A327 Hollow Lane c550m to the west in the form of a signal junction.
- 3.10. The Shinfield Eastern Relief Road comprises a 7.3m wide carriageway routing from Arborfield Road at its southern extent, around the eastern side of the proposed development site, before meeting with the A327 Hollow Lane corridor just to the south of the M4 motorway.
- 3.11. The Shinfield Eastern Relief Road also links to the Black Boy gyratory via the University Bridge over the M4 motorway. A separate bridge is also available for northbound buses, cyclists and pedestrians. The A327 corridor continues to the north of the Black Boy gyratory into Reading, located c6km north.
- 3.12. The B3270 Lower Earley Way is a single carriageway route running adjacent to the M4 motorway, routing east/west from the Black Boy gyratory. The route provides access to the A33 and M4 Junction 11 c1.7km to the west of the Black Boy gyratory and access to the A329 and A329(M) at Loddon Bridge, c5km to the east. The A329(M) then provides a direct connection to the M4 Junction 10 a further 4km to the east.



- 3.13. The southern section of the Shinfield Eastern Relief Road is subject to a 50mph speed limit. This reduces to 40mph along the northern section which runs between the Thames Valley Science Park roundabout and the M4 overbridge. Traffic along the remaining northern sections of the road, including at the interfaces with the Black Boy gyratory and Hollow Lane are subject to a 30mph speed limit. Street lighting is provided along the northern sections of the Eastern Relief Road, including between the M4 overbridge and the Science Park access roundabout.

Travel by Foot and Cycle

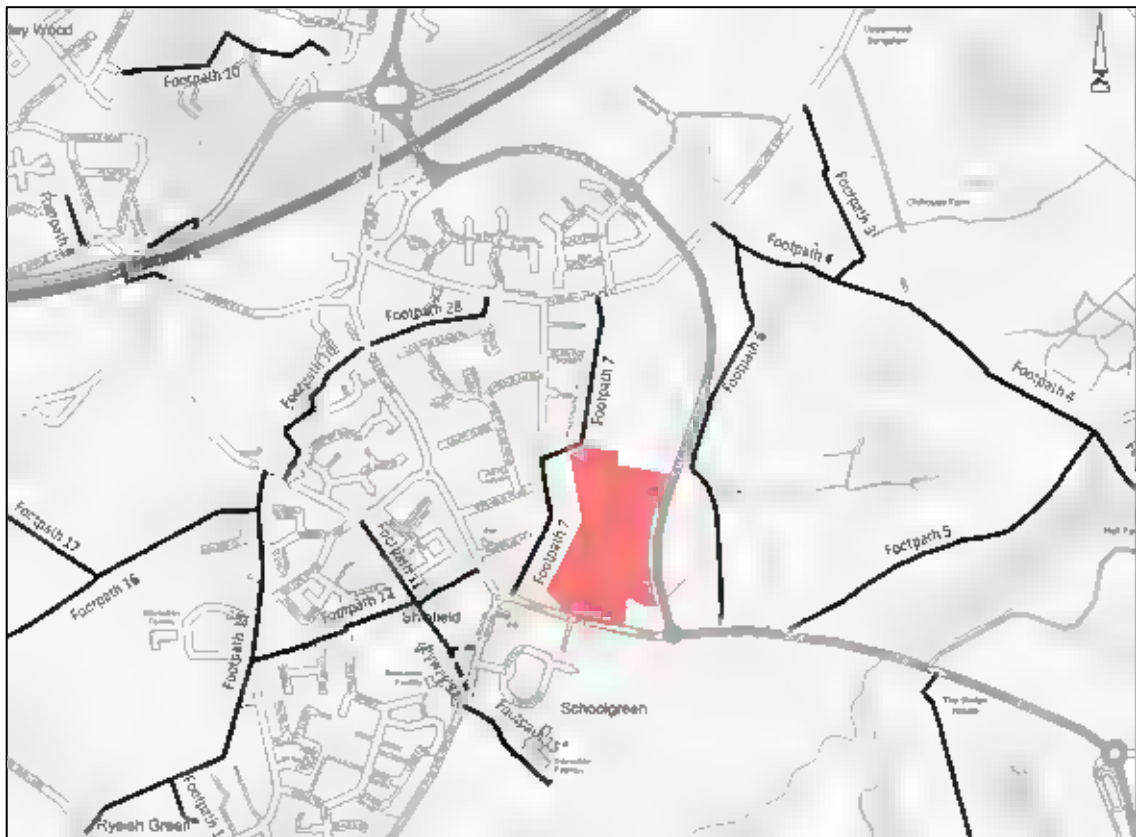
- 3.14. The proposed site has a good level of pedestrian and cycle connectivity due to the significant investment in new infrastructure that has been implemented in the area over recent years. A Wokingham Borough Council plan depicting the cycle route network in the area is attached at **Appendix B**.
- 3.15. Arborfield Road at the southern frontage of the proposed site includes a footway along its southern side which connects with the footway provision along Hollow Lane and Hyde End Road at the centre of Shinfield, approximately 200m west of the site. Beke Avenue include a 3m footway/cycleway along its northern side routing through the Local Centre of the Shinfield West Development which is currently being constructed.
- 3.16. The spine road of the existing residential parcel to the north includes a 2m footway at either side connecting to Cutbush Lane, which itself has a footway on the northern side of the road linking to the Hollow Lane corridor. A 3m cycleway also routes along the eastern frontage of the existing residential parcel north of the proposed site. The spine road between Cutbush Lane and the Shinfield Eastern Relief Road then includes a 2m footway at one side and a 3m footway/cycleway at the other.
- 3.17. To the east of Cutbush Lane, an island crossing is located on the Shinfield Eastern Relief Road, allowing pedestrians and cyclists to cross onto the lightly trafficked eastern section of Cutbush Lane which then links with the existing M4 overbridge (for non-motor vehicles only) c1km to the north-east. This forms a convenient pedestrian and cyclist route to Lower Earley.
- 3.18. A 3m footway / cycleway runs along the northern side of the Shinfield Eastern Relief Road, to the north of Cutbush Lane, providing a continuous connection running from the Thames Valley Science Park, over the M4 overbridge, linking into the facilities at the Black Boy gyratory.
- 3.19. A 3m wide cycleway is also provided along the southern side of the Shinfield Eastern Relief Road as it runs to the west between the M4 bridge and the Hollow Lane corridor. Importantly, signal controlled crossing facilities are provided at the Shinfield Eastern Relief Road's junctions with the M4 overbridge and also at the interface with the Hollow Lane corridor.
- 3.20. The University Bridge over the M4 overbridge has enabled the redundant Black Boy bridge to be utilised as an additional pedestrian / cycle / bus only bridge across the motorway.
- 3.21. The Black Boy gyratory also includes significant provision for pedestrians and cyclists which link to the footways and cycle routes that run along the B3270 corridor to the east and along the A327 corridor into Reading.

- 3.22. To the west of the site, a high standard of pedestrian and cyclist provision has been incorporated into the staggered signal junction of Cutbush Lane with Hollow Lane and Brookers Hill. A 3m cycleway then runs along the western side of the corridor to Church Lane and into the Shinfield West residential development.
- 3.23. Other notable cycle routes in the area include the shared use facility that runs along Brookers Hill, connecting Shinfield with Three Mile Cross. The cycle route along Brookers Hill also provides a connection to the footbridge over the B3270 corridor which then links into the footway provision along Whitley Wood Lane.

Public Right of Ways

- 3.24. In addition to the formal footway and cycleway routes in the area, there is also a network of recreational Public Rights of Way running in the vicinity, as identified at **Figure 3.2** below.

Figure 3.2 : Existing Public Rights of Way



- 3.25. Of note is that Public Footpath 'SHIN FP7' routes along the western flank of the Long Acre Estate to the north and then along Oatlands Road to the west of the site, providing a connection between Cutbush Lane and Arborfield Road. Public Footpath 'SHIN FP6' routes in a similar manner, albeit on land to the east of the Shinfield Eastern Relief Road. These formal public rights of way are connected by a permissive path that routes east-west on land immediately to the north of the proposed development.
- 3.26. There are also other permissive paths in the area, most notably the network of routes within the Langley Mead SANG which lies immediately to the south of the site on land south of Arborfield Road.



Pedestrian and Cycle Accessibility

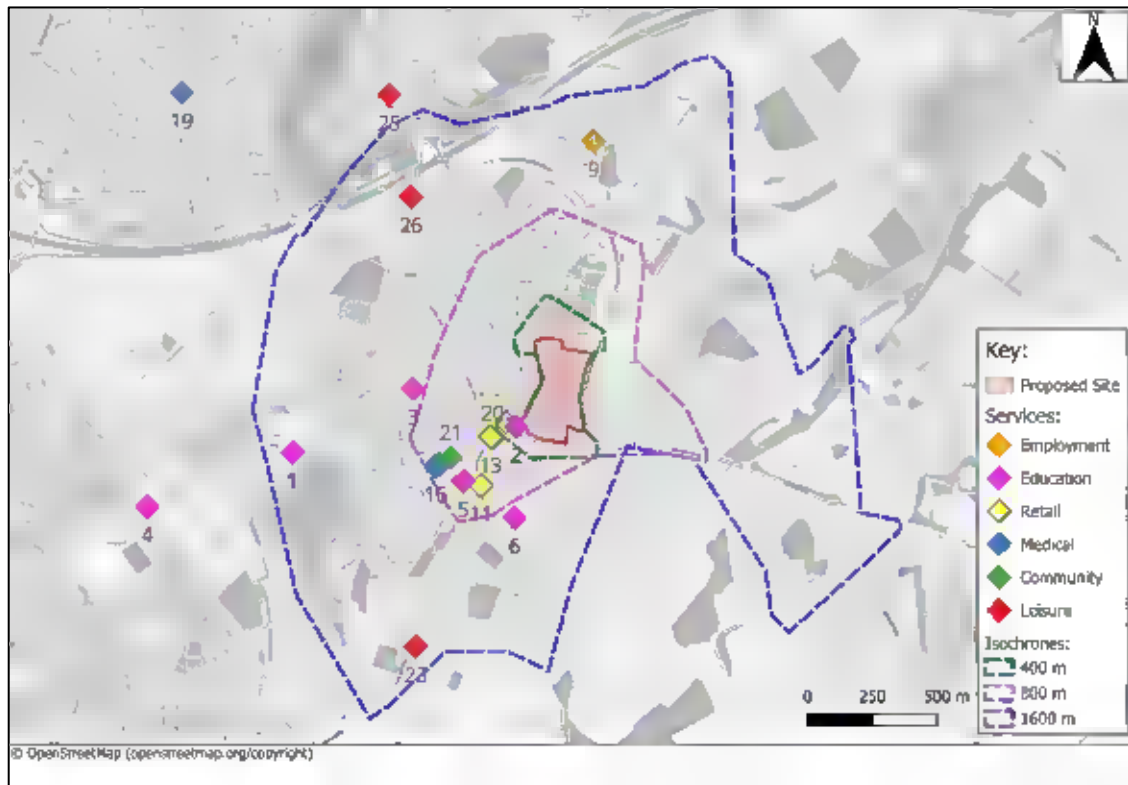
- 3.27. Walking can play an important role both in delivering accessibility at the local level and in contributing towards sustainable development patterns in the longer term. Walking is considered to be the most important mode of travel at a local level and offers the greatest potential to replace short car trips. Cycling can also contribute to transport sustainability and accessibility and is a good substitute for short car trips.
- 3.28. Government guidance on accessibility planning advises that residential development should be accessible to a range of land uses including education, employment, health and retail facilities. The provision of residential development in close proximity to such land uses helps to maximise the number of shorter distance trips and therefore capitalises on the potential for these journeys to be undertaken by non-car modes of travel.
- 3.29. It is clear that having services and facilities in close proximity is one of the primary factors in encouraging sustainable travel. In this regard it is notable that the National Travel Survey (2022) records that for the vast majority (83%) journeys of up to 1 mile (1,600m) are undertaken on foot by the general public and that even for journeys between 1 mile to 2 miles a significant proportion (40%) are still undertaken on foot. Similarly, cycling is used for accessing a variety of different destinations further afield, including educational facilities, shops and places of work.
- 3.30. On this basis, for the purposes of this Report, journeys of up to 2 miles and 5 miles are considered to represent acceptable walk and cycle distances for travel to nearby services and facilities.
- 3.31. Table 3.1 below summarises these local facilities and land uses, with actual walk distances measures along local footways from the centre of the development site. The Table also includes some key facilities that lie further afield, albeit it is not intended to represent an exhaustive list.

Table 3.1: Proximity of Key Facilities and Services

Service Type	Map ID	Facility	Approximate Distance	Within Reasonable Walking Distance	Within Reasonable Cycling Distance
Education	1	Alder Grove Primary School	1,400m		✓
	2	Happy Trails Play Nursery	400m	✓	✓
	3	Honeysuckle Day Nursery	950m	✓	✓
	-	Oakbank Secondary School	2,200m		✓
	5	Shinfield Infant and Nursery School	700m	✓	✓
	6	Shinfield St Marys C of E Junior School	900m	✓	✓
Employment	-	Green Park Business Park	4,800m		✓
	9	Thames Valley Science Park	1,150m	✓	✓
	-	Reading Town Centre	6,650m		
Retail	-	Asda Lower Early	2,530m		✓
	11	Co-Operative, Shinfield	780m	✓	✓
	-	M & S Lower Early	2,430m		✓
	13	Premier Express, Shinfield	490m	✓	✓
	-	Reading Town Centre	6,650m		
	15	Shinfield Service Station	430m	✓	✓
	-				
Health	18	Shinfield Dental Care	800m	✓	✓
	18	Shinfield Medical Centre	800m	✓	✓
	18	Shinfield Pharmacy	800m	✓	✓
	-	South Reading Surgery	3,000m		✓
	-	Royal Berkshire Hospital	5,500m		
Community	20	Shinfield Road Post Office	490m	✓	✓
	21	School Green Community Centre	700m	✓	✓
	-	Spencers Wood Library	3,650m		✓
Leisure	-	Langley Mead SANG	1,100m	✓	✓
	-	Loddon Valley Leisure Centre	1,650m	✓	✓
	-	Shinfield Players Theatre	1,800m	✓	✓
	26	The Shinfield Arms	1,200m	✓	✓

3.32. For ease of reference, the nearby facilities listed above are depicted on **Figure 3.3** below. For added context, actual walk and cycle isochrones are shown for journeys up to 1 mile (1.6km). However, for the reasons set out above, this is by no means intended to represent the outer limit of reasonable walk and cycle journeys arising from the proposed development.

Figure 3.3: Neighbouring Services and Facilities

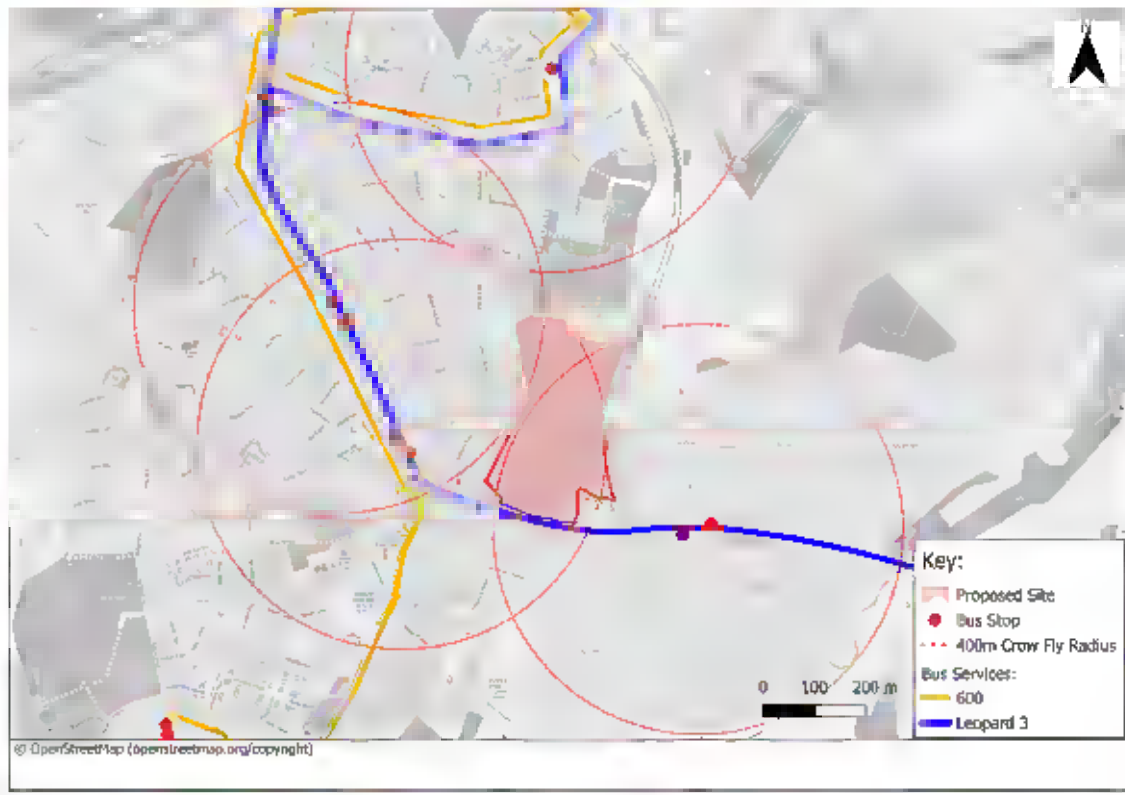


- 3.33. In addition to the range of local services and facilities located near the site and towards Reading town centre, the neighbouring consented development proposals include a variety of new services, such as the local centre at Shinfield West which will have facilities including a food store and other retail provision. There is also a network of SANG areas across the South of M4 SDL which provides access for residents to local recreation and outdoor space. These areas will be highly accessible to the future residents of the proposed Arborfield Road development, particularly given that the entrance to the Langley Mead SANG lies immediately to the south of the site.
- 3.34. The location of the proposed development is therefore consistent with national and local policy aspirations given that there are nearby services and facilities (both existing and committed) which are accessible within reasonable walking and cycling distances. There is scope therefore for journeys made in relation to the proposed development to be undertaken by non-car modes.

Travel by Bus

- 3.35. There are a number of frequent bus services operating in the vicinity of the site. The routings are depicted on **Figure 3.4** below which, for context, also shows 400m crow fly distances from the neighbouring bus stops. Of note however is that all areas of the site lie within an actual walk distance of 600m from a bus stop.

Figure 3.4: Existing Bus Stops



3.36. Bus services currently operate at bus stops along the A327 Hollow Lane corridor to the west of the site and along Arborfield Road to the south-east. There is also a bus stop along Hawthorn within the Littlebrook estate immediately to the north. Further details of the provision at the four closest pairs of bus stops set out below:

- Hollow Lane - Church Lane northbound/southbound each include a shelter and timetable information.
- Hollow Lane - School Green northbound stop includes a shelter and timetable information whilst the southbound stop includes a layby and timetable information.
- A327 Arborfield Road westbound/eastbound each include a layby and timetable information.
- Hawthorn – Timetable information

3.37. Table 3.2 below provides a summary of the services offered along the bus routes presently operating in the area.

Table 3.2 : Local Bus Services

No.	Bus Stop Locations	Route	Approximate Frequency Guide		
			Weekday	Sat	Sun
3	Hollow Lane, Arborfield Road	Central Reading – Royal Berkshire Hospital – Shinfield - Arborfield	30 mins	30 mins	30 mins
	Hollow Lane, Arborfield Road, Hawthorn	Central Reading – Royal Berkshire Hospital – Shinfield – Arborfield - Wokingham	60 mins	60 mins	-
600	Hollow Lane, Hawthorn	Reading – Mereok Park and Ride– Spencers Wood	60 mins	60 mins	-

Source: Reading Buses (June 2024)

- 3.38. As can be seen, there are a number of services operating in the locality which serve a range of destinations in the area. The Route 3 and 600 services operated by Reading Buses provide frequent services along the A327 Hollow Lane corridor through Shinfield between Reading town centre and Wokingham, resulting in 4 buses per hour routing along the corridor to Reading. Full bus service details are provided at **Appendix C**.

Travel by Rail

- 3.39. The nearest rail station to the site is at Earley which is located approximately 5.8km cycle distance to the north-east. Covered and secure cycle parking is available at the station. Earley rail station provides regular and frequent services between Reading and London Waterloo operated by South West Trains. The journey time to Reading Railway Station is c5 minutes.
- 3.40. Whilst the closest Rail Station is at Earley, it is of note that Reading rail station lies approximately 7.5km cycle distance to the north and is connected by the Thames Valley Science Park bus services described above. Reading rail station is the second busiest railway interchange in England outside London and caters for approximately 15 million passengers per year. It forms a national hub with rail services operated by Virgin Cross Country, South West Trains and First Great Western providing connections to all UK mainland destinations - including direct links to Gatwick and Heathrow International Airports. Essentially, Reading Railway Station performs three diverse roles for travellers within the Reading urban area comprising:
- Locally - connecting Reading with other adjoining local areas in the Thames Valley;
 - Regionally – forming a central Transport Hub for both the sub-region and South-east region as a whole where either connections to or interchange for services to all destinations in the south-east are possible; and
 - Nationally – forming a national hub at the cross-roads of the Great Western mainline and Cross Country networks providing connections between the sub-region and all other English regions as well as Wales and Scotland.

- 3.41. Frequent rail services operate between Reading and destinations across the UK including Wokingham and London Paddington. Table 3.3 below shows a variety of the destinations, journey time and frequency of services of rail services operating from Reading rail station.

Table 3.3: Reading Station Train Services

Destination	Journey Time	Approximate Frequency Guide			
		Peak	Off Peak	Evening	Weekend
Wokingham	9 to 15 mins	15 mins	15 mins	15 mins	15 mins
London Paddington	30 mins	8 mins	8 mins	8 mins	8 mins
Basingstoke	17 to 27 mins	20 mins	20 mins	20 mins	20 mins
Birmingham	90 mins	60 mins	60 mins	60 mins	60 mins
Bristol	49 to 70 mins	15 mins	15 mins	15 mins	20 mins
Southampton	50 mins	60 mins	60 mins	60 mins	60 mins

Source: Reading Buses (June 2024)

- 3.42. Green Park Railway station, which opened in 2023, is located c5km west of the development site and facilitates access to services along the Basingstoke to Reading line.

Accident Analysis

- 3.43. In order to establish whether there are any particular road safety issues on the local network, the most recent 5-years of Personal Injury Accident information for the highway network in the vicinity of the site has been obtained from Wokingham Borough Council. The data covers the period of December 2018 to November 2023 and the following study area has been assessed as established during the scoping exercise:

- Cutbush Lane
- Shinfield Eastern Relief Road (ERR)
- A327 Hollow Lane through Shinfield between Black Boy Gyratory and Arborfield Road
- Brookers Hill west of the A327 Hollow Lane (to Church Lane)
- Arborfield Road east of the A327 Hollow Lane Roundabout (to the ERR)
- Hyde End Road to the south of the A327 Hollow Lane Roundabout (to Appleton Way)
- Oatlands Road
- Deardon Way and Church Lane to the west of the A327 Hollow Lane

- 3.44. The accidents have been examined to determine if any patterns emerge at particular locations, relating to elements such as the type of user involved and the causes of such accidents. The accident data is summarised in Table 3.4 below while the full output is presented at **Appendix D**.

Table 3.4 : Accident Summary

Location	Severity				Road Users			
	Slight	Serious	Fatal	Total	Vehicle Only	Cycle	Pedestrian	Total
Cutbush Lane	-	-	-	-	-	-	-	-
Shinfield Eastern Relief Road	4	1	0	5	5	0	0	5
A327 Hollow Lane through Shinfield	4	2	0	6	5	1	0	6
Brookers Hill	-	-	-	-	-	-	-	-
Arborfield Road	-	-	-	-	-	-	-	-
Hyde End Road	-	-	-	-	-	-	-	-
Oatlands Road	-	-	-	-	-	-	-	-
Deardon Way/ Church Lane	1	0	0	1	1	0	0	1
Total	7	5	0	12	11	1	0	12

- 3.45. A total of 12 accidents occurred in the study area over the five-year period. None of the accidents resulted in fatalities, although three of the accidents did result in at least one serious injury. The remaining seven of the accidents were recorded as resulting in slight injuries.
- 3.46. None of the accidents involved pedestrians, one involved a cyclist and the remaining 11 accidents were vehicle-only incidents.
- 3.47. Of note is that no accidents were recorded at the site frontage along Arborfield Road which is where the proposed access junction is to be formed.
- 3.48. An appraisal of the accidents which occurred within the study area is set out below.

Shinfield Eastern Relief Road

- 3.49. Two accidents occurred at the signal junction at the northern extent of the corridor. The first involved a right turning car colliding with a motorcycle resulting in a slight injury with a variety of possible causes listed. The other accident involved a car suddenly breaking due to a malfunction then a light goods vehicle hit the rear of the car resulting in 3 slight injuries.
- 3.50. Two accidents occurred to the north of the Thames Valley Science Park roundabout. A northbound car changed lanes after failing to look properly and collided with another car resulting in a slight injury, whilst a second accident involved a southbound driver losing control on the bend resulting in a serious injury. Careless or reckless driving were listed as possible causes of the single accident which results in serious injury.



- 3.51. The final slight accident involved a southbound car to the south of the Thames Valley Science Park access roundabout overtaking a motorcycle then losing control as a result of a poor manoeuvre.

A327 Hollow Lane through Shinfield

- 3.52. Three accidents occurred in the vicinity of the Hollow Lane / Arborfield Road/ Hyde End Road roundabout. A serious injury occurred when a car entered the roundabout and collided with a motorcycle after failing to look properly. In another incident a car reversing from a parking space collided with a car waiting to turn causing a slight injury, whilst the final accident involved a southbound car at Hollow Lane shunting a car waiting at temporary lights.
- 3.53. Two accidents occurred at the Hollow Lane/Brookers Hill signal junction. One, which resulted in slight injuries, occurred when a right turning car hit another after disobeying the traffic signal. The other accident happened when a fatigued southbound driver crossed the carriageway and collided with another car, resulting in a serious injury.
- 3.54. The last accident was at the northern extent of Hollow Lane near the Foot/Cycle/Bus bridge over the M4 motorway when a cyclist hit a car as a result of defective breaks which resulted in a slight injury.

Deardon Way/ Church Lane

- 3.55. The slight accident at Church Lane/Skylark Way involved a right turning car hitting another after failing to look properly.

Summary

- 3.56. Whilst all accidents are regrettable, based on the above analysis it is not considered that there are any specific issues with highway safety in the area that would be significantly exacerbated by the additional traffic that would be attributable to the development proposals.

Baseline Traffic Flows

- 3.57. An Automatic Traffic Counter (ATC) was placed on Arborfield Road, in the vicinity of the proposed site access, to record the existing flows and speeds of traffic at the site frontage over a 7-day period between Tuesday 11th June and Monday 17th June 2024 inclusive. A summary of the ATC results are presented in **Appendix E**.
- 3.58. The results of the ATC indicate that Arborfield Road typically accommodates approximately 830 two-way movements during the busiest hour. The predominant direction of travel exhibits a slight bias away from Shinfield during the morning peak with a reversal during the evening peak hour.
- 3.59. The ATC surveys also recorded a 7-day average 85th percentile speeds of 38.7mph (eastbound) and 38.4mph (westbound), indicating that vehicles predominately adhere to the posted 40mph speed limit.

4.0 Development Proposals

Context

- 4.1. This Section of the Transport Assessment Report outlines the transport measures that will accompany the proposed development which have been derived to facilitate movement by all modes of travel in a satisfactory manner.
- 4.2. A copy of the proposed Layout is attached as **Appendix A** of this report. Further details which set out how the Layout has been developed to reflect a number of considerations, including access and movement, are set out in the Design and Access Statement which accompanies the planning submission.
- 4.3. Primary vehicular access is proposed to be provided via a new priority junction to the south onto Arborfield Road. It is also proposed to connect to the existing spine road which routes through the Littlebrook and Long Acre residential estates which lie to the north of the site, thereby providing a second point of access which will deliver a through route between Arborfield Road and the Eastern Relief Road / Thames Valley Science Park roundabout.
- 4.4. Pedestrian and cycle access into the development will be delivered through connections onto the Arborfield Road frontage as well as a southerly continuation of the facilities being promoted along both sides of the spine road which routes through the Long Acre estate immediately to the north.

Travel by Foot and Cycle

- 4.5. Careful consideration has been within the proposed Layout with regard to the integration of the proposed development with the surrounding facilities and infrastructure in order to deliver a high level of connectivity for movements to and from the site.
- 4.6. A number of design measures to cater for pedestrian and cycle movements within the development have been employed, including:
 - A street pattern that generates natural surveillance where entrances and frontages face all public routes.
 - An internal layout that encourages low vehicle speeds and therefore creates an environment where pedestrians and cyclists are not intimidated by motor traffic.
 - A permeable hierarchy of direct routes within the development comprising a range of shared, segregated and recreational links which would connect all internal areas of the development to the points of access.
- 4.7. A dropped kerb and tactile paving crossing is proposed across the access arm of the junction onto Arborfield as well as a new pedestrian island crossing of Arborfield Road which afford direct to Langley Mead SANG which lies immediately to the south. The proposed access arrangement also accommodates a 3m footway / cycleway routing westwards along Cutbush Lane connecting to the Shinfield Eastern Relief Road roundabout approximately 100m to the east of the proposed access junction.
- 4.8. Further to the site access arrangements, the following footway and cycleway provision has been incorporated into the proposed Layout:



- 2.0m footways provided on both sides of the carriageway along the primary street network within the development.
 - 2.0m footways along the secondary streets.
 - 3m wide off carriageway footway / cycleway which routes along the eastern frontage of the site.
- 4.9. Within areas such as private drives, shared streets will be promoted allowing pedestrians and drivers to share the carriageway where lower volumes and speeds of vehicles permit this.
- 4.10. Residents at the proposed development would therefore enjoy attractive and continuous routes within the development providing connection between Arborfield Road, Cutbush Lane and Oatlands Road.

Travel by Public Transport

- 4.11. As has been established in Section 3 of this report, the Leopard 3 service operates along the southern frontage of the site offering a 20 minute frequency service between Reading and Arborfield and an hourly service to Wokingham. In addition, the 900 service operates at an hourly frequency through the Littlebrook estate to the north. All areas of the development are within a 600m actual walk distance from the nearby bus stops. These services will therefore offer future residents a good level of accessibility for bus journeys.
- 4.12. Notwithstanding, care has been taken during the design of the main spine road through the Layout to ensure that the carriageway is of a sufficient width to accommodate two-way buses routing through the site. This is demonstrated on the swept path analysis which is presented within **Appendix F**. The Layout therefore safeguards the ability for buses to travel through the development between Arborfield Road and the Shinfield Eastern Relief Road / Thames Valley Science Park roundabout should there be a desire to adopt such a routing in the future.

Travel by Car

- 4.13. Whilst the development proposals seek to maximise connectivity for non-car modes of travel, it is also important that a satisfactory level of highway provision is allowed for within the internal layout of the development which, in turn, affords a satisfactory access arrangement onto the surrounding highway network.
- 4.14. Vehicular access at the southern frontage of the site will be formed by way of a priority junction with a ghost island right turn lane onto Arborfield Road. The proposed access arrangement is depicted on Drawing No. HD008-006/P1, attached as **Appendix G**. The design of the access junction accommodates visibility spays of 2.4 x 120m, commensurate with the speed limit of 40mph.
- 4.15. Swept path analysis has been undertaken to demonstrate that large vehicles including a refuse vehicle and buses can manoeuvre at the proposed site accesses in a safe and satisfactory manner. The results of the swept path analysis are shown on the Drawings included within **Appendix H**.
- 4.16. At the northern end of the site, it is proposed to connect into the Shepherd Road corridor which runs through the Long Acre estate. This will then create a new vehicular route between Arborfield Road and the Thames Valley Science Park access roundabout.



- 4.17. Mindful that the earlier phases of development to the north, it is proposed that the highway hierarchy and carriageway dimensions align with those being provided within the recently constructed Long Acre estate.
- 4.18. The primary street routes north to south through the development and provides access to a number of secondary streets which have carriageways of 4.8m in width. The remaining tertiary streets, private drives and parking courtyards within the development will generally comprise shared surface streets. The use of shared surface streets recognises that the volume and speeds of traffic in these areas will be low. The approach taken will therefore deliver well designed safe streets that contribute to the quality of the built environment.

Servicing

- 4.19. The swept path analysis presented on the drawings at **Appendix F** demonstrate that a fire tender is able to manoeuvre within 45m of every property in a satisfactory manner. Similarly, the design of the internal street network has been assessed to identify that a large refuse vehicle can be accommodated with sufficient allowance for turning manoeuvres.
- 4.20. Of note is that Bin Collection Points provided to prevent excessive carry distances for either residents or waste vehicle operatives.

Parking Guidance

- 4.21. Wokingham Borough Council's Parking Standards are presented within Appendix 2 of its Managing Development Delivery DPD which was adopted in February 2014.
- 4.22. The standards no longer identify maximum numbers of parking spaces to be provided within residential developments. This approach is in line with national guidance presented in the National Planning Policy Framework (March 2012) and Planning Practice Guidance (October 2014) which recognise that the level of parking provided should be based on a number of local factors including car ownership, dwelling type and size as well as being mindful of local constraints such as the availability of on-street parking facilities in the locality.
- 4.23. The Wokingham Borough Council Parking Standards advocate the use of a 'Demand Calculator' which helps to establish the level of parking demand at a development. With regards to residential parking, the 'Demand Calculator' appraises the level of on-plot parking in order to establish the level of ancillary, unallocated parking that should be provided within a development. The 'Demand Calculator' also makes an allowance for instances when not all garages provided within a development will be fully utilised for car parking.
- 4.24. It is however important to note that the Wokingham Borough Council Parking Standards acknowledge that the standards and the 'Demand Calculator' should be regarded as only a starting point and that the overall level of parking provided will need to be assessed on its own merits within the wider context of the area within which the development sits.

Vehicular Parking Strategy

- 4.25. When determining the precise level and type of parking throughout the wider development, consideration has been given to the housing types proposed. A design led approach has been adopted which seeks to provide parking that is well integrated and compliments, rather than dominates, the street scene.
- 4.26. The objective is to provide an adequate level of parking and, importantly, to ensure that the spaces that are designed for parking are used for parking, and that places where parking will cause problems are not going to be used for that purpose. This approach will help to prevent the problems such as cars parked indiscriminately which obstruct pavements and restrict access along a street.
- 4.27. Most car owners like to be able to see their vehicles and / or to know that they are securely parked. On plot parking satisfies this strong desire. Acceptance of this means that the significant majority of the parking at the proposed development is designed to be provided within the curtilage of dwellings through the use of on-plot spaces.
- 4.28. The proposed Layout allows for unallocated parking, predominantly through the use of on-street parking bays. In this respect, care has been taken to ensure that the on-street parking areas are designed so that they do not impinge on the operation of the street or footways.

Allocated Parking

- 4.29. The proposed layout provides for some 304 allocated spaces and a further 43 spaces within garages.
- 4.30. Table 4.1 below provides a summary of the level of allocated parking provision for each of the dwelling sizes while a plot-by-plot appraisal of the allocated parking is presented in **Appendix I** of this report. For the avoidance of doubt, Table 4.1 identifies all garages as contributing to an 'allocated space.'

Table 4.1: Summary of Allocated Parking Provision

Dwelling Size	No of Dwellings	0 Spaces	1 Space	2 Spaces	3 Spaces
1 Bed Flat	17	17	-	-	-
2 Bed Flat	11	11	-	-	-
2 Bed House	18	-	6	12	-
3 Bed House	98	-	14	84	-
4 Bed House	47	-	-	6	41
Total	191	28	20	102	41

- 4.31. As can be seen, all of the houses within the development have at least one allocated parking space and the majority of houses with 2 or more bedrooms have at least 2 spaces. Parking for the apartments is provided in the form of unallocated spaces within the separate parking courtyards that serve each of the apartment blocks.

- 4.32. It is noted that based on Wokingham Borough Council's research, garages are only used around 50% of the time for parking. The provision has therefore been re-presented in Table 4.2 below, but this time excluding all garages from the calculation, to provide reassurance that if the resident chooses to not use their garage for parking, they still have access to sufficient numbers of allocated parking spaces.

Table 4.2: Summary of Allocated Parking Provision (Excluding Garages)

Dwelling Size	No of Dwellings	0 Spaces	1 Space	2 Spaces	3 Spaces
1 Bed Flat	17	17	-	-	-
2 Bed Flat	11	11	-	-	-
2 Bed House	18	-	6	12	-
3 Bed House	98	-	14	84	-
4 Bed House	47	-	2	45	-
Total	191	28	22	141	-

- 4.33. As Table 4.2 identifies, even when excluding garages, all houses still have benefit of an allocated space which is not a garage. Furthermore, the significant majority of 3-bed houses and nearly all of the 4-bed houses are provided with 2 allocated spaces which are not garages.

Visitor Parking

- 4.34. In order to cater for the demands of visitors, a blanket requirement of 1 visitor space for every 5 dwellings is required. This equates to a total visitor provision of 38.2 visitor spaces across the proposed development.

Unallocated Parking

- 4.35. The Wokingham Borough Council Parking 'Demand Calculator' appraises the level of on-plot parking in order to establish the level of ancillary, unallocated parking that should be provided within a development.
- 4.36. It is important to reiterate that the Wokingham Borough Council Parking Standards acknowledge that the standards and the 'Demand Calculator' should be regarded as only a starting point and that the overall level of parking provided will need to be assessed on its own merits. Nevertheless, the 'Demand Calculator' does provide a useful indication against which the level of provision within the layout can be assessed.
- 4.37. The identification of the demand for unallocated spaces on a plot-by-plot basis is based on the coefficients set out in the parking standards.
- 4.38. The single garages within the layout, which in almost all cases are provided as the 3rd parking space for each dwelling, have generally been sized as 6.5m x 3.4m in accordance with the minimum dimensions of 3m x 6m required within the Wokingham Borough Council parking standards. However, the 2no. plots provided with 1 garage and 1 allocated space have a larger 3.1m x 7.3m garage dimension.



- 4.39. The Wokingham Borough Council Parking Calculator does not require unallocated demand to be provided at properties with more than 2 spaces (other than the blanket 0.2 visitor spaces per unit). Therefore, in the instances where the inclusion of the additional garage provides such plots with a total of three parking spaces, the unallocated demand has been excluded for such properties when ascertaining the total unallocated parking requirement for the development.
- 4.40. As can be seen from the parking appraisal at **Appendix I**, this yields a total requirement for 36 communal unallocated parking spaces on top of the 38.2 visitor spaces required, thereby equating to a requirement for at least 74 such spaces across the development. The Layout responds positively to this requirement by delivering a total of 78 unallocated / visitor spaces, thereby according with the parking requirement. The location of each parking space and garage is identified on the layout provided at **Appendix A**.
- 4.41. Of note is that if all 43 garages were ignored within the appraisal then the unallocated demand calculation would yield an alternative demand of 42.4 spaces. When combined with the 38.2 visitor spaces this would result in an overall demand for 81 visitor / unallocated spaces. The 78 spaces being provided remains broadly in accordance with the standards, even in the unrealistic scenario where the benefit of all garages is excluded entirely.

Summary of Vehicular Parking

- 4.42. For ease of reference, the parking provision throughout the development, expressed as ratios per dwelling, is summarised in Table 4.3 below.

Table 4.3: Vehicular Parking Summary

Unit Mix	No of Spaces	Ratio per Dwelling
Visitor / Unallocated	78	0.41
Allocated	304	1.59
Garages	43	0.23
Total Allocated + Garages + Visitor / Unallocated	425	2.23

- 4.43. As can be seen, the resultant parking provision at the development equates to an average of 2.23 spaces per dwelling.

Cycle Parking

- 4.44. Wokingham standards identify a requirement based on habitable rooms provided which typically results in a provision of 1,2 or 3 spaces per 1/2/3+ bed house.
- 4.45. Cycle parking will generally be accommodated within the curtilage of each individual house, including within garages where these are provided as detailed below.
- A total of 41no. 4-bed dwellings are provided with a 6.5 x 3.4m garage to accommodate 3 cycles. Note that each of these units has 2no. allocated car parking spaces in addition to the garage.



- A further 2no. 4-bed dwellings are provided with a larger 7.3 x 3.1m garage to accommodate 3 cycles and a car. Note that each of these units has 1no. allocated car parking space in addition to the garage.
- 4.46. For the remaining 119 units where garages are not provided, each house will be provided with a storage shed in their back gardens suitable for the storage of typically 2no. bikes, with rear accessing gates meaning that residents will not need to bring their bicycles through the house.
- 4.47. Based on the habitable rooms for each flat type proposed, Wokingham's standards set a provision of 1 cycle space per flat for the 28no. flats. These are provided within secure stores for each of the blocks of flats within the development with further details shown on the ground floor plans for each apartment type.

Travel Plan

- 4.48. As part of the scoping discussions it has been agreed that, instead of preparing a new Travel Plan for the development, a S106 financial contribution will be provided instead given that matters relating to Travel Planning are now addressed through WBC's 'My Journey Wokingham' initiative.

5.0 Travel Demand

Introduction

- 5.1. This Section of the Transport Assessment Report outlines the forecast trip generation of the proposed development in respect of vehicular trips. Trips in relation to other modes of travel are set out in Section 8.
- 5.2. The appraisal focuses on the weekday morning and evening peak hours which represent the busiest periods along the local highway network.

Vehicular Trip Rates and Trip Generation

- 5.3. The vehicular trip generation for the proposed development has been assessed using approved peak hour trip rates which Wokingham Borough Council has used within its Wokingham Strategic Transport Model (WSTM). Although the proposed development will comprise a mixture of apartments and housing, for robustness, the trip generation is based on all units being houses. This is a robust assumption since houses typically have a higher trip rate than apartments.
- 5.4. Table 5.1 below shows the vehicle trip rates and the resultant number of trips related to the proposed development of 191 dwellings.

Table 5.1 : Vehicular Trip Generation

Residential Trip Rates	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	In	Out	Two Way	In	Out	Two Way
Vehicular Trip Rate (per unit)	0.17	0.41	0.58	0.36	0.16	0.51
Proposed Development (191 Units)	32	78	111	69	31	97

- 5.5. As can be seen the development proposals would generate less than 120 peak hour trips during the morning and evening peak hours.

Trip Distribution and Assignment

- 5.6. The distribution and assignment of the development generated vehicular trips is being undertaken using the Wokingham Borough Council WSTM traffic model. Further details of the approach taken are set out in Section 6 of this report.

6.0 Wokingham Strategic Transport Model (WSTM)

Context

- 6.1. Wokingham Borough Council has developed a Wokingham Strategic Traffic Model (WSTM) which enables the assessment of traffic impact arising from development sites within the Borough. The model has been produced to assist Wokingham Borough Council in assessing the traffic impact and possible mitigation requirements relating to such development sites.
- 6.2. Information on the access arrangements, development quantum and peak hour vehicular trip generation has been supplied to Wokingham Borough Council. These inputs have then been used by their modellers to provide a bespoke model run to assess the impact the proposed development will have on the local highway network. The use of the WSTM model therefore allows the traffic impact assessment to be undertaken on a common and agreed basis.

Assessment Scenarios

- 6.3. The WSTM model contains outputs for morning and evening peak periods.
- 6.4. The model includes outputs for a future year of 2026, albeit it is currently being updated to allow for a 2038 future year which accounts for development proposed within Wokingham Borough Council's Draft Local Plan. Given the proposed development would not be operational until after 2026, future year flows for 2032 and 2038 are being obtained for the local highway corridors. The use of such design years complies with the DfT guidance which advises that the impacts of a development should be assessed using a design year that is at least 5 years beyond the date of submission of a planning application.
- 6.5. In order to derive traffic flow data specific to the proposed development, WSTM model outputs are being obtained for two baseline scenarios, namely:
 - 2032 'Forecast Base'
 - 2038 'Forecast Base'
- 6.6. These two scenarios will enable a future baseline to be derived against which the impacts of the proposed development can be appraised.
- 6.7. The proposed development flows arising from the 191 units have then been incorporated into each scenario to derive two additional WSTM model outputs, namely:
 - 2032 'With Proposed Development'
 - 2038 'With Proposed Development'



- 6.8. Both the 2032 'With Development' and 2038 'With Development' scenarios allow the impact of the development proposals to be assessed when the development is fully operational. The design flows also allow for traffic growth and committed development, thereby ensuring that the impact of the proposed development is assessed in a cumulative manner which accounts for the effects of other strategic planned development in the area.

7.0 Assessment of Vehicular Impact (2032)

Context

- 7.1. This Section of the Transport Assessment Report assesses the impact of the vehicular trips generated by the proposed development for a future assessment year of 2032. This represents a design year where the development will be fully operational and is more than 5 years from the submission of the planning application.

Detailed Junction Assessments

- 7.2. The detailed appraisals of the junctions in the vicinity of the site have been undertaken by using outputs from the Wokingham Strategic Transport Model (WSTM) for the 2032 'Forecast Base' and 2032 'With Development' scenarios to demonstrate the future conditions when the proposed development is fully implemented. Importantly the analysis appraises the impact of the proposed development while also including for the traffic associated with other planned developments in the area that will be operational by 2032.
- 7.3. The 2032 'Forecast Base' and 2032 'With Development' traffic flows derived from the WSTM model for the morning and evening peak hours are depicted on the diagrams attached within **Appendix J**.
- 7.4. As would be expected, flows across the majority of the network are slightly higher during the 2032 'With Development' scenario which allows for the traffic arising from the proposed development. However, of note is a slight reduction of flows on the Eastern Relief Road corridor south of the Thames Valley Science Park access roundabout. This reflects the benefit of the new link through the proposed site which facilitates more direct routing for the existing residential developments at Long Acre and Littlebrook located immediately to the north.
- 7.5. It should be noted that output from the WSTM model is available as either 'Actual Flows' or 'Demand Flows'. 'Demand Flows' can be defined as the level of traffic that wants to travel through a particular junction or link during a specific time period, but may be prevented from doing so by queuing at upstream areas of the network (i.e. the 'Demand Flows' represent unsuppressed demand). The use of 'Demand Flows' is therefore considered to present an exaggerated and overly robust representation which can result in assumed traffic levels that are unrealistically high given that they ignore the effects of upstream queuing.
- 7.6. Nevertheless, the WSTM output and subsequent analysis presented within this Transport Assessment Report is based on the 'Demand Flows'. It is therefore important that this effect is given sufficient consideration when reviewing the findings of the capacity analyses that are presented below.
- 7.7. As identified within the agreed scoping exercise, the following junctions have been assessed:
1. Site Access / Arborfield Road priority junction
 2. Shepherd Road / Cutbush Lane / Hawthorn crossroads
 3. Shinfield Eastern Relief Road / Science Park Roundabout
 4. Shinfield Eastern Relief Road / Arborfield Road Roundabout
 5. Hollow Lane / Arborfield Road / Hyde End Road / Shinfield West Roundabout

7.8. The findings of the future year capacity analysis for each of the junctions is set out below.

Site Access / Arborfield Road priority junction

- 7.9. The assessment of the proposed Site Access / Arborfield Road Priority Junction has been undertaken using JUNCTIONS 10 for the 2032 'With Development' scenario for both the AM and PM peak hours.
- 7.10. The JUNCTIONS 10 software relates certain variables such as the geometry of a junction and the traffic flow to predict the capacity of a junction. The software calculates a useful measure of performance of a junction represented as a Ratio of Flow to Capacity (RFC) of which an RFC of 1.00 indicates that a junction is operating at its theoretical capacity.
- 7.11. The result of the assessment is summarised at Table 7.1 below whilst the full capacity assessment outputs are included at **Appendix K**.

Table 7.1: Proposed Site Access / Arborfield Road Priority Junction

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2032 With Development Analysis				
Site Access - Left Out	1	0.08	0	0.04
Site Access - Right Out	1	0.27	1	0.30
Arborfield Road - Right in	0	0.03	0	0.05

Note : Analysis based on Drawing No. HD008-006/P1

- 7.12. The results in Table 7.1 above indicate that the proposed site access would operate well within capacity with minimal queuing along the approaches during both peak hours. The proposed layout can therefore readily accommodate the future year traffic flows generated by the proposed development with significant spare capacity.

Shepherd Road / Cutbush Lane / Hawthorn crossroads

- 7.13. Capacity assessments of the existing Shepherd Road / Cutbush Lane / Hawthorn crossroads junction have been undertaken using JUNCTIONS 10 software for the 2032 'Forecast Base' and 2032 'With Development' scenarios for both the AM and PM peak hours.
- 7.14. The result of the assessments for each scenario is summarised at Table 7.2 below whilst the full capacity assessment outputs are included at **Appendix L**.

Table 7.2: Shepherd Road / Cutbush Lane / Hawthorn crossroads Junction

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2032 Forecast Base Analysis				
Shepherd Road	1	0.12	0	0.05
Cutbush Lane (E)	0	0.00	0	0.00
Hawthorn	0	0.04	1	0.20
Cutbush Lane (W)	0	0.03	0	0.03
2032 With Development Analysis				
Shepherd Road	1	0.11	1	0.05
Cutbush Lane (E)	0	0.00	0	0.00
Hawthorn	0	0.04	1	0.19
Cutbush Lane (W)	0	0.01	0	0.04

Note : Analysis based on Existing Junction Layout

- 7.15. The results in Table 7.2 above indicate that the existing junction would operate well within capacity in both the 2032 Forecast Base and the 'With Development' scenarios during both peak periods.

Shinfield Eastern Relief Road / Thames Valley Science Park Roundabout

- 7.16. Capacity assessments of the existing Shinfield Eastern Relief Road / Science Park Roundabout have been undertaken using JUNCTIONS 10 software. The analysis tests the performance of the roundabout for the 2032 'Forecast Base' and 2032 'With Development' scenarios for both the AM and PM peak hours.
- 7.17. Drawings depicting the junction geometries that have been used are provided at **Appendix M**. The result of the assessments for each scenario is summarised at Table 7.3 below whilst the full capacity assessment outputs are included at **Appendix N**.

Table 7.3 : Science Park / Eastern Relief Road Roundabout (Existing Layout)

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2032 Forecast Base Analysis				
TVSP Access	1	0.10	12	0.94
Eastern Relief Road (S)	12	0.93	2	0.69
Hawthorn	1	0.48	1	0.10
Eastern Relief Road (N)	44	1.02	3	0.76
2032 With Development Analysis				
TVSP Access	1	0.10	12	0.94
Eastern Relief Road (S)	5	0.84	2	0.67
Hawthorn	1	0.43	1	0.06
Eastern Relief Road (N)	24	0.98	4	0.78

Note : Analysis based on Existing Roundabout Layout

- 7.18. The results in Table 7.3 above indicate that the existing junction would operate slightly over capacity with an RFC of 1.02 predicted during the AM peak period for the 2032 Forecast Base scenario. During the PM scenario the junction would operate close to capacity with an RFC of 0.94 at the TVSP Access arm.
- 7.19. As mentioned above, the WSTM flows which allow for the proposed development identify a slight reduction of flows along the southern section of the Shinfield Eastern Relief Road corridor as a result of the benefit of the new link through the proposed site which facilitates a more direct routing for some existing traffic in the area. This change is evident from the 'With development' results at Table 7.3 which indicate that the roundabout would perform slightly better when the development is in place during both the morning and evening peak hours. The results therefore indicate that the proposed development would not have a significant impact on the operation of the Thames Valley Science Park access roundabout.
- 7.20. Notwithstanding the above, it is of note that an improvement scheme which would deliver additional capacity at the roundabout has already been secured through S106 Agreement as part of the Thames Valley Science Park planning consent. The improvement scheme provides additional capacity along the Eastern Relief Road northern approach and hence, if implemented, the predicted queuing identified in Table 7.3 would be less pronounced.

Shinfield Eastern Relief Road / Arborfield Road Roundabout

- 7.21. Capacity assessments of the Shinfield Eastern Relief Road / Arborfield Road Roundabout have been undertaken using JUNCTIONS 10 software. The analysis tests the performance of the roundabout for the 2032 'Forecast Base' and 2032 'With Development' scenarios for both the AM and PM peak hours.
- 7.22. The result of the assessments for each scenario is summarised at Table 7.4 below whilst the full capacity assessment outputs are included at **Appendix O**. As before, drawings depicting the junction geometries that have been used are provided at **Appendix M**.

Table 7.4: Eastern Relief Road / Arborfield Road Roundabout

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2032 Forecast Base Analysis				
Arborfield Road (E)	3	0.73	8	0.89
Arborfield Road (W)	7	0.88	1	0.49
Eastern Relief Road (N)	2	0.64	25	0.98
2032 With Development Analysis				
Arborfield Road (E)	3	0.74	8	0.89
Arborfield Road (W)	3	0.76	1	0.46
Eastern Relief Road (N)	2	0.62	18	0.96

Note : Analysis based on Existing Roundabout Layout

- 7.23. The analysis in Table 7.4 shows that the existing roundabout is forecast to operate close to capacity during the 2032 Forecast Base scenario with an RFC of 0.98 during the PM peak period. As with the TVSP access roundabout, the slight reduction in flows along the southern section of the Shinfield Eastern Relief Road corridor when the development is implemented does mean that the approaches to the roundabout perform marginally better in the 2032 'With Development' scenario.

Hollow Lane / Arborfield Road / Hyde End Road / Shinfield West Roundabout

- 7.24. Capacity assessments of the Hollow Lane / Arborfield Road / Hyde End Road / Shinfield West Roundabout have been undertaken using JUNCTIONS 10 software for the 2032 'Forecast Base' and 2032 'With Development' scenarios for both the AM and PM peak hours. The result of the assessments for each scenario is summarised at Table 7.5 below whilst the full capacity assessment outputs are included at **Appendix P**. Drawings depicting the junction geometries that have been used are provided at **Appendix M**.

Table 7.5: A327 / Arborfield Road / Hyde End Road / Beke Avenue Roundabout

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2032 Forecast Base Analysis				
Arborfield Road (E)	1	0.29	2	0.60
B3349 Hyde End Road	6	0.85	1	0.49
Beke Avenue	1	0.30	1	0.29
Hollow Lane	1	0.49	1	0.43
2032 with Development Analysis				
Arborfield Road (E)	1	0.32	2	0.62
B3349 Hyde End Road	6	0.86	1	0.50
Beke Avenue	1	0.32	1	0.30
Hollow Lane	1	0.51	1	0.43

Note : Analysis based on Existing Roundabout Layout

- 7.25. Table 7.5 indicates that each of the arms of the Hollow Lane roundabout would operate within capacity during the 2032 'Forecast Base' scenario and would continue to do so during the 'With development' scenario. The Hyde End Road approach has the highest predicted RFC (0.85) during the AM peak period, which increases to 0.86 when allowing for the proposed development. The marginal increase in RFC does not however result in a change to the predicted queue of 6 vehicles along this approach.

Wider Highway Network

- 7.26. In addition to assessing the impact of the proposed development at the local junctions, an appraisal of traffic flows has also been undertaken along the main corridors in the vicinity of the site in order to ascertain the level of impact of the development along the wider highway network.

7.27. Table 7.6 below identifies the number of vehicles that are predicted along the wider highway corridors during the morning and evening peak hours in the 2032 'Forecast Base' and 2032 'With Development' scenarios.

Table 7.6: Two-Way Flows Along Wider Highway Network

Link	AM Peak Hour				PM Peak Hour			
	2032 Base	2032 With Dev	Change	% Change	2032 Flow	2032 With Dev	Change	% Change
A327 Shinfield Road	1,888	1,889	+1	0%	1,878	1,886	+8	0%
B3270 Lower Earley Way (West)	3,893	3,896	+3	0%	3,415	3,429	+14	0%
B3270 Lower Earley Way (East)	2,621	2,633	+12	0%	2,668	2,682	+13	+1%
Shinfield Road (West of University Bridge)	1,924	1,922	-1	0%	1,694	1,727	+33	+2%
Beke Avenue	335	345	+10	+3%	537	538	+2	0%
Reading Road (East of Observer Way)	523	532	+9	+2%	796	808	+11	+1%
Hyde End Road	1,931	1,977	+47	+2%	1,380	1,410	+30	+2%
Observer Way	2,074	2,123	+49	+2%	2,215	2,233	+18	+1%

Note : Flows are Two-Way Total Vehicles

- 7.28. The appraisal of changes in traffic flows along the wider highway network demonstrates that the traffic flows generated by the proposed development would soon dissipate onto the various road corridors.
- 7.29. As Table 7.6 shows, the predicted traffic increases along the wider highway network are low, typically equating to less than 3% when compared to the 'Forecast Base' flows. Traffic increases of these magnitudes lie within the day-to-day variation of traffic flows and would therefore not have a material impact on the performance of junctions along these areas of the wider highway network.
- 7.30. The NPPF in setting a benchmark of a 'Severe' impact is deliberate in that it should not prevent development with high sustainable credentials from preceding unless the residual traffic impacts are clearly unacceptable. In this respect it is evident that the proposed development would not have any discernible effects on the operation of the junctions along the surrounding highway network and hence the resultant impact cannot be considered as being severe.

8.0 Assessment of Vehicular Impact (2038)

Context

- 8.1. The analysis presented within Section 7 of this Transport Assessment Report for the future year scenario of 2032 already allows for full completion and occupation of the proposed development. The appraisal therefore already provides a robust assessment of the vehicular impact of the proposed development in the context of planned developments in the area.
- 8.2. Notwithstanding the above, at the request of Wokingham Borough Council during scoping discussions, this section of the Transport Assessment Report presents the findings of supplementary analysis which assesses the impact of the vehicular trips generated by the proposed development during a future assessment year of 2038. It should be noted however that this assessment scenario represents a design year which is 14 years into the future and hence lies beyond the requirements set out in transport policy guidance. Accordingly, the results set out below should be considered in this context and are provided for information purposes only.

Detailed Junction Assessments

- 8.3. The detailed appraisals of the suite of junctions have been undertaken by using the WSTM outputs from the 2038 'Forecast Base' and 2038 'With Development' scenarios to demonstrate the future conditions.
- 8.4. The 2038 'Forecast Base' traffic flows derived from the WSTM model for the morning and evening peak hours are depicted at **Appendix Q**. The corresponding morning and evening peak hour flows from the 2038 'With Development' model are also presented at **Appendix Q**.
- 8.5. Similarly to the 2032 flow scenarios, flows across the majority of the network are slightly higher when allowing for the proposed development. There is however a marginal reduction of flows on the southern section of the Eastern Relief Road corridor south of the Thames Valley Science Park access roundabout which again is attributable to the benefit of the new link through the proposed site which facilitates a more direct routing for some existing traffic in the area.
- 8.6. The junctions have again been assessed using the robust 'Demand flows' obtained from the WSTM model.

Site Accesses

- 8.7. The assessment of the proposed Site Access / Arborfield Road Priority Junction and existing Cutbush Lane / Shepherd Lane priority junction has been undertaken using JUNCTIONS 10 for the 2038 'With Development' scenario for both the AM and PM peak hours. The result of the assessments are summarised at Table 8.1 and Table 8.2 below whilst the full capacity assessment outputs are included at **Appendix R**.

Table 8.1: Proposed Site Access / Arborfield Road Priority Junction

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2038 With Development Analysis				
Site Access - Left Out	1	0.08	1	0.07
Site Access - Right Out	1	0.29	1	0.42
Arborfield Road - Right in	0	0.03	0	0.04

Note : Analysis based on Drawing No. HD008-06/P1

Table 8.2: Shepherd Road / Cutbush Lane / Hawthorn crossroads Junction

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2038 Forecast Base Analysis				
Hawthorn	1	0.11	0	0.04
Cutbush Lane (E)	0	0.00	0	0.00
Shepherd Road	1	0.05	1	0.31
Cutbush Lane (W)	0	0.01	1	0.02
2038 With Development Analysis				
Hawthorn	1	0.12	1	0.05
Cutbush Lane (E)	0	0.00	0	0.00
Shepherd Road	0	0.04	1	0.22
Cutbush Lane (W)	0	0.01	1	0.05

Note : Analysis based on Existing Layout

- 8.8. The results in Table 8.1 and Table 8.2 above indicate that the proposed site accesses would continue to operate within capacity with minimal queuing along all approaches during the 2038 future year scenarios.

Other Junction Assessments

- 8.9. Capacity assessments of the remaining junctions have been undertaken for the 2038 'Forecast Base' and 2038 'With Development' scenarios for both the AM and PM peak hours. The results are summarised in Tables 8.3 to Table 8.5 below whilst the full capacity assessment outputs are also included within **Appendix R**.

Table 8.3 : Science Park / Eastern Relief Road Roundabout (Existing Layout)

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2038 Forecast Base Analysis				
TVSP Access	1	0.10	28	1.00
Eastern Relief Road (S)	16	0.95	3	0.73
Hawthorn	1	0.52	1	0.11
Eastern Relief Road (N)	79	1.06	4	0.81
2038 With Development Analysis				
TVSP Access	1	0.10	23	0.99
Eastern Relief Road (S)	6	0.86	2	0.69
Hawthorn	1	0.49	1	0.06
Eastern Relief Road (N)	40	1.01	4	0.81

Table 8.4: Eastern Relief Road / Arborfield Road Roundabout

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2038 Forecast Base Analysis				
Arborfield Road (E)	4	0.79	10	0.92
Arborfield Road (W)	8	0.89	1	0.54
Eastern Relief Road (N)	2	0.67	44	1.01
2038 With Development Analysis				
Arborfield Road (E)	4	0.79	10	0.91
Arborfield Road (W)	4	0.79	1	0.50
Eastern Relief Road (N)	2	0.65	36	1.00

Table 8.5: A327 / Arborfield Road / Hyde End Road / Beke Avenue Roundabout

Approach	AM Peak Hour		PM Peak Hour	
	Queue (Vehs)	RFC	Queue (Vehs)	RFC
2038 Forecast Base Analysis				
Arborfield Road (E)	1	0.32	2	0.62
B3349 Hyde End Road	6	0.86	1	0.51
Beke Avenue	1	0.33	1	0.30
Hollow Lane	1	0.52	1	0.46
2038 with Development Analysis				
Arborfield Road (E)	1	0.34	2	0.67
B3349 Hyde End Road	6	0.86	1	0.50
Beke Avenue	1	0.34	1	0.30
Hollow Lane	1	0.54	1	0.43

- 8.10. The analysis demonstrates that the two roundabout junctions on the Shinfield Eastern Relief Road would operate at capacity during the 2038 baseline scenario. During the 'with development scenarios,' flows along the southern section of the Eastern Relief Road reduce slightly which results in both roundabouts performing slightly better with the development.
- 8.11. At the Hollow Lane Roundabout in Shinfield, the effect of the proposed development traffic on queuing levels in 2038 would be minimal with no significant changes to the RFC of the roundabout during each peak period.
- 8.12. Of note is that the 2038 future year scenario allows for planned development within the borough of which a significant part may compromise strategic development at the proposed Loddon Garden Village SDL development to the east of Shinfield. If the future growth was to manifest in this way, then the Loddon Garden Village site is likely to include measures to mitigate impacts in the area, including along the Shinfield Eastern Relief Road corridor.

Wider Highway Network

- 8.13. Similarly to that undertaken in Section 7 of this Transport Assessment Report, in addition to assessing the impact of the proposed development at the local junctions, an appraisal of traffic flows has also been undertaken along the main corridors in the vicinity of the site in order to ascertain the level of impact of the development along the wider highway network during 2038.
- 8.14. Table 8.6 below identifies the number of vehicles that are predicted along the wider highway corridors during the morning and evening peak hours in the 2038 'Forecast Base' and 2038 'With Development' scenarios.

Table 8.6: Two-Way Flows Along Wider Highway Network

Link	AM Peak Hour				PM Peak Hour			
	2038 Base	2038 With Dev	Change	% Change	2038 Flow	2038 With Dev	Change	% Change
A327 Shinfield Road	2000	2020	+20	+1%	1892	1915	+23	+1%
B3270 Lower Earley Way (West)	3932	3952	+20	+1%	3443	3493	+50	+1%
B3270 Lower Earley Way (East)	2665	2662	-3	0%	2696	2718	+22	+1%
Shinfield Road (West of University Bridge)	1996	1954	-43	-2%	1683	1738	+55	+3%
Beke Avenue	346	354	+8	+2%	543	547	+4	+1%
Reading Road (East of Observer Way)	538	551	+12	+2%	826	846	+21	+3%
Hyde End Road	2013	2008	-4	0%	1422	1432	+10	+1%
Observer Way	2192	2237	+45	+2%	2248	2268	+20	+1%

Note : Flows are Two-Way Total Vehicles



- 8.15. As Table 8.6 shows, the predicted traffic increases along the wider highway network are very low, typically equating to less than 3% when compared to the 'Forecast Base' flows. Traffic increases of these magnitudes lie within the day-to-day variation of traffic flows and would therefore not have a material impact on the performance of junctions along these areas of the wider highway network.
- 8.16. There are some instances where traffic flows would decrease slightly. This is due to the traffic adopting different routings in response to the different traffic flows and highway infrastructure that is reflected within the future year WSTM traffic model as well as the additional route choice as a result of the new road link through the proposed site.
- 8.17. Based on the above it is concluded that the traffic attributable to the proposed development would not result in any significant impacts to the operation of the wider highway network during the 2038 future year scenario.

9.0 Appraisal of Non-Car Travel

Context

- 9.1. The significant majority of the trip generation in the morning and evening peak hours will be related to residents departing and returning from work. Journey to Work census data has therefore been used as a reasonable proxy for determining the number of movements for non-car modes during these peak hours.
- 9.2. The proposed development lies within the vicinity of the Shinfield North and Shinfield South wards. Journey to Work Census Data for 2011 has been used to establish the mode share of person trips in these two local wards and averaged.
- 9.3. The census travel to work data is provided at Table 9.1 below as well as the associated number of trips for each mode. This has been calculated using the vehicle trip rates identified at Section 5.

Table 9.1: Non Car Trip Generation

Mode of Travel	2011 Census Mode Share	Two Way Development Trips (Peak Hour)
Pedestrian	5%	7
Cyclist	3%	4
Bus	5%	7
Rail	4%	6
Vehicular	79%	111
Passenger	4%	6
Total	100%	141

- 9.4. An appraisal of the suitability of the non-car networks to accommodate the trips that will be generated is presented below for each mode of travel.
- 9.5. It should also be noted that a full assessment of existing transport conditions including the accessibility of local services is provided at Section 3 of this report and details of the proposed transport links within the development to existing routes are included at Section 4.

Walk and Cycle Trips

- 9.6. Table 9.1 identifies that 7 walk trips and 4 cycle trips would arise from the development site during each peak hour. Furthermore, a further 7 trips would be undertaken by bus which will manifest in walk trips to the local bus stops. Similar, the 6 trips by rail are likely to occur by residents first walking to bus stops to access services at Reading or instead cycle to either Earley or Reading train stations.



- 9.7. The peak hour walk and cycle trips are likely to represent residents walking to work from the site to nearby locations such as the Thames Valley Science Park or local facilities within Shinfield. Such journeys will also be represented in the cycle trip forecasts, albeit these may also include trips to destinations which are further afield. A proportion of the cycle trips may also comprise residents performing linked trips to/from work via Reading and Earley rail stations.
- 9.8. In light of the above it is considered that the walk and cycle trips are likely to occur along the following key routes to and from the proposed development.
- Route A : To the north-east through to TVSP, Lower Earley and beyond.
 - Route B : To the south-west to Shinfield village centre.
 - Route C : To the north-west via Brookers Hill or Black Boy gyratory.

Route A : To the North-East to TVSP or Lower Earley and beyond

- 9.9. The continuation of the spine road with 2m footways at either side into the site and the 3m footway/cycleway at the eastern frontage will provide convenient and direct access for trips with destinations to the north-east.
- 9.10. Future residents could travel along the 3m wide footways / cycleway which continues north along the eastern side of the Littlebrook Estate and then along Hawthorn through the Long Acre estate before connecting into the footways / cycleways that route along the Shinfield Eastern Relief Road and through Thames Valley Science Park. Alternatively, pedestrians and cyclists could route east along Cutbush Lane, using the refuge island to cross the Shinfield Eastern Relief Road to continue along Cutbush Lane (east)
- 9.11. Both routes lead to the Cutbush Lane foot/cycle bridge over the M4 motorway. An at-grade crossing of the B3270 Lower Early Way is provided at the northern end of the bridge which enables those on foot and cycle to continue to the north-east along the footways and cycleways that are present through Lower Earley. The pedestrian and cycle routes then continue to the north-east, providing connections to an Asda Store and the Loddon Valley Leisure Centre.

Route B : To the South-West to Shinfield Village Centre

- 9.12. Future residents located towards the north of the proposed site could route westwards using the existing Public Right of Way (SHIN FP7) which provides access to Oatlands Road. From this point, pedestrians could continue southwards through to Shinfield using the footways along Oatlands Road whilst cyclists can conveniently travel along the lightly trafficked carriageway. There are also footways / cycleways along Hollow Lane which provide links to the village centre as well as connecting to the footway / cycleway provision along Church Lane which continues through the Shinfield West development
- 9.13. Alternatively, pedestrians and cyclists could travel south onto Arborfield Road, then route to the west using the carriageway or the new footway being provided as part of the access proposals which link into the existing footway provision towards Shinfield village centre.
- 9.14. Connections can then be made to the footway / cycleway links being provided along Beke Avenue which serves the Local Centre area within the Shinfield West development as well as continuing through past the primary school and onwards to Spencers Wood.



Route C : To the North west via Brookers Hill or Black Boy Gyratory

- 9.15. Pedestrians and cyclists traveling to the north-west would route onto the Hollow Lane corridor, either by using the routes that connect northwards to the footway / cycleway provision along the Shinfield Eastern Relief Road or the similar provision along the A327 Hollow Lane corridor.
- 9.16. Those travelling northwards towards Reading would use the University Bridge or the adjacent pedestrian / cycle / bus only bridge which connect to the Black Boy gyratory before continuing along the shared use footway / cycleway that runs along the eastern side of the A327 corridor as it routes northwards into Reading.
- 9.17. Connections to the north-west can also be made along the 3m wide shared use footway / cycleway along the Brookers Hill corridor which continues to Three Mile Cross. The Brookers Hill footway / cycleway also connects to a footbridge which offers an alternative crossing of the M4 motorway, connecting into the pedestrian and cycle facilities that route towards Reading along the Whitley Wood Lane corridor.

Public Transport Trips

- 9.18. It is evident from Table 9.1 that, based on the existing local mode share, the development would generate some 7 bus trips during each peak hour. A further 6 rail trips would be generated which are most likely to also manifest as either bus trips (or cycle trips to a lesser degree).
- 9.19. As detailed within Section 3, there are a number of frequent bus services operating near to the proposed development. Services operate at bus stops along Arborfield Road to the south, Hollow Lane to the west and Hawthorn to the north providing access to a range of destinations including Reading, Arborfield and Wokingham.
- 9.20. Notably, all areas of the proposed development lie within an actual walk distance of 600m from a nearby bus stop. Moreover, the high level of footway and cycleway provision that will be promoted within the development will ensure that residents enjoy a high level of connectivity when travelling to and from the surrounding bus stops.

10.0 Summary and Conclusions

Context

- 10.1. This Transport Assessment has been prepared by Abley Letchford Partnership Ltd, on behalf of Bellway Homes Ltd (Thames valley), in relation to the proposed residential development on Land North of Arborfield Road, Shinfield. A copy of the proposed site layout for the development is included at **Appendix A** of this report.
- 10.2. The development proposals comprise 191 residential dwellings. with access to be formed from the south onto Arborfield Road. It is also proposed to connect to the existing spine road which routes through the Littlebrook and Long Acre residential estates which lie to the north of the site, thereby providing a second point of access which will deliver a vehicular through route between Arborfield Road and the Shinfield Eastern Relief Road / Thames Valley Science Park roundabout.

Accessibility

- 10.3. The location of the proposed development is consistent with national, regional and local policy aspirations. There is a range of existing and planned jobs, schools, shops, community facilities and amenities, which are accessible within reasonable walking and cycling distance reducing the need to travel by private car. The proposed development is also well positioned relative to a wider range of major employment, commercial, retail and recreational facilities located in the town centres of Reading and Wokingham which are currently accessible by public transport. A significant proportion of journeys arising from the proposed development could therefore be undertaken by non-car modes in accordance with the transport policy aspirations articulated at all levels of government.

Travel by Foot and Cycle

- 10.4. The proposed pedestrian and cycle provision has been designed to provide a permeable network within the site. Particular emphasis has been given to creating direct routes through the proposed development in response to the pedestrian and cyclist desire lines that are likely to be created between Shinfield village to the south-west and to northern destinations such as Thames Valley Science Park, Lower Earley and Reading.
- 10.5. Notably, an off road 3m shared use pedestrian / cycleway is being provided along the eastern flank of the development linking to a new crossing point along Arborfield Road that will afford direct connectivity into Langley Mead SANG which lies immediately to the north.

Travel by Public Transport

- 10.6. The Leopard 3 service operates along the southern frontage of the site offering a 20 minute frequency service between Reading and Arborfield and an hourly service to Wokingham. In addition, the 900 service operates at an hourly frequency through the Littlebrook estate to the north. All areas of the development are within a 600m actual walk distance from the nearby bus stops. These services will therefore offer future residents a good level of accessibility for bus journeys.



- 10.7. Moreover, care has been taken during the design of the main spine road through the Layout to ensure that the carriageway is of a sufficient width to accommodate two-way buses routing through the site. The Layout therefore safeguards the ability for buses to travel through the development between Arborfield Road and the Shinfield Eastern Relief Road / Thames Valley Science Park roundabout should there be a desire to adopt such a routing in the future.

Travel by Car

- 10.8. Vehicular access at the southern frontage of the site will be formed by way of a priority junction with a ghost island right turn lane onto Arborfield Road. The proposed access arrangement is depicted on Drawing No. HD008-006/P1, attached as **Appendix G**. The access junction has been designed to cater for visibility spays of 2.4 x 120m, commensurate with the speed limit of 40mph.
- 10.9. At the northern end of the site, it is proposed to connect into the Shepherd Road corridor which runs through the Long Acre estate. This will then create a new vehicular route between Arborfield Road and the Thames Valley Science Park access roundabout.
- 10.10. The internal streets within the development, including the access junction onto Arborfield Road, have been designed to accommodate large service and emergency vehicle movements throughout the development in a same and satisfactory manner.
- 10.11. Vehicular parking will be provided in a combination of ways including on-street parking, front and rear courtyards, within squares and mews, on-plot driveways and garages. The application of the Wokingham Borough Council parking calculator identifies a requirement for 74 visitor and unallocated spaces. The proposals respond positively to this requirement by providing 78 visitor / unallocated spaces throughout the Layout, in accordance with the minimum standard. The resultant parking provision equates to an overall ratio of 2.23 spaces per dwelling.

Traffic Impact

- 10.12. Use has been made of Wokingham Borough Council's Strategic Traffic Model (WSTM) in order to ensure that the traffic impact of the development proposals is assessed on a common and agreed basis. Information on the access arrangements, development quantum and peak hour vehicular trip generation has been supplied to Wokingham Borough Council. These inputs have enabled their modellers to provide a bespoke model run to assess the impact the proposed development will have on the local highway network.
- 10.13. The modelling scenarios allow for committed and planned development throughout Wokingham Borough. The impact of the proposed development is therefore assessed in a cumulative manner which accounts for the effects of other strategic planned development in the area.
- 10.14. As would be expected, flows across the majority of the network are slightly higher during the 'With Development' scenarios when compared to the 'Forecast base' scenarios. However, of note is a slight reduction of flows on the southern section of the Eastern Relief Road corridor south of the Thames Valley Science Park access roundabout. This reflects the benefit of the new link through the proposed site which facilitates more direct routing for the existing residential developments at Long Acre and Littlebrook located immediately to the north.



- 10.15. It has been demonstrated that the proposed site access junctions would operate within capacity with minimal queuing along the approaches during both peak hours. This is the case for both the 2032 and 2038 future year scenarios. It is concluded therefore that the proposed access arrangements can satisfactorily accommodate the traffic generated by the proposed development.
- 10.16. The capacity analysis for the nearby junctions on the highway network has demonstrated that the effect of the proposed development traffic on capacity and queuing levels would be minimal during the 2032 and 2038 scenarios.
- 10.17. Similarly, the appraisal of changes in traffic flows along the wider highway network demonstrates that the traffic flows generated by the proposed development would soon dissipate onto the various road corridors. The resultant increases in traffic along the road corridors beyond Shinfield village lie within the day-to-day variation of traffic flows and would therefore have no discernible impact.
- 10.18. It is therefore concluded that the traffic attributable to the proposed development at Arborfield Road would not result in any significant impacts to the operation of the highway network in the vicinity of the development.

Conclusion

- 10.19. The analysis within this Transport Assessment Report has demonstrated that the proposed development accords with the key transport tests as set out in the NPPF. Accordingly, the proposed development is considered to be acceptable in terms of highways and transport matters.



Appendices



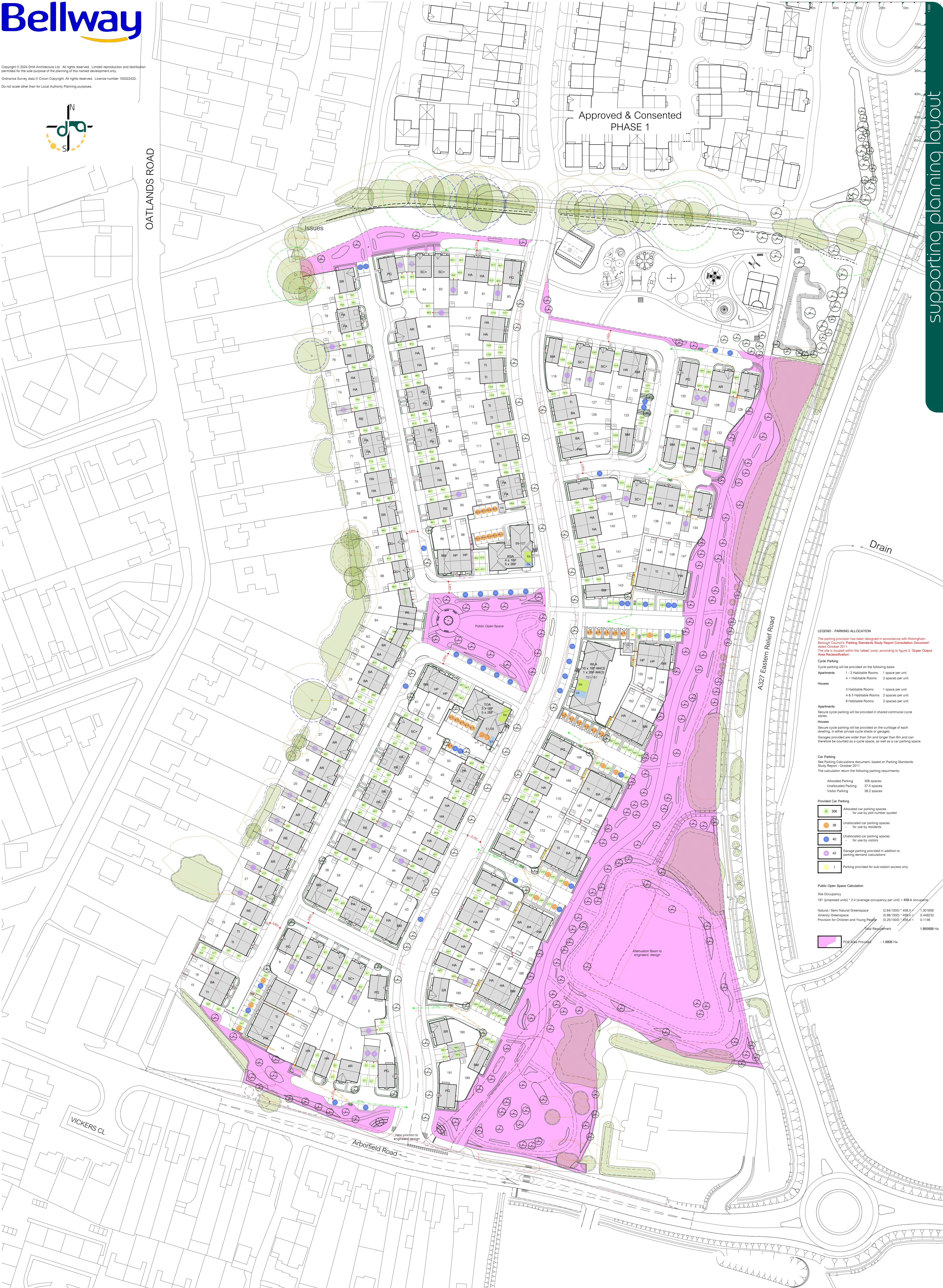
Appendix A - Proposed Layout



OATLANDS ROAD

Approved & Consented
PHASE 1

supporting planning layout



LEGEND - PARKING ALLOCATION

The parking provision has been designed in accordance with Wokingham Borough Council's Parking Standards Study Report Consultation Document, dated October 2011.
This site is located within the 'urban' zone, according to figure 3, 'Super Output Area Road Classification'.

Cycle Parking

Cycle parking will be provided on the following basis:

Apartments	1-3 Habitable Rooms	1 space per unit
	4+ Habitable Rooms	2 spaces per unit
Houses	3 Habitable Rooms	1 space per unit
	4 & 5 Habitable Rooms	2 spaces per unit
	6 Habitable Rooms	2 spaces per unit

Secure cycle parking will be provided in shared communal cycle stores.

Houses

Secure cycle parking will be provided on the curtilage of each dwelling, in either private cycle sheds or garages.

Garages provided are wider than 3m and longer than 6m and can therefore be counted as a cycle space, as well as a car parking space.

Car Parking

See Parking Calculations document, based on Parking Standards Study Report - October 2011.

The calculation return the following parking requirements:

Allocated Parking	305 spaces
Unallocated Parking	37.5 spaces
Visitor Parking	38.2 spaces

Provided Car Parking

306	Allocated car parking spaces	- for use by plot number quoted
38	Unallocated car parking spaces	- for use by residents
40	Unallocated car parking spaces	- for use by visitors
42	Garage parking provided in addition to parking demand calculations	
1	Parking provided for sub-station access only	

Public Open Space Calculation

Site Occupancy
191 (proposed units) * 2.4 (average occupancy per unit) = 458.4 occupants

Natural / Semi Natural Greenspace	(2.84/1000) * 458.4	1.301856
Amenity Greenspace	(0.96/1000) * 458.4	0.440232
Provision for Children and Young People	(0.25/1000) * 458.4	0.1146

Total Requirement
1.855688 Ha

POSS Area Provided
~1.8506 Ha



Appendix B - Wokingham Borough Council Cycle Map

My Journey Wokingham is a behaviour change campaign promoting active and sustainable travel.

Cycling is a low impact exercise, which can be built into a daily routine, saves you money, improves your health and helps the local environment. A 30 minute ride a day, 5 days a week, is the best way to build your cardiovascular fitness, reducing the risk of heart disease and stroke.



Keep yourself safe when cycling

- Follow the highway code www.highwaycode.co.uk
- Ride positively, decisively and position yourself well clear of the kerb
- Cycle training is a good option if you're new or returning to cycling - see www.myjourneywokingham.com/events
- Consider wearing a helmet
- Keep your bike roadworthy
- Don't forget, lights are necessary after dark and hi-vis clothing or accessories will help you be seen
- Never undertake large vehicles, especially near junctions
- When cycling on routes shared with pedestrians, always warn others of your presence by use of a bell, adjust your speed accordingly, and avoid cycling too closely. Some pedestrians may be visually or hearing impaired so please take extra care.

Cycle hubs

- Finchampstead (FBC Centre)** - A local location for regular term-time cycle training, with the advantage of a cycle track, café, library and children's play area.
- Montague Park (Floreat Montague Park Primary School)** - A local location for cycle training during school holidays.
- Woodford Park Bike Hub** - A local location for regular term-time cycle training.
- Shinfield St Mary's Junior School** - A local location for cycle training during school holidays.

Signs for cyclists



Shared-use path:

A shared-use path is one which can be used by cyclists as well as pedestrians. On such paths cyclists must give way to pedestrians.



Segregated shared-use paths:

A segregated shared-use path is one which has some form of physical separation distinguishing the cyclist and pedestrian areas, usually a delineator white line, a raised white line or a kerb.



Cycle route:

For cyclists only.



Recommended for Cyclists:
Route ahead recommended for cyclists.



No cycling:

Cycling is NOT permitted on the path or in the areas marked by these signs.

Western Area Cycle Maps

Off-Carriageway Routes

These routes are considered to be suitable for cycling all year round and are separated from the carriageway.

On-Carriageway Routes

These routes are dedicated cycle routes on the carriageway.

Quiet Links

These are routes which are lightly trafficked or traffic free routes which are considered suitable all year round.

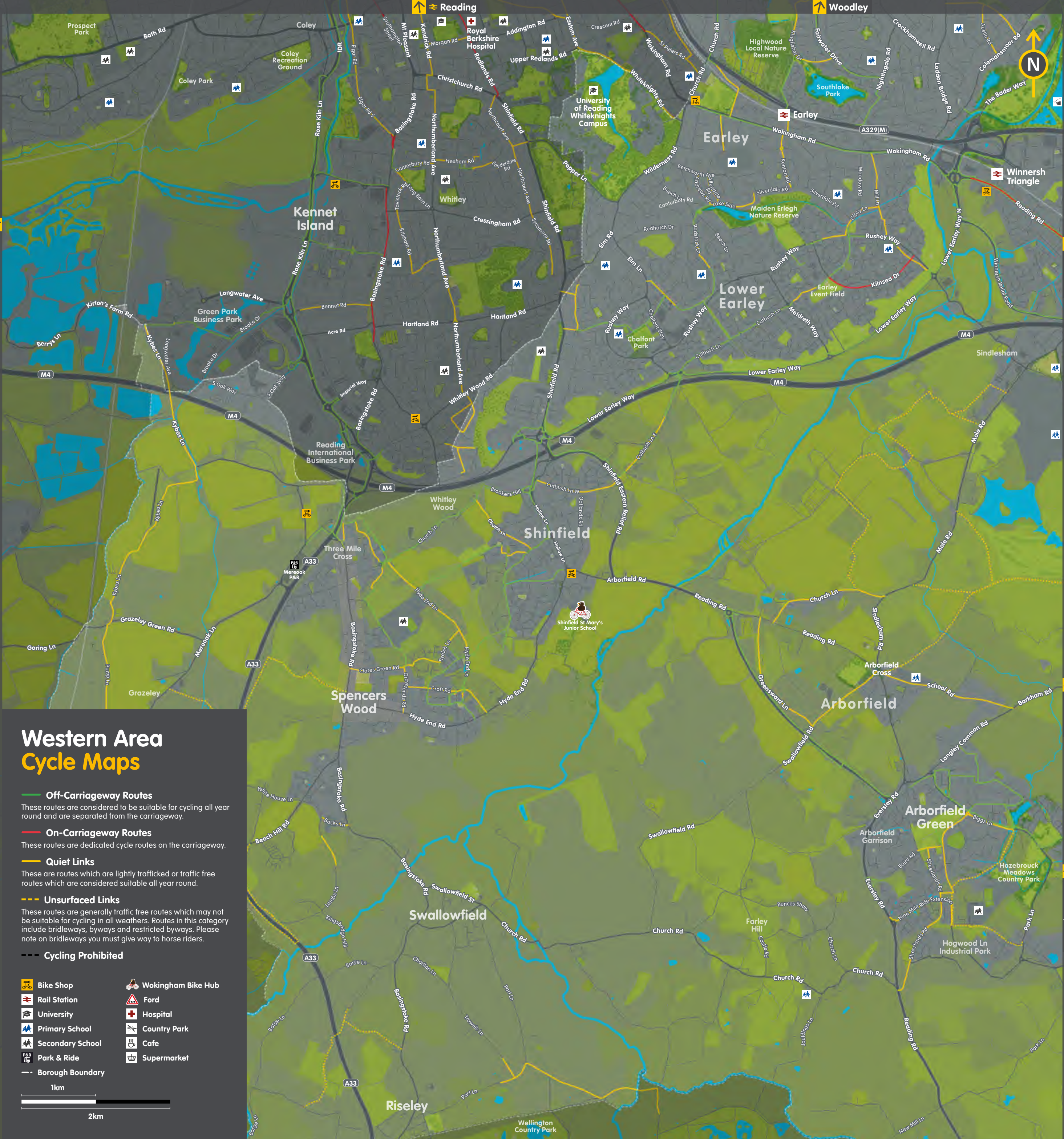
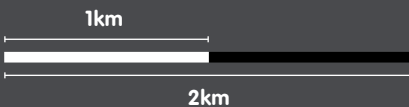
Unsurfaced Links

These routes are generally traffic free routes which may not be suitable for cycling in all weathers. Routes in this category include bridleways, byways and restricted byways. Please note on bridleways you must give way to horse riders.

Cycling Prohibited

- Bike Shop
- Rail Station
- University
- Primary School
- Secondary School
- Park & Ride
- Borough Boundary

- Wokingham Bike Hub
- Ford
- Hospital
- Country Park
- Cafe
- Supermarket



Avonit Cycling (Bikeability training provider for Wokingham) - getting more people onto bikes by teaching little people how to cycle in traffic, by giving adults confidence to ride and by helping organisations implement sustainable transport policies

Sprockets www.sprockets.club - British Cycling Go-Ride Club for 3 - 17 year olds, to improve cycling skills, confidence and ability

Wokingham Cycle Club www.wokinghamcc.org.uk - for cycling on road together with other cycling related and social events

National rail enquiries www.nationalrail.co.uk/stations_destinations/cyclists.aspx

Cycling UK www.cyclinguk.org

British Cycling www.britishcycling.org.uk

Bikeability bikeability.org.uk

SUSTRANS (includes maps of national cycle network) www.sustrans.org.uk

Wokingham Borough Council www.wokingham.gov.uk

My Journey Website www.myjourneywokingham.com

Useful Links

Dr Bikes Alongside being mobile mechanics, Dr Bikes also attend some of our My Journey events and carry out bike checks.

Bia Cycling shop and cafe - www.biacycling.com

KC Sports - www.freewebs.com/kcsport/cycles

Mountain Trek - www.mountain-trk.com

Rotec Cycles - www.rotectcyclesberkshire.com

Berkshire Cycle Co - www.berkshirebikes.com

Cycle Shops: cycle maintenance can be carried out at these shops

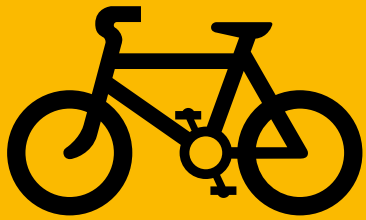
Cycle Maintenance

Bikeability Levels 1, 2 and 3 holiday courses are also run at one of our four cycle hubs.

Bikeability: Bikeability is the Department for Transport's national award scheme for cycle training in England primarily for children and young people. Bikeability Levels 1, 2 and 3 are offered to Wokingham schools every year, particularly targeting Year 5/6 pupils. Our cycle training provider is Avonit Cycling.

Cycle Hubs: Cycle training for adults and children is usually carried out at one of our four cycle hubs.

Cycle Training



CYCLE MAP WESTERN AREA 2022

- Arborfield
- Lower Earley
- Maiden Erlegh
- Riseley
- Shinfield
- Spencers Wood
- Swallowfield



WOKINGHAM BOROUGH COUNCIL



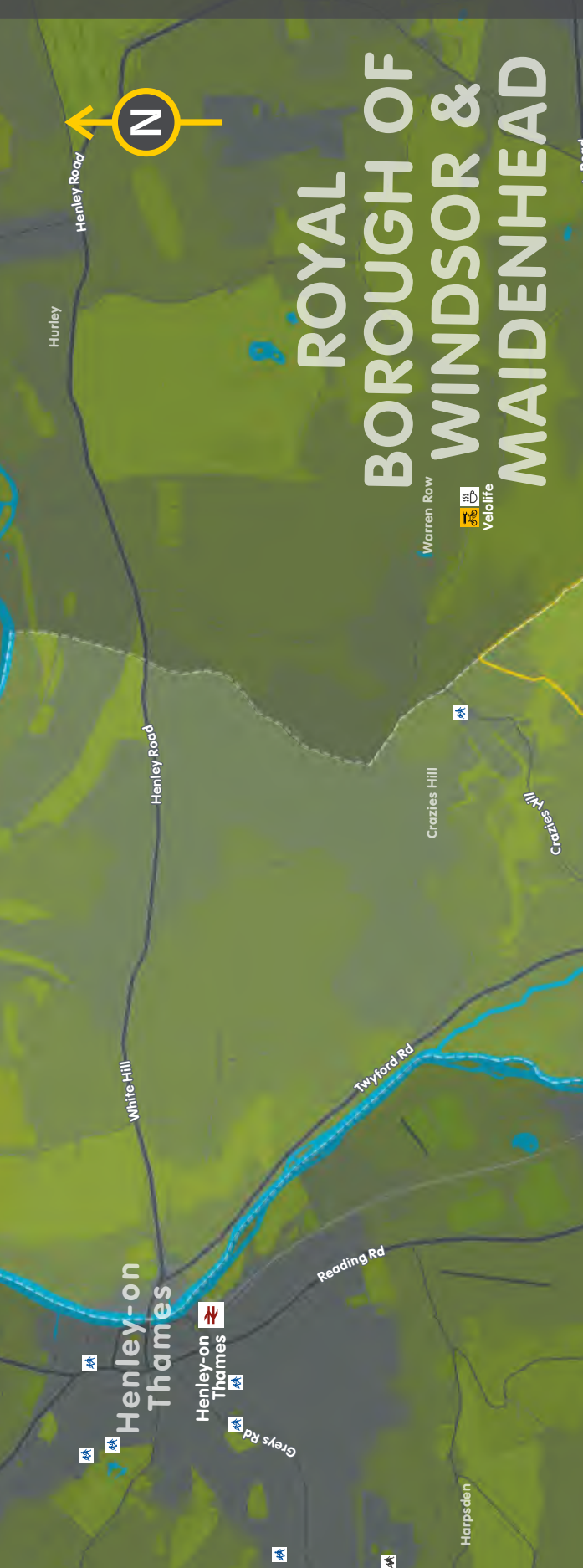
Wokingham Borough Cycle Routes

www.mymourneywokingham.com



- CR1** — Cycling Route 1
- CR2** — Cycling Route 2
- CR3** — Cycling Route 3 (NCN422)
- CR4** — Cycling Route 4 (NCN4/NCN 23)
- CR5** — Cycling Route 5

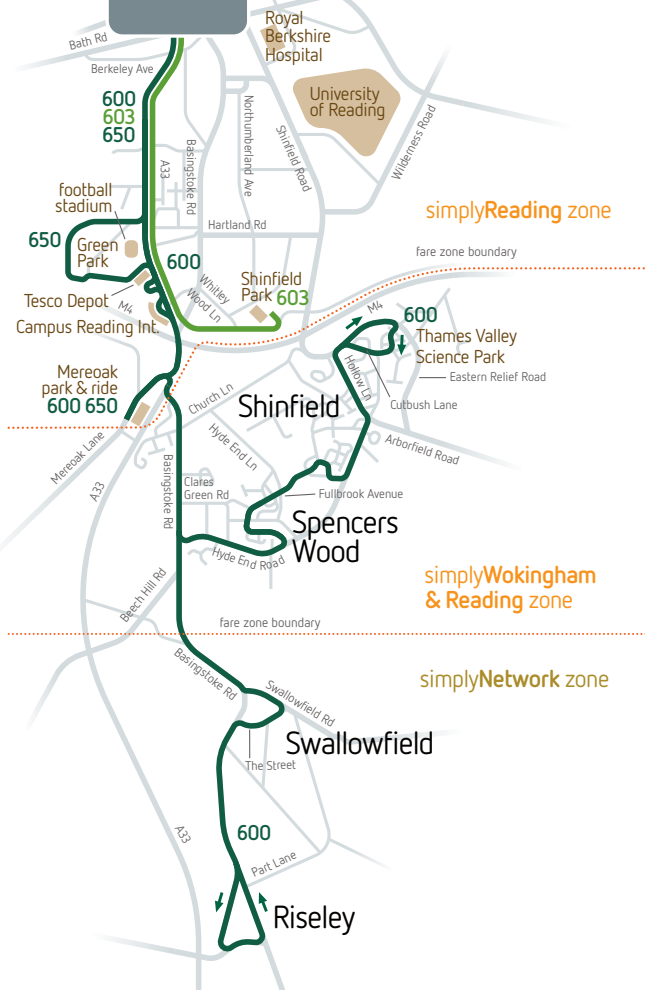
- Bike Shop
- Rail Station
- University
- Primary School
- Secondary School
- Park & Ride
- Borough Boundary
- Wokingham Bike Hub
- Ford
- Hospital
- Country Park
- Cafe
- Supermarket





Appendix C - Bus Service Information

Central Reading



buses between
Campus Reading International &
Central Reading St Mary's Butts stop CS

600

travel time to
Campus Reading Int. 12-15 mins

Mon-Fri

5.35 am	1.15 pm
6.00 am	1.30 pm
6.30 am	1.45 pm
6.45 am	2.00 pm
7.00 am	2.20 pm
7.15 am	2.40 pm
7.30 am	2.55 pm
7.45 am	3.10 pm
8.00 am	3.30 pm
8.15 am	3.50 pm
8.30 am	

then
 every
 15
 mins
 until

these buses run as 603

1.00 pm

travel time to
central Reading 13-16 mins

Mon-Fri

9.43 am	2.49 pm	6.42 pm
9.58 am	3.11 pm	6.49 pm
10.13 am	3.27 pm	7.04 pm
	3.53 pm	7.39 pm
	4.11 pm	7.59 pm
	4.28 pm	8.29 pm
	4.52 pm	8.59 pm
	5.11 pm	9.29 pm
	5.31 pm	10.44 pm
	5.51 pm	11.24 pm
	6.11 pm	11.54 pm
	6.15 pm	

then
 every
 15
 mins
 until

these buses run as 603

all journeys continue to Station Road
 stop SD for Reading Station

buses between
Tesco depot &
Central Reading St Mary's Butts stop CS

600

travel time to
Tesco 20 mins

Mon-Sat

5.18 am
 1.15 pm
 9.30 pm

travel time to
central Reading 15 mins

Mon-Sat

6.07 am all journeys continue to
 2.15 pm Station Road stop SD
 10.14 pm for Reading Station

this bus leaves at 2.13pm on Saturdays

MereOak park & ride towards Central Reading Station Road stop SD



travel time to
Central Reading 16-20 mins

Mon-Fri

5.55 am	3.47 pm
6.40 am	3.50 pm
7.12 am	4.22 pm
7.25 am	4.46 pm
7.40 am	4.50 pm
7.55 am	5.25 pm
8.10 am	5.45 pm
8.25 am	5.50 pm
8.40 am	6.10 pm
8.55 am	6.38 pm
9.10 am	6.45 pm
9.24 am	7.00 pm
9.39 am	7.35 pm
9.54 am	7.55 pm
10.09 am	8.25 pm
then every 15 mins until	8.55 pm
	9.25 pm
	10.00 pm
	10.40 pm
	11.20 pm
1.09 pm	11.50 pm

1.24 pm
1.39 pm
1.54 pm
2.08 pm
2.28 pm
2.45 pm
2.50 pm
3.23 pm

these buses run as
603 via Shinfield Park

Sat

5.55 am	5.23 pm
6.42 am	5.38 pm
7.42 am	5.53 pm
8.12 am	6.08 pm
8.42 am	6.28 pm
9.09 am	6.43 pm
9.24 am	6.56 pm
9.39 am	7.25 pm
9.54 am	7.55 pm
10.09 am	8.25 pm
then every 15 mins until	8.55 pm
	9.25 pm
	10.00 pm
	10.40 pm
	11.20 pm
1.54 pm	11.40 pm

2.06 pm
2.23 pm
2.38 pm
2.53 pm
3.08 pm
3.23 pm
3.38 pm
3.53 pm
4.08 pm
4.23 pm
4.38 pm
4.53 pm
5.08 pm

returning from Central Reading St Mary's Butts stop CS



travel time to
MereOak park&ride 22-25 mins

buses also leave from Station Road stop SD a few minutes later

Mon-Fri

5.18 am	4.35 pm
5.35 am	4.55 pm
6.00 am	5.15 pm
6.30 am	5.35 pm
6.45 am	5.55 pm
7.00 am	6.15 pm
7.15 am	6.35 pm
7.30 am	7.00 pm
7.45 am	7.30 pm
8.00 am	8.00 pm
8.15 am	8.30 pm
8.30 am	9.00 pm
then every 15 mins until	9.30 pm
	10.00 pm
	10.30 pm
	11.10 pm
1.00 pm	

1.15 pm
1.30 pm
1.45 pm
2.00 pm
2.20 pm
2.40 pm
2.55 pm
3.10 pm
3.30 pm
3.50 pm
4.15 pm

these buses run as
603 via Shinfield Park

Sat

5.18 am	10.30 pm
6.05 am	11.00 pm
6.35 am	
7.05 am	
7.35 am	
8.05 am	
8.30 am	
8.45 am	
9.00 am	

then every 15 mins until

4.30 pm
4.45 pm
5.00 pm
5.15 pm
5.30 pm
5.50 pm
6.10 pm
6.30 pm
7.00 pm
7.30 pm
8.00 pm
8.30 pm
9.00 pm
9.30 pm
10.00 pm

Mondays to Fridays except public holidays

	am	am	am	am	am	am	am	am			pm	pm	pm
Thames Valley Science Park		6.50		7.48		8.48		9.49		49		12.49	1.49
Spencers Wood Fullbrook Avenue		6.58		7.56		8.56		9.57		57		12.57	1.57
Riseley The Bull	6.19		7.17		8.16		9.17		then at these mins past each hour	18		1.18	
Swallowfield The Crown	6.25		7.23		8.23		9.24		24		1.24		
Spencers Wood Post Office	6.28		7.26		8.26		9.27		27		1.27		
Three Mile Cross Post Office	6.32	7.04	7.30	8.00	8.30	9.00	9.30	10.00	30	00	1.00	1.30	2.00
Central Reading St Mary's Butts stop CS	6.55	7.27	7.57	8.27	8.57	9.27	9.56	10.26	56	26	1.26	1.56	2.30

	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Thames Valley Science Park		3.01		4.01		5.06		5.51		6.41		7.41		8.41
Spencers Wood Fullbrook Avenue		3.10		4.10		5.14		5.59		6.48		7.47		8.47
Riseley The Bull	2.25		3.25		4.25		5.25		6.20		7.18		8.08	
Swallowfield The Crown	2.31		3.31		4.31		5.31		6.26		7.24		8.14	
Spencers Wood Post Office	2.34		3.34		4.34		5.34		6.29		7.27		8.17	
Three Mile Cross Post Office	2.37	3.13	3.37	4.13	4.37	5.17	5.37	6.02	6.32	6.51	7.30	7.50	8.20	8.50
Central Reading St Mary's Butts stop CS	3.04	3.42	4.12	4.47	5.11	5.50	6.10	6.33	6.58	7.19	7.54	8.14	8.44	9.10

	pm	pm	pm	pm
Spencers Wood Fullbrook Avenue		10.32		11.42
Riseley The Bull	9.08		11.03	
Swallowfield The Crown	9.14		11.09	
Spencers Wood Post Office	9.17		11.12	
Three Mile Cross Post Office	9.20	10.35	11.15	11.45
Central Reading St Mary's Butts stop CS	9.40	10.54	11.34	12.04

all buses run via Mereok park&ride

see pages 6-7 for departure times

Saturdays

	am	am	am	am	am	am			pm	pm	pm	pm	pm		
Thames Valley Science Park		7.49		8.49		9.49	then at these mins past each hour	49	until			5.49		6.41	
Spencers Wood Fullbrook Avenue		7.57		8.57		9.57		57			5.56		6.48		
Riseley The Bull	7.21		8.20		9.20			20			5.20		6.10		7.10
Swallowfield The Crown	7.25	↓	8.24	↓	9.24			24		↓	5.24	↓	6.14	↓	7.14
Spencers Wood Post Office	7.28	↓	8.27	↓	9.27			27		↓	5.27	↓	6.17	↓	7.17
Three Mile Cross Post Office	7.32	8.00	8.31	9.00	9.30	10.00		30		00	5.30	5.59	6.20	6.51	7.20
Central Reading St Mary's Butts stop CS	7.53	8.23	8.53	9.23	9.53	10.23		53		23	5.51	6.21	6.41	7.09	7.38

	pm	pm	pm	pm	pm	pm	pm
Thames Valley Science Park	7.41		8.41				
Spencers Wood Fullbrook Avenue	7.47		8.47		10.32		11.32
Riseley The Bull	↓	8.10	↓	9.10	↓	11.05	↓
Swallowfield The Crown	↓	8.14	↓	9.14	↓	11.09	↓
Spencers Wood Post Office	↓	8.17	↓	9.17	↓	11.12	↓
Three Mile Cross Post Office	7.50	8.20	8.50	9.20	10.35	11.15	11.35
Central Reading St Mary's Butts stop CS	8.08	8.38	9.08	9.41	10.52	11.32	11.52

all buses run via Mereok park&ride
see pages 6-7 for departure times

Mondays to Fridays except public holidays

		am	am	am	am	am		am	am					pm	pm	pm	pm	
	Central Reading St Mary's Butts stop CS	5.35	6.00	6.30	7.00	7.30		8.00	8.30	then at these mins past each hour	00	30	until	1.00	1.30	2.00	2.40	
	Central Reading Station Road stop SD	5.40	6.05	6.35	7.05	7.35		8.05	8.35		05	35		1.05	1.35	2.05	2.45	
	Three Mile Cross Post Office	6.04	6.31	7.01	7.32	8.02		8.32	9.02		32	02		1.32	2.02	2.33	3.13	
	Spencers Wood Post Office	6.07		7.04		8.05			9.05			05				2.05		3.16
	Swallowfield The Crown	6.10		7.08		8.09			9.09			09				2.09		3.20
	Riseley The Bull	6.13	↓	7.12	↓	8.12		↓	9.12			12			↓	2.12	↓	3.23
	Spencers Wood Fullbrook Avenue		6.36		7.37			8.37			37			1.37		2.39		
	Thames Valley Science Park		6.43		7.44			8.44			44			1.44		2.47		
		pm	pm	pm	pm	pm		pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	
	Central Reading St Mary's Butts stop CS	2.55	3.30	3.50	4.35	4.55		5.35	5.55	6.35	7.00	7.30	8.00	8.30	10.00	10.30	11.10	
	Central Reading Station Road stop SD	3.00	3.35	3.55	4.41	5.01		5.41	6.01	6.41	7.05	7.35	8.05	8.35	10.05	10.35	11.15	
	Three Mile Cross Post Office	3.28	4.04	4.24	5.09	5.29		6.08	6.28	7.03	7.25	7.55	8.25	8.55	10.24	10.54	11.34	
	Spencers Wood Post Office		4.07		5.12			6.11		7.06		7.58		8.58		10.57		
	Swallowfield The Crown		4.12		5.17			6.14		7.09		8.01		9.01		11.00		
	Riseley The Bull		4.15	↓	5.20	↓		6.17	↓	7.12	↓	8.04	↓	9.04	↓	11.02	↓	
	Spencers Wood Fullbrook Avenue	3.34		4.30		5.34			6.32		7.29		8.29		10.28		11.38	
	Thames Valley Science Park	3.42		4.38		5.41			6.38		7.35		8.35					

all buses run via Mereok park&ride

see pages 6-7 for departure times

Saturdays

		am	am	am	am	am	am	am			pm	pm	pm	
	Central Reading St Mary's Butts stop CS	6.35	7.05	7.35	8.05	8.30	9.00	9.30	then at these mins past each hour	00 30	until	1.00	1.30	2.00
	Central Reading Station Road stop SD	6.40	7.10	7.40	8.10	8.35	9.05	9.35		05 35		1.05	1.35	2.05
	Three Mile Cross Post Office	6.58	7.28	7.58	8.28	8.53	9.26	9.56		26 56		1.26	1.56	2.26
	Spencers Wood Post Office	7.01		8.01		8.56		9.59		59			1.59	
	Swallowfield The Crown	7.04		8.04		8.59		10.03		03			2.03	
	Riseley The Bull	7.07		8.07		9.02		10.07		07			2.07	
	Spencers Wood Fullbrook Avenue		7.32		8.32		9.31			31			1.31	
	Thames Valley Science Park		7.38		8.38		9.38		38		1.38		2.38	

	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
 Central Reading St Mary's Butts stop CS	2.30	3.00	3.30	4.00	4.30	5.00	5.30	5.50	6.30	7.00	7.30	8.00
Central Reading Station Road stop SD	2.35	3.05	3.35	4.05	4.35	5.05	5.35	5.55	6.35	7.05	7.35	8.05
Three Mile Cross Post Office	2.56	3.26	3.56	4.26	4.56	5.26	5.56	6.16	6.55	7.25	7.55	8.24
Spencers Wood Post Office	2.59		3.59		4.59		5.59		6.58		7.58	
Swallowfield The Crown	3.03		4.03		5.03		6.03		7.01		8.01	
Riseley The Bull	3.07	↓	4.07	↓	5.07		6.07	↓	7.04	↓	8.03	↓
Spencers Wood Fullbrook Avenue		3.31		4.31		5.31		6.21		7.29		8.28
Thames Valley Science Park		3.38		4.38		5.38		6.28		7.35		8.34

	pm	pm	pm	pm
 Central Reading St Mary's Butts stop CS	8.30	10.00	10.30	11.00
Central Reading Station Road stop SD	8.35	10.05	10.35	11.05
Three Mile Cross Post Office	8.54	10.24	10.54	11.24
Spencers Wood Post Office	8.57		10.57	
Swallowfield The Crown	9.00		11.00	
Riseley The Bull	9.02	↓	11.02	↓
Spencers Wood Fullbrook Avenue		10.28		11.28

all buses run via Mereok park&ride

see pages 6-7 for departure times

Central Reading | Shinfield Park

via Campus Reading International

MereOak park&ride

603

603

Central Reading to Shinfield Park
via A33 & Campus Reading International

zoom into Wood Plc

Mondays to Fridays except public holidays

	am	am	am	am
Central Reading St Mary's Butts stop CS	6.45	7.15	7.45	8.15
Central Reading Station Road stop SD	6.50	7.20	7.50	8.20
Campus Reading International	7.05	7.35	8.05	8.35
Shinfield Park Wood Plc	7.10	7.40	8.10	8.40

603

Shinfield Park to Central Reading
via Campus Reading International & A33

zoom back to Central Reading

Mondays to Fridays except public holidays

	pm	pm	pm	pm
Shinfield Park Wood Plc	3.05	4.05	5.05	6.05
Campus Reading International	3.11	4.11	5.11	6.11
Central Reading St Mary's Butts stop CS	3.26	4.30	5.30	6.29
 Central Reading Station Road stop SD	3.33	4.38	5.38	6.38

MereOak park&ride | Green Park | Central Reading

via Lime Square & Longwater Avenue

MereOak park&ride

650

Sundays only

	am	am	am	am	pm	pm	pm	pm	pm	pm	pm	pm	pm
MereOak park&ride	8.00	9.00	10.00	11.00	12.00	1.02	2.02	3.02	4.02	5.02	6.02	7.02	8.00
Green Park Lime Square	8.07	9.07	10.07	11.08	12.08	1.10	2.10	3.10	4.10	5.10	6.10	7.10	8.07
Green Park 300 Longwater Avenue	8.10	9.10	10.10	11.11	12.11	1.13	2.13	3.13	4.13	5.13	6.13	7.13	8.10
Central Reading St Mary's Butts stop CS	8.22	9.22	10.22	11.23	12.25	1.27	2.27	3.27	4.26	5.26	6.26	7.25	8.21

Central Reading | Green Park | MereOak park&ride

via Longwater Avenue & Lime Square

MereOak park&ride

650

Sundays only

	am	am	am	am	am	pm	pm	pm	pm	pm	pm	pm	pm
Central Reading St Mary's Butts stop CS	7.26	8.25	9.25	10.25	11.26	12.30	1.30	2.30	3.30	4.30	5.30	6.30	7.30
Central Reading Station Road stop SD	7.30	8.30	9.30	10.30	11.30	12.35	1.35	2.35	3.35	4.35	5.35	6.35	7.35
Green Park 300 Longwater Avenue	7.39	8.39	9.39	10.40	11.40	12.45	1.45	2.45	3.45	4.45	5.45	6.44	7.44
Green Park Lime Square	7.43	8.43	9.43	10.44	11.44	12.49	1.49	2.49	3.49	4.49	5.49	6.48	7.48
MereOak park&ride	7.53	8.53	9.53	10.54	11.54	12.59	1.59	2.59	3.59	4.59	5.59	6.58	7.58



Central Reading bus stops

- getting on & off
- getting off

handy connections

Reading College change to purple 17, lion 4/ X4 at Friar Street **FN**

University campus change to claret 21/21a at Blagrove Street **EK**

Central
Reading

3

Royal
Berkshire
Hospital

University
of Reading

simplyReading
ticket zone

X3

Shinfield
Park

3

Ducketts Farm

fare zone boundary

Brookers Hill

Thames Valley
Science Park

certain journeys only

Shinfield

X3

Spencers
Wood

Garden
Centre

Fullbrook
Ave

Hyde
Cenroad

Arborfield

Arborfield
Cross

Arborfield
Green

3

Bohunt
School

Siren
Craft Brew

simplyWokingham
& Reading
ticket zone

Wokingham

Wokingham

3

Barkham

simplyWokingham
& Bracknell
ticket zone

Wick Hill

Mondays to Fridays except public holidays

	am	am	am	am	am	am	am	am	am	am	am	am	am	am
Wokingham Broad Street		6.04				6.53				7.38			8.37	9.17
Wokingham Hospital		6.05				6.54				7.40			8.38	9.18
Barkham St James's Road		6.15				7.07				7.58			8.55	9.30
California Crossroads Ratepayers Hall		6.18				7.11				8.02			8.58	9.33
Arborfield Green Harvest Path	5.43	6.23	6.33	6.53	7.11	7.20	7.30	7.50	8.10	8.30	8.58	9.07	9.24	9.40
Arborfield Green Sheerlands Road	5.45	6.27	6.36	6.56	7.14	7.23	7.33	7.53	8.13	8.33	9.01	9.10	9.26	9.42
Arborfield Cross The Swan	5.49	6.31	6.40	7.00	7.18	7.27	7.37	7.57	8.17	8.37	9.05	9.14	9.30	9.46
Shinfield School Green	5.55	6.37	6.46	7.06	7.26	7.36	7.45	8.05	8.25	8.45	9.11	9.20	9.36	9.52
Thames Valley Science Park	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	9.15	▼	▼	▼
RBH main entrance	6.09	6.49	7.06	7.26	7.46	7.58	8.08	8.28	8.48	9.05	9.33	9.38	9.52	10.08
Central Reading Station Road stop SA	6.20	7.00	7.20	7.40	8.00	8.12	8.23	8.43	9.02	9.19	9.47	9.52	10.05	10.21

				pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Wokingham Broad Street			17			2.17			3.17			4.17			5.21		
Wokingham Hospital			18			2.18			3.18			4.18			5.22		
Barkham St James's Road			30			2.30			3.30			4.33			5.37		
California Crossroads Ratepayers Hall			33			2.33			3.33			4.38			5.40		
Arborfield Green Harvest Path		then at these mins past each hour	00 16 40		until	2.40 3.00	3.16 3.41	3.56 4.16	4.31 4.46	5.05 5.25	5.48 6.03	6.18 6.33					
Arborfield Green Sheerlands Road			02 18 42			2.42 3.02	3.18 3.43	3.58 4.18	4.33 4.48	5.07 5.27	5.50 6.05	6.20 6.35					
Arborfield Cross The Swan			06 22 46			2.46 3.06	3.22 3.47	4.02 4.22	4.37 4.52	5.11 5.31	5.54 6.09	6.24 6.39					
Shinfield School Green			12 28 52			2.52 3.12	3.28 3.54	4.09 4.29	4.44 4.59	5.17 5.37	6.00 6.15	6.30 6.45					
Thames Valley Science Park			▼ 32 ▼			▼ ▼ ▼	3.32 ▼	4.13 ▼	▼ ▼ ▼	5.21 ▼	▼ ▼ ▼	6.19 ▼	▼ ▼ ▼				
RBH main entrance			28 48 08			3.10 3.32	3.51 4.14	4.33 4.49	5.04 5.19	5.43 5.59	6.20 6.39	6.48 7.03					
Central Reading Station Road stop SA			41 01 21			3.26 3.48	4.07 4.30	4.49 5.05	5.20 5.35	5.59 6.15	6.34 6.53	7.02 7.17					

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Mondays to Fridays except public holidays

	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Wokingham Broad Street	6.21				7.22			8.09							
Wokingham Hospital	6.22				7.23			8.10							
Barkham St James's Road	6.37				7.37			8.21							
California Crossroads Ratepayers Hall	6.40				7.40			8.23							
Arborfield Green Harvest Path	6.48		7.16	7.31	7.48		8.16	8.28	8.44		9.44		10.44		11.44
Arborfield Green Sheerlands Road	6.50		7.18	7.33	7.50		8.18	8.30	8.45		9.45		10.45		11.45
Arborfield Cross The Swan	6.54		7.21	7.36	7.54		8.22	8.34	8.48		9.48		10.48		11.48
Shinfield School Green	7.00		7.28	7.43	8.00		8.28	8.40	8.54		9.54		10.54		11.54
Thames Valley Science Park	▼		7.32	▼	▼		▼	▼	▼		▼		▼		▼
RBH main entrance	7.18	7.35	7.48	7.59	8.15	8.30	8.42	8.51	9.05	9.35	10.05	10.35	11.05	11.35	12.05
Central Reading Station Road stop SA	7.31	7.45	8.01	8.12	8.27	8.41	8.53	9.01	9.15	9.45	10.15	10.45	11.14	11.44	12.14

Saturdays

	am	am	am	am	am	am			pm	pm	pm	pm
Wokingham Broad Street	6.15		7.15		8.12		then at these mins past each hour	17			7.17	
Wokingham Hospital	6.16		7.16		8.13			18			7.18	
Barkham St James's Road	6.26		7.28		8.25			30			7.30	
California Crossroads Raters Hall	6.29		7.31		8.28			33			7.33	
Arborfield Green Harvest Path	6.34	7.08	7.38	8.05	8.35	9.00		20	40	00	7.00	7.20
Arborfield Green Sheerlands Road	6.38	7.10	7.40	8.07	8.37	9.02		22	42	02	7.02	7.22
Arborfield Cross The Swan	6.42	7.14	7.44	8.11	8.41	9.06		26	46	06	7.06	7.26
Shinfield School Green	6.48	7.20	7.50	8.17	8.47	9.12		32	52	12	7.12	7.32
RBH main entrance	7.00	7.36	8.06	8.33	9.03	9.28		48	08	28	7.28	7.48
Central Reading Station Road stop SA	7.13	7.49	8.19	8.46	9.16	9.41		01	21	41	7.41	8.01
	pm	pm	pm	pm	pm	pm		pm	pm	pm		
Wokingham Broad Street			8.09									
Wokingham Hospital			8.10									
Barkham St James's Road			8.21									
California Crossroads Raters Hall			8.23									
Arborfield Green Harvest Path		8.28	8.44		9.44			10.44		11.44		
Arborfield Green Sheerlands Road		8.30	8.45		9.45			10.45		11.45		
Arborfield Cross The Swan		8.34	8.48		9.48			10.48		11.48		
Shinfield School Green		8.39	8.54		9.54			10.54		11.54		
RBH main entrance	8.35	8.50	9.05	9.35	10.05	10.35		11.05	11.35	12.05		
Central Reading Station Road stop SA	8.45	9.00	9.16	9.45	10.16	10.45		11.15	11.44	12.14		

Sundays & public holidays

	am	am	am		pm	pm	pm	pm	pm	pm	pm	pm	pm
Arborfield Green Harvest Path	8.50	9.20	9.50	then every 30 mins until	5.20	5.50	6.15	6.45					
Arborfield Green Sheerlands Road	8.52	9.22	9.52		5.22	5.52	6.17	6.47					
Arborfield Cross The Swan	8.56	9.26	9.56		5.26	5.55	6.20	6.50					
Shinfield School Green	9.02	9.32	10.02		5.32	6.01	6.26	6.56	7.33	8.33	9.33	10.33	11.33
RBH main entrance	9.18	9.48	10.18		5.48	6.15	6.39	7.09	7.44	8.44	9.44	10.44	11.44
Central Reading Station Road stop SA	9.31	10.01	10.31		6.00	6.26	6.50	7.20	7.54	8.54	9.53	10.53	11.53

Mondays to Fridays except public holidays

	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am	am
Central Reading Station Road stop SA	5.45	6.05	6.25	6.45	7.10	7.30	7.50	8.10	8.30	8.50	9.10	9.30	9.50	10.10	10.30	10.50
RBH Main Entrance	5.51	6.11	6.31	6.52	7.18	7.40	8.00	8.20	8.40	8.59	9.19	9.39	9.59	10.19	10.39	10.59
Thames Valley Science Park	▼	▼	▼	7.04	▼	▼	▼	8.27	▼	▼	▼	▼	▼	10.33	▼	▼
Shinfield School Green	6.04	6.26	6.46	7.09	7.40	8.03	8.24	8.42	9.00	9.16	9.38	9.56	10.16	10.38	10.56	11.16
Arborfield Cross The Swan	6.08	6.30	6.50	7.13	7.44	8.07	8.28	8.46	9.04	9.21	9.43	10.01	10.21	10.43	11.01	11.21
Arborfield Green Sheerlands Road	6.14	6.36	6.56	7.19	7.50	8.15	8.35	8.52	9.10	9.26	9.48	10.06	10.26	10.48	11.06	11.26
Arborfield Green Harvest Path	6.17	6.39	6.59	7.22	7.53	8.18	8.38	8.55	9.13	9.29	9.51	10.09	10.29	10.51	11.09	11.29
California Crossroads Ratepayers Hall	6.23		7.07		8.02		8.48			9.34			10.34			11.34
Barkham St James's Road	6.26		7.10		8.05		8.51			9.37			10.37			11.37
Wokingham Station Interchange	6.39		7.23		8.25		9.11			9.51			10.51			11.51
Wokingham Broad Street	6.41		7.25		8.28		9.14			9.53			10.53			11.53

					pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Central Reading Station Road stop SA		10	30	50	1.50	2.10	2.30	2.50	3.05	3.25	3.40	3.55	4.15	4.35	4.55	5.15	5.30
RBH Main Entrance		19	39	59	1.59	2.19	2.40	3.00	3.15	3.35	3.50	4.05	4.25	4.45	5.05	5.25	5.40
Thames Valley Science Park		33	▼	▼	▼	▼	▼	▼	3.34	▼	▼	▼	4.42	▼	▼	▼	▼
Shinfield School Green	then at these mins past each hour	38	56	16	2.16	2.38	3.00	3.18	3.39	3.57	4.12	4.27	4.47	5.05	5.25	5.44	5.59
Arborfield Cross The Swan		43	01	21	2.21	2.43	3.04	3.22	3.43	4.01	4.16	4.31	4.51	5.09	5.29	5.48	6.03
Arborfield Green Sheerlands Road		48	06	26	2.26	2.48	3.11	3.28	3.49	4.07	4.22	4.37	4.58	5.16	5.36	5.53	6.08
Arborfield Green Harvest Path		51	09	29	2.29	2.51	3.14	3.31	3.52	4.10	4.25	4.43	5.01	5.19	5.39	5.56	6.11
California Crossroads Ratepayers Hall				34	2.34			3.38				4.52				5.46	
Barkham St James's Road				37	2.37			3.41				4.55				5.49	
Wokingham Station Interchange				51	2.51			3.55				5.08				6.04	
Wokingham Broad Street				53	2.53			3.57				5.10				6.06	

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Mondays to Fridays except public holidays

	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
 Central Reading Station Road stop SA	5.50	6.10	6.25	6.45	7.05	7.19	7.30	8.10	8.20	9.10	9.25	10.10	10.25	11.10	11.25
RBH Main Entrance	6.00	6.20	6.35	6.55	7.13	7.35	7.38	8.17	8.30	9.17	9.35	10.17	10.35	11.17	11.35
Shinfield School Green	6.19	6.38	6.53	7.13	7.30		7.55	8.31		9.31		10.31		11.31	
Arborfield Cross The Swan	6.23	6.42	6.57	7.17	7.34		7.59	8.34		9.34		10.34		11.34	
Arborfield Green Sheerlands Road	6.28	6.48	7.03	7.23	7.40		8.05	8.39		9.39		10.39		11.39	
Arborfield Green Harvest Path	6.31	6.51	7.06	7.26	7.43		8.08	8.42		9.42		10.42		11.42	
California Crossroads Ratepayers Hall		6.57			7.49										
Barkham St James's Road		7.00			7.52										
 Wokingham Station Interchange		7.13			8.04										
Wokingham Broad Street		7.15			8.06										

Saturdays

	am	am	am	am	am	am	am	am	am	am	am	am						pm
 Central Reading Station Road stop SA	6.10	6.30	6.55	7.25	7.55	8.10	8.30	8.50	9.10	9.30	9.50	10.10	then at these mins past each hour	30	50	10	until	5.10
RBH Main Entrance	6.16	6.36	7.01	7.31	8.04	8.19	8.39	8.59	9.19	9.39	9.59	10.19		39	59	19		5.19
Shinfield School Green	6.29	6.53	7.18	7.48	8.21	8.36	8.56	9.16	9.36	9.56	10.16	10.36		56	16	36		5.36
Arborfield Cross The Swan	6.33	6.58	7.23	7.53	8.26	8.41	9.01	9.21	9.41	10.01	10.21	10.41		01	21	41		5.41
Arborfield Green Sheerlands Road	6.39	7.03	7.28	7.58	8.31	8.46	9.06	9.26	9.46	10.06	10.26	10.46		06	26	46		5.46
Arborfield Green Harvest Path	6.40	7.05	7.30	8.00	8.33	8.48	9.08	9.28	9.48	10.08	10.29	10.49		09	29	49		5.49
California Crossroads Ratepayers Hall	6.48		7.37		8.40			9.35			10.34			34				
Barkham St James's Road	6.51		7.40		8.43			9.38			10.37			37				
Wokingham Station Interchange	7.04		7.54		8.57			9.52			10.51			51				
 Wokingham Broad Street	7.06		7.56		8.59			9.54			10.53		53					

then at
these
mins
past
each
hour

until

continues on next page

Saturdays

	am	am	am	am	am	am	am	am	am	am	am	am	pm	pm
 Central Reading Station Road stop SA	5.30	5.50	6.10	6.30	6.45	7.15	8.10	8.25	9.10	9.25	10.10	10.25	11.10	11.25
RBH Main Entrance	5.39	5.59	6.19	6.39	6.53	7.23	8.17	8.35	9.17	9.35	10.17	10.35	11.17	11.35
Shinfield School Green	5.56	6.16	6.36	6.56	7.10	7.40	8.31		9.31		10.31		11.31	
Arborfield Cross The Swan	6.01	6.21	6.41	7.01	7.14	7.44	8.34		9.34		10.34		11.34	
Arborfield Green Sheerlands Road	6.06	6.26	6.46	7.06	7.20	7.49	8.39		9.39		10.39		11.39	
Arborfield Green Harvest Path	6.09	6.29	6.49	7.09	7.21	7.51	8.42		9.42		10.42		11.42	
California Crossroads Ratepayers Hall		6.34				7.29								
Barkham St James's Road		6.37				7.32								
Wokingham Station Interchange		6.51				7.44								
 Wokingham Broad Street		6.53				7.46								

Sundays & public holidays

	am	am	am	am	am	am		pm	pm	pm	pm	pm	pm	pm	pm
 Central Reading Station Road stop SA	8.15	8.45	9.15	9.40	10.10	10.40	then every 30 mins until	5.10	5.40	6.10	7.10	8.10	9.10	10.10	11.10
RBH Main Entrance	8.22	8.52	9.22	9.49	10.19	10.49		5.19	5.48	6.18	7.17	8.17	9.17	10.17	11.17
Shinfield School Green	8.36	9.09	9.39	10.06	10.36	11.06		5.36	6.03	6.33	7.31	8.31	9.31	10.31	11.31
Arborfield Cross The Swan	8.41	9.11	9.41	10.11	10.41	11.11		5.41	6.08	6.38					
Arborfield Green Sheerlands Road	8.46	9.16	9.46	10.16	10.46	11.16		5.46	6.12	6.42					
Arborfield Green Harvest Path	8.48	9.18	9.48	10.18	10.48	11.18		5.48	6.14	6.44					



Appendix D - Accident Information

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties		
			Veh No	Type	Manv	Dir	Class	Sex	Age	Sev
Road No.	Date									
2nd Road No.	Time									
Grid Ref.	D/L									
	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

180391643 Monday B3270 APPX 380M E J/W WHITLEY Veh 1 Car Going ahead RH bend NE to W Dri M 24 Slight
24/12/2018 WOOD LANE READING
R1: B 3270 1156hrs
Daylight:street lights present
E 472,688 Wet/Damp
N 168,729 Fine without high winds
40 mph

Causation Factor:	Participant:	Confidence:
1st: Loss of control	Vehicle 1	Possible
2nd: Careless/Reckless/In a hurry	Vehicle 1	Possible
C1 TRAV NE TO W ON R/H BEND LST CONT & LFT C/WAY O/S COLL/W LAMP PST.		

190039496 Thursday B3270 LOWER EARLEY WAY (WEST) Veh 1 Car Going ahead SW to NE RSP M 20 Slight
07/02/2019 J/W BEESTON WAY LOWER EARLEY
R1: B 3270 0200hrs
R2: U 7504 Darkness: street lights present a
E 474,286 Wet/Damp
N 169,618 Fine without high winds
60 mph

Causation Factor:	Participant:	Confidence:
1st: Travelling too fast for conditions	Vehicle 1	Very Likely
C1 ENT RBT SW TO NE & LST CONT. & COLL/W CENT ISLND. DRIVER C1 DECAMPED.		

190142414 Wednesday A327 SHINFIELD ROAD J/W B3270 Veh 1 Car Going ahead S to N
08/05/2019 LOWER EARLEY WAY WEST Veh 2 Pedal cycle Going ahead W to E Dri M 12 Slight
R1: A 327 1510hrs
R2: B 3270 Daylight:street lights present
E 473,159 Dry
N 169,021 Fine without high winds
30 mph

Causation Factor:	Participant:	Confidence:
1st: Aggressive driving	Vehicle 1	Very Likely
2nd: Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd: Junction overshoot	Vehicle 1	Very Likely
4th: Junction restart	Vehicle 1	Very Likely
C1 TRAV S TO N COLL/W PC2 XING C/WAY W TO E USING PED XING.		

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties		
			Veh No	Type	Manv	Dir	Class	Sex	Age	Sev
Road No.	Date									
2nd Road No.	Time									
Grid Ref.	D/L									
	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

190162968 Tuesday A327 SHINFIELD EASTERN RELIEF Road 21/05/2019 ROAD EX LOC N/K
R1: A(327 2145hrs
E 473,908 Darkness: no street lighting
N 168,614 Dry
Fine without high winds
40 mph

Causation Factor: Participant: Confidence:
1st: Slippery road (due to weather) Vehicle 1 Very Likely
2nd: Poor turn or manoeuvre Vehicle 1 Very Likely
3rd: Loss of control Vehicle 1
C1 TRAV N TO SW ON R/H BEND OVERTK MC2 TRAV N TO SW ON R/H BEND. C1 MOVED BACK INTO LN & LST CONT CAUSNG COLL/W MC2.

190234074 Monday B3270 LOWER EARLEY WAY APPX Road 29/07/2019 60M SW J/W SHINFIELD PARK
R1: B 3270 1408hrs SHINFIELD
Daylight:street lights present
E 472,892 Dry
N 168,960 Fine without high winds
40 mph

Causation Factor: Participant: Confidence:
1st: Illness or disability, mental or physical Vehicle 1 Very Likely
DRIVER C1 TRAV SW TO NE SUFFERED MED EP CAUSNG C1 TO X INTO OPP C/WAY & COLL/W C2 TRAV NE TO SW.

190344683 Saturday B3270 J/W WHITLEY WOOD ROAD Road 02/11/2019 READING
R1: B 3270 1345hrs
R2: U 7508 Daylight:street lights present
E 472,302 Dry
N 168,635 Fine without high winds
40 mph

LGV2 TRN RT N TO W COLL/W TX1 TRAV E TO W.

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties			
			Veh No	Type	Manv	Dir	Class	Sex / Age / Sev			
Road No.	Date										
2nd Road No.	Time										
Grid Ref.	D/L										
	R.S.C										
	Weather										
	Speed										
	Account of Accident										
Causation Factor:											

190356814 Monday B3349 SCHOOL GREEN APPX 26M SW Veh 1 Car Turning right SW to SE Dri F 35 Slight
11/11/2019 J/W HOLLOW LANE SHINFIELD Veh 2 Car Reversing SE to NW
R1: B 3349 1230hrs
Daylight:street lights present
E 473,421 Dry
N 167,885 Fine without high winds
30 mph

C2 REVRSG SW TO NE FROM PRKG SPACE COLL/W O/S C1 STAT WAITNG TO TRN RT SW TO SE.

190389480 Wednesday A327 SHINFIELD EASTERN RELIEF Veh 1 Car Wait go ahead held E to W Dri F 32 Slight
11/12/2019 ROAD J/W A327 SHINFIELD ROAD Veh 1 Car Wait go ahead held E to W RSP F 10 Slight
R1: A 327 1625hrs SHINFIELD Veh 1 Car Wait go ahead held E to W RSP M 12 Slight
R2: A 327 Darkness: street lights present a Veh 2 Goods < 3.5t Going ahead E to W
E 473,310 Wet/Damp
N 168,881 Fine without high winds
40 mph

C1 TRAV E TO W ON APP TO ATS & BRKD SUDD DUE TO MALFUNCTION IN VEH. C1 WAS HIT IN RR BY LGV2 TRAV E TO W.

190394183 Monday A329 HOLLOW LANE J/W B3349 Veh 1 Car Wait go ahead held NWto SE Dri F 33 Slight
16/12/2019 SCHOOL GREEN SHINFIELD Veh 1 Car Wait go ahead held NWto SE FSP F 27 Slight
R1: A 327 2018hrs Veh 2 Car Going ahead NWto SE
R2: B 3349 Darkness: street lights present a
E 473,418 Dry
N 167,948 Fine without high winds
40 mph

C2 TRAV NW TO SE COLL/W RR C1 STAT AT TEMP ATS WAITNG TO TRAV NW TO SE. C2 FTS.

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties		
			Veh No	Type	Manv	Dir	Class	Sex	Age	Sev
Road No.	Date									
2nd Road No.	Time									
Grid Ref.	D/L									
	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

190401187 Tuesday A327 SHINFIELD EASTERN RELIEF ROAD J/W A327 SHINFIELD ROAD SHINFIELD
24/12/2019 1120hrs
R1: A 327 Daylight:street lights present
R2: A 327 Wet/Damp
E 473,656 Fine without high winds
N 168,912 30 mph

Causation Factor:	Participant:	Confidence:
1st: Aggressive driving	Vehicle 1	Very Likely
2nd: Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd: Swerved	Vehicle 1	
C1 TRAV NW TO SE ON L/H BEND LST CONT ON WET C/WAY & LFT C/WAY N/S.		

200010061 Friday A327 SHINFIELD ROAD J/W B3470 LOWER EARLEY WAY WEST SHINFIELD
10/01/2020 0650hrs
R1: A 327 Daylight:street lights present
R2: B 3470 Wet/Damp
E 473,154 Fine without high winds
N 169,028 30 mph

Causation Factor:	Participant:	Confidence:
1st: Failed to judge other persons path or speed	Vehicle 1	Very Likely
MC1 TRN LFT S TO W MISJUDGED PATH OF VEH ON ITS N/S & COLL/W KERB.		

200149283 Wednesday A327 SHINFIELD ROAD J/W B3270 LOWER EARLEY WAY SHINFIELD
20/05/2020 1817hrs
R1: A 327 Daylight:street lights present
R2: B 3270 Dry
E 473,202 Fine without high winds
N 169,036 30 mph

Causation Factor:	Participant:	Confidence:
1st: Impaired by alcohol	Vehicle 1	Very Likely
C1 ENT RBT SE TO NW & COLL/W PC2 TRAV E TO W. C1 FTS. DRIVER C1 INTOX.		

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties			
			Veh No	Type	Manv	Dir	Class	Sex	Age	Sev
Road No.	Date									
2nd Road No.	Time									
Grid Ref.	D/L									
	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

200227076 Thursday CHURCH LANE J/W SKYLARK CLOSE Veh 1 Car Going ahead NE to SW Dri M 58 Slight
09/07/2020 SHINFIELD Veh 2 Taxi Turning right SE to NE
R1: U 7508 1948hrs
R2: U 7508 Daylight:street lights present
E 473,160 Wet/Damp
N 168,122 Fine without high winds
30 mph

Causation Factor:	Participant:	Confidence:
1st: Slippery road (due to weather)	Vehicle 2	Very Likely
2nd: Failed to look properly	Vehicle 2	Very Likely
C2 TRN RT SE TO NE COLL/W C1 TRAV NE TO SW.		

200248968 Friday A327 ARBORFIELD ROAD J/W B3349 Veh 1 M/C < 125 cc Going ahead SE to NW Dri M 65 Serious
07/08/2020 SCHOOL GREEN SHINFIELD
R1: A 327 1427hrs
R2: B 3349 Daylight:street lights present
E 473,440 Dry
N 167,912 Fine without high winds
30 mph

Causation Factor:	Participant:	Confidence:
1st: Careless/Reckless/In a hurry	Vehicle 1	Possible
2nd: Failed to look properly	Vehicle 1	Possible
C2 ENT RBT IN N/K DIR CAUSNG MC1 TRAV IN N/K DIR TO LSE CONT.		

200269267 Tuesday B3270 LOWER EARLEY WAY J/W Veh 1 Car Going ahead SE to NW Ped M 16 Slight
25/08/2020 CUTBUSH LANE LOWER EARLEY
R1: B 3270 1200hrs
R2: U 7504 Daylight:street lights present
E 474,407 Dry
N 169,635 Fine without high winds
50 mph

C1 APPRCHNG RBT SE TO NW COLL/W PED XING C/WAY SW TO NE.

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties			
			Veh No	Type	Manv	Dir	Class	Sex / Age / Sev			
Road No.	Date										
2nd Road No.	Time										
Grid Ref.	D/L										
	R.S.C										
	Weather										
	Speed										
	Account of Accident										
Causation Factor:											

200280475 Monday A327 HOLLOW LANE J/W BROOKERS Hill SHINFIELD Veh 1 Car Turning right 0 to 0 FSP F 89 Slight
07/09/2020 1500hrs Veh 2 Car Going ahead 0 to 0
R1: A 327
R2: U 7508 Daylight:street lights present
E 473,100 Dry
N 168,598 Fine without high winds
30 mph

Causation Factor: Participant: Confidence:
1st: Disobeyed automatic traffic signal Vehicle 1 Very Likely
C1 TRN RT N TO W COLL/W C2 TRAV S TO N.

200316280 Tuesday A327 SHINFIELD ROAD J/W B3270 Lower Earley Way West SHINFIELD Veh 1 Car Turning right SE to NE Dri F 34 Slight
06/10/2020 1329hrs Veh 2 Goods < 3.5t Going ahead SW to NE
R1: A 327
R2: B 3270 Daylight:street lights present
E 473,203 Dry
N 169,097 Fine without high winds
40 mph

LGV2 TRAV IN N/K DIR ON RBT COLL/W RR C1 TRN RT SE TO NE STAT AT RED ATS. LGV2 FTS.

210463313 Thursday A327 SHINFIELD EASTERN RELIEF ROAD APPX 115M NE J/W A327 SHINFIELD ROAD SHINFIELD Veh 1 Car Change lane to left SW to NE Dri M 53 Slight
14/10/2021 1042hrs Veh 2 Taxi Going ahead SW to NE
R1: A 327
Daylight:street lights present
E 473,520 Dry
N 168,948 Fine without high winds
40 mph

Causation Factor: Participant: Confidence:
1st: Failed to look properly Vehicle 1 Very Likely
2nd: Failed to judge other persons path or speed Vehicle 1 Very Likely
3rd: Poor turn or manoeuvre Vehicle 1 Very Likely
4th: Inexperienced or learner driver/rider Vehicle 1 Very Likely
5th: Inexperience with type of vehicle Vehicle 1 Very Likely
6th: Dazzling sun Vehicle 1 Possible
C1 TRAV SW TO NE IN LN2 CHNGD LN TO LFT & COLL/W TX2 TRAV SW TO NE

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day Date	Location Description	Vehicles				Casualties			
			Veh No	Type	Manv	Dir	Class	Sex	Age	Sev
Road No.	Time									
2nd Road No.	D/L									
Grid Ref.	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

210543254	Wednesday	B3270 J/W SHINFIELD PARK	Veh 1	Car	Stopping	NE to SW	Dri	F	34	Slight
	01/12/2021	SHINFIELD	Veh 2	Car	Going ahead	NE to SW	Dri	F		Slight
R1: B 3270	0900hrs		Veh 3	Car	Stopping	NE to SW				
R2: U 7508	Daylight:street lights present									
E 472,943	Wet/Damp									
N 169,021	Fine without high winds									
	40 mph									

C3 TRAV NE TO SW OVERTK C1 TRAV NE TO SW & BRKD SUDD CAUSNG C1 TO BRK. C2 TRAV NE TO SW COLL/W RR C1. C3 FTS.

220019270	Friday	A327 SHINFIELD ROAD J/W B3270	Veh 1	M/C > 500 cc	Going ahead	S to N	Dri	M	54	Slight
	14/01/2022	LOWER EARLEY WAY READING	Veh 2	Car	Turning left	S to W				
R1: A 327	1317hrs									
R2: B 3270	Daylight:street lights present									
E 473,150	Dry									
N 169,034	Fine without high winds									
	30 mph									

Causation Factor:	Participant:	Confidence:
1st: Failed to look properly	Vehicle 2	Very Likely
2nd: Poor turn or manoeuvre	Vehicle 2	Possible
C2 TRN LFT S TO W COLL/W MC1 TRAV S TO N.		

220219420	Friday	B3270 J/W WHITLEY WOOD LANE	Veh 1	Car	Turning right	N to W	Dri	M	87	Slight
	20/05/2022	EARLEY	Veh 2	Car	Going ahead	W to E	Dri	M	48	Slight
R1: B 3270	1433hrs		Veh 2	Car	Going ahead	W to E	FSP	F	46	Slight
R2: U 7508	Daylight:street lights present									
E 472,301	Dry									
N 168,639	Fine without high winds									
	40 mph									

Causation Factor:	Participant:	Confidence:
1st: Failed to look properly	Vehicle 1	Very Likely
2nd: Failed to judge other persons path or speed	Vehicle 1	Possible
3rd: Careless/Reckless/In a hurry	Vehicle 1	
C1 TRN RT N TO W COLL/W C2 TRAV W TO E.		

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties			
			Veh No	Type	Manv	Dir	Class	Sex	Age	Sev
Road No.	Date									
2nd Road No.	Time									
Grid Ref.	D/L									
	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

220435186 Wednesday A327 SHINFIELD ROAD J/W B3270 Veh 1 Car Going ahead W to E
28/09/2022 LOWER EARLEY WAY WEST Veh 2 Car Turning left N to E Dri M 47 Slight
0855hrs SHINFIELD
R1: A 327
R2: U 3270 Daylight:street lights present
E 473,213 Wet/Damp
N 169,103 Fine without high winds
40 mph

Causation Factor:	Participant:	Confidence:
1st: Disobeyed automatic traffic signal	Vehicle 1	Very Likely
2nd: Failed to look properly	Vehicle 1	Very Likely
3rd: Inexperienced or learner driver/rider	Vehicle 1	Possible
4th: Vehicle blind spot	Vehicle 2	Possible

C1 TRAV W TO E ON RBT DISOBEYED RED ATS & COLL/W C2 TRN LFT N TO E.

220565594 Saturday B3270 J/W WHITLEY WOOD LANE Veh 1 Car Turning right N to W Dri M 34 Serious
17/12/2022 EARLEY Veh 2 Goods Unknown Going ahead W to E Dri M 43 Slight
1133hrs Veh 3 Car Going ahead E to W Dri F 25 Slight
R1: B 3270 Daylight:street lights present Veh 3 Car Going ahead E to W FSP M 33 Slight
R2: U 7508
E 472,303 Dry
N 168,637 Fine without high winds
40 mph

Causation Factor:	Participant:	Confidence:
1st: Failed to look properly	Vehicle 1	Very Likely
2nd: Defective brakes	Vehicle 2	Possible

C1 TRN RT N TO W COLL/W GV2 TRAV W TO E. C3 TRAV E TO W THEN INVOLVED IN COLL. NO FURTHER DETAILS.

220581822 Friday B3270 APPX 100M NE J/W WHITLEY Veh 1 Car Going ahead SW to NE Dri M 42 Slight
30/12/2022 WOOD LANE EARLEY Veh 2 Car Going ahead NE to SW Dri F 23 Slight
0007hrs
R1: B 3270 Darkness: street lights present a
E 472,414 Wet/Damp
N 168,650 Fine without high winds
40 mph

Causation Factor:	Participant:	Confidence:
1st: Impaired by drugs (illicit or medicinal)	Vehicle 1	Very Likely
2nd: Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd: Illegal turn or direction of travel	Vehicle 1	

C1 TRAV SW TO NE XED INTO OPP C/WAY CAUSNG C2 TRAV NW TO SE TO SWRV. C1 COLL/W O/S C2. C1 LFT C/WAY O/S & COLL/W FENCE & OVERTRND.

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties			
			Veh No	Type	Manv	Dir	Class	Sex / Age / Sev			
Road No.	Date										
2nd Road No.	Time										
Grid Ref.	D/L										
	R.S.C										
	Weather										
	Speed										
	Account of Accident										
Causation Factor:											

230118785 Tuesday A327 SHINFIELD ROAD J/W B3270 Veh 1 Car Going ahead W to E Dri F 57 Slight
14/03/2023 LOWER EARLEY WAY WEST Veh 2 Car Going ahead S to N
R1: A 327 0810hrs READING
R2: B 3270 Daylight:street lights present
E 473,143 Dry
N 169,085 Fine without high winds
30 mph

C2 TRAV IN N/K DIR COLL/W C1 TRAV W TO E. C2 FTS.

230154757 Saturday A327 SHINFIELD ROAD J/W B3270 Veh 1 Car Wait go ahead held N to S Dri F 26 Slight
08/04/2023 LOWER EARLEY WAY WEST Veh 2 Car Going ahead N to S
R1: A 327 1741hrs SHINFIELD
R2: B 3270 Daylight:street lights present
E 473,210 Dry
N 169,112 Fine without high winds
30 mph

C2 TRAV N TO S COLL/W RR C1 STAT WAITNG TO ENT RBT N TO S. C2 FTS.

230172203 Thursday A327 SHINFIELD ROAD J/W Veh 1 Pedal cycle Going ahead SW to NE Dri M 15 Slight
20/04/2023 DUCKETTS MEAD READING Veh 2 Car Turning left SE to SW
R1: A 327 0805hrs
R2: U 7508 Daylight:street lights present
E 473,233 Dry
N 169,316 Fine without high winds
30 mph

C2 TRN LFT SE TO SW COLL/W PC1 TRAV SW TO NE.

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles					Casualties		
			Veh No	Type	Manv	Dir	Class	Sex	Age	Sev
Road No.	Date									
2nd Road No.	Time									
Grid Ref.	D/L									
	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

230447233 Thursday A327 SHINFIELD ROAD APPX WILSFORD CLOSE SHINFIELD Veh 1 Pedal cycle Going ahead NE to SW Dri M 59 Slight
R1: A 327 05/10/2023 0825hrs Veh 1 Pedal cycle Going ahead NE to SW Ped M Slight
Daylight:street lights present
E 473,258 Dry
N 169,470 Fine without high winds
30 mph

PED (CHILD) XING C/WAY IN N/K DIR SE TO NW FROM BEHIND STAT VEH COLL/W PC1 TRAV NE TO SW.

230461938 Friday A327 SHINFIELD ROAD APPX 114M NE J/W CUTBUSH LANE SHINFIELD Veh 1 Car Turning left SW to NW
R1: A 327 13/10/2023 1930hrs Veh 2 Pedal cycle Going ahead NE to SW Dri M 21 Slight
R2: U Darkness: street lights present a
E 473,138 Wet/Damp
N 168,829 Raining without high winds
30 mph

Causation Factor: Participant: Confidence:
1st: Defective brakes Vehicle 2 Very Likely
C2 TRAV NE TO SW USING CYCLE LN COLL/W C1 TRN LFT SW TO NW

230470652 Thursday A327 HOLLOW LANE J/W BROOKERS HILL SHINFIELD Veh 1 Car Going ahead N to S Dri F 43 Serious
R1: A 327 19/10/2023 1436hrs Veh 2 Car Going ahead S to N FSP F 76 Serious
R2: U 7508 Daylight:street lights present Veh 2 Car Going ahead S to N Dri M 76 Slight
E 473,103 Dry
N 168,571 Fine without high winds
30 mph

Causation Factor: Participant: Confidence:
1st: Fatigue Vehicle 1 Very Likely
C1 TRAV N TO S XED INTO OPP C/WAY & COLL/W C2 TRAV S TO N.

Details of Personal Injury Accidents for Period - 01/12/2018 to 30/11/2023 (60) months

Selection: Notes:

Police Ref.	Day	Location Description	Vehicles				Casualties		
			Veh No	Type	Manv	Dir	Class	Sex	Age / Sev
Road No.	Date								
2nd Road No.	Time								
Grid Ref.	D/L								
	R.S.C								
	Weather								
	Speed								
	Account of Accident								
Causation Factor:									

230496525	Saturday	A327 EASTERN RELIEF ROAD J/W	Veh 1	Car	Turning right	NE to NW			
	04/11/2023	A327 SHINFIELD ROAD SHINFIELD	Veh 2	M/C < 125 cc	Turning right	NE to NW Dri	M	69	Slight
R1: A 327	1511hrs								
R2: A 327	Daylight:street lights present								
E 473,294	Wet/Damp								
N 168,875	Raining without high winds								
	30 mph								

Causation Factor:		Participant:	Confidence:
1st:	Inadequate/Masked signs or road markings	Vehicle 1	Very Likely
2nd:	Slippery road (due to weather)	Vehicle 2	Possible
3rd:	Road layout (eg bend, hill etc.)	Vehicle 1	Very Likely
4th:	Poor turn or manoeuvre	Vehicle 1	Very Likely
5th:	Failed to look properly	Vehicle 1	Very Likely
6th:	Dazzling sun	Vehicle 1	Very Likely
C1 TRN RT NE TO NW IN LN3 COLL/W MC2 TRN RT NE TO NW IN LN2			



Appendix E - ATC Survey Data : Arborfield Road

Arborfield - ATC 1 - Arborfield Road

Produced by Streetwise Services Ltd.



Channel - Eastbound

	11/06/2024 Tuesday	12/06/2024 Wednesday	13/06/2024 Thursday	14/06/2024 Friday	15/06/2024 Saturday	16/06/2024 Sunday	17/06/2024 Monday	5-DAY MEAN	7-DAY MEAN
0000-2400 Vehicle Flow	3915	3949	3801	4020	3641	3186	3985	3934	3785
Mean Speed	33.7	34.2	33.5	33.4	34.1	34.8	34.0	33.8	34.0
85%ile Speed	38.5	39.0	38.4	38.2	38.8	39.5	38.7	38.6	38.7
No. Vehicles > 40 MPH Limit	394	449	350	373	388	422	408	395	398
% Vehicles > 40 MPH Limit	10.1	11.4	9.2	9.3	10.7	13.2	10.2	10.0	10.6
No. Vehicles > 55 MPH	10	9	4	10	7	4	7	8	7
% Vehicles > 55 MPH	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2

Channel - Westbound

	11/06/2024 Tuesday	12/06/2024 Wednesday	13/06/2024 Thursday	14/06/2024 Friday	15/06/2024 Saturday	16/06/2024 Sunday	17/06/2024 Monday	5-DAY MEAN	7-DAY MEAN
0000-2400 Vehicle Flow	4009	4028	3974	4098	3198	2682	3926	4007	3702
Mean Speed	32.9	33.5	33.2	32.7	33.2	34.0	33.7	33.2	33.3
85%ile Speed	38.0	38.5	38.2	38.1	38.1	39.1	38.7	38.3	38.4
No. Vehicles > 40 MPH Limit	325	380	338	333	274	310	401	355	337
% Vehicles > 40 MPH Limit	8.1	9.4	8.5	8.1	8.6	11.6	10.2	8.9	9.2
No. Vehicles > 55 MPH	3	5	2	6	10	6	7	5	6
% Vehicles > 55 MPH	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.1	0.2

Eastbound & Westbound

	11/06/2024 Tuesday	12/06/2024 Wednesday	13/06/2024 Thursday	14/06/2024 Friday	15/06/2024 Saturday	16/06/2024 Sunday	17/06/2024 Monday	5-DAY MEAN	7-DAY MEAN
0000-2400 Vehicle Flow	7924	7977	7775	8118	6839	5868	7911	7941	7487
Mean Speed	33.3	33.9	33.4	33.0	33.7	34.4	33.9	33.5	33.6
85%ile Speed	38.3	38.7	38.3	38.2	38.4	39.4	38.7	38.4	38.6
No. Vehicles > 40 MPH Limit	719	829	688	706	662	732	809	750	735
% Vehicles > 40 MPH Limit	9.1	10.4	8.8	8.7	9.7	12.5	10.2	9.4	9.9
No. Vehicles > 55 MPH	13	14	6	16	17	10	14	13	13
% Vehicles > 55 MPH	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2

Class No	Vehicle Description	Class No	Vehicle Description
1	Car, Light Van Trailer	5	Rigid 2 Axle HGV + 2 Axle (Gross Weight) Trailer
1	Light Goods Vehicle	6	Rigid 3 Axle HGV + 2 Axle (Gross Weight) Trailer
1	Car or Light Goods Vehicle + 1 Axle Caravan or Trailer	6	Rigid 3 Axle HGV + 3 Axle (Gross Weight) Trailer
1	Car or Light Goods Vehicle + 2 Axle Caravan or Trailer	7	Artic. 2 Axle Tractor + 1 Axle Semi-Trailer
2	Rigid 2 Axle Heavy Goods Vehicle	8	Artic. 2 Axle Tractor + 2 Axle Semi-Trailer
3	Rigid 3 Axle Heavy Goods Vehicle	9	Artic. 2 Axle Tractor + 3 Axle Semi-Trailer
3	Rigid 3 Axle Heavy Goods Vehicle	10	Artic. 3 Axle Tractor + 1 Axle Semi-Trailer
4	Rigid 4 Axle Heavy Goods Vehicle	10	Artic. 3 Axle Tractor + 2 Axle Semi-Trailer
4	Rigid 4 Axle Heavy Goods Vehicle	11	Artic. 3 Axle Tractor + 3 Axle Semi-Trailer
5	Rigid 2 Axle HGV + 2 Axle (Gross) Trailer	12	Bus or Coach, 2 Axle
5	Rigid 2 Axle HGV + 3 Axle (Gross) Trailer	12	Bus or Coach, 3 Axle
5	Rigid 2 Axle HGV + 1 Axle (Gross) Trailer	13	Vehicles with 7 or more Axles

Arborfield - ATC 1 - Arborfield Road

Produced by Streetwise Services Ltd.



Channel - Eastbound

Vehicle Flow

Hour	Min	11/06/2024 Tuesday	12/06/2024 Wednesday	13/06/2024 Thursday	14/06/2024 Friday	15/06/2024 Saturday	16/06/2024 Sunday	17/06/2024 Monday	5 Day Ave	7 Day Ave
0	0	5	6	9	9	25	23	12	8	13
1	0	5	2	1	2	11	7	5	3	5
2	0	1	2	2	1	2	5	2	2	2
3	0	1	0	1	4	2	3	5	3	3
4	0	7	3	5	6	6	3	4	5	5
5	0	25	31	35	28	15	7	21	28	23
6	0	117	123	110	111	30	22	116	115	90
7	0	376	361	377	324	119	51	378	363	284
8	0	480	463	453	458	174	111	438	458	368
9	0	212	244	237	238	250	192	272	241	235
10	0	217	200	194	236	259	240	255	220	229
11	0	232	202	193	201	311	277	185	203	229
12	0	206	219	213	245	345	332	212	219	253
13	0	234	225	221	250	351	333	243	235	265
14	0	251	225	251	277	331	278	230	247	263
15	0	327	331	310	354	293	242	348	334	315
16	0	252	287	285	312	274	222	310	289	277
17	0	339	333	314	318	262	241	320	325	304
18	0	245	259	215	234	187	215	223	235	225
19	0	143	174	138	150	144	148	162	153	151
20	0	128	120	113	92	114	79	111	113	108
21	0	56	68	60	71	49	64	53	62	60
22	0	46	51	50	53	45	77	45	49	52
23	0	10	20	14	46	42	14	35	25	26

Hour	7-19	3371	3349	3263	3447	3156	2734	3414	3369	3248
Ranges:	6-22	3815	3834	3684	3871	3493	3047	3856	3812	3657
	6-24	3871	3905	3748	3970	3580	3138	3936	3886	3735
	0-24	3915	3949	3801	4020	3641	3186	3985	3934	3785

Channel - Westbound

Vehicle Flow

Hour	Min	11/06/2024 Tuesday	12/06/2024 Wednesday	13/06/2024 Thursday	14/06/2024 Friday	15/06/2024 Saturday	16/06/2024 Sunday	17/06/2024 Monday	5 Day Ave	7 Day Ave
0	0	5	13	8	4	20	37	15	9	15
1	0	4	3	4	4	13	13	2	3	6
2	0	2	3	5	6	4	8	3	4	4
3	0	2	1	3	3	5	3	4	3	3
4	0	6	6	4	7	1	3	5	6	5
5	0	27	19	18	19	13	7	25	22	18
6	0	96	99	96	83	32	22	100	95	75
7	0	227	234	236	218	75	45	230	229	181
8	0	369	372	391	360	139	64	372	373	295
9	0	239	203	239	205	165	136	189	215	197
10	0	209	177	209	213	261	196	190	200	208
11	0	221	210	191	229	293	230	181	206	222
12	0	269	232	246	264	288	279	253	253	262
13	0	212	227	190	276	263	242	247	230	237
14	0	250	241	258	265	276	217	222	247	247
15	0	355	357	366	383	232	210	360	364	323
16	0	408	418	409	464	284	263	381	416	375
17	0	387	389	406	378	229	196	400	392	341
18	0	267	307	264	243	187	158	267	270	242
19	0	182	190	154	175	132	134	206	181	168
20	0	130	136	127	106	101	80	133	126	116
21	0	78	98	70	71	91	56	86	81	79
22	0	48	71	58	72	60	64	39	58	59
23	0	16	22	22	50	34	19	16	25	26

Hour	7-19	3595	3557	3559	3673	2824	2370	3498	3576	3297
Ranges:	6-22	3947	3961	3910	4005	3108	2592	3856	3936	3626
	6-24	3963	3983	3932	4055	3142	2611	3872	3961	3651
	0-24	4009	4028	3974	4098	3198	2682	3926	4007	3702



Appendix F - Swept Path Analysis : Internal Layout

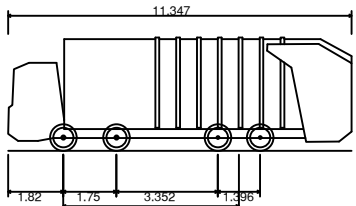


SHEET 1

SHEET 2

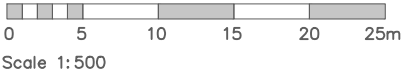
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- GENERAL NOTES:
1. Do not scale.
 2. Refer to all other Project Drawings and supporting notes.



Large Refuse Vehicle (4 axle)
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to lock time
Wall to Wall Turning Radius

11.347m
2.500m
3.751m
0.304m
2.500m
6.00s
11.300m



D	08.24	Updated to suit latest site layout	LC	DS
C	08.24	Updated Layout	TC	EP
B	07.24	Amended in line with Bellway Comments	AS	DS
A	06.24	First Issue	LC	DS
Rev	Date	Description	Drawn	Checked



3 Tealgate, Charnham Park
Hungerford, Berkshire RG17 0YT
www.alpce.co.uk Tel: 01488 684390

Client

BELLWAY HOMES

Project
**LAND NORTH OF
ARBORFIELD ROAD,
SHINFIELD**

Title
**FULL APPLICATION
LARGE REFUSE VEHICULAR
TRACKING SHEET 1**

Status

Scale	Date	Drawn	Checked
1:500 @ A1	JUNE 2024	LC	DS
Drawing No.	Revision		
HD008-FA-801	D		



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GENERAL NOTES:
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2. Refer to all other Project Drawings and supporting notes.

Large Refuse Vehicle (4 axle)
Overall Length 11.347m
Overall Width 2.550m
Overall Body Height 3.751m
Min Body Ground Clearance 0.304m
Track Width 2.550m
Lock to lock time 6.00s
Wall to Wall Turning Radius 11.350m

0 5 10 15 20 25m
Scale 1:500

D	08.24	Updated to suit latest site layout	LC	DS
C	08.24	Updated Layout	TC	EP
B	07.24	Amended in line with Bellway Comments	AS	DS
A	06.24	First Issue	LC	DS
Rev	Date	Description	Drawn	Checked

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Client

BELLWAY HOMES

Project

LAND NORTH OF ARBORFIELD ROAD, SHINFIELD

Title

**FULL APPLICATION
LARGE REFUSE VEHICULAR
TRACKING SHEET 2**

Status

Scale	Date	Drawn	Checked
1:500 @ A1	JUNE 2024	LC	DS
Drawing No.	Revision		
HD008-FA-802			D

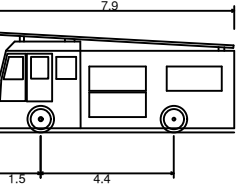


SHEET 1

SHEET 2

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- GENERAL NOTES:
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 2. Refer to all other Project Drawings and supporting notes.



Pumping Appliance
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to lock time
Kerb to Kerb Turning Radius

7.900m
2.500m
3.300m
0.140m
2.500m
4.00s
7.750m



D	08.24	Updated to suit latest site layout	LC	DS
C	08.24	Updated Layout	TC	EP
B	07.24	Amended Site Layout	AS	DS
A	06.24	First Issue	LC	DS
Rev	Date	Description	Drawn	Checked



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Client

BELLWAY HOMES

Project
**LAND NORTH OF
ARBORFIELD ROAD,
SHINFIELD**

Title
**FULL APPLICATION
FIRE TENDER VEHICULAR
TRACKING SHEET 1**

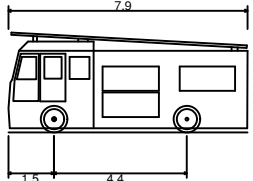
Status

Scale	Date	Drawn	Checked
1:500 @ A1	JUNE 2024	LC	DS
Drawing No	Revision		
HD008-FA-803	D		



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GENERAL NOTES:
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2. Refer to all other Project Drawings and supporting notes.



Pumping Appliance
Overall Length 7.900m
Overall Width 2.500m
Overall Body Height 3.300m
Min. Body Ground Clearance 0.140m
Track Width 2.500m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 7.750m

7.900m
2.500m
3.300m
0.140m
2.500m
4.00s
7.750m



0 5 10 15 20 25m
Scale 1:500

D	08.24	Updated to suit latest site layout	LC	DS
C	08.24	Updated Layout	TC	EP
B	07.24	Amended Site Layout	AS	DS
A	06.24	First Issue	LC	DS
Rev	Date	Description	Drawn	Checked



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Client

BELLWAY HOMES

Project

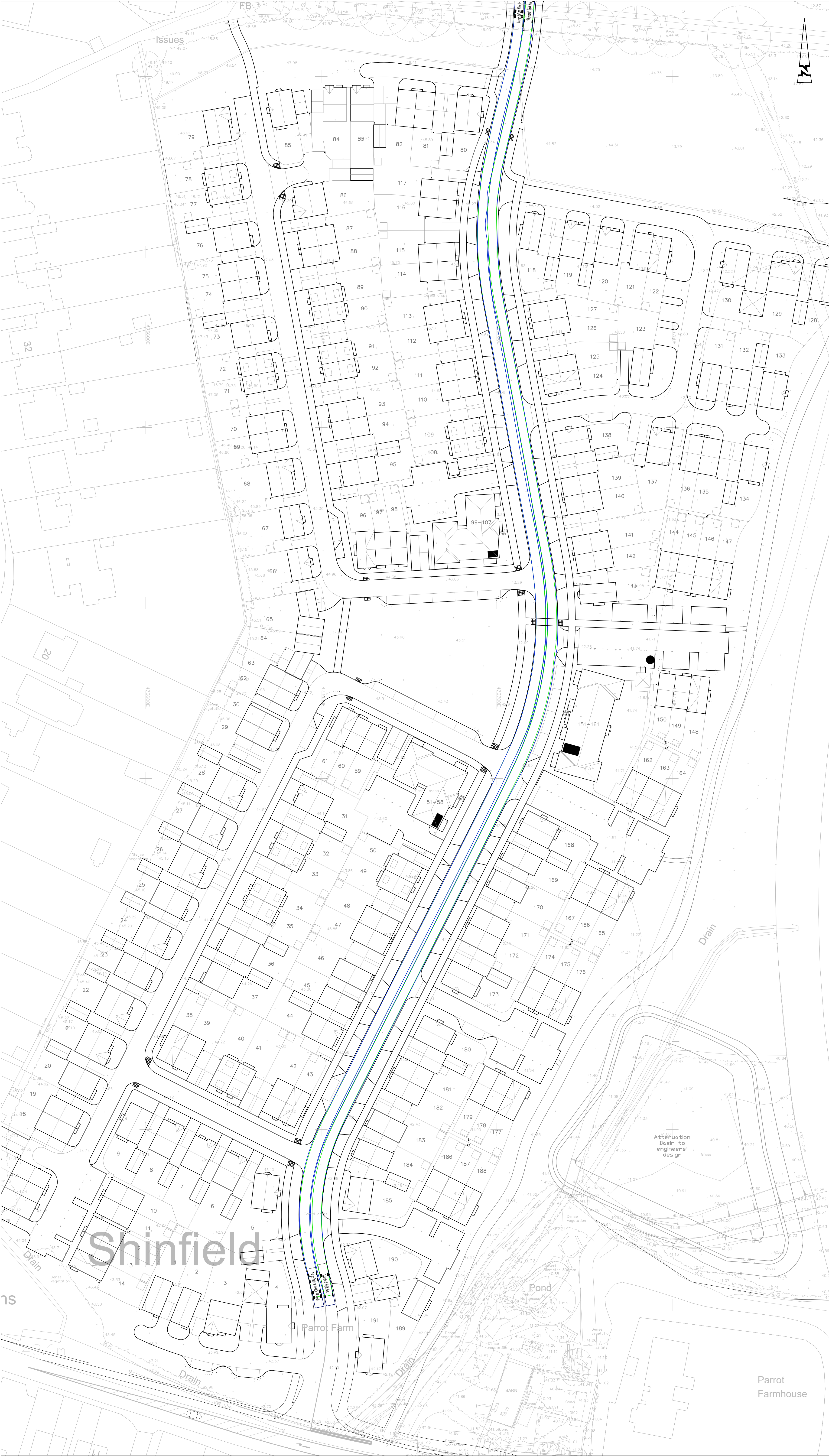
LAND NORTH OF ARBORFIELD ROAD, SHINFIELD

Title

FULL APPLICATION
FIRE TENDER VEHICULAR
TRACKING SHEET 2

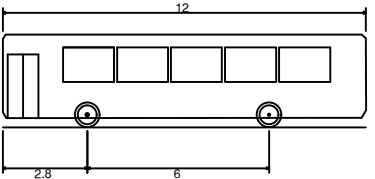
Status

Scale	Date	Drawn	Checked
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Drawing No.	Revision		
HD008-FA-804	D		

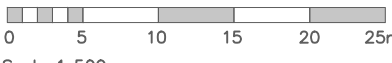


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GENERAL NOTES:
1. Do not scale.
2. Refer to all other Project Drawings and supporting notes.



'Standard' Rigid Bus
Overall Length 12,000mm
Overall Width 2,550mm
Overall Body Height 3,069mm
Min Body Ground Clearance 3,359mm
Track Width 2,350mm
Lock to lock time 4.00s
Wall to Wall Turning Radius 10.771m



0 5 10 15 20 25m
Scale 1:500

D	06.24	Updated to suit latest site layout	LC	DS
C	06.24	Updated Layout	TC	EP
B	07.24	Amended Site Layout	AS	DS
A	06.24	First Issue	LC	DS
Rev	Date	Description	Drawn	Checked



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Client

BELLWAY HOMES

Project

LAND NORTH OF ARBORFIELD ROAD, SHINFIELD

Title

FULL APPLICATION BUS VEHICULAR TRACKING

Status

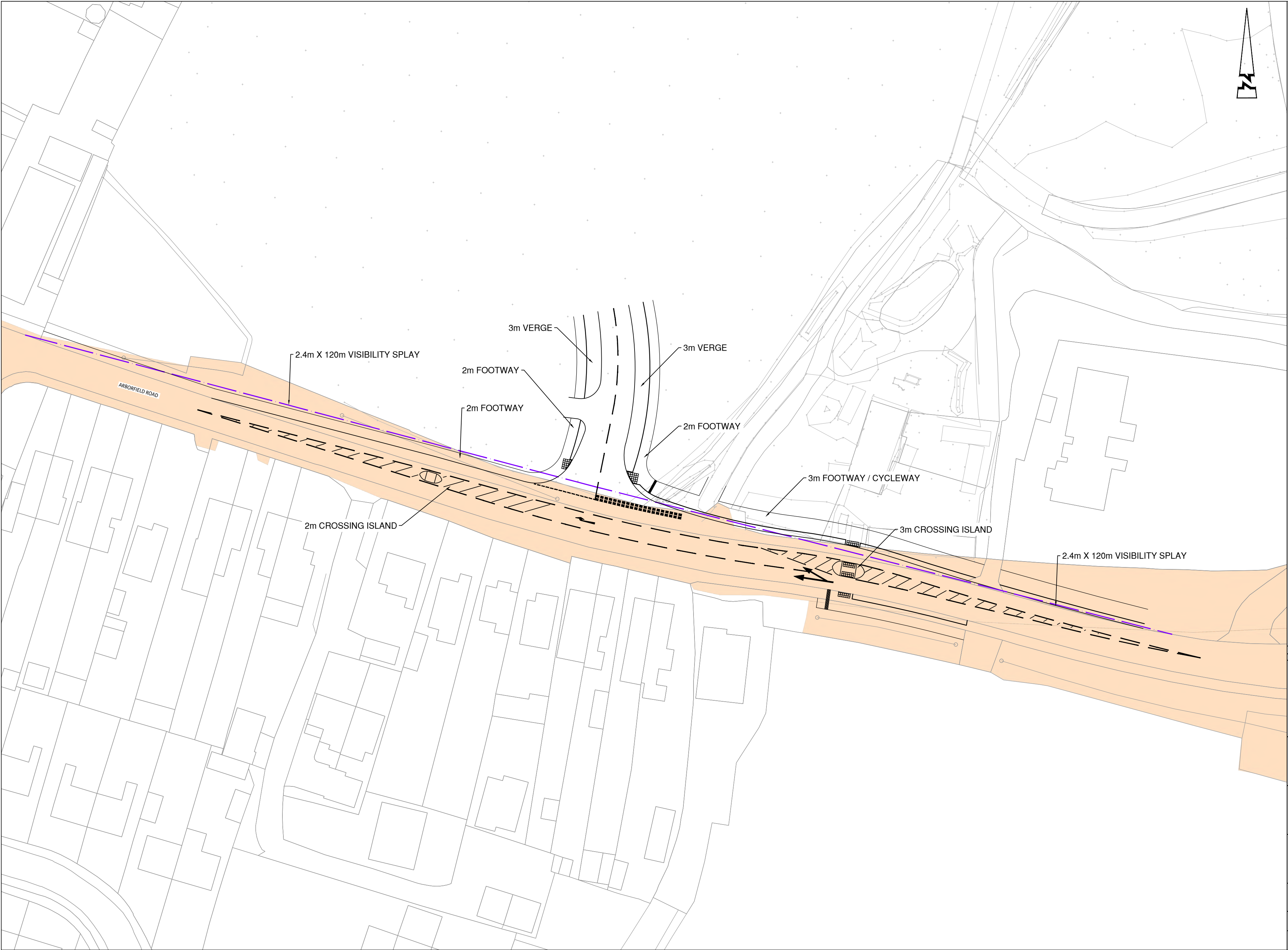
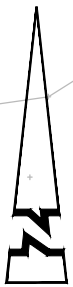
Scale	Date	Drawn	Checked
1:500 @ A1	JUNE 2024	LC	DS
Drawing No	HD008-FA-807		Revision
			D



Appendix G - Arborfield Road Site Access Drawing

KEY

- HIGHWAY BOUNDARY
- VISIBILITY SPLAY



P1	05.24	FIRST ISSUE	TDM	AG
Rev	Date	Description	Drawn	Checked

AL

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Client

BELLWAY HOMES

Project

**LAND NORTH OF
ARBORFIELD ROAD,
SHINFIELD**

Title

**PROPOSED ACCESS
ARRANGEMENTS**

Status

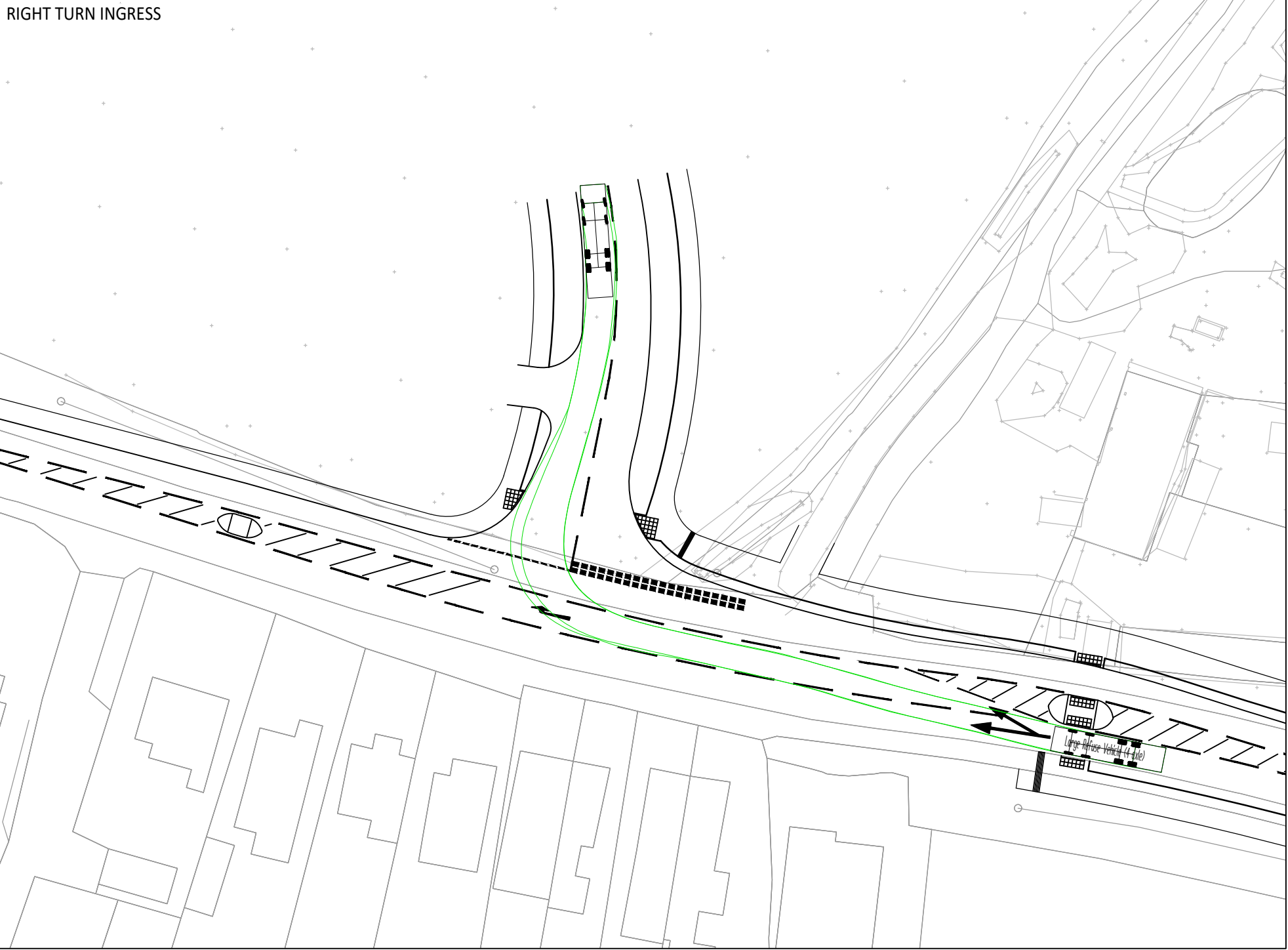
PRELIMINARY

Scale	Date	Drawn	Checked
1:500 @ A2	MAY 2024	TDM	AG
Drawing No	Revision		
HD008-006	P1		

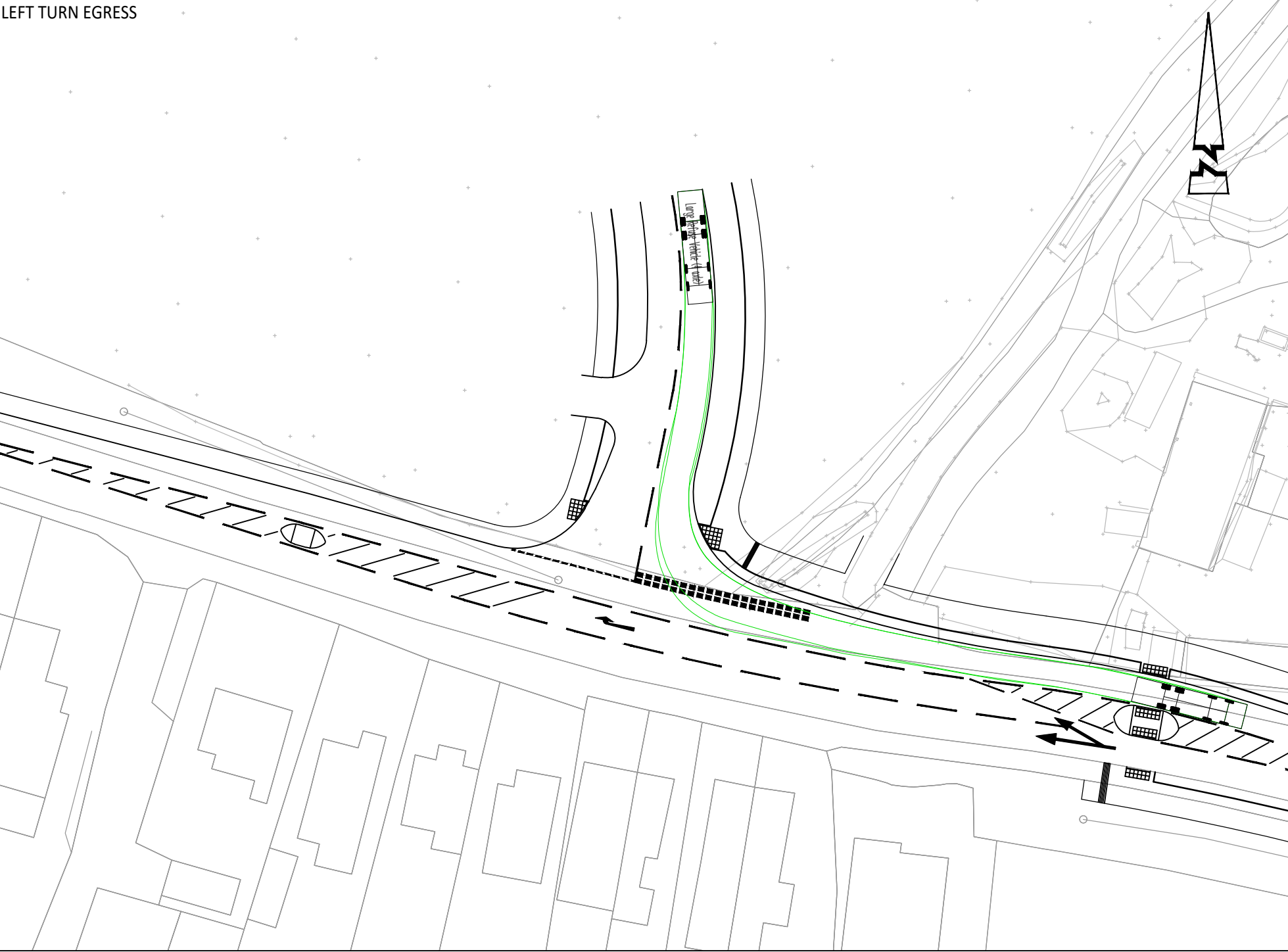


Appendix H - Swept Path Analysis : Site Access

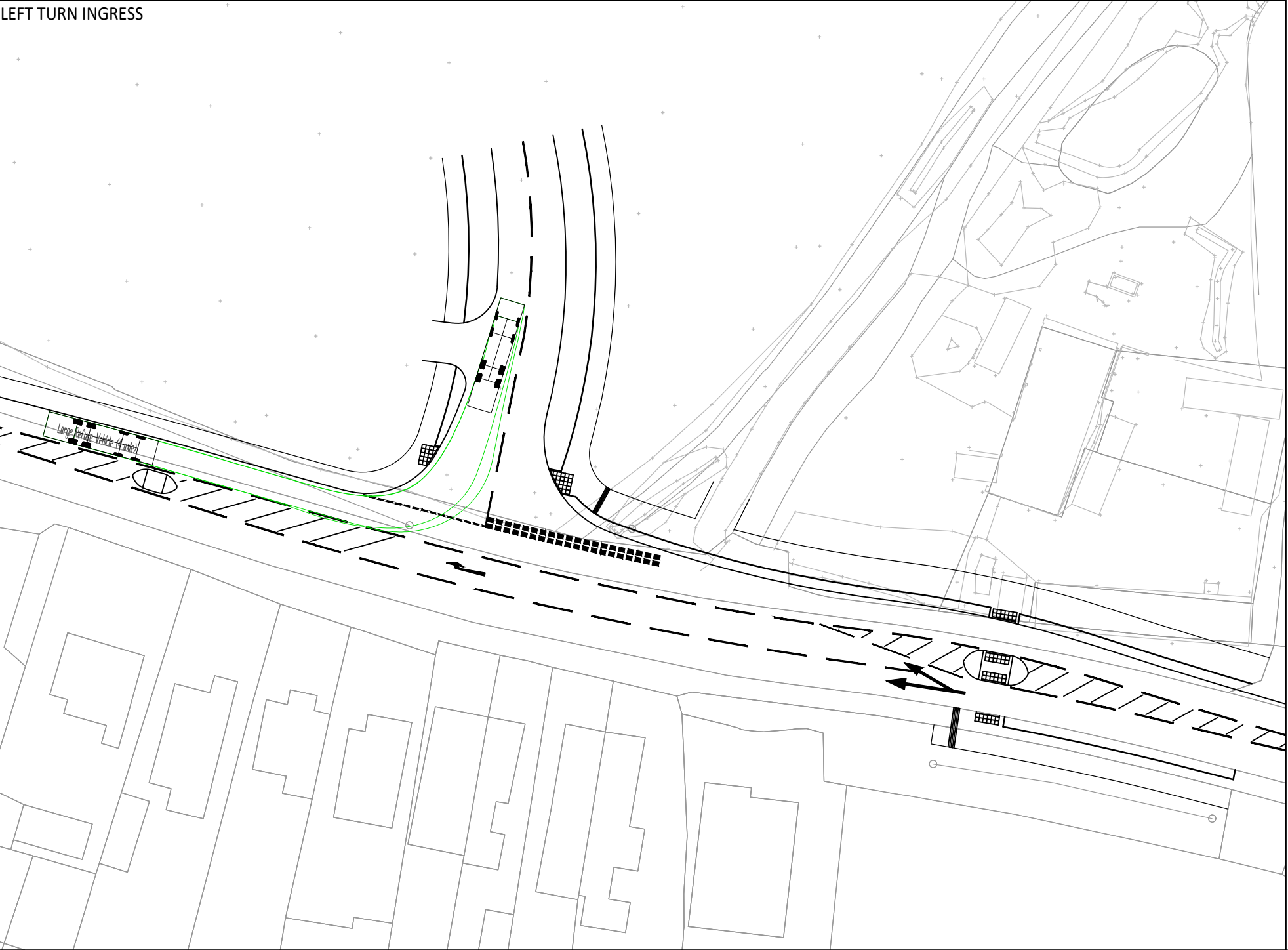
RIGHT TURN INGRESS



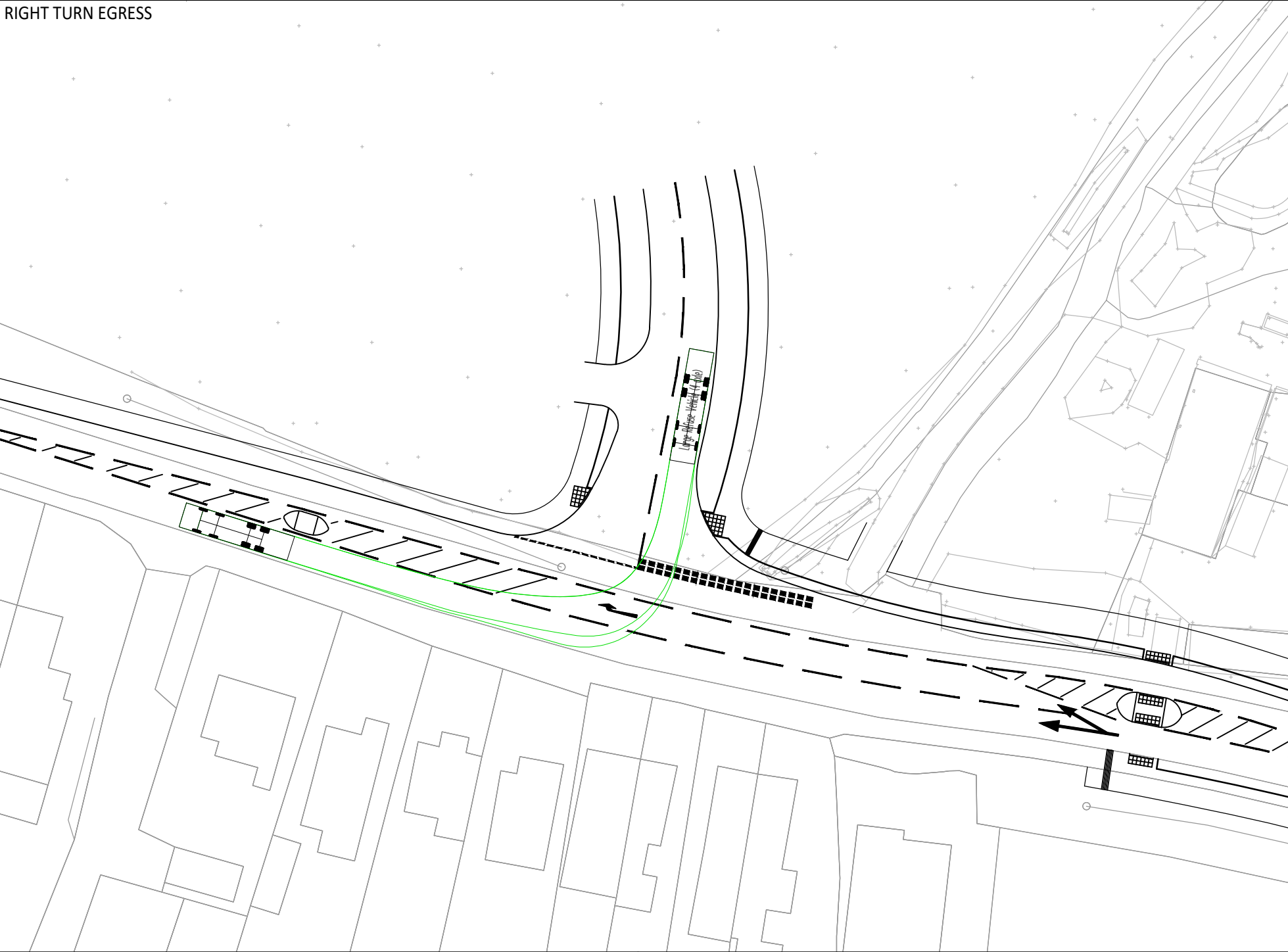
LEFT TURN EGRESS



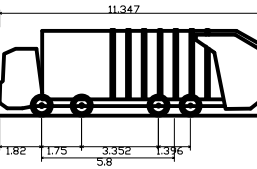
LEFT TURN INGRESS



RIGHT TURN EGRESS



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Large Refuse Vehicle (4 axle)
Overall Length 11.347m
Overall Width 2.500m
Overall Body Height 3.900m
Min Body Ground Clearance 0.304m
Track Width 2.500m
Lock to lock time 6.00s
Wall to Wall Turning Radius 11.330m

P1	06.24	FIRST ISSUE	TDM	AG
Rev	Date	Description	Drawn	Checked

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Consulting Engineers
3 Tealgate, Charnham Park
Hungerford, Berkshire RG17 0YT
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Client
BELLWAY HOMES

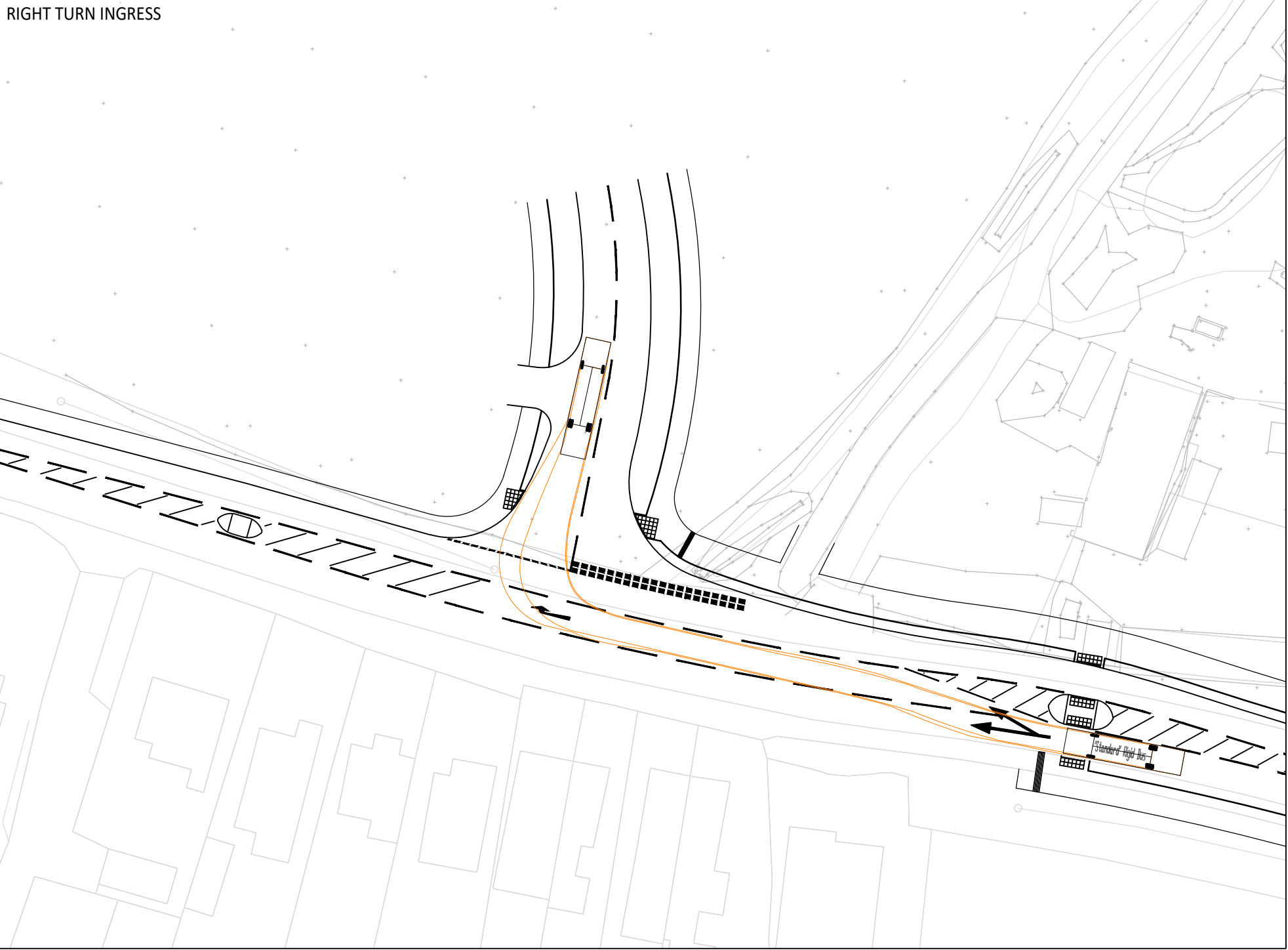
Project
LAND NORTH OF ARBORFIELD ROAD, SHINFIELD

Title
**SWEPT PATH ANALYSIS
LARGE REFUSE VEHICLE**

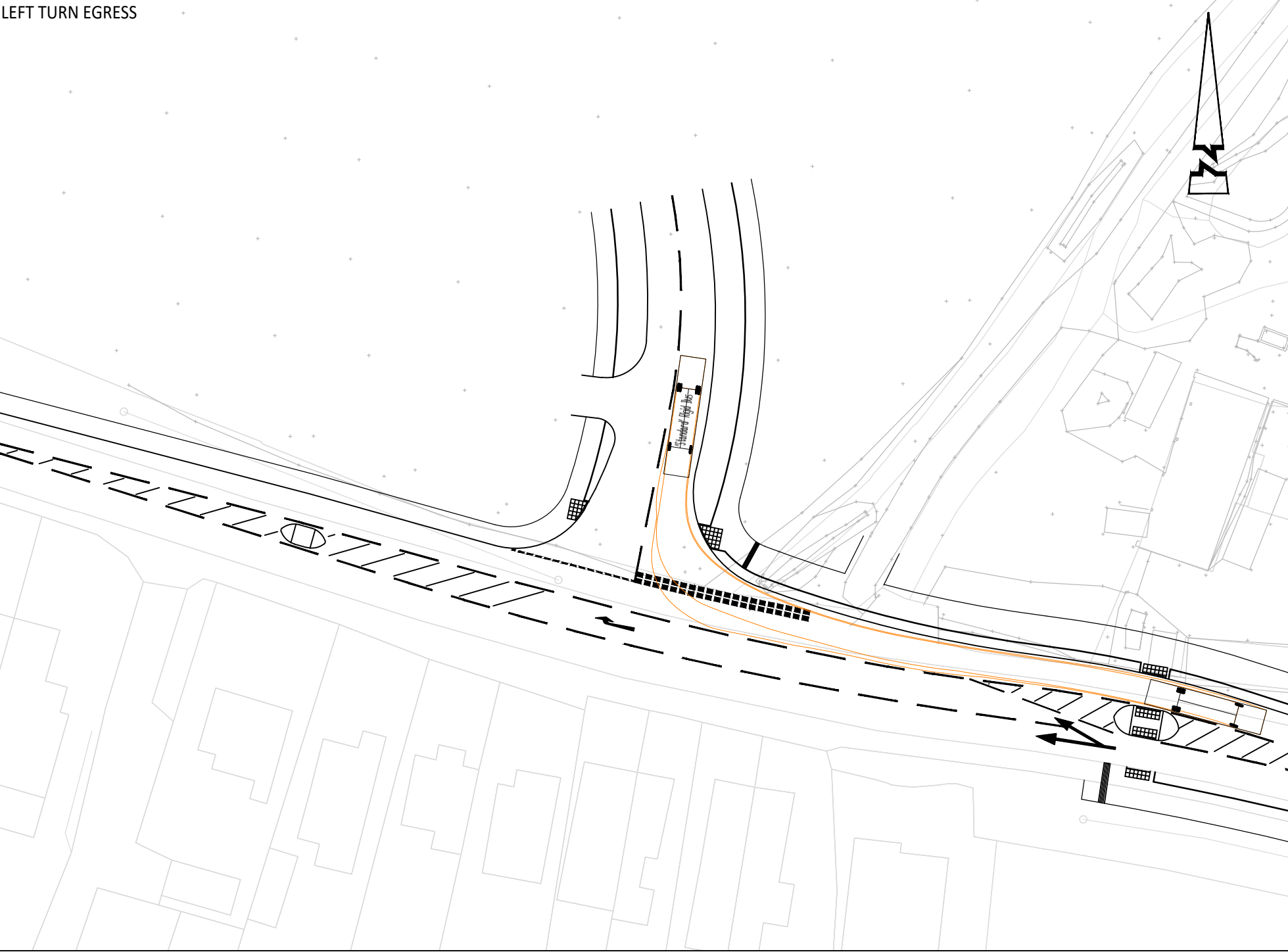
Status
PRELIMINARY

Scale 1:500 @ A2	Date JUNE 2024	Drawn TDM	Checked AG
Drawing No HD008-007	Revision P1		

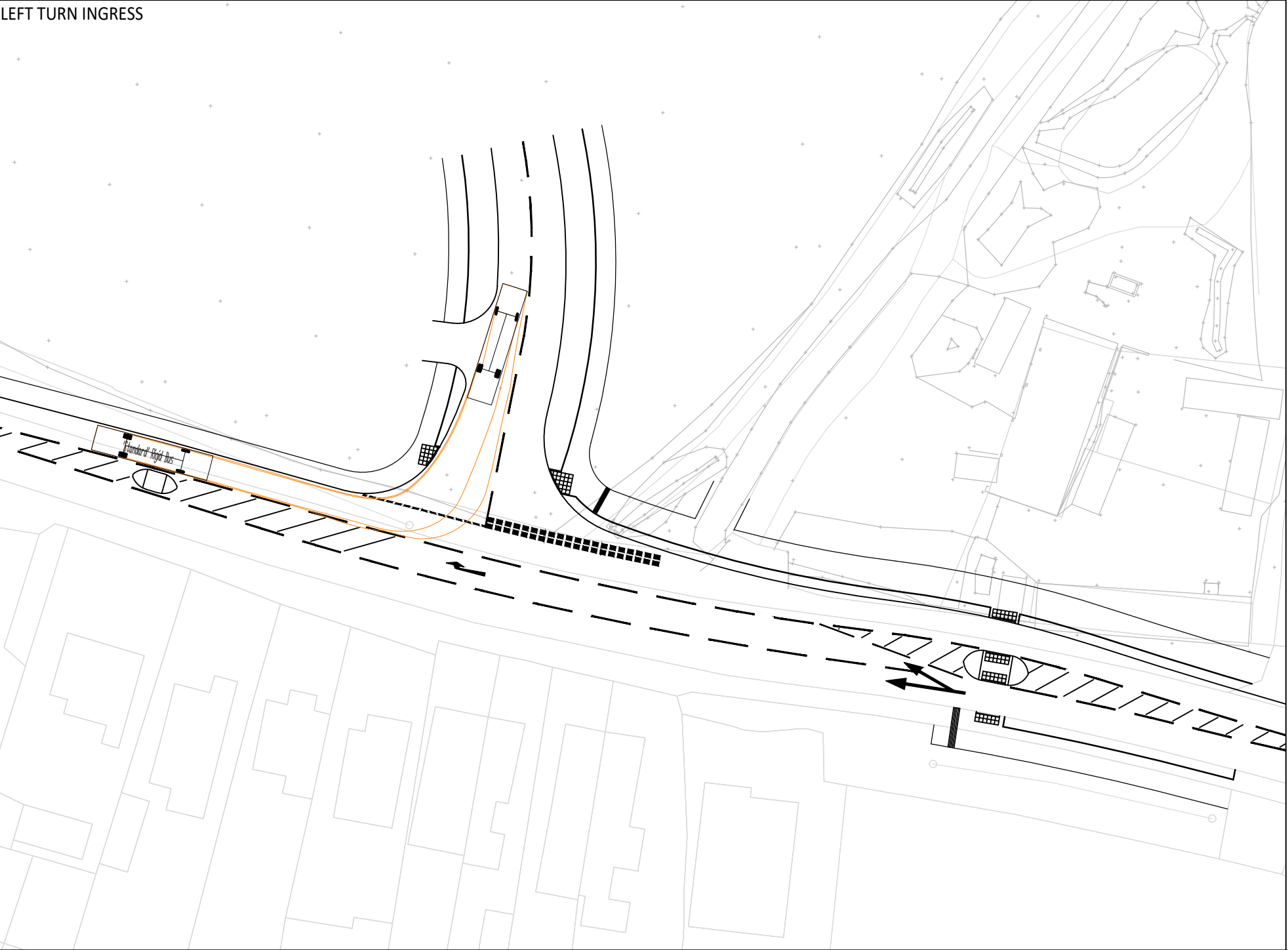
RIGHT TURN INGRESS



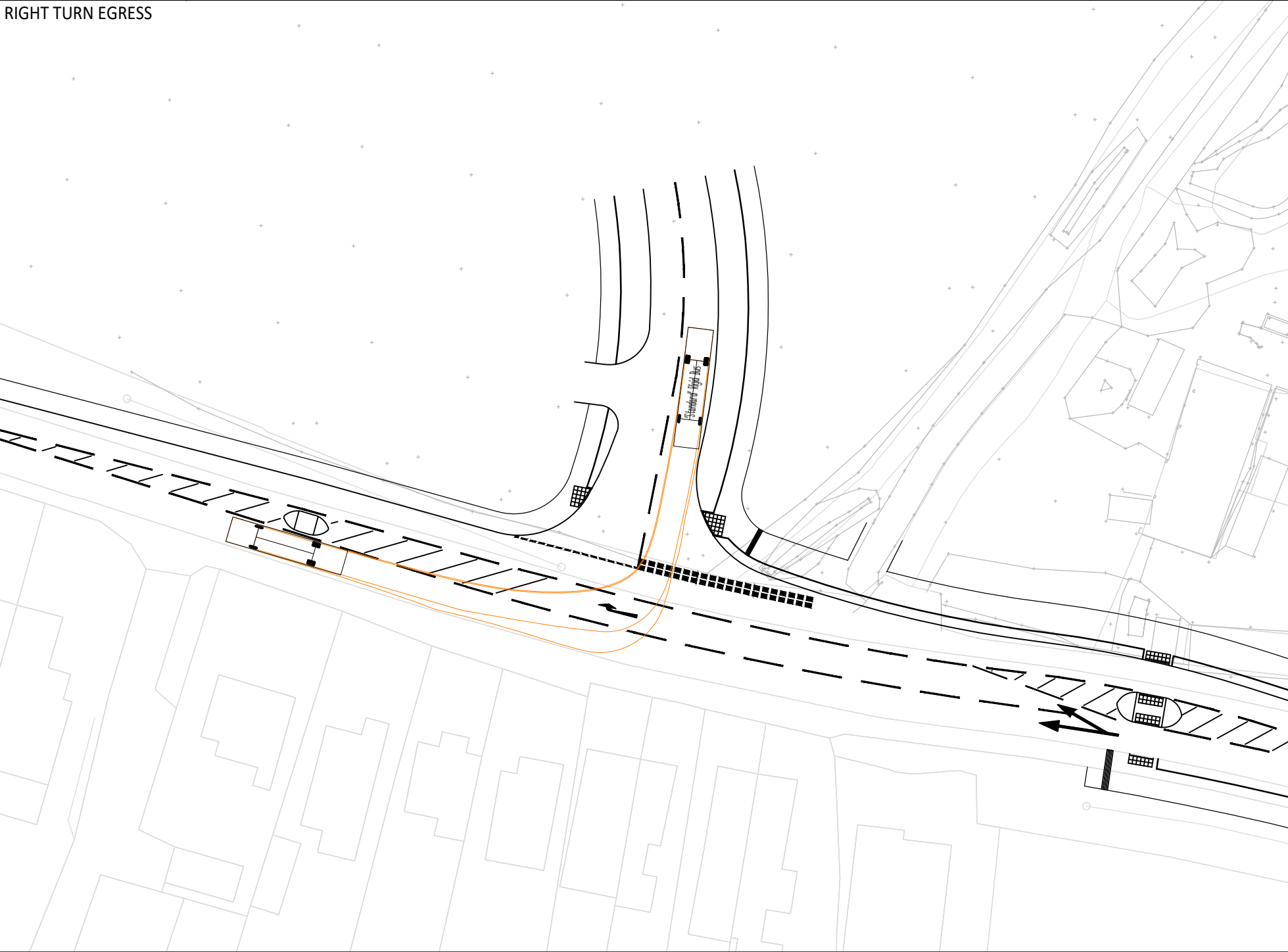
LEFT TURN EGRESS



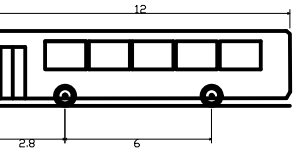
LEFT TURN INGRESS



RIGHT TURN EGRESS



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'Standard' Rigid Bus
Overall Length 12.000m
Overall Width 2.800m
Overall Body Height 3.063m
Min Body Ground Clearance 0.300m
Track Width 2.350m
Lock to lock time 4.00s
Wall to Wall Turning Radius 10.771m

P1	06.24	FIRST ISSUE	TDM	AG
Rev	Date	Description	Drawn	Checked

AL

P

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Consulting Engineers

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Hungerford, Berkshire RG17 0YT
www.alpce.co.uk Tel: 01488 684390

Client
BELLWAY HOMES

Project
**LAND NORTH OF
ARBORFIELD ROAD,
SHINFIELD**

Title
**SWEPT PATH ANALYSIS
RIGID BUS**

Status
PRELIMINARY

Scale 1:500 @ A2	Date JUNE 2024	Drawn TDM	Checked AG
Drawing No HD008-008	Revision P1		



Appendix I - Parking Appraisal

Land North of Arborfield Road

Residential Development

Schedule of Vehicular Parking

22/08/2024

Plot No	Type	Beds	Allocated Spaces	Allocated Garage	Total Spaces (Including Garages)	WBC Extra Demand	Visitor Parking
1	HOUSE	3	2	0	2	0.1	0.2
2	HOUSE	3	2	0	2	0.1	0.2
3	HOUSE	4	2	1	3	0	0.2
4	HOUSE	4	2	1	3	0	0.2
5	HOUSE	4	2	1	3	0	0.2
6	HOUSE	4	2	1	3	0	0.2
7	HOUSE	4	2	1	3	0	0.2
8	HOUSE	4	2	1	3	0	0.2
9	HOUSE	4	2	1	3	0	0.2
10	HOUSE	3	1	0	1	0.4	0.2
11	HOUSE	3	1	0	1	0.4	0.2
12	HOUSE	3	1	0	1	0.4	0.2
13	HOUSE	3	1	0	1	0.4	0.2
14	HOUSE	3	1	0	1	0.4	0.2
15	HOUSE	3	2	0	2	0.1	0.2
16	HOUSE	2	2	0	2	0	0.2
17	HOUSE	2	2	0	2	0	0.2
18	HOUSE	3	2	0	2	0.1	0.2
19	HOUSE	3	2	0	2	0.1	0.2
20	HOUSE	4	2	1	3	0	0.2
21	HOUSE	4	2	1	3	0	0.2
22	HOUSE	4	2	1	3	0	0.2
23	HOUSE	4	2	1	3	0	0.2
24	HOUSE	4	2	1	3	0	0.2
25	HOUSE	4	2	1	3	0	0.2
26	HOUSE	4	2	1	3	0	0.2
27	HOUSE	4	2	1	3	0	0.2
28	HOUSE	4	2	1	3	0	0.2
29	HOUSE	2	2	0	2	0	0.2
30	HOUSE	2	2	0	2	0	0.2
31	HOUSE	4	2	1	3	0	0.2
32	HOUSE	3	2	0	2	0.2	0.2
33	HOUSE	3	2	0	2	0.2	0.2
34	HOUSE	3	2	0	2	0.2	0.2
35	HOUSE	3	2	0	2	0.2	0.2
36	HOUSE	4	2	1	3	0	0.2
37	HOUSE	4	2	1	3	0	0.2
38	HOUSE	3	2	0	2	0.1	0.2
39	HOUSE	3	2	0	2	0.1	0.2
40	HOUSE	3	2	0	2	0.2	0.2
41	HOUSE	3	2	0	2	0.2	0.2
42	HOUSE	3	2	0	2	0.1	0.2
43	HOUSE	3	2	0	2	0.1	0.2
44	HOUSE	4	2	1	3	0	0.2
45	HOUSE	3	2	0	2	0.1	0.2
46	HOUSE	3	2	0	2	0.1	0.2
47	HOUSE	3	2	0	2	0.1	0.2
48	HOUSE	3	2	0	2	0.1	0.2
49	HOUSE	3	2	0	2	0.2	0.2
50	HOUSE	3	2	0	2	0.2	0.2
51	FLAT	1	0	0	0	0.5	0.2
52	FLAT	1	0	0	0	0.5	0.2
53	FLAT	1	0	0	0	0.5	0.2

Land North of Arborfield Road

Residential Development

Schedule of Vehicular Parking

22/08/2024

Plot No	Type	Beds	Allocated Spaces	Allocated Garage	Total Spaces (Including Garages)	WBC Extra Demand	Visitor Parking
54	FLAT	2	0	0	0	0.7	0.2
55	FLAT	2	0	0	0	0.7	0.2
56	FLAT	2	0	0	0	0.7	0.2
57	FLAT	2	0	0	0	0.7	0.2
58	FLAT	2	0	0	0	0.7	0.2
59	HOUSE	2	2	0	2	0	0.2
60	HOUSE	2	2	0	2	0	0.2
61	HOUSE	3	2	0	2	0.1	0.2
62	HOUSE	2	2	0	2	0	0.2
63	HOUSE	2	2	0	2	0	0.2
64	HOUSE	4	2	0	2	0.2	0.2
65	HOUSE	4	2	0	2	0.2	0.2
66	HOUSE	3	2	0	2	0.1	0.2
67	HOUSE	3	2	0	2	0.1	0.2
68	HOUSE	4	2	0	2	0.2	0.2
69	HOUSE	3	2	0	2	0.1	0.2
70	HOUSE	3	2	0	2	0.1	0.2
71	HOUSE	3	2	0	2	0.2	0.2
72	HOUSE	3	2	0	2	0.2	0.2
73	HOUSE	4	2	1	3	0	0.2
74	HOUSE	3	2	0	2	0.1	0.2
75	HOUSE	3	2	0	2	0.1	0.2
76	HOUSE	4	2	1	3	0	0.2
77	HOUSE	3	2	0	2	0.2	0.2
78	HOUSE	3	2	0	2	0.2	0.2
79	HOUSE	4	2	0	2	0.2	0.2
80	HOUSE	4	2	1	3	0	0.2
81	HOUSE	3	2	0	2	0.1	0.2
82	HOUSE	3	2	0	2	0.1	0.2
83	HOUSE	4	2	1	3	0	0.2
84	HOUSE	4	2	1	3	0	0.2
85	HOUSE	4	2	1	3	0	0.2
86	HOUSE	4	2	1	3	0	0.2
87	HOUSE	3	2	0	2	0.1	0.2
88	HOUSE	3	2	0	2	0.1	0.2
89	HOUSE	3	2	0	2	0.2	0.2
90	HOUSE	3	2	0	2	0.2	0.2
91	HOUSE	3	2	0	2	0.2	0.2
92	HOUSE	3	2	0	2	0.2	0.2
93	HOUSE	3	2	0	2	0.1	0.2
94	HOUSE	3	2	0	2	0.1	0.2
95	HOUSE	4	2	1	3	0	0.2
96	HOUSE	3	2	0	2	0.1	0.2
97	HOUSE	2	2	0	2	0	0.2
98	HOUSE	2	2	0	2	0	0.2
99	FLAT	1	0	0	0	0.5	0.2
100	FLAT	1	0	0	0	0.5	0.2
101	FLAT	1	0	0	0	0.5	0.2
102	FLAT	1	0	0	0	0.5	0.2
103	FLAT	2	0	0	0	0.7	0.2
104	FLAT	2	0	0	0	0.7	0.2
105	FLAT	2	0	0	0	0.7	0.2
106	FLAT	2	0	0	0	0.7	0.2

Land North of Arborfield Road

Residential Development

Schedule of Vehicular Parking

22/08/2024

Plot No	Type	Beds	Allocated Spaces	Allocated Garage	Total Spaces (Including Garages)	WBC Extra Demand	Visitor Parking
107	FLAT	2	0	0	0	0.7	0.2
108	HOUSE	3	2	0	2	0.2	0.2
109	HOUSE	3	2	0	2	0.2	0.2
110	HOUSE	3	2	0	2	0.1	0.2
111	HOUSE	3	2	0	2	0.1	0.2
112	HOUSE	3	2	0	2	0.1	0.2
113	HOUSE	3	2	0	2	0.1	0.2
114	HOUSE	3	2	0	2	0.1	0.2
115	HOUSE	3	2	0	2	0.1	0.2
116	HOUSE	3	2	0	2	0.1	0.2
117	HOUSE	3	2	0	2	0.1	0.2
118	HOUSE	3	2	0	2	0.1	0.2
119	HOUSE	4	2	1	3	0	0.2
120	HOUSE	4	2	1	3	0	0.2
121	HOUSE	3	2	0	2	0.1	0.2
122	HOUSE	3	2	0	2	0.1	0.2
123	HOUSE	3	2	0	2	0.1	0.2
124	HOUSE	3	2	0	2	0.1	0.2
125	HOUSE	2	2	0	2	0	0.2
126	HOUSE	2	2	0	2	0	0.2
127	HOUSE	3	2	0	2	0.1	0.2
128	HOUSE	4	2	1	3	0	0.2
129	HOUSE	4	2	1	3	0	0.2
130	HOUSE	4	2	1	3	0	0.2
131	HOUSE	3	2	0	2	0.1	0.2
132	HOUSE	3	2	0	2	0.1	0.2
133	HOUSE	4	2	1	3	0	0.2
134	HOUSE	4	2	1	3	0	0.2
135	HOUSE	3	2	0	2	0.1	0.2
136	HOUSE	3	2	0	2	0.1	0.2
137	HOUSE	4	2	1	3	0	0.2
138	HOUSE	4	2	1	3	0	0.2
139	HOUSE	3	2	0	2	0.1	0.2
140	HOUSE	3	2	0	2	0.1	0.2
141	HOUSE	3	2	0	2	0.1	0.2
142	HOUSE	3	2	0	2	0.1	0.2
143	HOUSE	3	2	0	2	0.1	0.2
144	HOUSE	3	1	0	1	0.4	0.2
145	HOUSE	3	1	0	1	0.4	0.2
146	HOUSE	3	1	0	1	0.4	0.2
147	HOUSE	3	1	0	1	0.4	0.2
148	HOUSE	3	2	0	2	0.1	0.2
149	HOUSE	2	1	0	1	0.3	0.2
150	HOUSE	2	1	0	1	0.3	0.2
151	FLAT	1	0	0	0	0.5	0.2
152	FLAT	1	0	0	0	0.5	0.2
153	FLAT	1	0	0	0	0.5	0.2
154	FLAT	1	0	0	0	0.5	0.2
155	FLAT	1	0	0	0	0.5	0.2
156	FLAT	1	0	0	0	0.5	0.2
157	FLAT	1	0	0	0	0.5	0.2
158	FLAT	1	0	0	0	0.5	0.2
159	FLAT	1	0	0	0	0.5	0.2

Land North of Arborfield Road

Residential Development

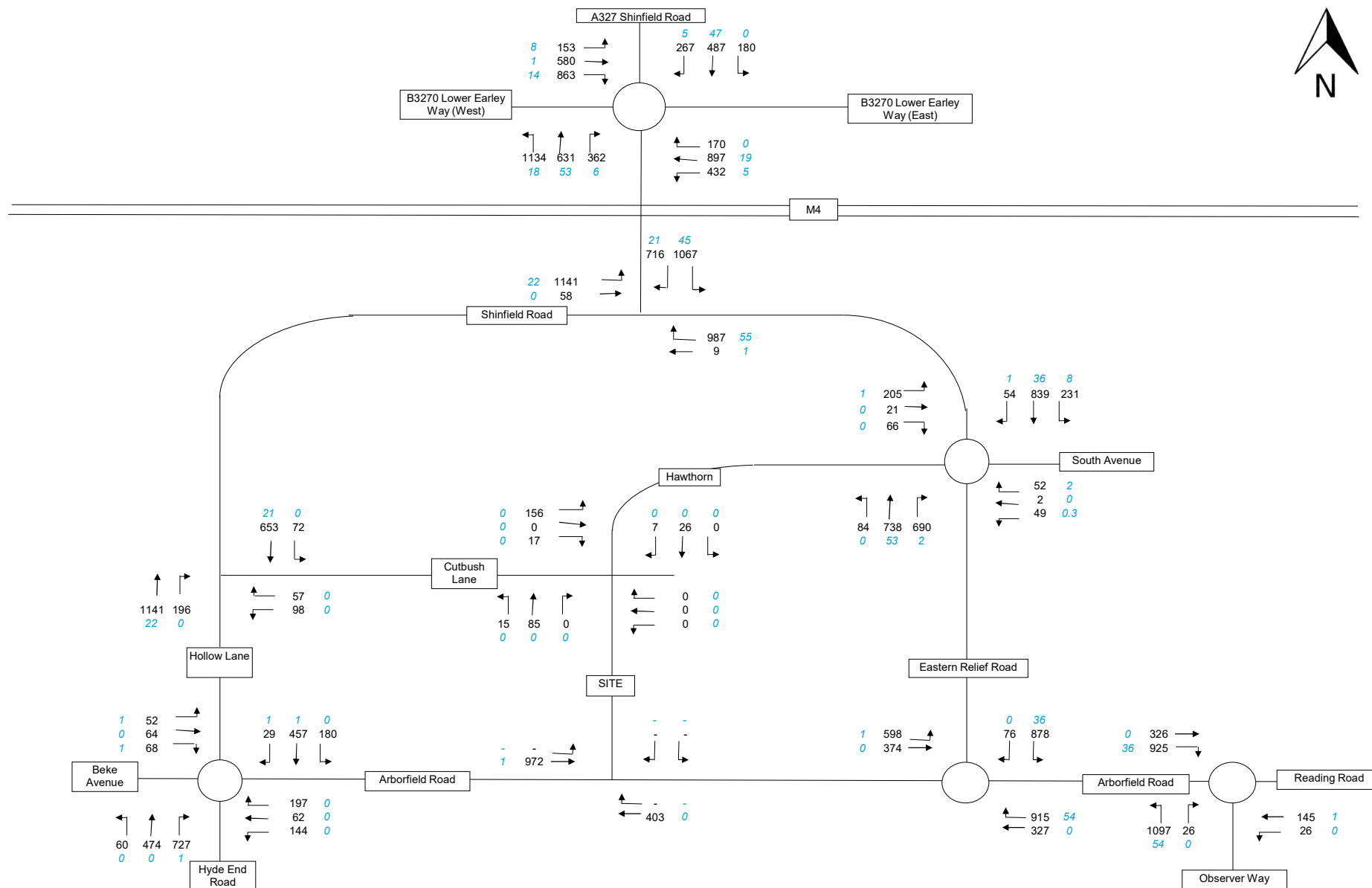
Schedule of Vehicular Parking

22/08/2024

Plot No	Type	Beds	Allocated Spaces	Allocated Garage	Total Spaces (Including Garages)	WBC Extra Demand	Visitor Parking
160	FLAT	1	0	0	0	0.5	0.2
161	FLAT	2	0	0	0	0.7	0.2
162	HOUSE	3	2	0	2	0.1	0.2
163	HOUSE	3	2	0	2	0.1	0.2
164	HOUSE	3	2	0	2	0.1	0.2
165	HOUSE	3	1	0	1	0.4	0.2
166	HOUSE	2	1	0	1	0.2	0.2
167	HOUSE	3	1	0	1	0.4	0.2
168	HOUSE	4	2	1	3	0	0.2
169	HOUSE	3	2	0	2	0.1	0.2
170	HOUSE	3	2	0	2	0.1	0.2
171	HOUSE	3	2	0	2	0.1	0.2
172	HOUSE	3	2	0	2	0.1	0.2
173	HOUSE	4	2	1	3	0	0.2
174	HOUSE	3	1	0	1	0.4	0.2
175	HOUSE	2	1	0	1	0.2	0.2
176	HOUSE	3	1	0	1	0.4	0.2
177	HOUSE	3	1	0	1	0.4	0.2
178	HOUSE	2	1	0	1	0.2	0.2
179	HOUSE	2	1	0	1	0.2	0.2
180	HOUSE	4	2	1	3	0	0.2
181	HOUSE	3	2	0	2	0.1	0.2
182	HOUSE	3	2	0	2	0.1	0.2
183	HOUSE	3	2	0	2	0.1	0.2
184	HOUSE	3	2	0	2	0.1	0.2
185	HOUSE	4	2	1	3	0	0.2
186	HOUSE	3	2	0	2	0.1	0.2
187	HOUSE	3	2	0	2	0.1	0.2
188	HOUSE	3	2	0	2	0.1	0.2
189	HOUSE	3	2	0	2	0.1	0.2
190	HOUSE	4	1	1	2	0.9	0.2
191	HOUSE	4	1	1	2	0.9	0.2
191	TOTALS		304	43	347	36.0	38.2
			347		74.2		



Appendix J - 2032 WSTM Traffic Flow Outputs

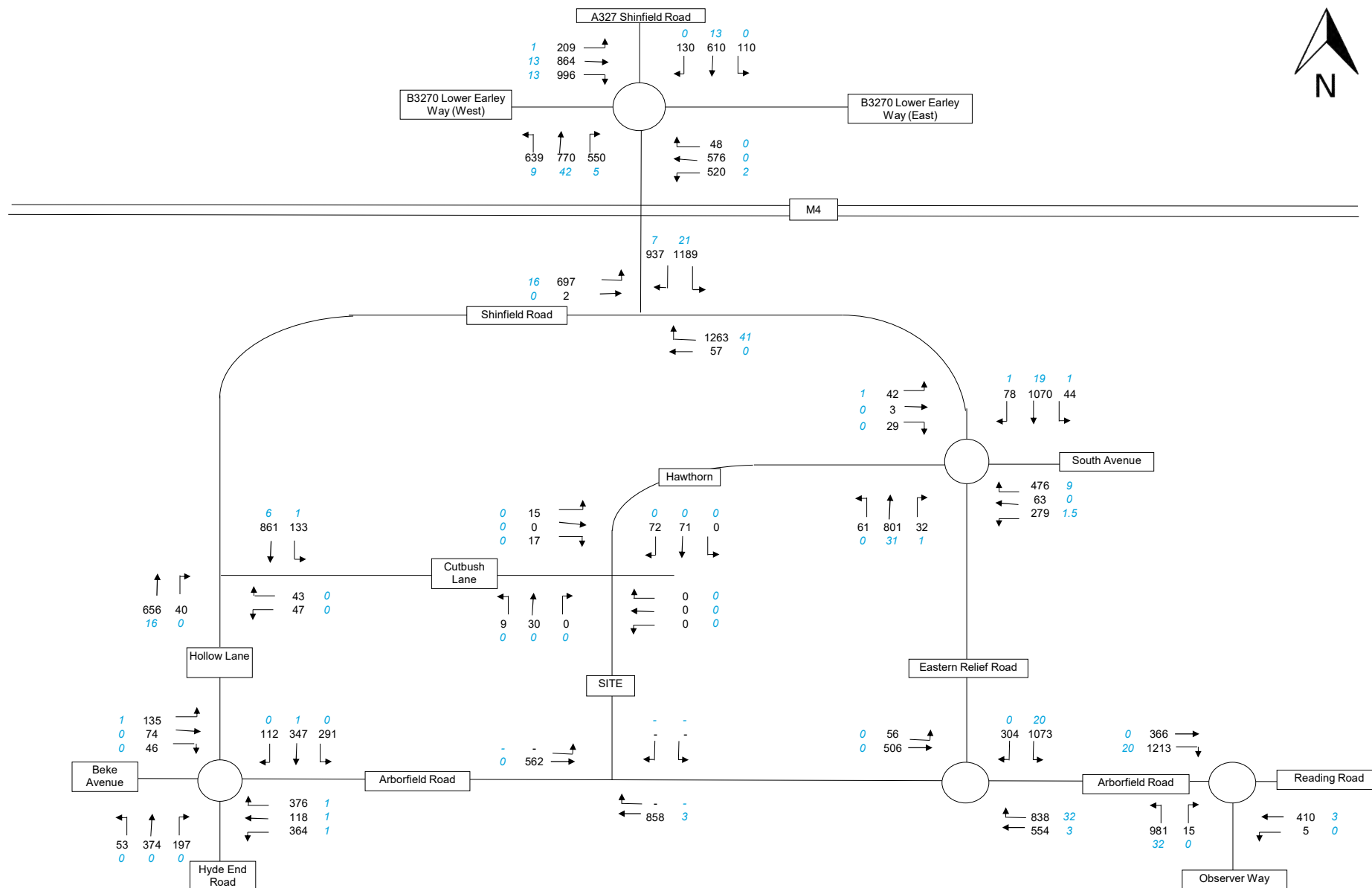


NOTE

0 - Total Vehicles
0 - HGVs



Job No HD008	Project : Land North of Arborfield Road
Date July 2024	Title : WSTM Flows 2032 FB AM Peak Hour
Drawn AG	Figure No : TM-1

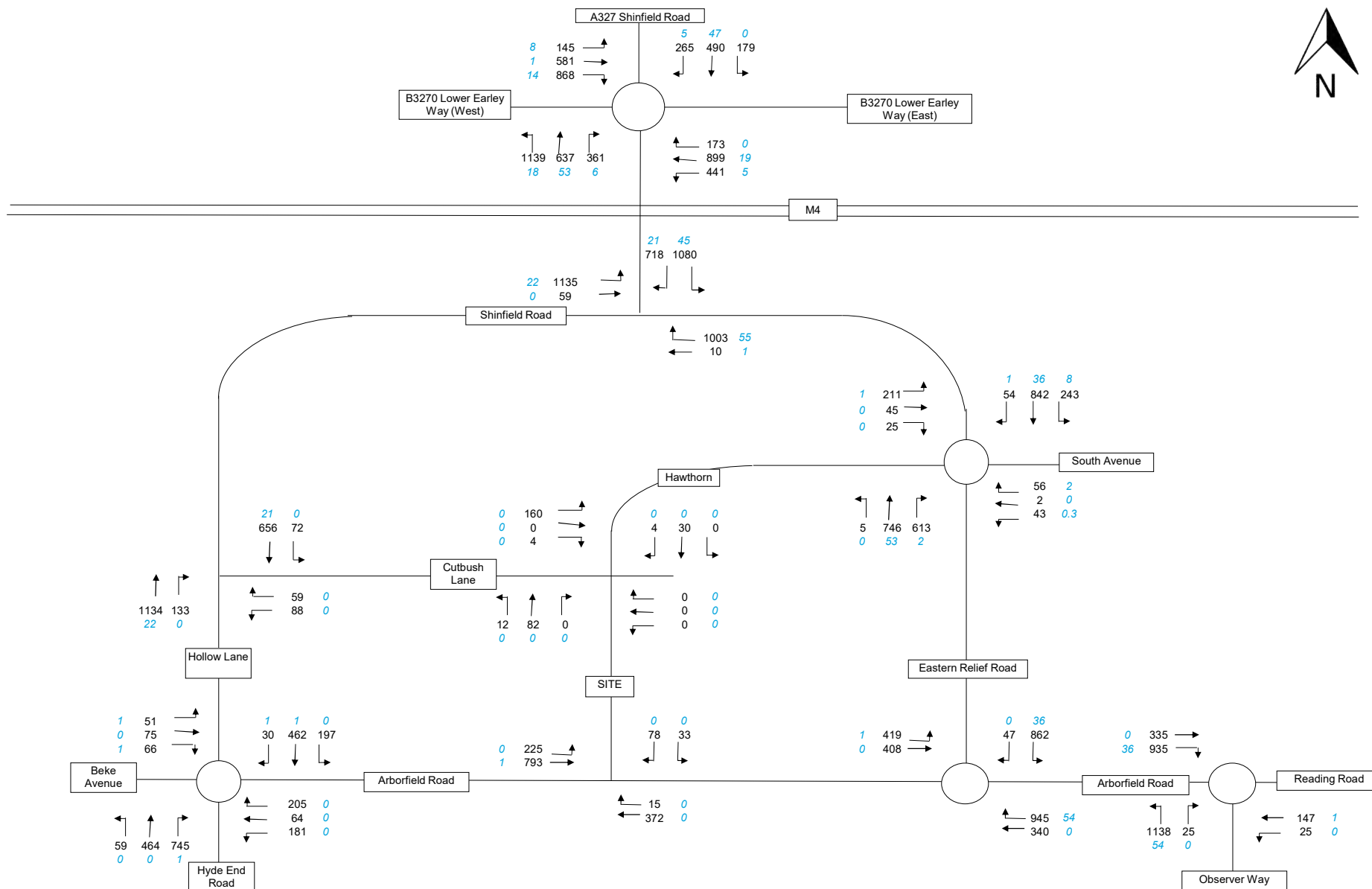


NOTE

0 - Total Vehicles
0 - HGVs



Job No HD008	Project : Land North of Arborfield Road
Date July 2024	Title : WSTM Flows 2032 FB PM Peak Hour
Drawn AG	Figure No : TM-2



NOTE

0 - Total Vehicles
0 - HGVs



Job No HD008	Project : Land North of Arborfield Road
Date July 2024	Title : WSTM Flows 2032 WD AM Peak Hour
Drawn AG	Figure No : TM-3



Appendix K - 2032 Capacity Analysis: Proposed Site Access / Arborfield Road Priority Junction

Junctions 10						
PICADY 10 - Priority Intersection Module						
Version: 10.1.0.1820						
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Filename: Arborfield Rd Access.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction G - Arborfield Access\Capacity Assessment File

Report generation date: 22/08/2024 15:40:26

»2032 with Development, AM

»2032 with Development, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2032 with Development						
Stream B-C	0.1	9.18	0.08	0.0	7.70	0.04
Stream B-A	0.4	16.71	0.27	0.4	16.62	0.30
Stream C-AB	0.0	8.03	0.03	0.0	6.44	0.05

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	Proposed Arborfield Road Access
Location	Shinfield
Site number	HD008
Date	02/08/2024
Version	
Status	Proposed
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 with Development	AM	FLAT	08:00	09:00	60	15	✓
D2	2032 with Development	PM	FLAT	17:00	18:00	60	15	✓
D3	2038 with Development	AM	FLAT	08:00	09:00	60	15	
D4	2038 with Development	PM	FLAT	17:00	18:00	60	15	

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2032 with Development, 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	Proposed Site Access	T-Junction	Two-way	Two-way	Two-way		1.14	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.14	A

Arms

Arms

Arm	Name	Description	Arm type
A	Arborfield Road (W)		Major
B	Site Access		Minor
C	Arborfield Road (E)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Arborfield Road (E)	6.19		✓	3.25	200.0	✓	7.00

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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane plus flare	10.00	6.59	3.90	3.90	3.80	✓	1.00	85	74

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	610	0.110	0.278	0.175	0.397
B-C	703	0.107	0.271	-	-
C-B	769	0.295	0.295	-	-

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 period length (min)	Time segment length (min)	Run automatically
D1	2032 with Development	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Arborfield Road (W)		FLAT	✓	1018	100.000
B - Site Access		FLAT	✓	111	100.000
C - Arborfield Road (E)		FLAT	✓	387	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - Arborfield Road (W)	B - Site Access	C - Arborfield Road (E)
From	A - Arborfield Road (W)	0	225	793
	B - Site Access	78	0	33
	C - Arborfield Road (E)	372	15	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - Arborfield Road (W)	B - Site Access	C - Arborfield Road (E)
From	A - Arborfield Road (W)	0	0	0
	B - Site Access	0	0	0
	C - Arborfield Road (E)	0	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.08	9.18	0.1	A	33	33
B-A	0.27	16.71	0.4	C	78	78
C-AB	0.03	8.03	0.0	A	15	15
C-A					372	372
A-B					225	225
A-C					793	793

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	426	0.077	33	0.0	0.1	9.142	A
B-A	78	20	293	0.266	77	0.0	0.4	16.497	C
C-AB	15	4	463	0.032	15	0.0	0.0	8.025	A
C-A	372	93			372				
A-B	225	56			225				
A-C	793	198			793				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	425	0.078	33	0.1	0.1	9.183	A
B-A	78	20	293	0.266	78	0.4	0.4	16.704	C
C-AB	15	4	463	0.032	15	0.0	0.0	8.029	A
C-A	372	93			372				
A-B	225	56			225				
A-C	793	198			793				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	425	0.078	33	0.1	0.1	9.184	A
B-A	78	20	293	0.266	78	0.4	0.4	16.707	C
C-AB	15	4	463	0.032	15	0.0	0.0	8.029	A
C-A	372	93			372				
A-B	225	56			225				
A-C	793	198			793				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	425	0.078	33	0.1	0.1	9.184	A
B-A	78	20	293	0.266	78	0.4	0.4	16.707	C
C-AB	15	4	463	0.032	15	0.0	0.0	8.029	A
C-A	372	93			372				
A-B	225	56			225				
A-C	793	198			793				

2032 with Development, 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	Proposed Site Access	T-Junction	Two-way	Two-way	Two-way		1.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.21	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2032 with Development	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Arborfield Road (W)		FLAT	✓	595	100.000
B - Site Access		FLAT	✓	111	100.000
C - Arborfield Road (E)		FLAT	✓	835	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - Arborfield Road (W)	B - Site Access	C - Arborfield Road (E)
From	A - Arborfield Road (W)	0	86	509
	B - Site Access	92	0	19
	C - Arborfield Road (E)	807	28	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - Arborfield Road (W)	B - Site Access	C - Arborfield Road (E)
From	A - Arborfield Road (W)	0	0	0
	B - Site Access	0	0	1
	C - Arborfield Road (E)	0	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.04	7.70	0.0	A	19	19
B-A	0.30	16.62	0.4	C	92	92
C-AB	0.05	6.44	0.0	A	28	28
C-A					807	807
A-B					86	86
A-C					509	509

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	19	5	488	0.039	19	0.0	0.0	7.670	A
B-A	92	23	309	0.298	90	0.0	0.4	16.370	C
C-AB	28	7	587	0.048	28	0.0	0.0	6.436	A
C-A	807	202			807				
A-B	86	22			86				
A-C	509	127			509				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	19	5	487	0.039	19	0.0	0.0	7.697	A
B-A	92	23	309	0.298	92	0.4	0.4	16.617	C
C-AB	28	7	587	0.048	28	0.0	0.0	6.438	A
C-A	807	202			807				
A-B	86	22			86				
A-C	509	127			509				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	19	5	487	0.039	19	0.0	0.0	7.697	A
B-A	92	23	309	0.298	92	0.4	0.4	16.619	C
C-AB	28	7	587	0.048	28	0.0	0.0	6.438	A
C-A	807	202			807				
A-B	86	22			86				
A-C	509	127			509				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	19	5	487	0.039	19	0.0	0.0	7.697	A
B-A	92	23	309	0.298	92	0.4	0.4	16.618	C
C-AB	28	7	587	0.048	28	0.0	0.0	6.438	A
C-A	807	202			807				
A-B	86	22			86				
A-C	509	127			509				



Appendix L - 2032 Capacity Analysis: Shepherd Road / Cutbush Lane / Hawthorn crossroads Junction

Junctions 10					
PICADY 10 - Priority Intersection Module					
Version: 10.1.0.1820					
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Filename: Cutbush Crossroads.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction E - Cutbush Access\Capacity Assessment File

Report generation date: 22/08/2024 15:37:59

»2032 Base, AM

»2032 Base, PM

»2032 With Dev, AM

»2032 With Dev, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2032 Base						
Stream B-CD	0.1	8.38	0.12	0.0	7.21	0.05
Stream B-AD	0.1	8.52	0.09	0.0	7.73	0.03
Stream A-BCD	0.0	0.00	0.00	0.0	0.00	0.00
Stream D-AB	0.0	7.27	0.03	0.1	7.88	0.08
Stream D-BC	0.0	7.40	0.04	0.2	8.55	0.20
Stream C-ABD	0.0	4.84	0.03	0.0	5.46	0.03
2032 With Dev						
Stream B-CD	0.1	8.31	0.11	0.1	7.44	0.05
Stream B-AD	0.1	8.42	0.09	0.0	7.82	0.04
Stream A-BCD	0.0	0.00	0.00	0.0	0.00	0.00
Stream D-AB	0.0	7.25	0.03	0.1	7.81	0.08
Stream D-BC	0.0	7.30	0.04	0.2	8.51	0.19
Stream C-ABD	0.0	4.72	0.01	0.0	5.58	0.04

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Cutbush Lane Crossroads
Location	Shinfield
Site number	HD008
Date	02/08/2024
Version	
Status	Existing
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 Base	AM	FLAT	08:00	09:00	60	15	✓
D2	2032 Base	PM	FLAT	17:00	18:00	60	15	✓
D3	2032 With Dev	AM	FLAT	08:00	09:00	60	15	✓
D4	2032 With Dev	PM	FLAT	17:00	18:00	60	15	✓
D5	2038 Base	AM	FLAT	08:00	09:00	60	15	
D6	2038 Base	PM	FLAT	17:00	18:00	60	15	
D7	2038 With Dev	AM	FLAT	08:00	09:00	60	15	
D8	2038 With Dev	PM	FLAT	17:00	18:00	60	15	

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2032 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Shepherd Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	B - Shepherd Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	D - Hawthorn - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

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
1	Proposed Site Access	Crossroads	Two-way	Two-way	Two-way	Two-way		3.89	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.89	A

Arms

Arms

Arm	Name	Description	Arm type
A	Cutbush Lane (E)		Major
B	Shepherd Road		Minor
C	Cutbush Lane (W)		Major
D	Hawthorn		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 - Cutbush Lane (E)	6.05			100.0	✓	0.00
C - Cutbush Lane (W)	6.05			160.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Shepherd Road	One lane plus flare	5.72	4.10	3.40	3.00	3.00	✓	1.00	40	20
D - Hawthorn	One lane plus flare	10.00	4.86	3.46	3.40	3.40	✓	1.00	30	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/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	632	-	-	-	-	-	-	0.244	0.349	0.244	-	-	-
B-A	493	0.090	0.227	0.227	-	-	-	0.143	0.324	-	0.227	0.227	0.113
B-C	628	0.096	0.243	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	493	0.090	0.227	0.227	-	-	-	0.143	0.324	0.143	-	-	-
B-D, offside lane	493	0.090	0.227	0.227	-	-	-	0.143	0.324	0.143	-	-	-
C-B	667	0.258	0.258	0.368	-	-	-	-	-	-	-	-	-
D-A	689	-	-	-	-	-	-	0.266	-	0.105	-	-	-
D-B, nearside lane	538	0.155	0.155	0.353	-	-	-	0.247	0.247	0.098	-	-	-
D-B, offside lane	538	0.155	0.155	0.353	-	-	-	0.247	0.247	0.098	-	-	-
D-C	538	-	0.155	0.353	0.124	0.247	0.247	0.247	0.247	0.098	-	-	-

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 period length (min)	Time segment length (min)	Run automatically
D1	2032 Base	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Cutbush Lane (E)		FLAT	✓	0	100.000
B - Shepherd Road		FLAT	✓	100	100.000
C - Cutbush Lane (W)		FLAT	✓	173	100.000
D - Hawthorn		FLAT	✓	33	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
From A - Cutbush Lane (E)	0	0	0	0
From B - Shepherd Road	0	0	15	85
From C - Cutbush Lane (W)	0	17	0	156
From D - Hawthorn	0	26	7	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	0	0
	C - Cutbush Lane (W)	0	0	0	0
	D - Hawthorn	0	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-CD	0.12	8.38	0.1	A	58	58
B-AD	0.09	8.52	0.1	A	43	43
ABCD	0.00	0.00	0.0	A	0	0
AB					0	0
AC					0	0
D-AB	0.03	7.27	0.0	A	13	13
D-BC	0.04	7.40	0.0	A	20	20
C-ABD	0.03	4.84	0.0	A	21	21
C-D					152	152
C-A					0	0

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	58	14	487	0.118	57	0.0	0.1	8.355	A
B-AD	43	11	465	0.091	42	0.0	0.1	8.508	A
ABCD	0	0	588	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	13	3	508	0.026	13	0.0	0.0	7.266	A
D-BC	20	5	506	0.039	20	0.0	0.0	7.396	A
C-ABD	21	5	765	0.028	21	0.0	0.0	4.841	A
C-D	152	38			152				
C-A	0	0			0				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	58	14	487	0.118	57	0.1	0.1	8.377	A
B-AD	43	11	465	0.091	42	0.1	0.1	8.525	A
ABCD	0	0	588	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	13	3	508	0.026	13	0.0	0.0	7.270	A
D-BC	20	5	506	0.039	20	0.0	0.0	7.400	A
C-ABD	21	5	765	0.028	21	0.0	0.0	4.843	A
C-D	152	38			152				
C-A	0	0			0				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	58	14	487	0.118	57	0.1	0.1	8.377	A
B-AD	43	11	465	0.091	42	0.1	0.1	8.525	A
A-BCD	0	0	588	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	13	3	508	0.026	13	0.0	0.0	7.270	A
D-BC	20	5	506	0.039	20	0.0	0.0	7.400	A
C-ABD	21	5	765	0.028	21	0.0	0.0	4.842	A
C-D	152	38			152				
C-A	0	0			0				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	58	14	487	0.118	57	0.1	0.1	8.377	A
B-AD	43	11	465	0.091	42	0.1	0.1	8.525	A
A-BCD	0	0	588	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	13	3	508	0.026	13	0.0	0.0	7.270	A
D-BC	20	5	506	0.039	20	0.0	0.0	7.400	A
C-ABD	21	5	765	0.028	21	0.0	0.0	4.842	A
C-D	152	38			152				
C-A	0	0			0				

2032 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Shepherd Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	B - Shepherd Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	D - Hawthorn - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

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
1	Proposed Site Access	Crossroads	Two-way	Two-way	Two-way	Two-way		7.39	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.39	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2032 Base	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Cutbush Lane (E)		FLAT	✓	0	100.000
B - Shepherd Road		FLAT	✓	39	100.000
C - Cutbush Lane (W)		FLAT	✓	32	100.000
D - Hawthorn		FLAT	✓	143	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
From	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	9	30
	C - Cutbush Lane (W)	0	17	0	15
	D - Hawthorn	0	71	72	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	0	1
	C - Cutbush Lane (W)	0	0	0	0
	D - Hawthorn	0	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-CD	0.05	7.21	0.0	A	24	24
B-AD	0.03	7.73	0.0	A	15	15
ABCD	0.00	0.00	0.0	A	0	0
AB					0	0
AC					0	0
D-AB	0.08	7.88	0.1	A	40	40
D-BC	0.20	8.55	0.2	A	103	103
C-ABD	0.03	5.46	0.0	A	17	17
C-D					15	15
C-A					0	0

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	24	6	523	0.046	24	0.0	0.0	7.211	A
B-AD	15	4	481	0.031	15	0.0	0.0	7.724	A
ABCD	0	0	622	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	40	10	498	0.081	40	0.0	0.1	7.860	A
D-BC	103	26	523	0.196	102	0.0	0.2	8.515	A
C-ABD	17	4	676	0.026	17	0.0	0.0	5.464	A
C-D	15	4			15				
C-A	0	0			0				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	24	6	523	0.046	24	0.0	0.0	7.214	A
B-AD	15	4	481	0.031	15	0.0	0.0	7.728	A
ABCD	0	0	622	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	40	10	497	0.081	40	0.1	0.1	7.878	A
D-BC	103	26	523	0.196	103	0.2	0.2	8.555	A
C-ABD	17	4	676	0.026	17	0.0	0.0	5.464	A
C-D	15	4			15				
C-A	0	0			0				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	24	6	523	0.046	24	0.0	0.0	7.214	A
B-AD	15	4	481	0.031	15	0.0	0.0	7.728	A
A-BCD	0	0	622	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	40	10	497	0.081	40	0.1	0.1	7.878	A
D-BC	103	26	523	0.196	103	0.2	0.2	8.555	A
C-ABD	17	4	676	0.026	17	0.0	0.0	5.464	A
C-D	15	4			15				
C-A	0	0			0				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	24	6	523	0.046	24	0.0	0.0	7.214	A
B-AD	15	4	481	0.031	15	0.0	0.0	7.728	A
A-BCD	0	0	622	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	40	10	497	0.081	40	0.1	0.1	7.878	A
D-BC	103	26	523	0.196	103	0.2	0.2	8.555	A
C-ABD	17	4	676	0.026	17	0.0	0.0	5.464	A
C-D	15	4			15				
C-A	0	0			0				

2032 With Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Shepherd Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	B - Shepherd Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	D - Hawthorn - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

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
1	Proposed Site Access	Crossroads	Two-way	Two-way	Two-way	Two-way		3.62	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.62	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2032 With Dev	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Cutbush Lane (E)		FLAT	✓	0	100.000
B - Shepherd Road		FLAT	✓	94	100.000
C - Cutbush Lane (W)		FLAT	✓	164	100.000
D - Hawthorn		FLAT	✓	34	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
From	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	12	82
	C - Cutbush Lane (W)	0	4	0	160
	D - Hawthorn	0	30	4	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	0	0
	C - Cutbush Lane (W)	0	0	0	0
	D - Hawthorn	0	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-CD	0.11	8.31	0.1	A	53	53
B-AD	0.09	8.42	0.1	A	41	41
ABCD	0.00	0.00	0.0	A	0	0
AB					0	0
AC					0	0
D-AB	0.03	7.25	0.0	A	15	15
D-BC	0.04	7.30	0.0	A	19	19
C-ABD	0.01	4.72	0.0	A	5	5
C-D					159	159
C-A					0	0

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	53	13	486	0.109	53	0.0	0.1	8.288	A
B-AD	41	10	469	0.087	41	0.0	0.1	8.405	A
ABCD	0	0	591	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	15	4	511	0.030	15	0.0	0.0	7.249	A
D-BC	19	5	512	0.037	19	0.0	0.0	7.292	A
C-ABD	5	1	767	0.007	5	0.0	0.0	4.722	A
C-D	159	40			159				
C-A	0	0			0				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	53	13	486	0.109	53	0.1	0.1	8.308	A
B-AD	41	10	469	0.088	41	0.1	0.1	8.418	A
ABCD	0	0	591	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	15	4	511	0.030	15	0.0	0.0	7.253	A
D-BC	19	5	512	0.037	19	0.0	0.0	7.296	A
C-ABD	5	1	767	0.007	5	0.0	0.0	4.723	A
C-D	159	40			159				
C-A	0	0			0				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	53	13	486	0.109	53	0.1	0.1	8.308	A
B-AD	41	10	469	0.088	41	0.1	0.1	8.418	A
A-BCD	0	0	591	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	15	4	511	0.030	15	0.0	0.0	7.253	A
D-BC	19	5	512	0.037	19	0.0	0.0	7.296	A
C-ABD	5	1	767	0.007	5	0.0	0.0	4.723	A
C-D	159	40			159				
C-A	0	0			0				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	53	13	486	0.109	53	0.1	0.1	8.308	A
B-AD	41	10	469	0.088	41	0.1	0.1	8.418	A
A-BCD	0	0	591	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	15	4	511	0.030	15	0.0	0.0	7.253	A
D-BC	19	5	512	0.037	19	0.0	0.0	7.296	A
C-ABD	5	1	767	0.007	5	0.0	0.0	4.722	A
C-D	159	40			159				
C-A	0	0			0				

2032 With Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Shepherd Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	B - Shepherd Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	D - Hawthorn - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

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
1	Proposed Site Access	Crossroads	Two-way	Two-way	Two-way	Two-way		7.43	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.43	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	2032 With Dev	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Cutbush Lane (E)		FLAT	✓	0	100.000
B - Shepherd Road		FLAT	✓	42	100.000
C - Cutbush Lane (W)		FLAT	✓	39	100.000
D - Hawthorn		FLAT	✓	139	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
From	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	7	35
	C - Cutbush Lane (W)	0	28	0	11
	D - Hawthorn	0	67	72	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	0	1
	C - Cutbush Lane (W)	0	0	0	0
	D - Hawthorn	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-CD	0.05	7.44	0.1	A	25	25
B-AD	0.04	7.82	0.0	A	18	18
ABCD	0.00	0.00	0.0	A	0	0
AB					0	0
AC					0	0
D-AB	0.08	7.81	0.1	A	38	38
D-BC	0.19	8.51	0.2	A	101	101
C-ABD	0.04	5.58	0.0	A	28	28
C-D					11	11
C-A					0	0

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	25	6	508	0.048	24	0.0	0.1	7.436	A
B-AD	18	4	478	0.037	17	0.0	0.0	7.814	A
ABCD	0	0	619	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	38	10	499	0.076	38	0.0	0.1	7.795	A
D-BC	101	25	524	0.192	100	0.0	0.2	8.469	A
C-ABD	28	7	674	0.042	28	0.0	0.0	5.577	A
C-D	11	3			11				
C-A	0	0			0				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	25	6	508	0.048	24	0.1	0.1	7.443	A
B-AD	18	4	478	0.037	17	0.0	0.0	7.820	A
ABCD	0	0	619	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	38	10	499	0.077	38	0.1	0.1	7.812	A
D-BC	101	25	524	0.192	101	0.2	0.2	8.507	A
C-ABD	28	7	674	0.042	28	0.0	0.0	5.580	A
C-D	11	3			11				
C-A	0	0			0				

17:30 - 17:45

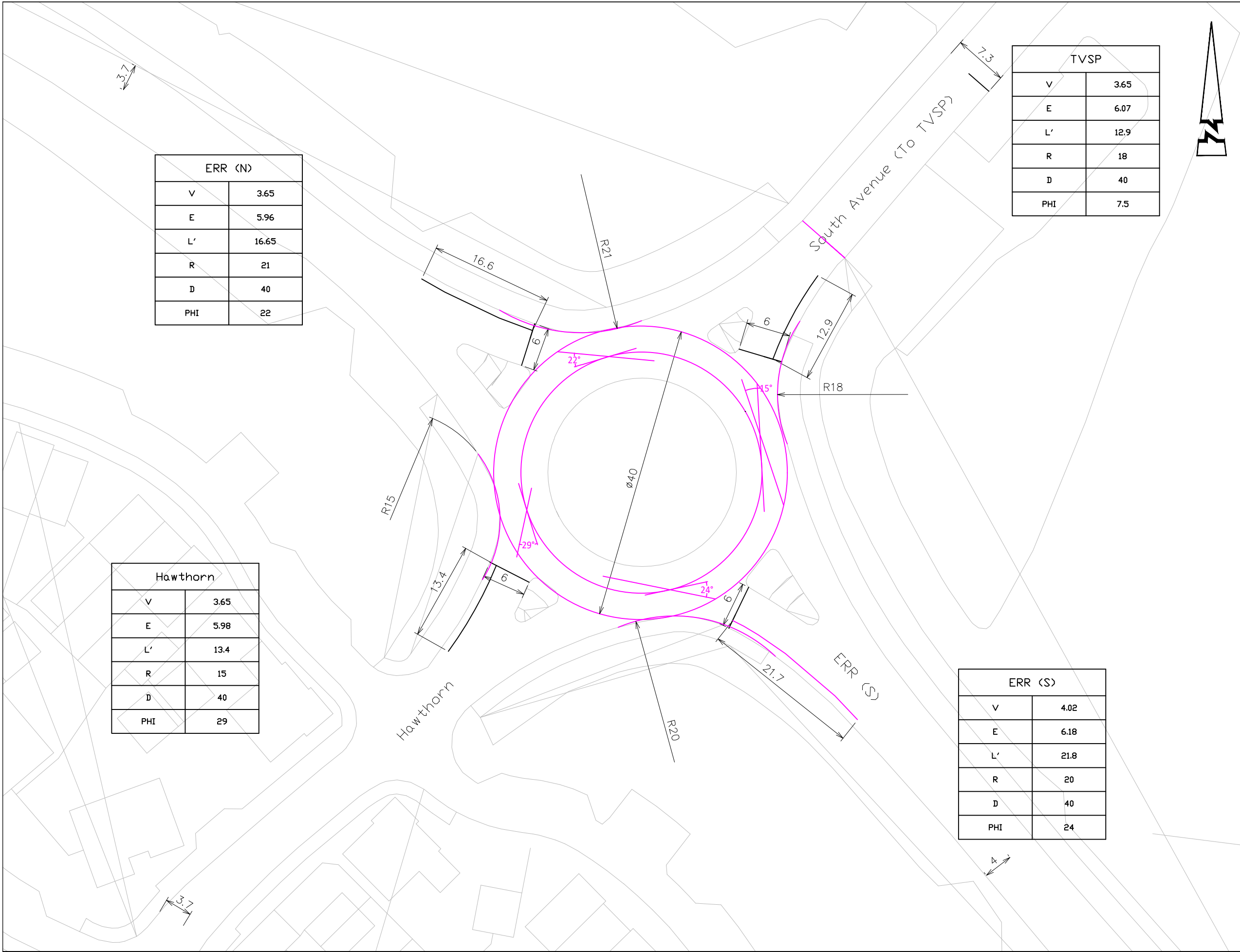
Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	25	6	508	0.048	24	0.1	0.1	7.443	A
B-AD	18	4	478	0.037	17	0.0	0.0	7.820	A
A-BCD	0	0	619	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	38	10	499	0.077	38	0.1	0.1	7.812	A
D-BC	101	25	524	0.192	101	0.2	0.2	8.507	A
C-ABD	28	7	674	0.042	28	0.0	0.0	5.580	A
C-D	11	3			11				
C-A	0	0			0				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	25	6	508	0.048	24	0.1	0.1	7.443	A
B-AD	18	4	478	0.037	17	0.0	0.0	7.820	A
A-BCD	0	0	619	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	38	10	499	0.077	38	0.1	0.1	7.813	A
D-BC	101	25	524	0.192	101	0.2	0.2	8.507	A
C-ABD	28	7	674	0.042	28	0.0	0.0	5.582	A
C-D	11	3			11				
C-A	0	0			0				



Appendix M - Junction Geometries



ERR (N)	
V	3.65
E	5.96
L'	16.65
R	21
D	40
PHI	22

TVSP	
V	3.65
E	6.07
L'	12.9
R	18
D	40
PHI	7.5

Hawthorn	
V	3.65
E	5.98
L'	13.4
R	15
D	40
PHI	29

ERR (S)	
V	4.02
E	6.18
L'	21.8
R	20
D	40
PHI	24

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NOTES

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2. Refer to all other Project Drawings and supporting notes.

P1	09.21	For issue	AG	PJ
Rev	Date	Description	Drawn	Checked



3 Tealgate, Charnham Park
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Client

BELLWAY HOMES

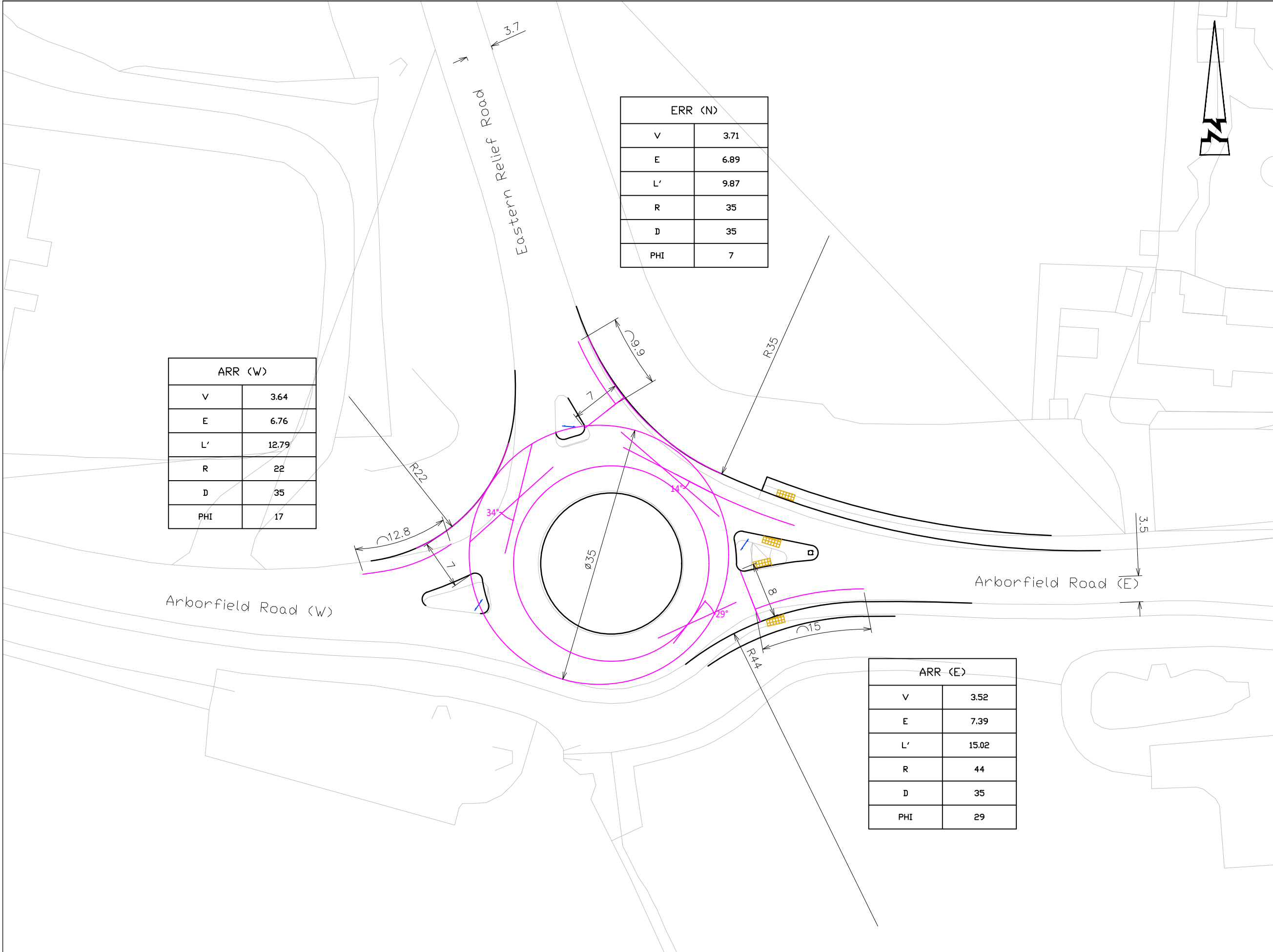
Project
LAND NORTH OF
ARBORFIELD ROAD

Title
ERR/TVSP ACCESS
ROUNDABOUT GEOMETRIES

Status
FOR INFORMATION

Scale 1:500 @ A3	Date AUG 24	Drawn AG	Checked PJ
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Drawing No HD008-009	Revision P1
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ARR (W)	
V	3.64
E	6.76
L'	12.79
R	22
D	35
PHI	17

ERR (N)	
V	3.71
E	6.89
L'	9.87
R	35
D	35
PHI	7

ARR (E)	
V	3.52
E	7.39
L'	15.02
R	44
D	35
PHI	29

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P1	08.24	For issue	AG	PJ
Rev	Date	Description	Drawn	Checked



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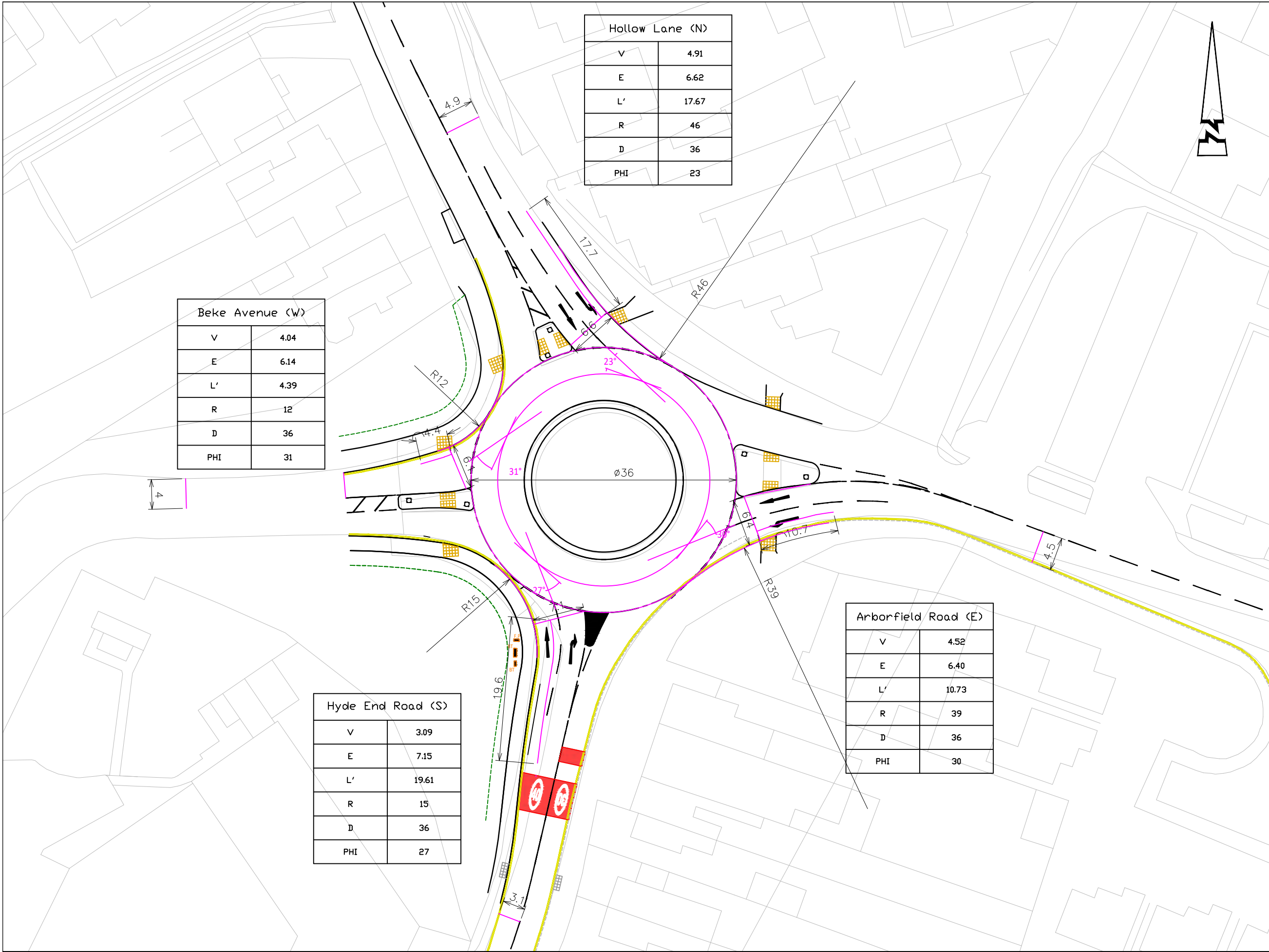
BELLWAY HOMES

Project
LAND NORTH OF
ARBORFIELD ROAD

Title
EASTERN RELIEF ROAD /
ARBORFIELD ROAD
ROUNDBOUT GEOMETRIES

Status
FOR INFORMATION

Scale 1:500 @ A3	Date AUG 24	Drawn AG	Checked PJ
Drawing No HD008-010			Revision P1



Hollow Lane (N)	
V	4.91
E	6.62
L'	17.67
R	46
D	36
PHI	23

Beke Avenue (W)	
V	4.04
E	6.14
L'	4.39
R	12
D	36
PHI	31

Hyde End Road (S)	
V	3.09
E	7.15
L'	19.61
R	15
D	36
PHI	27

Arborfield Road (E)	
V	4.52
E	6.40
L'	10.73
R	39
D	36
PHI	30

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P1	08.24	For issue	AG	PJ
Rev	Date	Description	Drawn	Checked



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Hungerford, Berkshire RG17 0YT
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Client

BELLWAY HOMES

Project
LAND NORTH OF
ARBORFIELD ROAD

Title
HOLLOW LANE
ROAUNDAABOUT
JUNCTION GEOMETRIES

Status
FOR INFORMATION

Scale 1:500 @ A3	Date AUG 24	Drawn AG	Checked PJ
Drawing No HD008-010			Revision P1



Appendix N - 2032 Capacity Analysis: Eastern Relief Road / Science Park Roundabout

Junctions 10						
ARCADY 10 - Roundabout Module						
Version: 10.1.0.1820 © Copyright TRL Software Limited, 2023						
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com						
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution						

Filename: TVSP.ERR Roundabout Aug24.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction C - TVSP Access

RDBT\Capacity Assessment File

Report generation date: 21/08/2024 16:45:23

»2032 FB, AM

»2032 FB, PM

»2032 WD, AM

»2032 WD, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2032 FB						
1 - TVSP	0.1	3.93	0.10	11.9	55.49	0.94
2 - ERR (S)	12.0	30.07	0.93	2.3	9.16	0.69
3 - Hawthorn	0.9	11.29	0.48	0.1	5.65	0.10
4 - ERR (N)	43.9	140.28	1.02	3.1	9.55	0.76
2032 WD						
1 - TVSP	0.1	3.87	0.10	11.8	55.33	0.94
2 - ERR (S)	5.3	14.27	0.84	2.0	8.69	0.67
3 - Hawthorn	0.8	9.79	0.43	0.1	5.54	0.06
4 - ERR (N)	24.1	79.39	0.98	3.5	10.19	0.78

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	TVSP Access Roundabout
Location	Shinfield
Site number	
Date	21/08/2024
Version	
Status	Existing
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 FB	AM	FLAT	08:00	09:00	60	15	✓
D2	2032 FB	PM	FLAT	17:00	18:00	60	15	✓
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	✓
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	✓
D5	2038 FB	AM	FLAT	08:00	09:00	60	15	
D6	2038 FB	PM	FLAT	17:00	18:00	60	15	
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2032 FB, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	ERR Roundabout	Standard Roundabout		1, 2, 3, 4	68.50	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	68.50	F

Arms

Arms

Arm	Name	Description	No give-way line
1	TVSP		
2	ERR (S)		
3	Hawthorn		
4	ERR (N)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - TVSP	3.65	6.07	12.9	18.0	40.0	7.5		
2 - ERR (S)	4.02	6.18	21.8	20.0	40.0	24.0		
3 - Hawthorn	3.65	5.98	13.4	15.0	40.0	29.0		
4 - ERR (N)	3.65	5.96	16.7	21.0	40.0	22.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - TVSP	0.659	1678
2 - ERR (S)	0.658	1751
3 - Hawthorn	0.606	1540
4 - ERR (N)	0.639	1639

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 FB	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - TVSP		FLAT	✓	103	100.000
2 - ERR (S)		FLAT	✓	1512	100.000
3 - Hawthorn		FLAT	✓	292	100.000
4 - ERR (N)		FLAT	✓	1124	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	49	2	52
	2 - ERR (S)	690	0	84	738
	3 - Hawthorn	21	66	0	205
	4 - ERR (N)	231	839	54	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	1	0	3
	2 - ERR (S)	0	0	0	7
	3 - Hawthorn	0	0	0	0
	4 - ERR (N)	3	4	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - TVSP	0.10	3.93	0.1	A	103	103
2 - ERR (S)	0.93	30.07	12.0	D	1512	1512
3 - Hawthorn	0.48	11.29	0.9	B	292	292
4 - ERR (N)	1.02	140.28	43.9	F	1124	1124

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	103	26	902	1041	0.099	103	910	0.0	0.1	3.833	A
2 - ERR (S)	1512	378	104	1626	0.930	1473	901	0.0	9.7	20.152	C
3 - Hawthorn	292	73	1443	633	0.461	289	134	0.0	0.8	10.364	B
4 - ERR (N)	1124	281	758	1114	1.009	1054	974	0.0	17.5	41.975	E

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	103	26	927	1025	0.101	103	931	0.1	0.1	3.905	A
2 - ERR (S)	1512	378	106	1625	0.931	1507	924	9.7	11.0	28.002	D
3 - Hawthorn	292	73	1475	613	0.476	292	138	0.8	0.9	11.194	B
4 - ERR (N)	1124	281	774	1104	1.018	1084	992	17.5	27.6	85.746	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	103	26	932	1021	0.101	103	934	0.1	0.1	3.919	A
2 - ERR (S)	1512	378	106	1625	0.931	1509	929	11.0	11.7	29.396	D
3 - Hawthorn	292	73	1478	611	0.478	292	138	0.9	0.9	11.268	B
4 - ERR (N)	1124	281	776	1103	1.019	1090	994	27.6	36.1	114.622	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	103	26	934	1020	0.101	103	935	0.1	0.1	3.926	A
2 - ERR (S)	1512	378	107	1624	0.931	1511	931	11.7	12.0	30.066	D
3 - Hawthorn	292	73	1479	611	0.478	292	138	0.9	0.9	11.292	B
4 - ERR (N)	1124	281	776	1103	1.019	1093	994	36.1	43.9	140.280	F

2032 FB, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	ERR Roundabout	Standard Roundabout		1, 2, 3, 4	21.87	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	21.87	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2032 FB	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - TVSP		FLAT	✓	818	100.000
2 - ERR (S)		FLAT	✓	894	100.000
3 - Hawthorn		FLAT	✓	74	100.000
4 - ERR (N)		FLAT	✓	1192	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	279	63	476
	2 - ERR (S)	32	0	61	801
	3 - Hawthorn	3	29	0	42
	4 - ERR (N)	44	1070	78	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
	1 - TVSP	0	1	0	2
	2 - ERR (S)	2	0	1	4
	3 - Hawthorn	0	0	0	2
	4 - ERR (N)	3	2	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - TVSP	0.94	55.49	11.9	F	818	818
2 - ERR (S)	0.69	9.16	2.3	A	894	894
3 - Hawthorn	0.10	5.65	0.1	A	74	74
4 - ERR (N)	0.76	9.55	3.1	A	1192	1192

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	818	204	1165	881	0.928	785	78	0.0	8.2	31.067	D
2 - ERR (S)	894	223	595	1300	0.688	885	1356	0.0	2.1	8.516	A
3 - Hawthorn	74	19	1282	727	0.102	74	198	0.0	0.1	5.507	A
4 - ERR (N)	1192	298	63	1569	0.760	1180	1292	0.0	3.0	8.995	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	818	204	1177	873	0.937	810	79	8.2	10.2	48.002	E
2 - ERR (S)	894	223	612	1289	0.694	894	1375	2.1	2.2	9.090	A
3 - Hawthorn	74	19	1304	713	0.104	74	201	0.1	0.1	5.631	A
4 - ERR (N)	1192	298	64	1569	0.760	1192	1314	3.0	3.1	9.535	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	818	204	1177	873	0.937	814	79	10.2	11.3	52.886	F
2 - ERR (S)	894	223	614	1287	0.694	894	1377	2.2	2.2	9.142	A
3 - Hawthorn	74	19	1307	712	0.104	74	202	0.1	0.1	5.645	A
4 - ERR (N)	1192	298	64	1569	0.760	1192	1317	3.1	3.1	9.548	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	818	204	1177	873	0.937	815	79	11.3	11.9	55.490	F
2 - ERR (S)	894	223	615	1287	0.695	894	1377	2.2	2.3	9.161	A
3 - Hawthorn	74	19	1307	711	0.104	74	202	0.1	0.1	5.650	A
4 - ERR (N)	1192	298	64	1569	0.760	1192	1317	3.1	3.1	9.552	A

2032 WD, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	ERR Roundabout	Standard Roundabout		1, 2, 3, 4	39.28	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	39.28	E

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - TVSP		FLAT	✓	101	100.000
2 - ERR (S)		FLAT	✓	1364	100.000
3 - Hawthorn		FLAT	✓	281	100.000
4 - ERR (N)		FLAT	✓	1139	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	43	2	56
	2 - ERR (S)	613	0	5	746
	3 - Hawthorn	45	25	0	211
	4 - ERR (N)	243	842	54	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
	1 - TVSP	0	1	0	3
	2 - ERR (S)	0	0	0	7
	3 - Hawthorn	0	0	0	0
	4 - ERR (N)	3	4	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - TVSP	0.10	3.87	0.1	A	101	101
2 - ERR (S)	0.84	14.27	5.3	B	1364	1364
3 - Hawthorn	0.43	9.79	0.8	A	281	281
4 - ERR (N)	0.98	79.39	24.1	F	1139	1139

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	101	25	879	1055	0.096	101	880	0.0	0.1	3.769	A
2 - ERR (S)	1364	341	109	1616	0.844	1344	870	0.0	4.9	12.447	B
3 - Hawthorn	281	70	1395	661	0.425	278	58	0.0	0.7	9.329	A
4 - ERR (N)	1139	285	673	1166	0.977	1085	1000	0.0	13.4	33.720	D

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	101	25	906	1037	0.097	101	896	0.1	0.1	3.845	A
2 - ERR (S)	1364	341	111	1615	0.844	1363	895	4.9	5.2	14.143	B
3 - Hawthorn	281	70	1414	649	0.433	281	60	0.7	0.8	9.771	A
4 - ERR (N)	1139	285	683	1161	0.981	1119	1012	13.4	18.3	59.653	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	101	25	911	1034	0.098	101	898	0.1	0.1	3.859	A
2 - ERR (S)	1364	341	111	1615	0.845	1364	900	5.2	5.3	14.238	B
3 - Hawthorn	281	70	1415	649	0.433	281	60	0.8	0.8	9.782	A
4 - ERR (N)	1139	285	683	1161	0.981	1126	1013	18.3	21.6	71.194	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	101	25	913	1032	0.098	101	899	0.1	0.1	3.866	A
2 - ERR (S)	1364	341	112	1615	0.845	1364	903	5.3	5.3	14.275	B
3 - Hawthorn	281	70	1415	649	0.433	281	61	0.8	0.8	9.786	A
4 - ERR (N)	1139	285	683	1160	0.981	1129	1013	21.6	24.1	79.395	F

2032 WD, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	ERR Roundabout	Standard Roundabout		1, 2, 3, 4	22.04	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	22.04	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - TVSP		FLAT	✓	811	100.000
2 - ERR (S)		FLAT	✓	847	100.000
3 - Hawthorn		FLAT	✓	44	100.000
4 - ERR (N)		FLAT	✓	1235	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	247	66	498
	2 - ERR (S)	27	0	13	807
	3 - Hawthorn	3	3	0	38
	4 - ERR (N)	49	1095	91	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
	1 - TVSP	0	1	0	2
	2 - ERR (S)	3	0	1	4
	3 - Hawthorn	0	0	0	2
	4 - ERR (N)	3	2	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - TVSP	0.94	55.33	11.8	F	811	811
2 - ERR (S)	0.67	8.69	2.0	A	847	847
3 - Hawthorn	0.06	5.54	0.1	A	44	44
4 - ERR (N)	0.78	10.19	3.5	B	1235	1235

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	811	203	1176	875	0.927	779	78	0.0	8.1	30.971	D
2 - ERR (S)	847	212	632	1275	0.664	839	1323	0.0	1.9	8.123	A
3 - Hawthorn	44	11	1305	710	0.062	44	166	0.0	0.1	5.399	A
4 - ERR (N)	1235	309	33	1588	0.778	1222	1316	0.0	3.3	9.507	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	811	203	1189	867	0.936	803	79	8.1	10.1	47.859	E
2 - ERR (S)	847	212	649	1264	0.670	847	1342	1.9	2.0	8.623	A
3 - Hawthorn	44	11	1327	696	0.063	44	169	0.1	0.1	5.517	A
4 - ERR (N)	1235	309	33	1588	0.778	1235	1338	3.3	3.4	10.165	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	811	203	1189	867	0.936	807	79	10.1	11.1	52.742	F
2 - ERR (S)	847	212	652	1262	0.671	847	1344	2.0	2.0	8.669	A
3 - Hawthorn	44	11	1329	695	0.063	44	170	0.1	0.1	5.531	A
4 - ERR (N)	1235	309	33	1588	0.778	1235	1340	3.4	3.4	10.181	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	811	203	1189	867	0.936	808	79	11.1	11.8	55.327	F
2 - ERR (S)	847	212	653	1261	0.672	847	1344	2.0	2.0	8.687	A
3 - Hawthorn	44	11	1330	694	0.063	44	170	0.1	0.1	5.536	A
4 - ERR (N)	1235	309	33	1588	0.778	1235	1341	3.4	3.5	10.187	B



Appendix O - 2032 Capacity Analysis: Eastern Relief Road / Arborfield Road Roundabout

Junctions 10						
ARCADY 10 - Roundabout Module						
Version: 10.1.0.1820						
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Filename: Arborfield Road.ERR - Aug24 Dims.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction H - Arborfield ERR

Report generation date: 22/08/2024 10:55:30

»2032 Base, AM

»2032 Base, PM

»2032 WD, AM

»2032 WD, PM

Summary of junction performance

	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2032 Base						
1 - Arborfield Road (E)	2.7	8.01	0.73	8.2	21.90	0.89
2 - Arborfield (W)	7.0	27.05	0.88	0.9	6.09	0.49
3 - ERR	1.8	6.83	0.64	24.5	67.05	0.98
2032 WD						
1 - Arborfield Road (E)	3.0	8.45	0.74	7.6	20.10	0.89
2 - Arborfield (W)	3.2	14.10	0.76	0.8	5.72	0.46
3 - ERR	1.7	6.57	0.62	17.7	50.12	0.96

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	Arborfield Road ERR Roundabout
Location	Shinfield
Site number	HD008
Date	21/08/2024
Version	
Status	Existing
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
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	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 Base	AM	FLAT	08:00	09:00	60	15	✓
D2	2032 Base	PM	FLAT	17:00	18:00	60	15	✓
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	✓
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	✓
D5	2038 Base	AM	FLAT	08:00	09:00	60	15	
D6	2038 Base	PM	FLAT	17:00	18:00	60	15	
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2032 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Arborfield ERR Rdbt	Standard Roundabout		1, 2, 3	13.50	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	13.50	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Arborfield Road (E)		
2	Arborfield (W)		
3	ERR		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Arborfield Road (E)	3.52	7.39	15.0	44.0	35.0	29.0		
2 - Arborfield (W)	3.64	6.76	12.8	22.0	35.0	17.0		
3 - ERR	3.71	6.89	9.9	35.0	35.0	7.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Arborfield Road (E)	0.673	1761
2 - Arborfield (W)	0.670	1715
3 - ERR	0.695	1760

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 Base	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	1242	100.000
2 - Arborfield (W)		FLAT	✓	972	100.000
3 - ERR		FLAT	✓	954	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	327	915
	2 - Arborfield (W)	374	0	598
	3 - ERR	878	76	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	0	6
	2 - Arborfield (W)	0	0	0
	3 - ERR	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.73	8.01	2.7	A	1242	1242
2 - Arborfield (W)	0.88	27.05	7.0	D	972	972
3 - ERR	0.64	6.83	1.8	A	954	954

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1242	311	75	1710	0.726	1231	1236	0.0	2.7	7.664	A
2 - Arborfield (W)	972	243	907	1107	0.878	948	400	0.0	6.0	20.317	C
3 - ERR	954	239	365	1506	0.633	947	1490	0.0	1.8	6.589	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1242	311	76	1710	0.726	1242	1251	2.7	2.7	7.999	A
2 - Arborfield (W)	972	243	915	1102	0.882	969	403	6.0	6.6	26.058	D
3 - ERR	954	239	373	1501	0.636	954	1511	1.8	1.8	6.819	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1242	311	76	1710	0.726	1242	1252	2.7	2.7	8.005	A
2 - Arborfield (W)	972	243	915	1102	0.882	971	403	6.6	6.9	26.770	D
3 - ERR	954	239	374	1500	0.636	954	1512	1.8	1.8	6.828	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1242	311	76	1710	0.726	1242	1252	2.7	2.7	8.007	A
2 - Arborfield (W)	972	243	915	1102	0.882	971	403	6.9	7.0	27.051	D
3 - ERR	954	239	374	1500	0.636	954	1513	1.8	1.8	6.829	A

2032 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Arborfield ERR Rdbt	Standard Roundabout		1, 2, 3	37.89	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	37.89	E

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2032 Base	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	1392	100.000
2 - Arborfield (W)		FLAT	✓	562	100.000
3 - ERR		FLAT	✓	1377	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	554	838
	2 - Arborfield (W)	506	0	56
	3 - ERR	1073	304	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	1	4
	2 - Arborfield (W)	0	0	0
	3 - ERR	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.89	21.90	8.2	C	1392	1392
2 - Arborfield (W)	0.49	6.09	0.9	A	562	562
3 - ERR	0.98	67.05	24.5	F	1377	1377

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1392	348	291	1565	0.890	1364	1530	0.0	7.0	16.641	C
2 - Arborfield (W)	562	141	821	1165	0.482	558	834	0.0	0.9	5.905	A
3 - ERR	1377	344	503	1410	0.976	1319	877	0.0	14.6	30.328	D

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1392	348	300	1559	0.893	1389	1564	7.0	7.7	21.062	C
2 - Arborfield (W)	562	141	836	1155	0.487	562	853	0.9	0.9	6.077	A
3 - ERR	1377	344	506	1408	0.978	1358	892	14.6	19.3	52.228	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1392	348	301	1558	0.893	1391	1570	7.7	8.0	21.645	C
2 - Arborfield (W)	562	141	837	1154	0.487	562	855	0.9	0.9	6.084	A
3 - ERR	1377	344	506	1408	0.978	1365	893	19.3	22.3	61.015	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1392	348	302	1557	0.894	1391	1572	8.0	8.2	21.895	C
2 - Arborfield (W)	562	141	838	1154	0.487	562	856	0.9	0.9	6.086	A
3 - ERR	1377	344	506	1408	0.978	1368	894	22.3	24.5	67.047	F

2032 WD, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Arborfield ERR Rdbt	Standard Roundabout		1, 2, 3	9.43	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.43	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	1285	100.000
2 - Arborfield (W)		FLAT	✓	827	100.000
3 - ERR		FLAT	✓	909	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	340	945
	2 - Arborfield (W)	408	0	419
	3 - ERR	862	47	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	0	6
	2 - Arborfield (W)	0	0	0
	3 - ERR	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.74	8.45	3.0	A	1285	1285
2 - Arborfield (W)	0.76	14.10	3.2	B	827	827
3 - ERR	0.62	6.57	1.7	A	909	909

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1285	321	47	1729	0.743	1273	1258	0.0	2.9	8.038	A
2 - Arborfield (W)	827	207	936	1088	0.760	815	384	0.0	3.0	12.709	B
3 - ERR	909	227	402	1480	0.614	903	1349	0.0	1.6	6.384	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1285	321	47	1729	0.743	1285	1270	2.9	3.0	8.435	A
2 - Arborfield (W)	827	207	945	1082	0.764	826	387	3.0	3.1	14.024	B
3 - ERR	909	227	408	1476	0.616	909	1364	1.6	1.6	6.566	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1285	321	47	1729	0.743	1285	1270	3.0	3.0	8.443	A
2 - Arborfield (W)	827	207	945	1082	0.764	827	387	3.1	3.2	14.080	B
3 - ERR	909	227	408	1476	0.616	909	1364	1.6	1.6	6.571	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1285	321	47	1729	0.743	1285	1270	3.0	3.0	8.445	A
2 - Arborfield (W)	827	207	945	1082	0.764	827	387	3.2	3.2	14.097	B
3 - ERR	909	227	408	1476	0.616	909	1364	1.6	1.7	6.571	A

2032 WD, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Arborfield ERR Rdbt	Standard Roundabout		1, 2, 3	30.11	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	30.11	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	1404	100.000
2 - Arborfield (W)		FLAT	✓	528	100.000
3 - ERR		FLAT	✓	1346	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	573	831
	2 - Arborfield (W)	512	0	16
	3 - ERR	1084	262	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	1	4
	2 - Arborfield (W)	0	0	1
	3 - ERR	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.89	20.10	7.6	C	1404	1404
2 - Arborfield (W)	0.46	5.72	0.8	A	528	528
3 - ERR	0.96	50.12	17.7	F	1346	1346

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1404	351	253	1591	0.883	1377	1554	0.0	6.6	15.775	C
2 - Arborfield (W)	528	132	815	1169	0.452	525	815	0.0	0.8	5.569	A
3 - ERR	1346	337	509	1406	0.957	1298	831	0.0	12.1	26.859	D

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1404	351	260	1586	0.885	1402	1587	6.6	7.2	19.512	C
2 - Arborfield (W)	528	132	830	1159	0.456	528	832	0.8	0.8	5.709	A
3 - ERR	1346	337	512	1404	0.959	1334	846	12.1	15.0	42.569	E

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1404	351	261	1585	0.886	1403	1591	7.2	7.5	19.927	C
2 - Arborfield (W)	528	132	830	1159	0.456	528	833	0.8	0.8	5.715	A
3 - ERR	1346	337	512	1404	0.959	1339	846	15.0	16.7	47.320	E

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1404	351	261	1585	0.886	1403	1593	7.5	7.6	20.099	C
2 - Arborfield (W)	528	132	831	1158	0.456	528	834	0.8	0.8	5.716	A
3 - ERR	1346	337	512	1404	0.959	1342	847	16.7	17.7	50.121	F



Appendix P - 2032 Capacity Analysis: A327 / Arborfield Road / Hyde End Road / Beke Avenue Roundabout

Junctions 10		
ARCADY 10 - Roundabout Module		
Version: 10.1.0.1820		
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Filename: Hollow Lane.Arborfield Road Roundabout - Aug24 Dims.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction F - Hollow Lane HER Shinfield West

Report generation date: 21/08/2024 17:06:24

»2032 FB, AM

»2032 FB, PM

»2032 WD, AM

»2032 WD, PM

Summary of junction performance

	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2032 FB						
1 - Arborfield Road (E)	0.4	3.60	0.29	1.5	6.23	0.60
2 - B3349 Hyde End Road	5.6	16.26	0.85	1.0	5.51	0.49
3 - Shinfield West	0.4	8.57	0.30	0.4	5.86	0.29
4 - Hollow Lane	1.0	5.19	0.49	0.7	3.59	0.43
2032 WD						
1 - Arborfield Road (E)	0.5	3.79	0.32	1.6	6.59	0.62
2 - B3349 Hyde End Road	6.0	17.33	0.86	1.0	5.68	0.50
3 - Shinfield West	0.5	8.93	0.32	0.4	5.99	0.30
4 - Hollow Lane	1.1	5.53	0.51	0.8	3.64	0.43

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	Hollow Lane.Arborfield Road Roundabout
Location	Shinfield
Site number	HD008
Date	21/08/2024
Version	
Status	Existing
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
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	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 FB	AM	FLAT	08:00	09:00	60	15	✓
D2	2032 FB	PM	FLAT	17:00	18:00	60	15	✓
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	✓
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	✓
D5	2038 FB	AM	FLAT	08:00	09:00	60	15	
D6	2038 FB	PM	FLAT	17:00	18:00	60	15	
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2032 FB, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shinfield West Rdbt	Standard Roundabout		1, 2, 3, 4	10.73	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.73	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Arborfield Road (E)		
2	B3349 Hyde End Road		
3	Shinfield West		
4	Hollow Lane		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Arborfield Road (E)	4.52	6.40	10.7	39.0	36.0	30.0		
2 - B3349 Hyde End Road	3.09	7.15	19.6	15.0	36.0	27.0		
3 - Shinfield West	4.04	6.15	4.4	12.0	36.0	31.0		
4 - Hollow Lane	4.91	6.62	17.7	46.0	36.0	23.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Arborfield Road (E)	0.673	1776
2 - B3349 Hyde End Road	0.641	1666
3 - Shinfield West	0.583	1423
4 - Hollow Lane	0.723	1981

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 FB	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	403	100.000
2 - B3349 Hyde End Road		FLAT	✓	1261	100.000
3 - Shinfield West		FLAT	✓	184	100.000
4 - Hollow Lane		FLAT	✓	666	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	144	62	197
	2 - B3349 Hyde End Road	727	0	60	474
	3 - Shinfield West	64	68	0	52
	4 - Hollow Lane	180	457	29	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	0	0	0
	2 - B3349 Hyde End Road	0	0	0	0
	3 - Shinfield West	0	1	0	2
	4 - Hollow Lane	0	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.29	3.60	0.4	A	403	403
2 - B3349 Hyde End Road	0.85	16.26	5.6	C	1261	1261
3 - Shinfield West	0.30	8.57	0.4	A	184	184
4 - Hollow Lane	0.49	5.19	1.0	A	666	666

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	403	101	551	1406	0.287	401	958	0.0	0.4	3.581	A
2 - B3349 Hyde End Road	1261	315	287	1482	0.851	1240	665	0.0	5.1	13.926	B
3 - Shinfield West	184	46	1378	620	0.297	182	150	0.0	0.4	8.274	A
4 - Hollow Lane	666	167	846	1370	0.486	662	714	0.0	0.9	5.069	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	403	101	554	1403	0.287	403	970	0.4	0.4	3.600	A
2 - B3349 Hyde End Road	1261	315	288	1482	0.851	1260	669	5.1	5.4	16.085	C
3 - Shinfield West	184	46	1397	609	0.302	184	151	0.4	0.4	8.555	A
4 - Hollow Lane	666	167	858	1361	0.489	666	723	0.9	1.0	5.187	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	403	101	554	1403	0.287	403	971	0.4	0.4	3.601	A
2 - B3349 Hyde End Road	1261	315	288	1482	0.851	1261	669	5.4	5.5	16.211	C
3 - Shinfield West	184	46	1398	608	0.303	184	151	0.4	0.4	8.565	A
4 - Hollow Lane	666	167	859	1361	0.490	666	723	1.0	1.0	5.190	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	403	101	554	1403	0.287	403	971	0.4	0.4	3.601	A
2 - B3349 Hyde End Road	1261	315	288	1482	0.851	1261	669	5.5	5.6	16.258	C
3 - Shinfield West	184	46	1398	608	0.303	184	151	0.4	0.4	8.567	A
4 - Hollow Lane	666	167	859	1360	0.490	666	723	1.0	1.0	5.190	A

2032 FB, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shinfield West Rdbt	Standard Roundabout		1, 2, 3, 4	5.22	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.22	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2032 FB	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	858	100.000
2 - B3349 Hyde End Road		FLAT	✓	624	100.000
3 - Shinfield West		FLAT	✓	255	100.000
4 - Hollow Lane		FLAT	✓	750	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	364	118	376
	2 - B3349 Hyde End Road	197	0	53	374
	3 - Shinfield West	74	46	0	135
	4 - Hollow Lane	291	347	112	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
	1 - Arborfield Road (E)	0	0	1	0
	2 - B3349 Hyde End Road	0	0	0	0
	3 - Shinfield West	0	0	0	0
	4 - Hollow Lane	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.60	6.23	1.5	A	858	858
2 - B3349 Hyde End Road	0.49	5.51	1.0	A	624	624
3 - Shinfield West	0.29	5.86	0.4	A	255	255
4 - Hollow Lane	0.43	3.59	0.7	A	750	750

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	858	215	503	1438	0.597	852	559	0.0	1.5	6.099	A
2 - B3349 Hyde End Road	624	156	602	1280	0.487	620	753	0.0	0.9	5.430	A
3 - Shinfield West	255	64	941	874	0.292	253	281	0.0	0.4	5.799	A
4 - Hollow Lane	750	188	315	1753	0.428	747	879	0.0	0.7	3.570	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	858	215	505	1436	0.597	858	562	1.5	1.5	6.233	A
2 - B3349 Hyde End Road	624	156	606	1278	0.488	624	757	0.9	0.9	5.510	A
3 - Shinfield West	255	64	947	871	0.293	255	283	0.4	0.4	5.861	A
4 - Hollow Lane	750	188	317	1752	0.428	750	885	0.7	0.7	3.595	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	858	215	505	1436	0.597	858	562	1.5	1.5	6.234	A
2 - B3349 Hyde End Road	624	156	606	1278	0.488	624	757	0.9	1.0	5.510	A
3 - Shinfield West	255	64	947	871	0.293	255	283	0.4	0.4	5.861	A
4 - Hollow Lane	750	188	317	1752	0.428	750	885	0.7	0.7	3.595	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	858	215	505	1436	0.597	858	562	1.5	1.5	6.234	A
2 - B3349 Hyde End Road	624	156	606	1278	0.488	624	757	1.0	1.0	5.510	A
3 - Shinfield West	255	64	947	871	0.293	255	283	0.4	0.4	5.861	A
4 - Hollow Lane	750	188	317	1752	0.428	750	885	0.7	0.7	3.595	A

2032 WD, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shinfield West Rdbt	Standard Roundabout		1, 2, 3, 4	11.24	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.24	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	450	100.000
2 - B3349 Hyde End Road		FLAT	✓	1268	100.000
3 - Shinfield West		FLAT	✓	192	100.000
4 - Hollow Lane		FLAT	✓	689	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	181	64	205
	2 - B3349 Hyde End Road	745	0	59	464
	3 - Shinfield West	75	66	0	51
	4 - Hollow Lane	197	462	30	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	0	0	0
	2 - B3349 Hyde End Road	0	0	0	0
	3 - Shinfield West	0	1	0	2
	4 - Hollow Lane	0	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.32	3.79	0.5	A	450	450
2 - B3349 Hyde End Road	0.86	17.33	6.0	C	1268	1268
3 - Shinfield West	0.32	8.93	0.5	A	192	192
4 - Hollow Lane	0.51	5.53	1.1	A	689	689

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	450	113	554	1403	0.321	448	1002	0.0	0.5	3.767	A
2 - B3349 Hyde End Road	1268	317	298	1475	0.859	1246	705	0.0	5.4	14.595	B
3 - Shinfield West	192	48	1392	611	0.314	190	152	0.0	0.5	8.588	A
4 - Hollow Lane	689	172	872	1351	0.510	685	711	0.0	1.0	5.378	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	450	113	558	1401	0.321	450	1016	0.5	0.5	3.789	A
2 - B3349 Hyde End Road	1268	317	299	1475	0.860	1267	709	5.4	5.8	17.102	C
3 - Shinfield West	192	48	1413	599	0.320	192	153	0.5	0.5	8.913	A
4 - Hollow Lane	689	172	885	1341	0.514	689	720	1.0	1.0	5.525	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	450	113	558	1401	0.321	450	1017	0.5	0.5	3.789	A
2 - B3349 Hyde End Road	1268	317	299	1475	0.860	1268	709	5.8	5.9	17.266	C
3 - Shinfield West	192	48	1414	599	0.321	192	153	0.5	0.5	8.923	A
4 - Hollow Lane	689	172	886	1341	0.514	689	720	1.0	1.1	5.528	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	450	113	558	1401	0.321	450	1017	0.5	0.5	3.789	A
2 - B3349 Hyde End Road	1268	317	299	1475	0.860	1268	709	5.9	6.0	17.329	C
3 - Shinfield West	192	48	1414	599	0.321	192	153	0.5	0.5	8.926	A
4 - Hollow Lane	689	172	886	1341	0.514	689	720	1.1	1.1	5.529	A

2032 WD, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shinfield West Rdbt	Standard Roundabout		1, 2, 3, 4	5.43	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.43	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	898	100.000
2 - B3349 Hyde End Road		FLAT	✓	637	100.000
3 - Shinfield West		FLAT	✓	255	100.000
4 - Hollow Lane		FLAT	✓	747	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	388	124	386
	2 - B3349 Hyde End Road	215	0	53	369
	3 - Shinfield West	78	46	0	131
	4 - Hollow Lane	301	340	106	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	0	1	0
	2 - B3349 Hyde End Road	0	0	0	0
	3 - Shinfield West	0	0	0	0
	4 - Hollow Lane	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.62	6.59	1.6	A	898	898
2 - B3349 Hyde End Road	0.50	5.68	1.0	A	637	637
3 - Shinfield West	0.30	5.99	0.4	A	255	255
4 - Hollow Lane	0.43	3.64	0.8	A	747	747

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	898	225	490	1446	0.621	892	591	0.0	1.6	6.427	A
2 - B3349 Hyde End Road	637	159	612	1274	0.500	633	770	0.0	1.0	5.587	A
3 - Shinfield West	255	64	964	861	0.296	253	281	0.0	0.4	5.925	A
4 - Hollow Lane	747	187	337	1738	0.430	744	880	0.0	0.7	3.616	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	898	225	492	1445	0.621	898	594	1.6	1.6	6.588	A
2 - B3349 Hyde End Road	637	159	616	1271	0.501	637	774	1.0	1.0	5.679	A
3 - Shinfield West	255	64	970	857	0.297	255	283	0.4	0.4	5.991	A
4 - Hollow Lane	747	187	339	1736	0.430	747	886	0.7	0.8	3.642	A

17:30 - 17:45

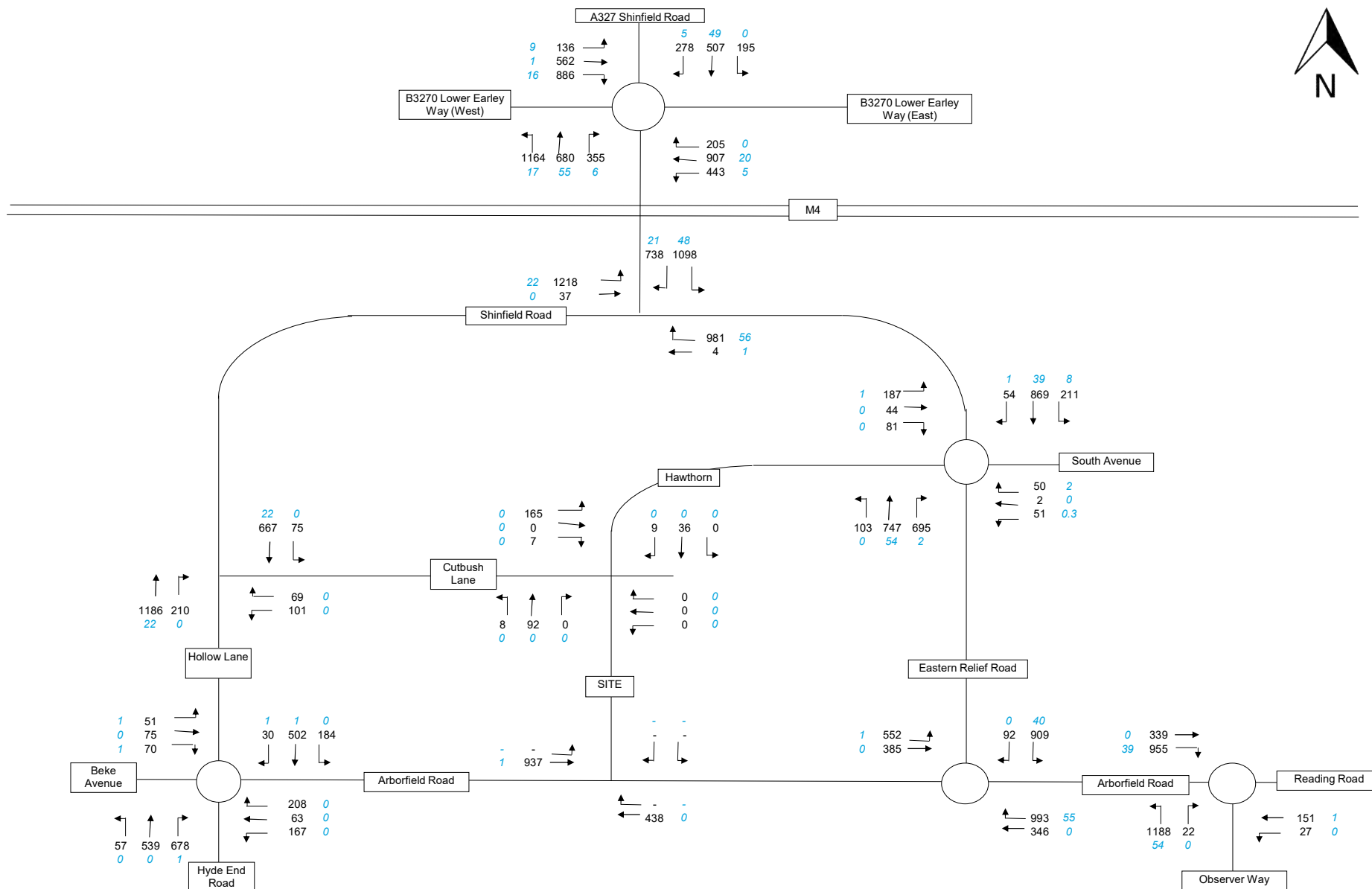
Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	898	225	492	1445	0.621	898	594	1.6	1.6	6.590	A
2 - B3349 Hyde End Road	637	159	616	1271	0.501	637	774	1.0	1.0	5.679	A
3 - Shinfield West	255	64	970	857	0.297	255	283	0.4	0.4	5.992	A
4 - Hollow Lane	747	187	339	1736	0.430	747	886	0.8	0.8	3.642	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	898	225	492	1445	0.621	898	594	1.6	1.6	6.590	A
2 - B3349 Hyde End Road	637	159	616	1271	0.501	637	774	1.0	1.0	5.679	A
3 - Shinfield West	255	64	970	857	0.297	255	283	0.4	0.4	5.992	A
4 - Hollow Lane	747	187	339	1736	0.430	747	886	0.8	0.8	3.642	A



Appendix Q - 2038 WSTM Traffic Flow Outputs

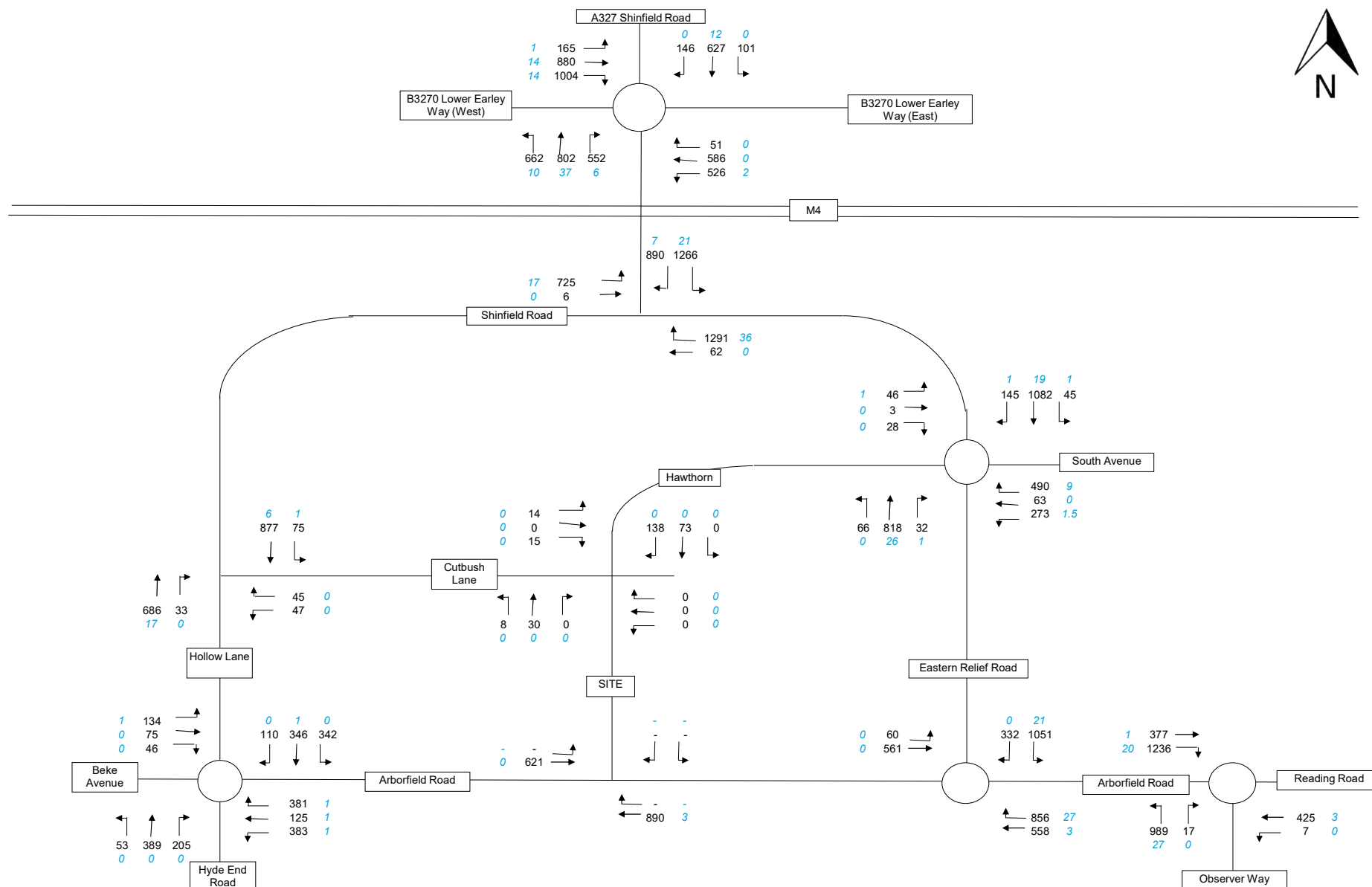


NOTE

0 - Total Vehicles
0 - HGVs



Job No HD008	Project : Land North of Arborfield Road
Date July 2024	Title : WSTM Flows 2038 FB AM Peak Hour
Drawn AG	Figure No : TM-7

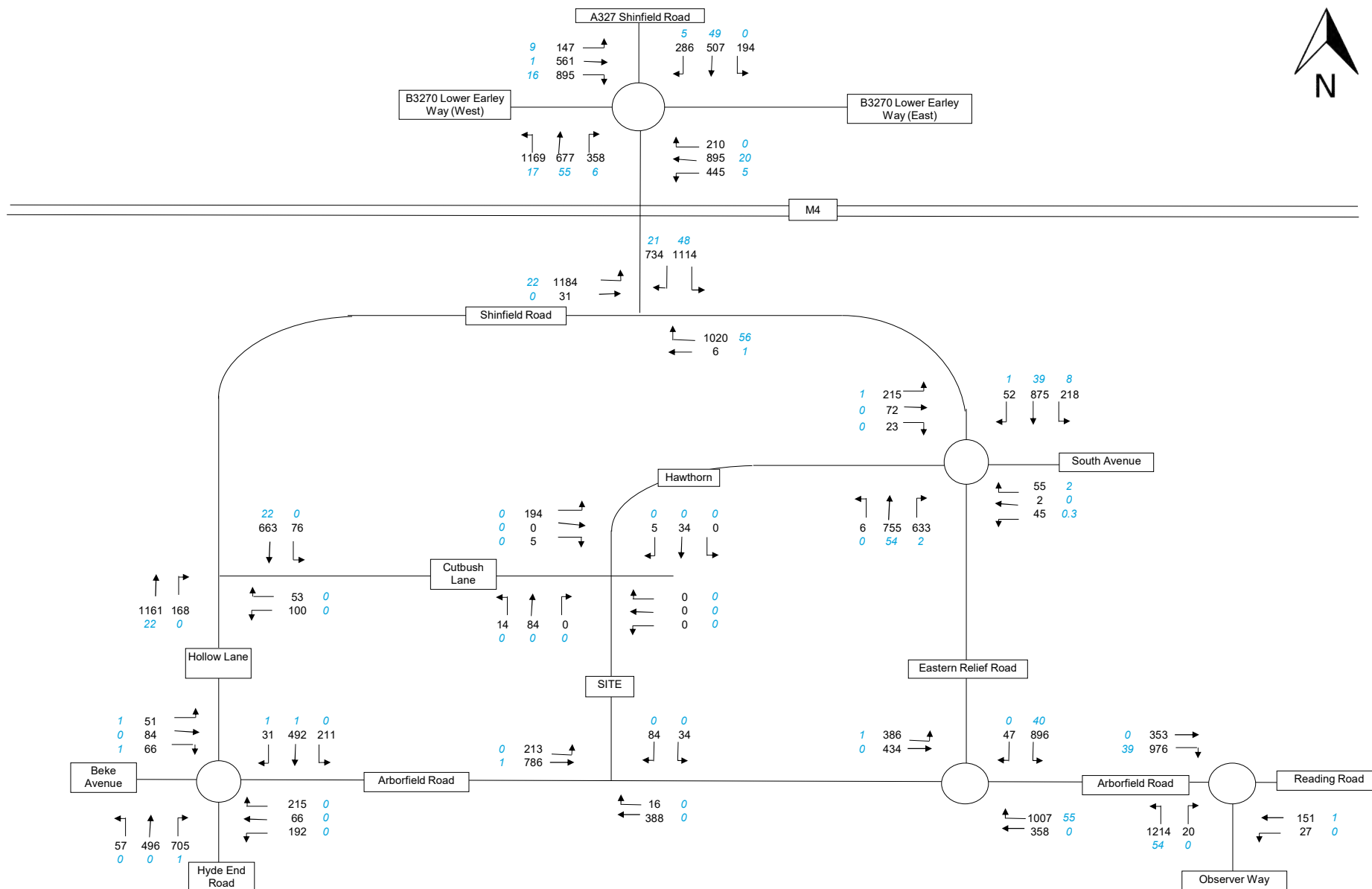


NOTE

0 - Total Vehicles
0 - HGVs



Job No HD008	Project : Land North of Arborfield Road
Date July 2024	Title : WSTM Flows 2038 FB PM Peak Hour
Drawn AG	Figure No : TM-8

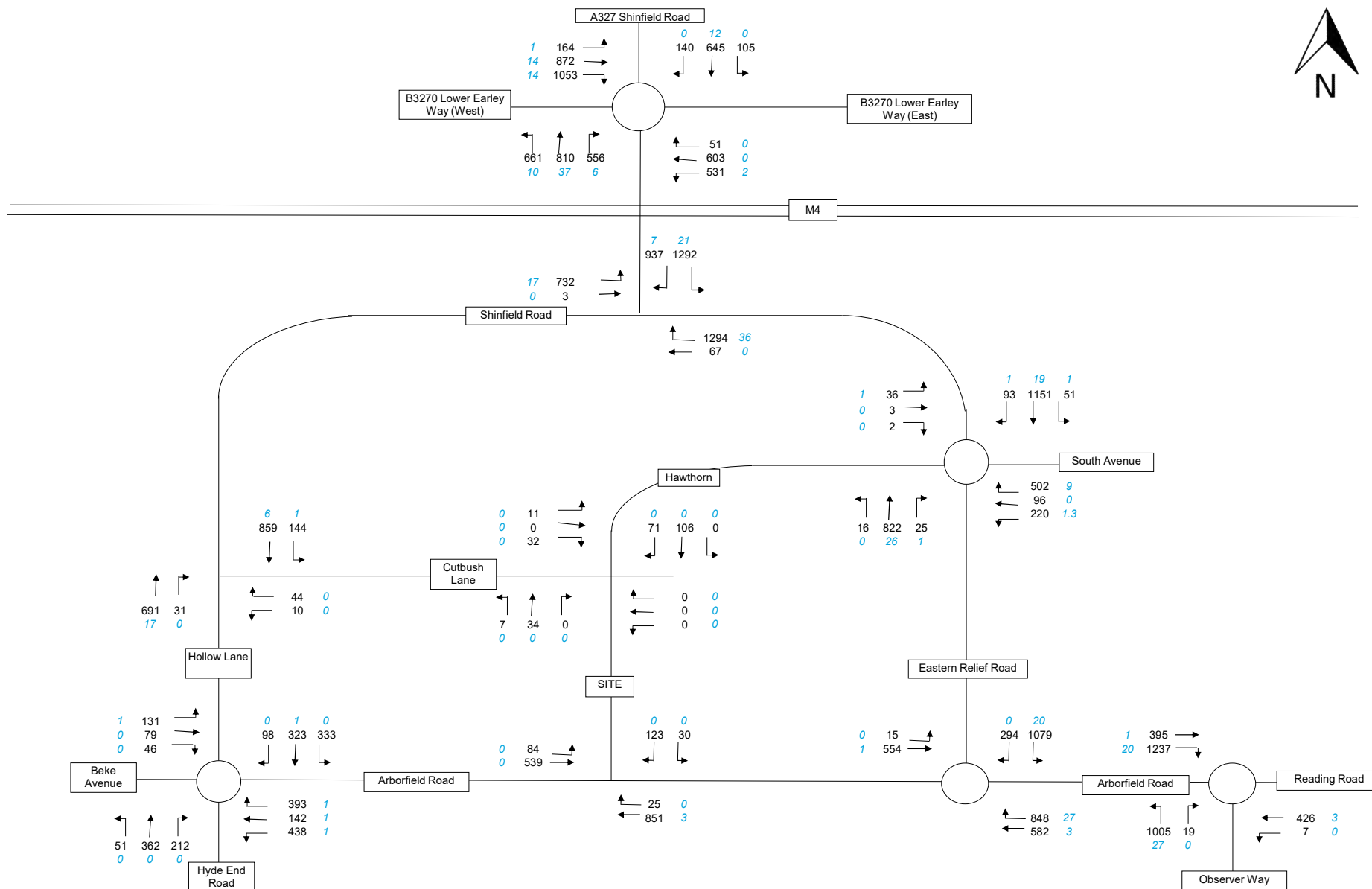


NOTE

0 - Total Vehicles
0 - HGVs



Job No HD008	Project : Land North of Arborfield Road
Date July 2024	Title : WSTM Flows 2038 WD AM Peak Hour
Drawn AG	Figure No : TM-9



NOTE

0 - Total Vehicles
0 - HGVs



Job No HD008	Project : Land North of Arborfield Road
Date July 2024	Title : WSTM Flows 2038 WD PM Peak Hour
Drawn AG	Figure No : TM-10



Appendix R - 2038 Junction Capacity Analysis

Junctions 10						
PICADY 10 - Priority Intersection Module						
Version: 10.1.0.1820						
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Filename: Arborfield Rd Access.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction G - Arborfield Access\Capacity Assessment File

Report generation date: 22/08/2024 15:41:00

»2038 with Development, AM

»2038 with Development, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2038 with Development						
Stream B-C	0.1	9.27	0.08	0.1	8.74	0.07
Stream B-A	0.4	17.16	0.29	0.7	21.10	0.42
Stream C-AB	0.0	7.95	0.03	0.0	6.50	0.04

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	Proposed Arborfield Road Access
Location	Shinfield
Site number	HD008
Date	02/08/2024
Version	
Status	Proposed
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 with Development	AM	FLAT	08:00	09:00	60	15	
D2	2032 with Development	PM	FLAT	17:00	18:00	60	15	
D3	2038 with Development	AM	FLAT	08:00	09:00	60	15	✓
D4	2038 with Development	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2038 with Development, 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	Proposed Site Access	T-Junction	Two-way	Two-way	Two-way		1.24	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.24	A

Arms

Arms

Arm	Name	Description	Arm type
A	Arborfield Road (W)		Major
B	Site Access		Minor
C	Arborfield Road (E)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Arborfield Road (E)	6.19		✓	3.25	200.0	✓	7.00

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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane plus flare	10.00	6.59	3.90	3.90	3.80	✓	1.00	85	74

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	611	0.110	0.278	0.175	0.397
B-C	701	0.107	0.270	-	-
C-B	769	0.295	0.295	-	-

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 period length (min)	Time segment length (min)	Run automatically
D3	2038 with Development	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Arborfield Road (W)		FLAT	✓	999	100.000
B - Site Access		FLAT	✓	118	100.000
C - Arborfield Road (E)		FLAT	✓	404	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - Arborfield Road (W)	B - Site Access	C - Arborfield Road (E)
From	A - Arborfield Road (W)	0	213	786
	B - Site Access	84	0	34
	C - Arborfield Road (E)	388	16	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - Arborfield Road (W)	B - Site Access	C - Arborfield Road (E)
From	A - Arborfield Road (W)	0	0	0
	B - Site Access	0	0	0
	C - Arborfield Road (E)	0	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.08	9.27	0.1	A	34	34
B-A	0.29	17.16	0.4	C	84	84
C-AB	0.03	7.95	0.0	A	16	16
C-A					388	388
A-B					213	213
A-C					786	786

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	34	9	424	0.080	34	0.0	0.1	9.220	A
B-A	84	21	294	0.286	82	0.0	0.4	16.915	C
C-AB	16	4	469	0.034	16	0.0	0.0	7.943	A
C-A	388	97			388				
A-B	213	53			213				
A-C	786	197			786				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	34	9	422	0.080	34	0.1	0.1	9.267	A
B-A	84	21	294	0.286	84	0.4	0.4	17.156	C
C-AB	16	4	469	0.034	16	0.0	0.0	7.948	A
C-A	388	97			388				
A-B	213	53			213				
A-C	786	197			786				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	34	9	422	0.080	34	0.1	0.1	9.267	A
B-A	84	21	294	0.286	84	0.4	0.4	17.160	C
C-AB	16	4	469	0.034	16	0.0	0.0	7.948	A
C-A	388	97			388				
A-B	213	53			213				
A-C	786	197			786				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	34	9	422	0.080	34	0.1	0.1	9.267	A
B-A	84	21	294	0.286	84	0.4	0.4	17.159	C
C-AB	16	4	469	0.034	16	0.0	0.0	7.948	A
C-A	388	97			388				
A-B	213	53			213				
A-C	786	197			786				

2038 with Development, 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	Proposed Site Access	T-Junction	Two-way	Two-way	Two-way		1.83	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.83	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	2038 with Development	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Arborfield Road (W)		FLAT	✓	623	100.000
B - Site Access		FLAT	✓	153	100.000
C - Arborfield Road (E)		FLAT	✓	876	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - Arborfield Road (W)	B - Site Access	C - Arborfield Road (E)
From	A - Arborfield Road (W)	0	84	539
	B - Site Access	123	0	30
	C - Arborfield Road (E)	851	25	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		A - Arborfield Road (W)	B - Site Access	C - Arborfield Road (E)
From	A - Arborfield Road (W)	0	0	0
	B - Site Access	0	0	1
	C - Arborfield Road (E)	0	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.07	8.74	0.1	A	30	30
B-A	0.42	21.10	0.7	C	123	123
C-AB	0.04	6.50	0.0	A	25	25
C-A					851	851
A-B					84	84
A-C					539	539

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	30	8	445	0.067	30	0.0	0.1	8.657	A
B-A	123	31	294	0.419	120	0.0	0.7	20.453	C
C-AB	25	6	579	0.043	25	0.0	0.0	6.496	A
C-A	851	213			851				
A-B	84	21			84				
A-C	539	135			539				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	30	8	442	0.068	30	0.1	0.1	8.739	A
B-A	123	31	294	0.419	123	0.7	0.7	21.081	C
C-AB	25	6	579	0.043	25	0.0	0.0	6.499	A
C-A	851	213			851				
A-B	84	21			84				
A-C	539	135			539				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	30	8	442	0.068	30	0.1	0.1	8.740	A
B-A	123	31	294	0.419	123	0.7	0.7	21.093	C
C-AB	25	6	579	0.043	25	0.0	0.0	6.499	A
C-A	851	213			851				
A-B	84	21			84				
A-C	539	135			539				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	30	8	442	0.068	30	0.1	0.1	8.741	A
B-A	123	31	294	0.419	123	0.7	0.7	21.097	C
C-AB	25	6	579	0.043	25	0.0	0.0	6.499	A
C-A	851	213			851				
A-B	84	21			84				
A-C	539	135			539				

Junctions 10					
PICADY 10 - Priority Intersection Module					
Version: 10.1.0.1820					
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Filename: Cutbush Crossroads.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction E - Cutbush Access\Capacity Assessment File

Report generation date: 22/08/2024 15:38:53

- »2038 Base, AM
- »2038 Base, PM
- »2038 With Dev, AM
- »2038 With Dev, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2038 Base						
Stream B-CD	0.1	8.59	0.11	0.0	7.24	0.04
Stream B-AD	0.1	8.56	0.10	0.0	7.71	0.03
Stream A-BCD	0.0	0.00	0.00	0.0	0.00	0.00
Stream D-AB	0.0	7.35	0.04	0.1	8.74	0.10
Stream D-BC	0.1	7.48	0.05	0.4	9.58	0.31
Stream C-ABD	0.0	4.76	0.01	0.0	5.45	0.02
2038 With Dev						
Stream B-CD	0.1	8.40	0.12	0.0	7.44	0.05
Stream B-AD	0.1	8.54	0.09	0.0	7.83	0.04
Stream A-BCD	0.0	0.00	0.00	0.0	0.00	0.00
Stream D-AB	0.0	7.35	0.03	0.1	8.30	0.12
Stream D-BC	0.0	7.40	0.04	0.3	8.90	0.22
Stream C-ABD	0.0	4.60	0.01	0.1	5.62	0.05

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Cutbush Lane Crossroads
Location	Shinfield
Site number	HD008
Date	02/08/2024
Version	
Status	Existing
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 Base	AM	FLAT	08:00	09:00	60	15	
D2	2032 Base	PM	FLAT	17:00	18:00	60	15	
D3	2032 With Dev	AM	FLAT	08:00	09:00	60	15	
D4	2032 With Dev	PM	FLAT	17:00	18:00	60	15	
D5	2038 Base	AM	FLAT	08:00	09:00	60	15	✓
D6	2038 Base	PM	FLAT	17:00	18:00	60	15	✓
D7	2038 With Dev	AM	FLAT	08:00	09:00	60	15	✓
D8	2038 With Dev	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2038 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Shepherd Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	B - Shepherd Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	D - Hawthorn - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

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
1	Proposed Site Access	Crossroads	Two-way	Two-way	Two-way	Two-way		3.90	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.90	A

Arms

Arms

Arm	Name	Description	Arm type
A	Cutbush Lane (E)		Major
B	Shepherd Road		Minor
C	Cutbush Lane (W)		Major
D	Hawthorn		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 - Cutbush Lane (E)	6.05			100.0	✓	0.00
C - Cutbush Lane (W)	6.05			160.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Shepherd Road	One lane plus flare	5.72	4.10	3.40	3.00	3.00	✓	1.00	40	20
D - Hawthorn	One lane plus flare	10.00	4.86	3.46	3.40	3.40	✓	1.00	30	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/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	632	-	-	-	-	-	-	0.244	0.349	0.244	-	-	-
B-A	493	0.090	0.227	0.227	-	-	-	0.143	0.324	-	0.227	0.227	0.113
B-C	628	0.096	0.243	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	493	0.090	0.227	0.227	-	-	-	0.143	0.324	0.143	-	-	-
B-D, offside lane	493	0.090	0.227	0.227	-	-	-	0.143	0.324	0.143	-	-	-
C-B	667	0.258	0.258	0.368	-	-	-	-	-	-	-	-	-
D-A	689	-	-	-	-	-	-	0.266	-	0.105	-	-	-
D-B, nearside lane	538	0.155	0.155	0.353	-	-	-	0.247	0.247	0.098	-	-	-
D-B, offside lane	538	0.155	0.155	0.353	-	-	-	0.247	0.247	0.098	-	-	-
D-C	538	-	0.155	0.353	0.124	0.247	0.247	0.247	0.247	0.098	-	-	-

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 period length (min)	Time segment length (min)	Run automatically
D5	2038 Base	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Cutbush Lane (E)		FLAT	✓	0	100.000
B - Shepherd Road		FLAT	✓	100	100.000
C - Cutbush Lane (W)		FLAT	✓	172	100.000
D - Hawthorn		FLAT	✓	45	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
From A - Cutbush Lane (E)	0	0	0	0
From B - Shepherd Road	0	0	8	92
From C - Cutbush Lane (W)	0	7	0	165
From D - Hawthorn	0	36	9	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	0	0
	C - Cutbush Lane (W)	0	1	0	0
	D - Hawthorn	0	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-CD	0.11	8.59	0.1	A	54	54
B-AD	0.10	8.56	0.1	A	46	46
ABCD	0.00	0.00	0.0	A	0	0
AB					0	0
AC					0	0
D-AB	0.04	7.35	0.0	A	18	18
D-BC	0.05	7.48	0.1	A	27	27
C-ABD	0.01	4.76	0.0	A	9	9
C-D					163	163
C-A					0	0

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	54	14	473	0.114	53	0.0	0.1	8.563	A
B-AD	46	12	467	0.099	46	0.0	0.1	8.538	A
ABCD	0	0	589	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	18	5	508	0.036	18	0.0	0.0	7.345	A
D-BC	27	7	508	0.052	26	0.0	0.1	7.470	A
C-ABD	9	2	765	0.012	9	0.0	0.0	4.764	A
C-D	163	41			163				
C-A	0	0			0				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	54	14	473	0.114	54	0.1	0.1	8.586	A
B-AD	46	12	467	0.099	46	0.1	0.1	8.555	A
ABCD	0	0	589	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	18	5	508	0.036	18	0.0	0.0	7.349	A
D-BC	27	7	508	0.052	27	0.1	0.1	7.477	A
C-ABD	9	2	765	0.012	9	0.0	0.0	4.764	A
C-D	163	41			163				
C-A	0	0			0				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	54	14	473	0.114	54	0.1	0.1	8.586	A
B-AD	46	12	467	0.099	46	0.1	0.1	8.555	A
A-BCD	0	0	589	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	18	5	508	0.036	18	0.0	0.0	7.349	A
D-BC	27	7	508	0.052	27	0.1	0.1	7.477	A
C-ABD	9	2	765	0.012	9	0.0	0.0	4.764	A
C-D	163	41			163				
C-A	0	0			0				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	54	14	473	0.114	54	0.1	0.1	8.586	A
B-AD	46	12	467	0.099	46	0.1	0.1	8.555	A
A-BCD	0	0	589	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	18	5	508	0.036	18	0.0	0.0	7.349	A
D-BC	27	7	508	0.052	27	0.1	0.1	7.477	A
C-ABD	9	2	765	0.012	9	0.0	0.0	4.764	A
C-D	163	41			163				
C-A	0	0			0				

2038 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Shepherd Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	B - Shepherd Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	D - Hawthorn - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

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
1	Proposed Site Access	Crossroads	Two-way	Two-way	Two-way	Two-way		8.45	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.45	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2038 Base	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Cutbush Lane (E)		FLAT	✓	0	100.000
B - Shepherd Road		FLAT	✓	38	100.000
C - Cutbush Lane (W)		FLAT	✓	29	100.000
D - Hawthorn		FLAT	✓	211	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
From	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	8	30
	C - Cutbush Lane (W)	0	15	0	14
	D - Hawthorn	0	73	138	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	0	1
	C - Cutbush Lane (W)	0	0	0	0
	D - Hawthorn	0	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-CD	0.04	7.24	0.0	A	23	23
B-AD	0.03	7.71	0.0	A	15	15
ABCD	0.00	0.00	0.0	A	0	0
AB					0	0
AC					0	0
D-AB	0.10	8.74	0.1	A	46	46
D-BC	0.31	9.58	0.4	A	165	165
C-ABD	0.02	5.45	0.0	A	15	15
C-D					14	14
C-A					0	0

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	23	6	520	0.044	23	0.0	0.0	7.240	A
B-AD	15	4	482	0.031	15	0.0	0.0	7.711	A
ABCD	0	0	623	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	46	11	459	0.100	45	0.0	0.1	8.699	A
D-BC	165	41	541	0.305	163	0.0	0.4	9.498	A
C-ABD	15	4	675	0.023	15	0.0	0.0	5.453	A
C-D	14	3			14				
C-A	0	0			0				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	23	6	520	0.044	23	0.0	0.0	7.244	A
B-AD	15	4	482	0.031	15	0.0	0.0	7.715	A
ABCD	0	0	623	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	46	11	458	0.100	46	0.1	0.1	8.735	A
D-BC	165	41	541	0.305	165	0.4	0.4	9.585	A
C-ABD	15	4	675	0.023	15	0.0	0.0	5.455	A
C-D	14	3			14				
C-A	0	0			0				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	23	6	520	0.044	23	0.0	0.0	7.244	A
B-AD	15	4	482	0.031	15	0.0	0.0	7.715	A
A-BCD	0	0	623	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	46	11	458	0.100	46	0.1	0.1	8.735	A
D-BC	165	41	541	0.305	165	0.4	0.4	9.585	A
C-ABD	15	4	675	0.023	15	0.0	0.0	5.455	A
C-D	14	3			14				
C-A	0	0			0				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	23	6	520	0.044	23	0.0	0.0	7.244	A
B-AD	15	4	482	0.031	15	0.0	0.0	7.715	A
A-BCD	0	0	623	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	46	11	458	0.100	46	0.1	0.1	8.735	A
D-BC	165	41	541	0.305	165	0.4	0.4	9.585	A
C-ABD	15	4	675	0.023	15	0.0	0.0	5.455	A
C-D	14	3			14				
C-A	0	0			0				

2038 With Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Shepherd Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	B - Shepherd Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	D - Hawthorn - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

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
1	Proposed Site Access	Crossroads	Two-way	Two-way	Two-way	Two-way		3.42	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.42	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2038 With Dev	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Cutbush Lane (E)		FLAT	✓	0	100.000
B - Shepherd Road		FLAT	✓	98	100.000
C - Cutbush Lane (W)		FLAT	✓	199	100.000
D - Hawthorn		FLAT	✓	39	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
From	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	14	84
	C - Cutbush Lane (W)	0	5	0	194
	D - Hawthorn	0	34	5	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	0	0
	C - Cutbush Lane (W)	0	0	0	0
	D - Hawthorn	0	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-CD	0.12	8.40	0.1	A	56	56
B-AD	0.09	8.54	0.1	A	42	42
ABCD	0.00	0.00	0.0	A	0	0
AB					0	0
AC					0	0
D-AB	0.03	7.35	0.0	A	17	17
D-BC	0.04	7.40	0.0	A	22	22
C-ABD	0.01	4.60	0.0	A	7	7
C-D					192	192
C-A					0	0

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	56	14	485	0.116	55	0.0	0.1	8.377	A
B-AD	42	11	463	0.091	42	0.0	0.1	8.528	A
ABCD	0	0	583	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	17	4	507	0.034	17	0.0	0.0	7.343	A
D-BC	22	5	508	0.043	22	0.0	0.0	7.398	A
C-ABD	7	2	789	0.008	7	0.0	0.0	4.602	A
C-D	192	48			192				
C-A	0	0			0				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	56	14	485	0.116	56	0.1	0.1	8.399	A
B-AD	42	11	463	0.091	42	0.1	0.1	8.544	A
ABCD	0	0	583	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	17	4	507	0.034	17	0.0	0.0	7.347	A
D-BC	22	5	508	0.043	22	0.0	0.0	7.402	A
C-ABD	7	2	789	0.008	7	0.0	0.0	4.602	A
C-D	192	48			192				
C-A	0	0			0				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	56	14	485	0.116	56	0.1	0.1	8.399	A
B-AD	42	11	463	0.091	42	0.1	0.1	8.544	A
A-BCD	0	0	583	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	17	4	507	0.034	17	0.0	0.0	7.347	A
D-BC	22	5	508	0.043	22	0.0	0.0	7.402	A
C-ABD	7	2	789	0.008	7	0.0	0.0	4.604	A
C-D	192	48			192				
C-A	0	0			0				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	56	14	485	0.116	56	0.1	0.1	8.399	A
B-AD	42	11	463	0.091	42	0.1	0.1	8.544	A
A-BCD	0	0	583	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	17	4	507	0.034	17	0.0	0.0	7.347	A
D-BC	22	5	508	0.043	22	0.0	0.0	7.402	A
C-ABD	7	2	789	0.008	7	0.0	0.0	4.604	A
C-D	192	48			192				
C-A	0	0			0				

2038 With Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	B - Shepherd Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	B - Shepherd Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	D - Hawthorn - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

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
1	Proposed Site Access	Crossroads	Two-way	Two-way	Two-way	Two-way		7.79	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.79	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D8	2038 With Dev	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Cutbush Lane (E)		FLAT	✓	0	100.000
B - Shepherd Road		FLAT	✓	41	100.000
C - Cutbush Lane (W)		FLAT	✓	43	100.000
D - Hawthorn		FLAT	✓	177	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
From	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	7	34
	C - Cutbush Lane (W)	0	32	0	11
	D - Hawthorn	0	106	71	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
From		A - Cutbush Lane (E)	B - Shepherd Road	C - Cutbush Lane (W)	D - Hawthorn
	A - Cutbush Lane (E)	0	0	0	0
	B - Shepherd Road	0	0	0	1
	C - Cutbush Lane (W)	0	0	0	0
	D - Hawthorn	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-CD	0.05	7.44	0.0	A	24	24
B-AD	0.04	7.83	0.0	A	17	17
ABCD	0.00	0.00	0.0	A	0	0
AB					0	0
AC					0	0
D-AB	0.12	8.30	0.1	A	60	60
D-BC	0.22	8.90	0.3	A	117	117
C-ABD	0.05	5.62	0.1	A	33	33
C-D					10	10
C-A					0	0

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	24	6	508	0.047	24	0.0	0.0	7.431	A
B-AD	17	4	477	0.036	17	0.0	0.0	7.828	A
ABCD	0	0	618	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	60	15	494	0.122	60	0.0	0.1	8.273	A
D-BC	117	29	521	0.224	116	0.0	0.3	8.852	A
C-ABD	33	8	674	0.048	32	0.0	0.1	5.613	A
C-D	10	3			10				
C-A	0	0			0				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	24	6	508	0.047	24	0.0	0.0	7.438	A
B-AD	17	4	477	0.036	17	0.0	0.0	7.833	A
ABCD	0	0	618	0.000	0	0.0	0.0	0.000	A
AB	0	0			0				
AC	0	0			0				
D-AB	60	15	494	0.122	60	0.1	0.1	8.302	A
D-BC	117	29	521	0.224	117	0.3	0.3	8.902	A
C-ABD	33	8	674	0.048	33	0.1	0.1	5.617	A
C-D	10	3			10				
C-A	0	0			0				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	24	6	508	0.047	24	0.0	0.0	7.438	A
B-AD	17	4	477	0.036	17	0.0	0.0	7.833	A
A-BCD	0	0	618	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	60	15	494	0.122	60	0.1	0.1	8.302	A
D-BC	117	29	521	0.224	117	0.3	0.3	8.902	A
C-ABD	33	8	674	0.048	33	0.1	0.1	5.615	A
C-D	10	3			10				
C-A	0	0			0				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-CD	24	6	508	0.047	24	0.0	0.0	7.438	A
B-AD	17	4	477	0.036	17	0.0	0.0	7.833	A
A-BCD	0	0	618	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	0	0			0				
D-AB	60	15	494	0.122	60	0.1	0.1	8.302	A
D-BC	117	29	521	0.224	117	0.3	0.3	8.902	A
C-ABD	33	8	674	0.048	33	0.1	0.1	5.617	A
C-D	10	3			10				
C-A	0	0			0				

Junctions 10						
ARCADY 10 - Roundabout Module						
Version: 10.1.0.1820						
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Filename: TVSP.ERR Roundabout Aug24.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction C - TVSP Access

RDBT\Capacity Assessment File

Report generation date: 22/08/2024 10:50:42

»2038 FB, AM

»2038 FB, PM

»2038 WD, AM

»2038 WD, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2038 FB						
1 - TVSP	0.1	3.98	0.10	28.0	124.82	1.00
2 - ERR (S)	15.6	38.31	0.95	2.6	10.56	0.73
3 - Hawthorn	1.1	12.32	0.52	0.1	5.74	0.11
4 - ERR (N)	78.7	244.55	1.06	4.2	11.98	0.81
2038 WD						
1 - TVSP	0.1	3.96	0.10	22.5	102.90	0.99
2 - ERR (S)	6.0	16.01	0.86	2.2	9.14	0.69
3 - Hawthorn	1.0	11.21	0.49	0.1	5.52	0.06
4 - ERR (N)	39.5	124.99	1.01	4.3	12.18	0.81

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	TVSP Access Roundabout
Location	Shinfield
Site number	
Date	21/08/2024
Version	
Status	Existing
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 FB	AM	FLAT	08:00	09:00	60	15	
D2	2032 FB	PM	FLAT	17:00	18:00	60	15	
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	
D5	2038 FB	AM	FLAT	08:00	09:00	60	15	✓
D6	2038 FB	PM	FLAT	17:00	18:00	60	15	✓
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	✓
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2038 FB, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	ERR Roundabout	Standard Roundabout		1, 2, 3, 4	111.12	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	111.12	F

Arms

Arms

Arm	Name	Description	No give-way line
1	TVSP		
2	ERR (S)		
3	Hawthorn		
4	ERR (N)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - TVSP	3.65	6.07	12.9	18.0	40.0	7.5		
2 - ERR (S)	4.02	6.18	21.8	20.0	40.0	24.0		
3 - Hawthorn	3.65	5.98	13.4	15.0	40.0	29.0		
4 - ERR (N)	3.65	5.96	16.7	21.0	40.0	22.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - TVSP	0.659	1678
2 - ERR (S)	0.658	1751
3 - Hawthorn	0.606	1540
4 - ERR (N)	0.639	1639

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	2038 FB	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - TVSP		FLAT	✓	103	100.000
2 - ERR (S)		FLAT	✓	1545	100.000
3 - Hawthorn		FLAT	✓	312	100.000
4 - ERR (N)		FLAT	✓	1134	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	51	2	50
	2 - ERR (S)	695	0	103	747
	3 - Hawthorn	44	81	0	187
	4 - ERR (N)	211	869	54	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	1	0	3
	2 - ERR (S)	0	0	0	7
	3 - Hawthorn	0	0	0	0
	4 - ERR (N)	4	5	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - TVSP	0.10	3.98	0.1	A	103	103
2 - ERR (S)	0.95	38.31	15.6	E	1545	1545
3 - Hawthorn	0.52	12.32	1.1	B	312	312
4 - ERR (N)	1.06	244.55	78.7	F	1134	1134

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	103	26	923	1022	0.101	103	910	0.0	0.1	3.913	A
2 - ERR (S)	1545	386	101	1628	0.949	1499	925	0.0	11.6	22.794	C
3 - Hawthorn	312	78	1449	630	0.496	308	151	0.0	1.0	11.073	B
4 - ERR (N)	1134	284	798	1079	1.051	1036	959	0.0	24.4	54.189	F

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	103	26	943	1009	0.102	103	932	0.1	0.1	3.974	A
2 - ERR (S)	1545	386	102	1628	0.949	1536	944	11.6	13.8	34.116	D
3 - Hawthorn	312	78	1484	608	0.514	312	155	1.0	1.0	12.152	B
4 - ERR (N)	1134	284	816	1068	1.062	1059	980	24.4	43.1	125.858	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	103	26	946	1007	0.102	103	935	0.1	0.1	3.981	A
2 - ERR (S)	1545	386	103	1627	0.949	1540	946	13.8	14.9	36.840	E
3 - Hawthorn	312	78	1488	605	0.516	312	155	1.0	1.0	12.275	B
4 - ERR (N)	1134	284	818	1066	1.063	1062	982	43.1	61.0	185.647	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	103	26	946	1006	0.102	103	936	0.1	0.1	3.984	A
2 - ERR (S)	1545	386	103	1627	0.949	1542	947	14.9	15.6	38.307	E
3 - Hawthorn	312	78	1489	604	0.517	312	155	1.0	1.1	12.322	B
4 - ERR (N)	1134	284	819	1066	1.064	1063	983	61.0	78.7	244.547	F

2038 FB, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	ERR Roundabout	Standard Roundabout		1, 2, 3, 4	41.41	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	41.41	E

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2038 FB	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - TVSP		FLAT	✓	826	100.000
2 - ERR (S)		FLAT	✓	916	100.000
3 - Hawthorn		FLAT	✓	77	100.000
4 - ERR (N)		FLAT	✓	1272	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	273	63	490
	2 - ERR (S)	32	0	66	818
	3 - Hawthorn	3	28	0	46
	4 - ERR (N)	45	1082	145	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
	1 - TVSP	0	1	0	2
	2 - ERR (S)	2	0	1	3
	3 - Hawthorn	0	0	0	2
	4 - ERR (N)	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - TVSP	1.00	124.82	28.0	F	826	826
2 - ERR (S)	0.73	10.56	2.6	B	916	916
3 - Hawthorn	0.11	5.74	0.1	A	77	77
4 - ERR (N)	0.81	11.98	4.2	B	1272	1272

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	826	207	1239	836	0.989	775	79	0.0	12.8	43.625	E
2 - ERR (S)	916	229	662	1273	0.720	906	1352	0.0	2.5	9.574	A
3 - Hawthorn	77	19	1301	722	0.107	77	268	0.0	0.1	5.572	A
4 - ERR (N)	1272	318	62	1572	0.809	1256	1315	0.0	4.0	10.903	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	826	207	1255	826	1.000	801	80	12.8	19.1	83.731	F
2 - ERR (S)	916	229	681	1261	0.727	916	1374	2.5	2.6	10.405	B
3 - Hawthorn	77	19	1325	707	0.109	77	272	0.1	0.1	5.709	A
4 - ERR (N)	1272	318	63	1572	0.809	1271	1339	4.0	4.1	11.935	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	826	207	1255	825	1.001	807	80	19.1	23.9	106.540	F
2 - ERR (S)	916	229	685	1258	0.728	916	1376	2.6	2.6	10.509	B
3 - Hawthorn	77	19	1328	705	0.109	77	273	0.1	0.1	5.731	A
4 - ERR (N)	1272	318	63	1572	0.809	1272	1342	4.1	4.1	11.971	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	826	207	1255	825	1.001	810	80	23.9	28.0	124.815	F
2 - ERR (S)	916	229	687	1257	0.729	916	1378	2.6	2.6	10.559	B
3 - Hawthorn	77	19	1330	704	0.109	77	273	0.1	0.1	5.742	A
4 - ERR (N)	1272	318	63	1572	0.809	1272	1344	4.1	4.2	11.983	B

2038 WD, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	ERR Roundabout	Standard Roundabout		1, 2, 3, 4	57.53	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	57.53	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - TVSP		FLAT	✓	102	100.000
2 - ERR (S)		FLAT	✓	1394	100.000
3 - Hawthorn		FLAT	✓	310	100.000
4 - ERR (N)		FLAT	✓	1145	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	45	2	55
	2 - ERR (S)	633	0	6	755
	3 - Hawthorn	72	23	0	215
	4 - ERR (N)	218	875	52	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
	1 - TVSP	0	1	0	5
	2 - ERR (S)	0	0	0	7
	3 - Hawthorn	0	0	0	0
	4 - ERR (N)	3	4	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - TVSP	0.10	3.96	0.1	A	102	102
2 - ERR (S)	0.86	16.01	6.0	C	1394	1394
3 - Hawthorn	0.49	11.21	1.0	B	310	310
4 - ERR (N)	1.01	124.99	39.5	F	1145	1145

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	102	26	894	1034	0.099	102	899	0.0	0.1	3.859	A
2 - ERR (S)	1394	348	106	1619	0.861	1372	890	0.0	5.6	13.561	B
3 - Hawthorn	310	78	1421	645	0.481	306	57	0.0	0.9	10.526	B
4 - ERR (N)	1145	286	717	1139	1.005	1076	1010	0.0	17.1	40.511	E

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	102	26	921	1016	0.100	102	916	0.1	0.1	3.938	A
2 - ERR (S)	1394	348	107	1618	0.862	1393	916	5.6	5.9	15.799	C
3 - Hawthorn	310	78	1442	632	0.491	310	58	0.9	0.9	11.176	B
4 - ERR (N)	1145	286	727	1133	1.011	1110	1024	17.1	26.0	80.268	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	102	26	927	1012	0.101	102	917	0.1	0.1	3.954	A
2 - ERR (S)	1394	348	108	1617	0.862	1394	921	5.9	6.0	15.950	C
3 - Hawthorn	310	78	1443	631	0.491	310	59	0.9	1.0	11.204	B
4 - ERR (N)	1145	286	728	1133	1.011	1116	1025	26.0	33.2	104.381	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	102	26	929	1011	0.101	102	918	0.1	0.1	3.962	A
2 - ERR (S)	1394	348	108	1617	0.862	1394	924	6.0	6.0	16.009	C
3 - Hawthorn	310	78	1443	631	0.491	310	59	1.0	1.0	11.211	B
4 - ERR (N)	1145	286	728	1133	1.011	1120	1025	33.2	39.5	124.985	F

2038 WD, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	ERR Roundabout	Standard Roundabout		1, 2, 3, 4	35.66	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	35.66	E

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - TVSP		FLAT	✓	818	100.000
2 - ERR (S)		FLAT	✓	863	100.000
3 - Hawthorn		FLAT	✓	41	100.000
4 - ERR (N)		FLAT	✓	1295	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
From	1 - TVSP	0	220	96	502
	2 - ERR (S)	25	0	16	822
	3 - Hawthorn	3	2	0	36
	4 - ERR (N)	51	1151	93	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To				
		1 - TVSP	2 - ERR (S)	3 - Hawthorn	4 - ERR (N)
	1 - TVSP	0	1	0	2
	2 - ERR (S)	3	0	1	3
	3 - Hawthorn	0	0	0	2
	4 - ERR (N)	3	2	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - TVSP	0.99	102.90	22.5	F	818	818
2 - ERR (S)	0.69	9.14	2.2	A	863	863
3 - Hawthorn	0.06	5.52	0.1	A	41	41
4 - ERR (N)	0.81	12.18	4.3	B	1295	1295

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	818	205	1230	840	0.974	772	78	0.0	11.4	40.298	E
2 - ERR (S)	863	216	656	1274	0.677	855	1346	0.0	2.0	8.436	A
3 - Hawthorn	41	10	1313	710	0.058	41	198	0.0	0.1	5.375	A
4 - ERR (N)	1295	324	30	1590	0.814	1279	1324	0.0	4.1	11.041	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	818	205	1245	830	0.986	798	79	11.4	16.4	73.760	F
2 - ERR (S)	863	216	676	1261	0.684	863	1367	2.0	2.1	9.026	A
3 - Hawthorn	41	10	1336	696	0.059	41	203	0.1	0.1	5.494	A
4 - ERR (N)	1295	324	30	1590	0.815	1294	1347	4.1	4.2	12.127	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	818	205	1246	830	0.986	804	79	16.4	19.8	90.548	F
2 - ERR (S)	863	216	681	1258	0.686	863	1369	2.1	2.2	9.106	A
3 - Hawthorn	41	10	1340	694	0.059	41	203	0.1	0.1	5.515	A
4 - ERR (N)	1295	324	30	1590	0.815	1295	1351	4.2	4.3	12.165	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - TVSP	818	205	1246	830	0.986	807	79	19.8	22.5	102.903	F
2 - ERR (S)	863	216	683	1257	0.687	863	1370	2.2	2.2	9.145	A
3 - Hawthorn	41	10	1342	693	0.059	41	204	0.1	0.1	5.524	A
4 - ERR (N)	1295	324	30	1590	0.815	1295	1353	4.3	4.3	12.180	B

Junctions 10						
ARCADY 10 - Roundabout Module						
Version: 10.1.0.1820						
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Filename: Arborfield Road.ERR - Aug24 Dims.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction H - Arborfield ERR

Report generation date: 22/08/2024 10:54:17

»2038 Base, AM

»2038 Base, PM

»2038 WD, AM

»2038 WD, PM

Summary of junction performance

	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2038 Base						
1 - Arborfield Road (E)	3.8	10.40	0.79	10.3	27.48	0.92
2 - Arborfield (W)	7.7	30.85	0.89	1.2	6.91	0.54
3 - ERR	2.1	7.58	0.67	43.7	114.27	1.01
2038 WD						
1 - Arborfield Road (E)	3.8	10.23	0.79	9.9	26.07	0.91
2 - Arborfield (W)	3.6	16.28	0.79	1.0	6.23	0.50
3 - ERR	1.9	7.24	0.65	35.8	95.71	1.00

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	Arborfield Road ERR Roundabout
Location	Shinfield
Site number	HD008
Date	21/08/2024
Version	
Status	Existing
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
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	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 Base	AM	FLAT	08:00	09:00	60	15	
D2	2032 Base	PM	FLAT	17:00	18:00	60	15	
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	
D5	2038 Base	AM	FLAT	08:00	09:00	60	15	✓
D6	2038 Base	PM	FLAT	17:00	18:00	60	15	✓
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	✓
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2038 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Arborfield ERR Rdbt	Standard Roundabout		1, 2, 3	15.39	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	15.39	C

Arms

Arms

Arm	Name	Description	No give-way line
1	Arborfield Road (E)		
2	Arborfield (W)		
3	ERR		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Arborfield Road (E)	3.52	7.39	15.0	44.0	35.0	29.0		
2 - Arborfield (W)	3.64	6.76	12.8	22.0	35.0	17.0		
3 - ERR	3.71	6.89	9.9	35.0	35.0	7.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Arborfield Road (E)	0.673	1761
2 - Arborfield (W)	0.670	1715
3 - ERR	0.695	1760

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	2038 Base	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	1339	100.000
2 - Arborfield (W)		FLAT	✓	937	100.000
3 - ERR		FLAT	✓	1001	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	346	993
	2 - Arborfield (W)	385	0	552
	3 - ERR	909	92	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	0	6
	2 - Arborfield (W)	0	0	0
	3 - ERR	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.79	10.40	3.8	B	1339	1339
2 - Arborfield (W)	0.89	30.85	7.7	D	937	937
3 - ERR	0.67	7.58	2.1	A	1001	1001

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1339	335	91	1699	0.788	1324	1276	0.0	3.7	9.645	A
2 - Arborfield (W)	937	234	982	1057	0.886	912	433	0.0	6.3	21.998	C
3 - ERR	1001	250	375	1499	0.668	993	1519	0.0	2.0	7.250	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1339	335	92	1699	0.788	1339	1292	3.7	3.8	10.370	B
2 - Arborfield (W)	937	234	993	1050	0.892	934	438	6.3	7.2	29.282	D
3 - ERR	1001	250	384	1493	0.670	1001	1543	2.0	2.1	7.563	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1339	335	92	1699	0.788	1339	1293	3.8	3.8	10.391	B
2 - Arborfield (W)	937	234	993	1050	0.893	936	438	7.2	7.5	30.396	D
3 - ERR	1001	250	384	1493	0.671	1001	1544	2.1	2.1	7.578	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1339	335	92	1699	0.788	1339	1294	3.8	3.8	10.397	B
2 - Arborfield (W)	937	234	993	1050	0.893	936	438	7.5	7.7	30.855	D
3 - ERR	1001	250	385	1492	0.671	1001	1545	2.1	2.1	7.584	A

2038 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Arborfield ERR Rdbt	Standard Roundabout		1, 2, 3	58.86	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	58.86	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2038 Base	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	1414	100.000
2 - Arborfield (W)		FLAT	✓	621	100.000
3 - ERR		FLAT	✓	1383	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	558	856
	2 - Arborfield (W)	561	0	60
	3 - ERR	1051	332	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	1	3
	2 - Arborfield (W)	0	0	0
	3 - ERR	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.92	27.48	10.3	D	1414	1414
2 - Arborfield (W)	0.54	6.91	1.2	A	621	621
3 - ERR	1.01	114.27	43.7	F	1383	1383

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1414	354	313	1550	0.912	1381	1549	0.0	8.3	19.016	C
2 - Arborfield (W)	621	155	836	1155	0.538	616	858	0.0	1.1	6.635	A
3 - ERR	1383	346	557	1373	1.007	1305	895	0.0	19.5	37.720	E

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1414	354	323	1543	0.916	1409	1583	8.3	9.5	25.718	D
2 - Arborfield (W)	621	155	853	1143	0.543	621	879	1.1	1.2	6.893	A
3 - ERR	1383	346	561	1370	1.009	1345	913	19.5	29.1	74.309	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1414	354	325	1542	0.917	1412	1588	9.5	10.0	26.916	D
2 - Arborfield (W)	621	155	855	1142	0.544	621	882	1.2	1.2	6.909	A
3 - ERR	1383	346	561	1370	1.010	1352	915	29.1	36.9	95.862	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1414	354	325	1542	0.917	1413	1591	10.0	10.3	27.485	D
2 - Arborfield (W)	621	155	855	1142	0.544	621	883	1.2	1.2	6.914	A
3 - ERR	1383	346	561	1370	1.010	1356	915	36.9	43.7	114.274	F

2038 WD, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Arborfield ERR Rdbt	Standard Roundabout		1, 2, 3	10.92	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.92	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	1365	100.000
2 - Arborfield (W)		FLAT	✓	820	100.000
3 - ERR		FLAT	✓	943	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	358	1007
	2 - Arborfield (W)	434	0	386
	3 - ERR	896	47	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	0	5
	2 - Arborfield (W)	0	0	0
	3 - ERR	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.79	10.23	3.8	B	1365	1365
2 - Arborfield (W)	0.79	16.28	3.6	C	820	820
3 - ERR	0.65	7.24	1.9	A	943	943

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1365	341	47	1729	0.789	1350	1316	0.0	3.7	9.504	A
2 - Arborfield (W)	820	205	996	1048	0.783	807	401	0.0	3.3	14.243	B
3 - ERR	943	236	427	1463	0.645	936	1376	0.0	1.8	6.977	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1365	341	47	1729	0.789	1365	1329	3.7	3.8	10.209	B
2 - Arborfield (W)	820	205	1007	1041	0.788	819	405	3.3	3.5	16.142	C
3 - ERR	943	236	434	1458	0.647	943	1392	1.8	1.9	7.226	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1365	341	47	1729	0.789	1365	1330	3.8	3.8	10.227	B
2 - Arborfield (W)	820	205	1007	1040	0.788	820	405	3.5	3.6	16.250	C
3 - ERR	943	236	434	1458	0.647	943	1393	1.9	1.9	7.234	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1365	341	47	1729	0.789	1365	1330	3.8	3.8	10.235	B
2 - Arborfield (W)	820	205	1007	1040	0.788	820	405	3.6	3.6	16.282	C
3 - ERR	943	236	434	1458	0.647	943	1393	1.9	1.9	7.235	A

2038 WD, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Arborfield ERR Rdbt	Standard Roundabout		1, 2, 3	51.08	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	51.08	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	1430	100.000
2 - Arborfield (W)		FLAT	✓	569	100.000
3 - ERR		FLAT	✓	1373	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	582	848
	2 - Arborfield (W)	554	0	15
	3 - ERR	1079	294	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To			
		1 - Arborfield Road (E)	2 - Arborfield (W)	3 - ERR
From	1 - Arborfield Road (E)	0	1	3
	2 - Arborfield (W)	0	0	1
	3 - ERR	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.91	26.07	9.9	D	1430	1430
2 - Arborfield (W)	0.50	6.23	1.0	A	569	569
3 - ERR	1.00	95.71	35.8	F	1373	1373

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1430	358	279	1573	0.909	1397	1574	0.0	8.1	18.450	C
2 - Arborfield (W)	569	142	829	1160	0.491	565	848	0.0	1.0	6.019	A
3 - ERR	1373	343	550	1377	0.997	1302	844	0.0	17.6	35.178	E

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1430	358	287	1567	0.912	1426	1609	8.1	9.2	24.581	C
2 - Arborfield (W)	569	142	846	1148	0.495	569	868	1.0	1.0	6.211	A
3 - ERR	1373	343	554	1375	0.999	1343	861	17.6	25.2	66.295	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1430	358	289	1566	0.913	1428	1615	9.2	9.6	25.601	D
2 - Arborfield (W)	569	142	847	1148	0.496	569	870	1.0	1.0	6.224	A
3 - ERR	1373	343	554	1375	0.999	1350	862	25.2	31.0	82.625	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	1430	358	290	1566	0.913	1429	1618	9.6	9.9	26.074	D
2 - Arborfield (W)	569	142	847	1147	0.496	569	871	1.0	1.0	6.227	A
3 - ERR	1373	343	554	1375	0.999	1354	862	31.0	35.8	95.706	F

Junctions 10		
ARCADY 10 - Roundabout Module		
Version: 10.1.0.1820 © Copyright TRL Software Limited, 2023		
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Filename: Hollow Lane.Arborfield Road Roundabout - Aug24 Dims.j10

Path: P:\HD008 Land North of Aborfield Road, Shinfield\Deliverables\Transport\Modelling\Junction F - Hollow Lane HER Shinfield West

Report generation date: 22/08/2024 10:58:37

»2038 FB, AM

»2038 FB, PM

»2038 WD, AM

»2038 WD, PM

Summary of junction performance

	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2038 FB						
1 - Arborfield Road (E)	0.5	3.86	0.32	1.6	6.56	0.62
2 - B3349 Hyde End Road	6.2	17.95	0.86	1.0	5.77	0.51
3 - Shinfield West	0.5	9.16	0.33	0.4	6.02	0.30
4 - Hollow Lane	1.1	5.38	0.52	0.8	3.80	0.46
2038 WD						
1 - Arborfield Road (E)	0.5	3.97	0.34	2.0	7.38	0.67
2 - B3349 Hyde End Road	5.9	17.17	0.86	1.0	5.67	0.50
3 - Shinfield West	0.5	9.16	0.34	0.4	5.98	0.30
4 - Hollow Lane	1.2	5.73	0.54	0.8	3.66	0.43

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	Hollow Lane.Arborfield Road Roundabout
Location	Shinfield
Site number	HD008
Date	21/08/2024
Version	
Status	Existing
Identifier	
Client	
Jobnumber	HD008
Enumerator	ALPCE\transportuser
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	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2032 FB	AM	FLAT	08:00	09:00	60	15	
D2	2032 FB	PM	FLAT	17:00	18:00	60	15	
D3	2032 WD	AM	FLAT	08:00	09:00	60	15	
D4	2032 WD	PM	FLAT	17:00	18:00	60	15	
D5	2038 FB	AM	FLAT	08:00	09:00	60	15	✓
D6	2038 FB	PM	FLAT	17:00	18:00	60	15	✓
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	✓
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2038 FB, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shinfield West Rdbt	Standard Roundabout		1, 2, 3, 4	11.51	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.51	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Arborfield Road (E)		
2	B3349 Hyde End Road		
3	Shinfield West		
4	Hollow Lane		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Arborfield Road (E)	4.52	6.40	10.7	39.0	36.0	30.0		
2 - B3349 Hyde End Road	3.09	7.15	19.6	15.0	36.0	27.0		
3 - Shinfield West	4.04	6.15	4.4	12.0	36.0	31.0		
4 - Hollow Lane	4.91	6.62	17.7	46.0	36.0	23.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Arborfield Road (E)	0.673	1776
2 - B3349 Hyde End Road	0.641	1666
3 - Shinfield West	0.583	1423
4 - Hollow Lane	0.723	1981

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	2038 FB	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	438	100.000
2 - B3349 Hyde End Road		FLAT	✓	1274	100.000
3 - Shinfield West		FLAT	✓	196	100.000
4 - Hollow Lane		FLAT	✓	716	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	167	63	208
	2 - B3349 Hyde End Road	678	0	57	539
	3 - Shinfield West	75	70	0	51
	4 - Hollow Lane	184	502	30	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	0	0	0
	2 - B3349 Hyde End Road	0	0	0	0
	3 - Shinfield West	0	1	0	2
	4 - Hollow Lane	0	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.32	3.86	0.5	A	438	438
2 - B3349 Hyde End Road	0.86	17.95	6.2	C	1274	1274
3 - Shinfield West	0.33	9.16	0.5	A	196	196
4 - Hollow Lane	0.52	5.38	1.1	A	716	716

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	438	110	598	1374	0.319	436	923	0.0	0.5	3.835	A
2 - B3349 Hyde End Road	1274	319	300	1474	0.864	1251	735	0.0	5.6	14.967	B
3 - Shinfield West	196	49	1403	605	0.324	194	149	0.0	0.5	8.792	A
4 - Hollow Lane	716	179	810	1396	0.513	712	787	0.0	1.0	5.238	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	438	110	602	1371	0.319	438	936	0.5	0.5	3.861	A
2 - B3349 Hyde End Road	1274	319	301	1473	0.865	1273	739	5.6	6.0	17.685	C
3 - Shinfield West	196	49	1424	593	0.331	196	150	0.5	0.5	9.142	A
4 - Hollow Lane	716	179	822	1387	0.516	716	797	1.0	1.1	5.372	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	438	110	602	1371	0.319	438	937	0.5	0.5	3.861	A
2 - B3349 Hyde End Road	1274	319	301	1473	0.865	1273	739	6.0	6.1	17.875	C
3 - Shinfield West	196	49	1424	593	0.331	196	150	0.5	0.5	9.157	A
4 - Hollow Lane	716	179	823	1387	0.516	716	798	1.1	1.1	5.375	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	438	110	602	1371	0.319	438	937	0.5	0.5	3.861	A
2 - B3349 Hyde End Road	1274	319	301	1473	0.865	1274	739	6.1	6.2	17.948	C
3 - Shinfield West	196	49	1425	592	0.331	196	150	0.5	0.5	9.160	A
4 - Hollow Lane	716	179	823	1386	0.516	716	798	1.1	1.1	5.376	A

2038 FB, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shinfield West Rdbt	Standard Roundabout		1, 2, 3, 4	5.46	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.46	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2038 FB	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	889	100.000
2 - B3349 Hyde End Road		FLAT	✓	647	100.000
3 - Shinfield West		FLAT	✓	255	100.000
4 - Hollow Lane		FLAT	✓	798	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	383	125	381
	2 - B3349 Hyde End Road	205	0	53	389
	3 - Shinfield West	75	46	0	134
	4 - Hollow Lane	342	346	110	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
	From				
	1 - Arborfield Road (E)	0	0	1	0
	2 - B3349 Hyde End Road	0	0	0	0
	3 - Shinfield West	0	0	0	0
	4 - Hollow Lane	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.62	6.56	1.6	A	889	889
2 - B3349 Hyde End Road	0.51	5.77	1.0	A	647	647
3 - Shinfield West	0.30	6.02	0.4	A	255	255
4 - Hollow Lane	0.46	3.80	0.8	A	798	798

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	889	222	500	1440	0.617	883	619	0.0	1.6	6.402	A
2 - B3349 Hyde End Road	647	162	612	1274	0.508	643	771	0.0	1.0	5.674	A
3 - Shinfield West	255	64	969	858	0.297	253	286	0.0	0.4	5.951	A
4 - Hollow Lane	798	200	324	1747	0.457	795	898	0.0	0.8	3.772	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	889	222	502	1438	0.618	889	622	1.6	1.6	6.560	A
2 - B3349 Hyde End Road	647	162	616	1271	0.509	647	775	1.0	1.0	5.770	A
3 - Shinfield West	255	64	975	855	0.298	255	288	0.4	0.4	6.021	A
4 - Hollow Lane	798	200	326	1746	0.457	798	904	0.8	0.8	3.802	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	889	222	502	1438	0.618	889	622	1.6	1.6	6.563	A
2 - B3349 Hyde End Road	647	162	616	1271	0.509	647	775	1.0	1.0	5.770	A
3 - Shinfield West	255	64	975	855	0.298	255	288	0.4	0.4	6.021	A
4 - Hollow Lane	798	200	326	1746	0.457	798	904	0.8	0.8	3.802	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	889	222	502	1438	0.618	889	622	1.6	1.6	6.563	A
2 - B3349 Hyde End Road	647	162	616	1271	0.509	647	775	1.0	1.0	5.770	A
3 - Shinfield West	255	64	975	855	0.298	255	288	0.4	0.4	6.021	A
4 - Hollow Lane	798	200	326	1746	0.457	798	904	0.8	0.8	3.802	A

2038 WD, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shinfield West Rdbt	Standard Roundabout		1, 2, 3, 4	11.07	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.07	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2038 WD	AM	FLAT	08:00	09:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	473	100.000
2 - B3349 Hyde End Road		FLAT	✓	1258	100.000
3 - Shinfield West		FLAT	✓	201	100.000
4 - Hollow Lane		FLAT	✓	734	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	192	66	215
	2 - B3349 Hyde End Road	705	0	57	496
	3 - Shinfield West	84	66	0	51
	4 - Hollow Lane	211	492	31	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	0	0	0
	2 - B3349 Hyde End Road	0	0	0	0
	3 - Shinfield West	0	1	0	2
	4 - Hollow Lane	0	0	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.34	3.97	0.5	A	473	473
2 - B3349 Hyde End Road	0.86	17.17	5.9	C	1258	1258
3 - Shinfield West	0.34	9.16	0.5	A	201	201
4 - Hollow Lane	0.54	5.73	1.2	A	734	734

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	473	118	585	1382	0.342	471	986	0.0	0.5	3.943	A
2 - B3349 Hyde End Road	1258	315	311	1467	0.857	1237	745	0.0	5.4	14.503	B
3 - Shinfield West	201	50	1395	610	0.330	199	153	0.0	0.5	8.804	A
4 - Hollow Lane	734	184	842	1373	0.535	729	752	0.0	1.1	5.567	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	473	118	589	1380	0.343	473	999	0.5	0.5	3.971	A
2 - B3349 Hyde End Road	1258	315	312	1466	0.858	1257	750	5.4	5.7	16.951	C
3 - Shinfield West	201	50	1415	598	0.336	201	154	0.5	0.5	9.146	A
4 - Hollow Lane	734	184	854	1364	0.538	734	761	1.1	1.2	5.724	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	473	118	589	1380	0.343	473	1000	0.5	0.5	3.971	A
2 - B3349 Hyde End Road	1258	315	312	1466	0.858	1258	750	5.7	5.8	17.109	C
3 - Shinfield West	201	50	1416	598	0.336	201	154	0.5	0.5	9.159	A
4 - Hollow Lane	734	184	855	1363	0.538	734	762	1.2	1.2	5.730	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	473	118	589	1380	0.343	473	1000	0.5	0.5	3.971	A
2 - B3349 Hyde End Road	1258	315	312	1466	0.858	1258	750	5.8	5.9	17.168	C
3 - Shinfield West	201	50	1416	598	0.336	201	154	0.5	0.5	9.162	A
4 - Hollow Lane	734	184	855	1363	0.538	734	762	1.2	1.2	5.730	A

2038 WD, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shinfield West Rdbt	Standard Roundabout		1, 2, 3, 4	5.76	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.76	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D8	2038 WD	PM	FLAT	17:00	18:00	60	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Arborfield Road (E)		FLAT	✓	973	100.000
2 - B3349 Hyde End Road		FLAT	✓	625	100.000
3 - Shinfield West		FLAT	✓	256	100.000
4 - Hollow Lane		FLAT	✓	754	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	438	142	393
	2 - B3349 Hyde End Road	212	0	51	362
	3 - Shinfield West	79	46	0	131
	4 - Hollow Lane	333	323	98	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To				
		1 - Arborfield Road (E)	2 - B3349 Hyde End Road	3 - Shinfield West	4 - Hollow Lane
From	1 - Arborfield Road (E)	0	0	1	0
	2 - B3349 Hyde End Road	0	0	0	0
	3 - Shinfield West	0	0	0	0
	4 - Hollow Lane	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Arborfield Road (E)	0.67	7.38	2.0	A	973	973
2 - B3349 Hyde End Road	0.50	5.67	1.0	A	625	625
3 - Shinfield West	0.30	5.98	0.4	A	256	256
4 - Hollow Lane	0.43	3.66	0.8	A	754	754

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	973	243	465	1463	0.665	965	621	0.0	1.9	7.137	A
2 - B3349 Hyde End Road	625	156	628	1263	0.495	621	802	0.0	1.0	5.576	A
3 - Shinfield West	256	64	960	863	0.297	254	289	0.0	0.4	5.916	A
4 - Hollow Lane	754	189	335	1739	0.434	751	880	0.0	0.8	3.637	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	973	243	467	1462	0.666	973	624	1.9	2.0	7.370	A
2 - B3349 Hyde End Road	625	156	633	1260	0.496	625	807	1.0	1.0	5.669	A
3 - Shinfield West	256	64	967	859	0.298	256	291	0.4	0.4	5.984	A
4 - Hollow Lane	754	189	337	1738	0.434	754	886	0.8	0.8	3.662	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	973	243	467	1462	0.666	973	624	2.0	2.0	7.373	A
2 - B3349 Hyde End Road	625	156	633	1260	0.496	625	807	1.0	1.0	5.669	A
3 - Shinfield West	256	64	967	859	0.298	256	291	0.4	0.4	5.984	A
4 - Hollow Lane	754	189	337	1738	0.434	754	886	0.8	0.8	3.662	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Arborfield Road (E)	973	243	467	1462	0.666	973	624	2.0	2.0	7.375	A
2 - B3349 Hyde End Road	625	156	633	1260	0.496	625	807	1.0	1.0	5.669	A
3 - Shinfield West	256	64	967	859	0.298	256	291	0.4	0.4	5.984	A
4 - Hollow Lane	754	189	337	1738	0.434	754	886	0.8	0.8	3.662	A

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