



**LIDL GREAT BRITAIN LIMITED
PROPOSED FOODSTORE
PURBROOK WAY, HAVANT**

TRANSPORT ASSESSMENT

NOVEMBER 2020



the journey is the reward

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Project Code:	B/LIDL Purbrook Way.1
Prepared by:	RB
Approved by:	RG
Issue Date:	November 2020
Status:	Final 02

Lidl Great Britain Limited
Proposed Foodstore
Purbrook Way, Havant
Transport Assessment

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1 Introduction

- 1.1 Mayer Brown Ltd has been appointed by Lidl Great Britain Limited to prepare this Transport Assessment in support of the construction of a new discount foodstore on land adjacent to Purbrook Way in Havant, Hampshire.
- 1.2 Planning permission is being sought for construction of a 1,899sqm Gross Internal Area (GIA) Lidl foodstore. Vehicle access for customers, staff and deliveries will be provided via a new priority junction arrangement along the eastern edge of the site. Parking provision for 132 cars will be provided onsite, including designated disabled, parent & child and electric vehicle spaces.
- 1.3 This Transport Assessment addresses the salient aspects of the proposals and is subdivided into the following sections:
- Existing Site Description, including accessibility;
 - Development Proposals;
 - Trip Generation Assessment;
 - Highway Impact Assessment;
 - Parking Assessment;
 - Construction Traffic Impact Assessment; and
 - Summary and Conclusions.
- 1.4 In line with local authority guidance a Travel Plan has been produced and submitted as a separate document, seeking to promote sustainable modes of travel and reduce reliance on single occupancy car journeys.

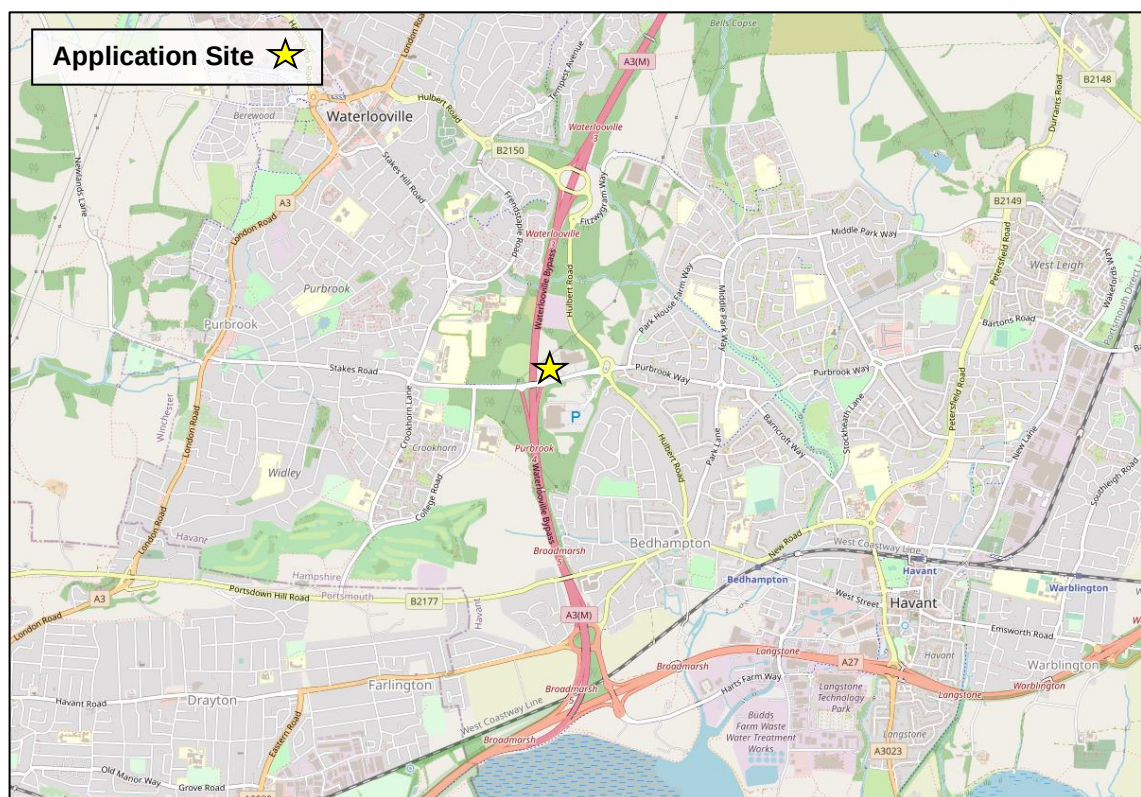
Pre-application Correspondence

- 1.5 Correspondence has been undertaken with Hampshire County Council (HCC), the local highway authority, to obtain advice on the likely scope of information necessary to enable HCC to provide a substantive response at application stage in order that any additional details can be considered/incorporated as appropriate within this report.
- 1.6 In response, HCC outlined reference documents and policies for consideration when making a formal planning submission, with any site-specific scoping/advice requiring entering formal pre-application advice discussions at a cost to the client.
- 1.7 Additionally, due to the proximity of the application site to the Strategic Road Network (SRN), liaison has separately been undertaken with Highways England (HE) to discuss and clarify potential impact of proposals upon the SRN.

- 1.8 In response HE confirmed they would be concerned with any detrimental impact occurring at the slip roads on the east and west roundabouts which permit access and egress respectively to the A3(M). Consequently, it has been requested that linked junction modelling of these junctions is undertaken as part of the Transport Assessment so to ascertain the net impact on the slip roads and what, if any, mitigation is required.
- 1.9 In relation to trip generation associated with the proposed Lidl foodstore, HE requested that Pre-COVID-19 traffic survey data from a comparable Lidl foodstore is utilised to inform trip rates for the proposed store. This is considered and outlined within Section 5.
- 1.10 Finally, due to the proximity of the site to the A3(M) Junction 4, HE have requested that a Construction Traffic Management Plan (CTMP) is submitted with any future application, which seeks to reduce construction trips in the weekday AM and PM peak periods.
- 1.11 An overview of potential construction traffic associated with the site is outlined in Section 7 and it is envisaged that, if planning permission is granted for the proposed Lidl store, a suitability worded pre-commencement planning condition would require submission of a CTMP or similar and sign off from HCC and HE.

2 Existing Site Description

- 2.1 The application site is located on the western edge of Havant in Bedhampton, within Havant Borough Council's area of control and with HCC acting as the local highway authority.
- 2.2 The site is currently undeveloped land bounded by Purbrook Way to the south, whilst the access road and car park for the adjacent B&Q Havant store bounds the site to the northwest and east respectively.
- 2.3 The site location is shown in relation to the local highway network in **Figure 2.1**.



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Figure 2.1: Site Location Plan

Adjacent Highway Infrastructure

- 2.4 The site is bounded by a private access road to the north and west and Purbrook Way to the south.
- 2.5 The private access road currently serves B&Q. It is a single carriageway road with regularly spaced streetlighting and subject to a 10mph speed limit with no parking permitted on the carriageway. There is no pedestrian provision alongside the carriageway, with pedestrians accessing the B&Q directly from Purbrook Way.

- 2.6 The private access road joins Purbrook Way at a roundabout junction, with a fourth exit-only lane leading southbound onto the A3(M).
- 2.7 In the vicinity of the site, Purbrook Way is a four-lane road, partially single- and partially dual-carriageway, and provides a link between Purbrook to the west and Havant to the east.
- 2.8 It has a footway/ cycleway along the northern side and part of the southern side, along with regularly spaced streetlighting. The road is subject to a 40mph speed limit in the vicinity of the site.
- 2.9 To the east of the site, Purbrook Way forms a large partially signal-controlled roundabout junction with Hulbert Road and the private access road for the Asda Havant superstore. There are two or three lanes on each approach and three circulating lanes. Pedestrian and cycle crossing facilities are included on the two arms of Purbrook Way and the southern arm of Hulbert Road.
- 2.10 To the west, Purbrook Way forms a three-arm roundabout with the northbound off-slip from the A3(M). The A3(M) is a trunk road controlled by Highways England that starts at the M27 to the south, and then continues north as the A3 towards Petersfield, Guildford and London.

Highway Safety

- 2.11 A review of collision data for the highways bounding the application site and nearby connecting junctions/carriageways has been undertaken covering the most recent five-year period available (01/0/2015 to 31/12/2019).
- 2.12 Collision data has been provided by Hampshire Constabulary alongside a plan showing the plotted locations of collisions within the search area, provided in **Appendix A**.
- 2.13 Examination of the collision data indicates that a total of 50 collisions were reported within the search area during this period, of which 38 were slight, 12 serious and none identified as fatal in severity. **Table 2.1** shows all recorded collisions within the assessment area broken down by severity and year of occurrence.

Severity	2015	2016	2017	2018	2019	Total
Fatal	-	-	-	-	-	0
Serious	-	3	-	4	5	12
Slight	6	8	8	7	9	38
Total	6	11	8	11	14	50

Table 2.1: All Recorded Collisions within Assessment Area/Period

Vulnerable Road Users

- 2.14 28 collisions (56%) involved vulnerable road users, consisting of 3 involving pedestrians, 17 involving cyclists and 8 involving two-wheeled motor vehicles.

Fatal and Serious Collisions

- 2.15 Collisions classed as fatal and serious in severity are typically regarded to have greater significance than slight collisions, with local authority targets generally set to reduce killed and seriously injured (KSI) casualties. No fatal collisions were recorded in the area over the time period assessed.

- 2.16 A total of 12 serious collisions were recorded in the area and time period assessed, accounting for 24% of total recorded collisions.

- 4 serious collisions occurred at the Purbrook Way / Stakes Road / Stakes Hill Road / Crookhorn Lane roundabout.

Three of the serious collisions in this location involved drivers entering the roundabout from Purbrook Way but failing to look properly / give way to other road users (2 cyclists, 1 taxi) already circulating the roundabout and exiting southbound.

2 occurred in daylight with no other influencing factors identified whilst the third occurred at night with the driver identified as being impaired by alcohol.

The final serious collision involved a motorist overtaking a cyclist on approach to the roundabout from the west catching the cyclist with their nearside wing mirror as they passed due to a low sun blinding the driver.

- 4 serious collisions occurred at the Purbrook Way / Hulbert Road / B2150 signalised roundabout.

Two of the serious collisions occurred at the crossing point on the western Purbrook way arm of the junction. The first involved a driver approaching from the west failing to obey a red signal and colliding with a pedestrian utilising the pedestrian crossing point. The second involved a cyclist trying to cross Purbrook Way after the main carriageway signal had turned green, resulting in a collision with a vehicle starting to move off.

Of the remaining collisions, one involved a driver entering the roundabout from Hulbert Road failing to look properly / give way to a cyclist already circulating the roundabout and exiting east onto Purbrook Way.

The final collision involved a cyclist slipping / losing control on the pavement at the junction due to ice, causing the rider to fall from their cycle.

- 3 serious collisions occurred at, or in the vicinity of the Purbrook Way / A3(M) Junction 4 southbound slip roundabout.

The first occurred on the A3(M) southbound involving a vehicle failing to look properly when changing lanes, resulting in a collision and the vehicles colliding with the central barrier / leaving the carriageway.

The second occurred at night, with street lighting present and lit, on the northern arm of the roundabout involving a vehicle exiting the roundabout and travelling towards the B&Q store colliding with a cyclist crossing the junction arm.

The third collision in this location involved a driver traveling westbound along Purbrook Way failing to look properly / give way to a motorcyclist already circulating the roundabout towards the A3(M), resulting in a collision between these vehicles.

- The remaining serious collision recorded occurred at the Purbrook Way / College Road priority junction, involving a taxi turning right out of College Road failing to look properly/give way to a motorcycle travelling westbound along Purbrook Way, resulting in a collision between these vehicles.

Slight Collisions

2.17 A review of the recorded slight collisions in relation to location and causation indicates:

- 16 slight collisions were recorded at or on approach to the Purbrook Way / Hulbert Road / B2150 signalised roundabout. Half of these recorded collisions (8 collisions) involved rear shunts, primarily due to traffic approaching the signals travelling to quickly and failing to notice slowing/waiting traffic ahead.

4 collisions involved pedestrians / cyclists in a hurry entering the carriageway at a crossing point as signals changed to allow traffic to move, resulting in a collision. 2 collisions resulted from drivers having poor lane control or failing to look properly before manoeuvring.

The final recorded collisions occurred at the unsignalised Asda junction arm, the first involving a vehicle exiting towards Asda colliding with a cyclist crossing the Asda arm and the second involving a driver exiting Asda failing to give way to vehicles already circulating the roundabout.

- 9 slight collisions were recorded at the Purbrook Way / College Road priority junction. 6 collisions involved vehicles turning out of College Road failing to give way to priority traffic travelling along Purbrook, 2 involved rear shunts due to waiting / slow moving / queuing traffic ahead and the final involved a cyclist entering the carriageway from the pavement without looking properly, colliding with a vehicle traveling along Purbrook Way.

- 5 slight collisions were recorded at or in the vicinity of the A3(M) roundabout junctions. The first occurred on the A3(M) southbound carriageway with slowing vehicles and others following too closely resulting in a rear shunt. Other collisions at involved a range of causation with no specific pattern / clustering, causations factors included poor manoeuvring when overtaking, failing to look properly / give way to priority traffic and a loss of control due to defective road surface.
- 4 slight collisions were recorded at or in the vicinity of the Purbrook Way / Stakes Road / Stakes Hill Road / Crookhorn Lane roundabout. Three involved drivers entering the roundabout failing to give way to vehicles already circulating the roundabout, resulting in a collision. The final recorded collision involved a vehicle mounting the kerb after exiting the roundabout, causing a pedestrian to take evasive action and injuring themselves in the process.
- 4 slight collisions were recorded at other locations along Purbrook Way, primarily involving road users failing to look properly / following too closely / being reckless or in a hurry causing a collision with other road users or stationary parked vehicles.

Summary

- 2.18 In summary, the causation factors for the recorded collisions highlighted that all were largely the result of human factors such as failing to look properly/give way, undertaking a poor turn/manoeuvre or being reckless/in a hurry. Consequently, it is considered that there are no existing highway safety patterns or concerns which indicate any inherent highway design problems that affect highway safety in the vicinity of the application site which would be exacerbated by the proposed development.

Baseline Traffic Data

- 2.19 In order to assess the existing baseline traffic flows during the busiest shopping days/periods, a defined study area was developed to cover key junctions on the local highway network where proposals may result in a material change to traffic flows.

Extant Traffic Data Sources

- 2.20 Various third-party traffic survey data sources were reviewed in order to ascertain the availability of Pre-COVID-19 data, including HCC, independent traffic survey companies and survey data submitted to support recent planning applications.
- 2.21 Following review of these sources it was concluded that there was no suitable existing survey data available.

Traffic Surveys

- 2.22 Based on the current coronavirus pandemic, guidance was sought from HCC in relation to the highway authority's potential acceptance of traffic surveys undertaken in September 2020. HCC advised that traffic surveys are being considered on a case by case basis with guidance only able to be provided as part of formal 'paid' pre-application discussions.
- 2.23 Department for Transport (DfT) statistics on transport use by mode during the COVID-19 pandemic indicates that traffic levels are getting back to what they were pre-lockdown.
- 2.24 On the basis of the above and in the absence of clarification being provided by HCC, surveys were undertaken by an independent traffic survey company (MHC Traffic) on Friday 11th and Saturday 12th September 2020, with classified turning count surveys undertaken at the following junctions:
- Purbrook Way / A3(M) Junction 4 southbound 4-arm roundabout;
 - Purbrook Way / A3(M) Junction 4 northbound 3-arm roundabout;
 - Purbrook Way / Hulbert Road / B2150 signalised roundabout; and
 - Purbrook Way / Stakes Road / Stakes Hill Road / Crookhorn Lane 4-arm roundabout.
- 2.25 Traffic surveys covered the Friday period 15:00 – 19:00 and the Saturday period of 10:00 to 15:00. These are generally accepted as being the critical days/periods associated with retail development in terms of traffic impact on the adjacent highway network due to peak retail trips combined with higher background traffic flows.
- 2.26 Additionally, in line with discussions with HCC regarding other previous Lidl development sites, for completeness the Friday surveys also covered the morning network peak period of 07:00 – 10:00.
- 2.27 Analysis of the survey data indicates that the network peak hours occurred at approximately 08:00 – 09:00 and 15:30 – 16:30 on a weekday and 11:45 – 12:45 on Saturday.
- 2.28 A summary of the peak hour survey data is provided in **Appendix B** of this report.

Accessibility

- 2.29 Whilst it is recognised that a car will often be necessary for bulk food shopping trips, it is important that the store is accessible by non-car modes of transport for those without the use of a car, for customers undertaking smaller shopping trips and for staff regularly travelling to and from work. Therefore, an assessment of how the site can be accessed via non-car modes of travel has been undertaken.

Walking

- 2.30 Walking is the most important mode of travel at a local level as it offers the greatest potential to replace short car trips for journeys.
- 2.31 The Chartered Institute of Highways and Transportation document 'Planning for Walking', published in March 2015, indicates that people will typically only walk if their destination is less than a mile away, with a typical catchment of around 800m or a 10-minute walk time based on a comfortable walking pace of 80m per minute. In relation to commuting trips, it is considered that staff may be willing to walk further than this (800m) but typically not more than 2km.
- 2.32 An 800m walk from the site includes some residential areas in Bedhampton accessed from Purbrook Way and Hulbert Road. Extending walking distances to 2km suggests that a large area of northwest Havant is located within an appropriate walking distance of the site.
- 2.33 Shared footway/cycleways along with regularly spaced street lighting are provided along the northern side of Purbrook Way, with a Toucan crossing providing access to a footway/cycleway along part of the southern side. Uncontrolled pedestrian crossing points consisting of dropped kerbs and central refuges are provided on the northern arm of the B&Q roundabout with Purbrook Way, providing pedestrian access from Purbrook.

Cycling

- 2.34 Cycling is seen as a viable alternative for journeys of up to 5km, equivalent to a 20-minute cycle time based on a speed of 10mph (16kph). A 5km cycle distance suggests that the majority of Havant is likely to be accessible via cycle, as well as Purbrook and southern parts of Waterloo.
- 2.35 The site is well provided for with off-road shared footway/cycleways. There is a cycle path along the northern side of Purbrook Way, adjacent to the site, which continues across the Purbrook Way / Hulbert Road signalised roundabout via Toucan crossings. This provides access to the residential single-carriageway sections of Purbrook Way and Hulbert Road where cyclists re-join the carriageway.
- 2.36 It also continues to the west along the northern side of Purbrook Way, over the A3(M) bridge to College Road. These paths give cyclists the choice of cycling along the dual carriageway section of Purbrook Way or using a quieter off-road path.
- 2.37 Beyond the cycle paths, there is a network of quieter residential streets that allow cyclists to travel around the local area whilst avoiding the busiest vehicular routes.

Public Transport

- 2.38 There are bus stops provided approximately 100m walk from the pedestrian entrance to the site. The footway/cycleway along Purbrook Way provides convenient access between the site and the eastbound bus stop, and the Toucan crossing over Purbrook Way provides a link to the westbound stop. Both stops have shelters with seating and timetable information.
- 2.39 A summary of non-school services operating to/from stops in the vicinity of the site are outlined in **Table 2.2**, based on information in HCC's Havant and Petersfield Public Transport Guide (March 2019).
- 2.40 Although this information may not be the most recent, it provides an indication of typical service frequency prior to the coronavirus outbreak.

Service Number	Description / Route	Frequency		
		Mon – Fri	Sat	Sun & Bank Holidays
20	Havant – Q.A Hospital - Portsmouth	Every 30 minutes	Every 30 minutes	No service
37	Havant – Waterlooville – Clanfield - Petersfield	Hourly	Every 90 minutes	No service
39	Havant – Leigh Park – Waterlooville – Wecock Farm	Every 12 minutes	Every 12 minutes	Hourly

Table 2.2: Bus services stopping in the vicinity of the site

- 2.41 **Table 2.2** indicates that the site benefits from a good level of daytime bus services to/from surrounding areas.
- 2.42 The nearest railway station to the site is Bedhampton, located just over 2km from the site, so a journey from here could be combined with onward travel by bicycle. Havant station in the centre of town is around 3km from the site and all three local bus services stop at this station, with route 37 having a journey time of less than ten minutes.
- 2.43 Bedhampton station typically receives two trains per hour to Portsmouth & Southsea, one per hour to London Waterloo and one per hour to Littlehampton.
- 2.44 Havant receives a higher level of service, with five trains per hour to London stations, two to Brighton, one to Littlehampton, six to Portsmouth stations and two to Southampton Central.

Public Transport Accessibility Index

- 2.45 In line with BREEAM guidance, the existing public transport Accessibility Index (AI) for the site has been calculated based upon public transport nodes located within 650m of the site and the average number of services stopping per hour at each node during the proposed Lidl store operating hours (07:00 – 22:00). The site has a AI value of 3.1.

Local Amenities

- 2.46 Existing local amenities accessible within c. 500m walk of the store entrance, include:
- Food outlets – B&Q café and food van, McDonalds and KFC; and
 - Access to an outdoor open space – Johnstons Coppice.
- 2.47 These local amenities increase potential for customer linked trips and allow staff to access these amenities via non-car travel modes when making trips out of the workplace during their working day e.g. to get lunch.

Accessibility Summary

- 2.48 In summary, it is considered that the site benefits from good links to surrounding residential areas via active travel modes with footway/cycleways, Toucan crossing facilities and regularly spaced street lighting provided on the local highway. The site also provides convenient access to frequent public transport services serving residential areas in the vicinity of the site and further afield, in addition to connecting bus and rail services in central Havant.
- 2.49 Overall, it is considered that the application site is well located to promote and facilitate travel via sustainable modes.

3 Development Proposals

- 3.1 Development proposals seek to provide a 1,899sqm GIA Lidl foodstore, with access for vehicles provided via a priority junction arrangement from the private access road running along the western perimeter of the site.
- 3.2 The proposed store will consist of 1,256sqm of retail floor area (RFA), plus warehouse floor space and ancillary floor space including staff welfare facilities, offices and toilets.
- 3.3 The store will be set back from the highway, positioned along the eastern side of the site with the store customer entrance lobby located in the south west corner of the building, closest to the pedestrian access point/route.
- 3.4 The proposed site layout is provided in **Appendix C**.

Store Operation

- 3.5 The store opening hours are envisaged to be as per standard Lidl operational hours, 07:00 - 22:00 Monday to Saturday including bank holidays, and 10:00 - 16:00 on Sundays.
- 3.6 The proposed foodstore will employ c.40 employees, who will occupy a combination of both part and full-time positions with numbers of staff onsite typically ranging from 3 to 10 at any one-time depending on the day / time of the week.

Access Arrangements

Vehicles

- 3.7 The development proposals will provide a new priority junction arrangement from the private access road running along the western edge of the site for use by customers, staff and delivery vehicles.
- 3.8 The proposed arrangement provides a 9m wide access carriageway with appropriate kerb radii to facilitate vehicular access, with a 6m radii to the north and 10m radii to the south due to the angled alignment of the access (c. 20° off perpendicular).
- 3.9 The site access is located c. 55m north of the entry / exit points to / from the adjacent Purbrook Way roundabout. This level of separation between the site access and the roundabout exit provides sufficient distance to allow vehicles turning right into the development site to sufficiently slow and manoeuvre without adversely impacting upon the operation of the roundabout, with minimal (if any) queuing/delay during peak network periods predicted as part of site access modelling outlined within Section 5 of this report.

- 3.10 Additionally, KEEP CLEAR markings at the site access will be provided to ensure that if queuing from the Purbrook Way roundabout extends back to the Lidl access, adequate space will be maintained to enable vehicles to continue to turn right into the site and maintain free flowing movement northbound along the private access road towards the B&Q store.
- 3.11 Vehicle visibility splays in excess of 2.4m x 43m in both directions are achievable at the proposed site access, across land within the control of the landowner, commensurate with Manual for Streets requirements for a 30mph speed limit although as noted previously the carriageway is subject to a 10mph speed limit.
- 3.12 The proposed access arrangement, including relevant geometry and visibility splays are illustrated in **Appendix D**.

Pedestrians

- 3.13 Pedestrian access to the site will be provided directly from Purbrook Way with pedestrian walkway/crossing facilities provided within the site as appropriate to facilitate pedestrian movements to/from the store entrance.
- 3.14 Cyclists will also be able to utilise this route, although they would be expected to dismount and walk alongside their cycle when entering the site via this route.

Internal Arrangement

- 3.15 Within the site, internal carriageways provide sufficient aisle widths of greater than 6m to enable two-way vehicle flows and appropriate access to parking spaces.
- 3.16 2.7m x 5.2m standard parking spaces have been provided, exceeding typical standard bay dimensions in order to accommodate larger modern vehicles and provide additional room for vehicles manoeuvring when accessing spaces and drivers/passengers getting into/out of their vehicles.
- 3.17 Parent & child space dimensions of 3.6m x 5.2m have been provided, whilst disabled spaces would consist of a 2.4m x 4.8m space with a 1.2m hatched area provided to the side and rear of each bay.

Parking

- 3.18 The proposed store will provide a total of 132 car parking spaces (1 space per 14.4sqm GFA), inclusive of 7 designated disabled, 9 parent & child and 2 Electric Vehicle (EV) charging spaces. Additionally, dedicated motorcycle parking provision will be provided onsite, accommodating around 5 motorcycles.

- 3.19 All disabled and parent & child parking spaces have been positioned so that they are close to the building entrance with convenient / level access and reducing the need to cross busier internal carriageways.
- 3.20 A detailed assessment of car parking provision associated with the proposals, specifically in relation to local parking standards and expected parking demand / capacity, is outlined within Section 6 of this report.

Cycle Parking

- 3.21 Local parking standards outlined within Havant Borough Councils Parking Supplementary Planning Document indicate a requirement for 1 short stay cycle space per 200sqm Gross External Area (GEA) and 1 long stay cycle space per 6 full time equivalent staff members or 1 space per 300sqm GEA (whichever greater).
- 3.22 Based upon the proposed store having a GEA of 1,997sqm and 20-25 FTE staff members, this indicates a requirement for 10 short stay cycle spaces and 4 – 7 long stay cycle spaces depending on the calculation method utilised.
- 3.23 In line with these requirements, 10 cycle spaces will be provided onsite in the form of 5 'Sheffield' stands located along the southern glazed store frontage for use by customers. This location benefits from good natural surveillance, shelter from the elements and provides a safe location for cyclists to mount / dismount.
- 3.24 In relation to long stay cycle parking provision, appropriate space is available within the store warehouse for staff to store cycles securely / safely if required, although as previously noted, the number of staff onsite typically ranges from 3 to 10 at any one-time and local travel to work 2011 census data indicates less than 5% of workers within Havant typically cycle, hence demand is expected to be nearer 1 – 2 cycles at any one time.

Delivery & Servicing

- 3.25 Lidl stores typically have only 2 - 3 HGV deliveries per day. The HGV delivers frozen, chilled and ambient goods, and transports waste and recycling on the return trip in order to reduce servicing / delivery trip numbers.
- 3.26 A dedicated loading bay will be provided within the site, to the north of the proposed store accommodating a single HGV. Given Lidl's operational requirements, with a maximum of one delivery vehicle onsite at any one time, this level of provision is considered appropriate to accommodate deliveries without causing problems for other site users.

3.27 Delivery vehicles access the site via the western site vehicular access before manoeuvring within the site to access the loading bay. This arrangement is considered appropriate based upon:

- Delivery manoeuvres being undertaken at the end of the store furthest from the store entrance, with parking in this location envisaged to be less desirable to customers and hence minimising potential conflict;
- Very low frequency of delivery vehicles and associated low vehicle speeds, with a speed limit of 10mph for delivery and servicing vehicles and the internal road arrangements also constraining vehicle speeds; and
- Suitable lighting provided within the car park to ensure good visibility.

3.28 The largest expected delivery/service vehicle would be a 16.5m articulated vehicle. Swept path analysis for an articulated delivery vehicle safely accessing the site, delivering to the loading bay and leaving the site in a forward gear is provided in **Appendix E**.

4 Trip Generation Assessment

- 4.1 When considering a food retail development, it is generally accepted that the critical periods in terms of traffic impact on the adjacent highway network are:
- The weekday PM peak when traffic flows associated with the site combined with the traffic flows on the adjacent highway network are at their greatest; and
 - The Saturday late morning/early afternoon when the traffic attraction to the site is greatest.
- 4.2 It follows that should the effect of development traffic on the local highway network be considered acceptable during these periods then it would also be acceptable during other, less busy, periods of the week.
- 4.3 Additionally, whilst the proposed Lidl store is envisaged to have a lesser impact during the weekday morning peak primarily due to reduced trip generation potential, for completeness this period has also been considered.
- 4.4 Traffic survey data indicates that during the weekday morning and afternoon peak hour traffic occurred at 08:00 – 09:00 and 15:30 – 16:30 respectively, whilst the Saturday peak hour occurred at 11:45 – 12:45.

Proposed Vehicular Trip Generation

- 4.5 To assess potential trip generation associated with the proposed Lidl foodstore, trip rates have been derived from the TRICS database (version 7.7.2). The discount foodstore retail land use classification has been selected and the proposed unit GIA utilised for trip generation calculation purposes.
- 4.6 Available TRICS sites have been filtered to provide sites comparable to the application site - specifically those located in England, Wales and Scotland excluding Greater London and situated in edge of town locations and car ownership levels over 1 car per household based upon 2011 Census data for Havant indicating an average of 1.28 cars per household.
- 4.7 A total of 4 comparable TRICS sites were identified where weekday surveys are available and 3 sites with Saturday surveys, with associated TRICS output data provided in **Appendix F**.
- 4.8 A summary of the proposed trip generation calculations for network peak hour periods are outlined in **Table 4.1**.

	Weekday AM Peak 08:00 – 09:00			Weekday PM Peak 15:30 – 16:30			Saturday Peak 11:45 – 12:45		
Proposed Scenario	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
TRICS Trip Rates (per 100sqm GIA)	2.240	1.529	3.769	4.627	4.679	9.306	5.898	6.130	12.029
Trip Generation (1,899 sqm)	43	29	72	88	89	177	112	116	228

Table 4.1: TRICS Vehicular Trip Generation – Proposed Lidl Foodstore

- 4.9 **Table 4.1** indicates that the proposed Lidl foodstore is predicted to generate approximately 72 vehicular movements (43 arrivals / 29 departures) during the weekday morning peak, 177 vehicular movements during the weekday evening peak and 228 vehicular movements during the Saturday peak.

Comparable Lidl Stores

- 4.10 As noted within the introduction, as part of their initial scoping advice HE requested that Pre-COVID-19 traffic survey data from a comparable Lidl foodstore was utilised to inform trip rates for the proposed store.
- 4.11 Consequently, in order to take account of this request, a review of Lidl stores within the regional area has been undertaken with the Lidl store in Whiteley identified as a fairly comparable store in terms of location to the SRN and edge of town / out of town location. The Whiteley store is also a newer store and hence offers more modern facilities which may attract customers to the store over other operators e.g. in-store bakery.
- 4.12 ANPR data outlining hourly vehicular arrivals / departures has been provided by Lidl for the Whiteley store for October 2019, a Pre-COVID-19 recognised neutral month with representative traffic flows.
- 4.13 A summary of the average vehicular trip rates extracted from the Lidl Whiteley ANPR data for the critical peak periods identified, alongside the resulting vehicular trip generation associated with the proposed Lidl store at Purbrook Way is shown in **Table 4.2**.

	Weekday AM Peak 08:00 – 09:00			Weekday PM Peak 15:30 – 16:30			Saturday Peak 11:45 – 12:45		
Proposed Scenario	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
Whiteley Trip Rates (per 100sqm GIA)	2.391	1.993	4.384	4.638	4.801	9.438	6.069	5.978	12.047
Trip Generation (1,899 sqm)	45	38	83	88	91	179	115	114	229

Table 4.2: ANPR Vehicular Trip Generation – Proposed Lidl Foodstore

- 4.14 **Table 4.2** indicates that the proposals are expected to generate approximately 83 vehicular movements (45 arrivals / 38 departures) during the weekday morning peak, 179 vehicular movements during the weekday evening peak and 229 vehicular movements during the Saturday peak
- 4.15 In comparison to the trip generation data extracted from TRICS (**Table 4.1**), the ANPR trip rates indicate an additional 11 vehicular movements during the weekday morning peak whilst both the weekday evening and Saturday peaks are fairly comparable, with the ANPR trip rates being very marginally higher (equivalent to 1-2 trips per hour).
- 4.16 Consequently, for robustness the predicted trip generation calculated utilising Lidl Whiteley ANPR data (outlined within **Table 4.2**) has been utilised for this Assessment.

Vehicular Trip Assignment

- 4.17 It is important to acknowledge that a vast majority, if not all, of trips to foodstores are already on the local highway network. New foodstores provide an alternative destination for an existing trip, with customers generally utilising a new store if they either perceive it more convenient or economical than their usual food store.
- 4.18 Retail development trips can therefore be broken down into the following categories:
- **Primary Trips** – trips specifically undertaken to access the store, with the trip typically being home – store – home, and can be broken down further as follows:
 - Primary Transferred Trips* – trips already utilising the local highway network to access existing foodstore sites, with these customers changing their destination/routing to access the proposed foodstore upon opening.
 - Primary New Trips* – trips that do not appear on the local highway network prior to opening of the proposed development, typically associated with trips undertaken to existing foodstore sites which do not currently utilise the local highway network but would do upon opening of the proposed foodstore; and
 - **Secondary Linked/Pass-by Trips** – trips where a vehicle is already travelling past or in close proximity to the site as part of an existing journey e.g. commuting or leisure journey, with the vehicle diverting from their existing journey to stop at the store before continuing on their onward journey.
- 4.19 Consequently, vehicular trip generation associated with a new foodstore is generally different to the resulting level of additional vehicular trips utilising the local highway network, with the new foodstore predominantly resulting in changes in vehicle routing/turning proportions rather than a significant increase in traffic utilising the local highway network.

Customer Catchment Area

- 4.20 A review of existing Lidl stores within the local area identified the following sites:
- Somborne Drive, Leigh Park
 - Elettra Avenue, Waterlooville
 - London Road, Cowplain
 - Norway Road, Hilsea
- 4.21 Based upon the above existing Lidl sites it is envisaged that customers accessing the proposed Lidl store on Purbrook Way would predominantly reside in the nearby residential areas of Purbrook, Widley and Bedhampton. Consequently, for the purpose of this assessment, trip assignment has focused customer trade draw upon trips undertaken to/from these residential areas.

Retail Trade Draw

- 4.22 Whilst it is understood that a full Retail Impact Assessment has not been requested / undertaken for the proposed development, the clients planning consultant has indicated that in their opinion it would not be unreasonable to assume in the region of 40% of turnover to the proposed Lidl store would come from the existing Asda store to the south of Purbrook Way, based upon 'like-affecting-like' and the proximity of the two stores etc.

Primary Transferred Trips

- 4.23 A review of the quickest/most convenient vehicular routes between local census areas covering the proposed Lidl store customer catchment areas, and existing foodstore destinations from which the proposed Lidl foodstore would divert trade, indicates that approximately 50% of primary trips to the new foodstore would be transferred trips, associated with customers already utilising one or more of the key local highway junctions being assessed within this Transport Assessment.
- 4.24 Detailed transferred trip analysis is provided in **Appendix G**.

Primary New Trips

- 4.25 Based on the proportion of primary transferred trips, the remaining 50% of primary trips are expected to be new to the local highway network, associated with customers who do not currently utilise any of the key local highway junctions being assessed as part of this Transport Assessment to access their existing foodstore destination choice.

Secondary Linked / Pass-By Trips

- 4.26 Purbrook Way is a key local distribution route between Havant to the east and Purbrook/Waterlooville to the west, in addition to providing access to the A3(M) for vehicles travelling to / from the south.
- 4.27 Consequently, it is envisaged that due to high volumes of traffic utilising Purbrook Way in the vicinity of the site, that the store is likely to generate high levels of secondary trips associated with drivers calling into the store enroute before continuing their onward journey.
- 4.28 In particular secondary trip levels are expected to be particularly high during weekday morning and evening network peak periods due to the high number of commuting / school trips that are being undertaken compared with at other times of the day and when local residents (which the new foodstore is predominantly envisaged to serve) who are aware of local highway conditions would be more reluctant to undertake a dedicated primary trip to the store due to the local highway being busier / more congested and resulting in longer journey times.
- 4.29 Therefore, it has been assumed that 20% of trips to / from the proposed Lidl store would be secondary trips during weekday peak periods, reducing to nearer 10% during a Saturday, with the remaining trips on both days being primary trips.

Development Vehicular Trip Generation and Assignment

- 4.30 Resulting assignment of vehicular trips associated with the proposed foodstore are shown in **Table 4.3**.

	Weekday AM Peak			Weekday PM Peak			Saturday Peak		
Vehicular Trip Assignment	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
Primary Transferred	18	15	33	35	36	71	52	51	103
Primary New	18	15	33	35	37	72	51	52	103
Secondary	9	8	17	18	18	36	12	11	23

Table 4.3: Proposed Lidl Foodstore - Vehicular Trip Assignment

- 4.31 **Table 4.3** indicates that when consideration is given to the large majority of trips to the proposed foodstore already being undertaken on the local highway network, proposals are expected to result in approximately:
- 33 new vehicular movements during the weekday morning peak;
 - 72 new vehicular movements during the weekday evening peak; and
 - 103 new movements during the Saturday peak.

Proposed Multi Modal Trip Generation

- 4.32 A review of the multimodal TRICS data for A1 discount foodstores has been undertaken, with the resulting daily multimodal trip generation proportions summarised in **Table 4.4**.

Period	Vehicle (Driver)	Vehicle (Passenger)	Pedestrians	Cyclists	Public Transport
Weekday - Daily	60.5%	28.4%	9.3%	1.3%	0.5%
Saturday - Daily	53.2%	34.2%	11.6%	0.9%	0.1%

Table 4.4: A1 Discount Foodstore - Multi Modal Proportions

- 4.33 **Table 4.4** indicates that around 90% of trips to the proposed Lidl store would be undertaken via motorised vehicle, with pedestrians accounting for a vast majority of the remaining trips and minimal proportions of trips being undertaken via cycle / public transport. This is envisaged to be mainly due to needing to transport bulk shopping and potentially the time sensitive nature of certain goods (e.g. frozen goods) making less direct public transport journey less convenient.
- 4.34 Quantification of the number of trips via various modes has been calculated based upon the vehicular trip generation associated with the proposed Lidl foodstore outlined within **Table 4.2**, with resulting daily person trips undertaken by various modes outlined in **Table 4.5**.
- 4.35 It should be noted that, to account for a person trip consisting of both an arrival and departure, the calculated daily movements have been halved. For example, on a weekday 46 movements associated with the proposed Lidl foodstore would be via cycle, equivalent to c. 23 persons (staff or customers) accessing the site via cycle.

Period	Vehicle (Driver)	Vehicle (Occupant)	Pedestrians	Cyclists	Public Transport	Total
Weekday - Daily	1026	481	158	23	9	1697
Saturday - Daily	1072	691	234	19	1	2017

Table 4.5: Proposed Lidl Foodstore Multi Modal Trip Generation

- 4.36 It is envisaged that existing infrastructure within the vicinity of the development site, to facilitate travel via walking, cycling and public transport, primarily along Purbrook Way, would not see any significant increase in use post development, and hence it is considered to be appropriate to accommodate the predicted non-car trips post development.

- 4.37 In particular, similar to vehicular trip generation associated with the proposed Lidl foodstore, pedestrians / cyclists / public transport users are already likely to travel in the vicinity of the site as part of their current foodstore journey, in particular due to the proximity of the Asda store, with their future journey resulting in them slightly adjusting their routing in order to access the proposed Lidl foodstore.

5 Highway Impact Assessment

5.1 The following scenarios have been assessed for the identified weekday evening and Saturday peak periods:

- **2020:** Observed 2020 traffic flows, excludes Lidl development traffic;
- **2025:** Observed traffic flows growthed to a 2025 baseline and any salient committed development added, excludes Lidl development traffic;
- **2020 + Development:** 2020 flows plus additional Lidl development traffic; and
- **2025 + Development:** 2025 flows plus additional Lidl development traffic.

5.2 Traffic flow calculations detailed herein are provided in **Appendix H**.

Extent of Assessment

5.3 For the purpose of assessing the impact of the proposed development on the local highway network, the following junctions have been considered:

- Lidl Site Access priority junction;
- Purbrook Way / A3(M) Junction 4 southbound on-slip 4-arm roundabout;
- Purbrook Way / A3(M) Junction 4 northbound off-slip 3-arm roundabout;
- Purbrook Way / Hulbert Road / B2150 signalised roundabout; and
- Purbrook Way / Stakes Road / Stakes Hill Road / Crookhorn Lane 4-arm roundabout.

5.4 The predicted impact on junctions located beyond those assessed is envisaged to be negligible due to a greater potential for additional Lidl development traffic to already be present on the wider highway network as part of their existing foodstore destination journey. This is of particular importance due to the close proximity of the proposed Lidl foodstore to the Asda Superstore accessed from the Purbrook Way / Hulbert Road / B2150 signalised roundabout.

5.5 Additionally, any Lidl development traffic would quickly disperse / dilute across the wider network, resulting in minimal changes in peak hour traffic flows the further the distance from the application site.

Traffic Survey Data

5.6 As previously outlined, classified turning counts were undertaken at the identified key junctions in the vicinity of the site on Friday 11th and Saturday 12th September 2020. Peak hour traffic flows have been extracted for the weekday morning peak hour (08:00 – 09:00), weekday afternoon peak hour (15:30 – 16:30) and Saturday peak hour (11:45 – 12:45).

Past Survey Data Comparison

- 5.7 During pre-application discussions with HE, past traffic surveys undertaken in October 2016 and submitted alongside a Hybrid planning application for development of land east of College Road (Campdown) (Ref: APP/19/01101) were identified by HE and it was suggested that these should be growthed to provide a 2020 baseline comparison for the purposes of the Lidl assessment.
- 5.8 Consequently, the associated submitted survey data has been extracted from the supporting Transport Assessment prepared by Paul Basham Associates dated November 2019. The traffic surveys were undertaken on a single midweek day, Thursday 16th October 2016, covering the morning and evening peak commuter periods.
- 5.9 The 2016 traffic survey data has subsequently been growthed to a 2020 baseline using TEMPRO to provide a direct comparison with the survey data collected in September 2020 as part of this application.
- 5.10 A comparison of the September 2020 traffic survey data and growthed 2016 survey data indicates the following:
- At the A3(M) Junction 4 southbound on-slip roundabout, during the weekday morning peak 2020 vehicle movements were 16% down when compared to the growthed 2016 data, whilst during the weekday evening peak 2020 vehicle movements were 4% up when compared to the growthed 2016 data.
 - At the A3(M) Junction 4 northbound off-slip roundabout, 2020 vehicle movements were 23% and 6% down during the weekday morning and evening peaks respectively when compared to the growthed 2016 data.
 - At the Purbrook Way / Stakes Road / Stakes Hill Road / Crookhorn Lane roundabout, 2020 vehicle movements were 16% and 4% down during the weekday morning and evening peaks respectively when compared to the growthed 2016 data.
- 5.11 In summary, the 2020 survey results were on average 18% down during the weekday morning peak and 2% down during the weekday evening peak when compared to the 2016 growthed traffic data.
- 5.12 It should be noted that in relation to vehicles accessing the B&Q site, the 2020 surveys indicated that vehicles movements to / from B&Q were 30% to 45% greater than the growthed 2016 data. For the purposes of this Transport Assessment, this would primarily result in reduced capacity at the proposed site access due to through traffic and therefore should provide a robust assessment if traffic flows to/from B&Q subside/reduce post COVID-19.

Department for Transport Statistics

5.13 During the current COVID-19 pandemic, transport use statistics collated by the Department for Transport (DfT) indicate that:

- On Friday 11th September, total motor vehicle levels were c. 96% of what was recorded on the equivalent day pre-lockdown in the first week of February 2020 (cars 94%, LGVs 103% and HGVs 103%).
- On Saturday 12th September, traffic levels were c. 101% of what was recorded on the equivalent day pre-lockdown in the first week of February 2020 (cars 98%, LGVs 112% and HGVs 113%).

Applied Methodology

5.14 Due to the COVID-19 pandemic having an impact on highway network traffic volumes and peak period flows as a result of fundamental changes in commuting, education and shopping habits, based on the above analysis and for robustness the following methodology has been applied to the observed September 2020 traffic flows for each time period:

- **Weekday morning peak** – 20% uplift applied to 2020 traffic flows, on the basis that this concurs with the growthed 2016 data comparison.
- **Weekday evening peak** – 5% uplift applied to 2020 traffic flows, on the basis that this concurs with both the growthed 2016 data comparison and DfT data.
- **Saturday Peak** - No uplift applied to 2020 traffic flows, on the basis that this concurs with the DfT Statistics.

2025 Baseline Growth Factors

5.15 Uplifted 2020 traffic flows have been growthed to a 2025 future year baseline (5-year horizon) using TEMPRO, as per the Department for Transport (DfT) Transport Analysis Guidance Unit 3.15.2 – ‘Use of TEMPRO Data’. TEMPRO is a programme which utilises the National Transport Model to provide predicted local traffic growth factors, taking into account committed development.

5.16 Middle Layer Super Output Area ‘Havant 018’, within which the application site and adjacent local highway network is located, has been selected within TEMPRO and used to provide specific local characteristics in relation to vehicular demand/traffic growth. Resulting growth factors indicate an expected c.6% increase in background traffic flows.

Committed Development

- 5.17 No specific local committed developments were highlighted as requiring to be considered as part of this proposals within initial scoping responses from HCC and HE. However, following review, development of land east of College Road has been considered based upon this site being identified within the Havant Borough Councils Draft Local Plan (2036) under Policy H40 for a mixed-use development of about 560 dwellings, a convenience store, open space and community centre with sporting facilities.
- 5.18 In relation to development of this site, the current live planning application APP/19/01101 is a hybrid planning application comprising; full planning application for the erection of 130 dwellings with the creation of new access onto College Road, landscape, drainage, car parking and associated works; and outline planning application for up to 650 dwellings, community and nursery facility (use class D1 and D2), retail unit (use class A1), public open space, landscaping, diversion of public right of way and associated works and infrastructure.
- 5.19 Predicted trips associated with this development for the weekday peak periods have been extracted from the supporting Transport Assessment dated November 2019 and prepared by Paul Basham Associates as detailed previously.

Additional Committed Development

- 5.20 As part of APP/19/01101, the Transport Assessment details that HCC agreed that no further developments need to be included as 'Committed Development' for the purposes of the junction capacity assessments. Therefore, it follows that except for the above site, no further committed developments should need to be considered as part of the current Lidl application.

Proposed Development Distribution

- 5.21 Assigned proposed development trip generation has been distributed onto the local highway network as follows:

Secondary (Linked/Pass-by) Trips

- 5.22 In relation to secondary trips, it has been assumed that these relate to trips already travelling past the site along Purbrook Way. Consequently, the main change post-development would be associated with these trips turning off Purbrook Way towards B&Q / Lidl before turning left out of the Lidl site to continue their existing journey purpose/route. For robustness, it has been assumed that there would be no cross visitation between the existing B&Q unit and the proposed Lidl store.

- 5.23 Proportions of secondary trips in either direction along Purbrook Way have been calculated based upon observed traffic flow proportions for each peak period.

Proposed Primary Trips

- 5.24 Primary trips to / from the proposed new Lidl foodstore have been distributed following a review of the quickest/most convenient route between the various customer catchment 2011 census areas and the proposed Lidl store using Google Maps.
- 5.25 In turn this has predicted the proportions of trips entering/exiting the local highway network via different routes. For example, it is envisaged that approximately 29% of primary new trips would be to / from Stakes Road.

Existing Transferred Primary Trips

- 5.26 Identified Primary Transferred Trips have been distributed based upon routing to existing foodstore destinations using a similar methodology as the primary new trip distribution, with these trips subtracted from the overall proposed development traffic flows in order to account for the net change in traffic at various links / junctions.

Threshold Assessment

- 5.27 A detailed threshold assessment has been undertaken in relation to the predicted net change in traffic as a result of the proposed development, indicating absolute change and percentage change, in order to check that the extent of the local highway network area assessed is appropriate and highlight whether detailed junction capacity modelling should be undertaken.
- 5.28 Typically, junction capacity modelling is required if there is a 5% increase, or an increase of 30 vehicles, on individual arms / total junction flows, with values below these thresholds generally considered to be consistent with daily variations/fluctuations in traffic flows.
- 5.29 Resulting threshold assessment calculations are provided in **Appendix I** and summarised herein.
- 5.30 In relation to the net change in traffic, the proposed development is envisaged to result in an increase which is considered significant (30+ vehicles), and therefore typically requiring detailed junction capacity modelling to be undertaken, at all junctions with the exception of the Purbrook Way / Hulbert Road / B2150 signalised roundabout. This is primarily due to the proposed development resulting in a net reduction in traffic through this junction as the result of trade draw from the Asda supermarket.

- 5.31 When assessing the proportional change in baseline traffic, the threshold assessment indicates that the proposed site access and the Purbrook Way / A3(M) Junction 4 southbound on-slip roundabout (which provides access towards B&Q and the site) are the only junctions where as a result of the proposed development the junction and/or individual arms are expected to have an increase in traffic flows of 5% or more.
- 5.32 Based upon the threshold assessment results, no detailed junction capacity assessment has been undertaken at the Purbrook Way / Hulbert Road / B2150 signalised roundabout.

Strategic Highway Network Impact

- 5.33 In relation to the net change in traffic utilising the SRN, the proposed development is to have minimal impact upon trips travelling to/from the A3(M). During the identified peak hour periods the proposals are expected to result in:
- Up to 2 additional vehicles per hour utilising the A3(M) on-slip; and
 - Up to 3 additional vehicles per hour utilising the A3(M) off-slip.
- 5.34 This level of additional traffic, 1 vehicle every 20 - 30 minutes on each slip road, is envisaged to have no material impact upon the operation of the SRN.

Detailed Junction Capacity Testing

- 5.35 The Junctions 9 PICADY and ARCADY modules have been utilised to model the site access priority junction and various roundabout junctions respectively.
- 5.36 In both modules, a Ratio of Flow to Capacity (RFC) is calculated which indicates how well the junction model operates, for example an RFC of 0.62 indicates that around 62% of the theoretical capacity of the junctions' arm is utilised. Typically, if a junction arm reaches/exceeds 85% of its theoretical capacity (0.85 RFC), additional traffic has a disproportionate impact upon the operation of the junction.

Lidl Site Access

- 5.37 A summary of the Lidl site access capacity results for the with development scenarios are shown in **Table 5.1**, with full PICADY outputs provided in **Appendix J**.

	2020 + Development		2025 + Development	
Peak Hour	Max RFC	Max Q veh	Max RFC	Max Q veh
Weekday AM	0.09	0	0.09	0
Weekday PM	0.17	0	0.18	0
Saturday	0.25	0	0.25	0

Table 5.1: PICADY Summary – Lidl Site Access

- 5.38 **Table 5.1** indicates that the proposed site access arrangement will operate well within capacity during network peak periods post development, with no queuing vehicles predicted on the northbound carriageway.
- 5.39 Consequently, the proposed access arrangement is considered appropriate without adversely affecting northbound traffic flows along the private access road and hence predicted to have no material adverse impact upon operation of the roundabout to the south.

Purbrook Way / A3(M) Junction 4 Roundabouts

- 5.40 Queue surveys showed that on the survey day, queuing did not block back from one roundabout to the other. There are two lanes each of 120m in both directions, allowing around 40 vehicles to queue in both directions. Therefore, this dumbbell roundabout arrangement was modelled in ARCADY with the two central arms of Purbrook Way being linked using the simple vertical queuing mode.
- 5.41 A summary of the A3(M) dumbbell roundabout capacity results for the baseline and with development scenarios for the eastern roundabout (marked E) and western roundabout (marked W) are shown in **Table 5.2**, with full ARCADY outputs provided in **Appendix K**.

Peak Hour	2020 Baseline		2020 + Development		2025 Baseline		2025 + Development	
	Max RFC	Max Q veh	Max RFC	Max Q veh	Max RFC	Max Q veh	Max RFC	Max Q veh
Weekday AM	E:0.74 W:0.75	E:3 W:3	E:0.75 W:0.76	E:3 W:3	E:0.87 W:0.93	E:6 W:11	E:0.88 W:0.94	E:7 W:12
Weekday PM	E:0.81 W:0.80	E:4 W:4	E:0.84 W:0.82	E:5 W:4	E:0.92 W:0.95	E:10 W:14	E:0.94 W:0.97	E:13 W:17
Saturday	E:0.62 W:0.52	E:2 W:1	E:0.65 W:0.54	E:2 W:1	E:0.67 W:0.56	E:2 W:1	E:0.69 W:0.58	E:2 W:1

Table 5.2: ARCADY Summary – Purbrook Way / A3(M) Junction 4 Roundabouts

- 5.42 **Table 5.2** demonstrates that during the morning peak, RFCs on the western arms of both roundabouts are nearing capacity in the 2025 scenarios, both with and without the proposed Lidl development. The addition of the Lidl traffic has only a marginal impact, with eastbound queuing still being accommodated on the carriageway between the roundabouts and not causing blocking into the adjacent junction. Impact on the A3(M) off-slip is nil in terms of queuing and RFC.
- 5.43 During the evening peak hour, the western arms on both roundabouts are nearing capacity in the 2025 scenarios. The additional Lidl traffic results in around three additional vehicles in the queue on each of these western arms, but no blocking into the adjacent junction.

- 5.44 The queue and RFC on the B&Q / Site arm increase by four vehicles and 0.21, as might be expected. This is on a private road so does not impact the public highway. The impact on the A3(M) is marginal with an increase of just 0.02 in RFC and 0.4 vehicles in the queue on average.
- 5.45 Results for the Saturday modelling shows that that junction works well within capacity in all scenarios, with minimal impact upon the A3(M) off-slip and no blocking to adjacent junctions.
- 5.46 It is understood that Paul Basham Consultants have proposed minor geometric alterations at these roundabouts to mitigate the College Road residential scheme, although these had not been agreed at the time of Lidl assessment. No allowance has been made for this within the modelling although it is assumed that some improvements may be provided in the future.

[Purbrook Way / Stakes Road / Stakes Hill Road / Crookhorn Lane Roundabout](#)

- 5.47 Advice was taken from TRL regarding the ARCADY model for this roundabout due to the unusual arrangement with hatching between approach lanes on each arm and the left-turn lanes feeding into the exit lanes rather than circulatory carriageway. This guidance indicated that the area of hatching should be excluded when undertaking geometric measures and that use of the standard model, with left-turn traffic feeding into the circulatory carriageway, would offer the most robust assessment.
- 5.48 The left turn lanes on Crookhorn Lane (southern arm) and Stakes Road (western arm) have been closed off to provide a single lane for all movements.
- 5.49 A summary of the Stakes Hill Road roundabout capacity results for the baseline and with development scenarios are shown in **Table 5.3**, with full ARCADY outputs provided in **Appendix L**. Although TRL advise against validating with just one day of data, the observed 2020 models (results included in Appendix M) have been optimised for each peak period to reflect the observed queuing, as the initial model with no corrections did not show representative queuing.

Peak Hour	2020 Baseline		2020 + Development		2025 Baseline		2025 + Development	
	Max RFC	Max Q veh	Max RFC	Max Q veh	Max RFC	Max Q veh	Max RFC	Max Q veh
Weekday AM	1.27	88	1.28	93	1.38	192	1.39	199
Weekday PM	1.07	27	1.09	34	1.19	70	1.22	79
Saturday	0.91	8	0.95	12	0.99	17	1.03	26

Table 5.3: ARCADY Summary – Purbrook Way / Stakes Road Roundabout

5.50 **Table 5.3** shows that the junction is considerably over capacity during the weekday peak hours and is nearing capacity during the Saturday peak hour. However, the results indicate that the impact of the Lidl traffic at this location is marginal and only results in relatively minor increases in queuing and RFC.

5.51 It is understood that there are plans to upgrade this junction to signals as part of the West of Waterlooville project to address congestion issues. At the time of writing, the currently proposed layout was not available to Mayer Brown to assess, but this indicates that the current arrangement is known to be over capacity and requires improvements to accommodate existing and proposed traffic separate to the Lidl proposals.

Wider Local Highway Network Impact

5.52 Whilst proposals are expected to add an element of new trips to the local highway network, it is likely that the provision of a Lidl foodstore off Purbrook Way has potential to reduce vehicle mileage associated with primary foodstore trips by providing locally for residents who currently travel further afield to access similar provision.

5.53 In turn this may reduce traffic utilising highway junctions and links in the vicinity of existing foodstore destinations elsewhere within Havant following the opening of the proposed foodstore.

Highway Impact Assessment Summary

5.54 It is understood that the junctions that have been shown to be operating at or above capacity within the baseline (without development) scenarios have already been identified by HCC and other developers for the implementation of improvements through signalisation or geometric changes, with details to be confirmed.

5.55 Whilst the proposed Lidl foodstore is expected to result in an increase in vehicular trips at junctions within the vicinity of the site which might be considered significant, modelling undertaken as part of this Highway Impact Assessment indicates that the proposed development is only expected to have a marginal impact upon junction operation.

5.56 Therefore, proposals are considered to accord with the principles set out within the National Planning Policy Framework which notes that *“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe”* (NPPF paragraph 109).

6 Parking Assessment

- 6.1 Proposals provide 132 car parking spaces onsite to serve the Lidl foodstore, consisting of 114 standard, 7 disabled, 9 parent & child and 2 EV parking spaces.

Overall Parking Provision

- 6.2 Local parking standards for new developments are set out within the Havant Borough Council 'Parking' Supplementary Planning Document, adopted in July 2016 and partially updated in September 2019.
- 6.3 In relation to A1 Shops (food retail) land uses, the minimum car parking standard is 1 space per 14sqm for covered areas. In relation to the proposed Lidl foodstore, based upon a 1,899sqm GIA and 132 parking spaces the store provides a parking ratio of 1 space per 14.4 sqm, with local parking standards indicating that up to 136 spaces would be permitted onsite.

Disabled Parking

- 6.4 Local parking standards indicate that a minimum of 5% of total car parking provision should be allocated for disabled use. Based on 132 parking spaces being provided onsite, this equates to a minimum requirement of 7 disabled spaces. Proposals therefore provide disabled parking provision in line with local standards, providing 7 disabled spaces onsite in addition to 9 further spaces allocated for parent & child use.

Electric Vehicle Parking

- 6.5 Whilst there are no specific standards for provision of EV spaces within local guidance, in line with Lidl's Corporate Social Responsibility, Lidl's standard specification for new foodstore development is to install a 50kW DC rapid rate EV charging point onsite, providing capacity to charge 2 EVs at the same time.
- 6.6 Lidl has partnered with POD Point to look after the supply, installation, maintenance and warranty of EV charging at its stores nationwide. Details in relation to the use of the EV charging and any restrictions will be appropriately detailed on signage displayed onsite or found online at www.pod-point.com.

Operational Parking Demand

- 6.7 To assess predicted parking demand associated with the development proposals and hence the suitability of the proposed parking provision, the ANPR vehicular trip generation data outlined in Section 4 has been utilised to provide an indication of the parking accumulation throughout the day.

- 6.8 This methodology involves having a starting accumulation onsite to which the net change in vehicles onsite (arrivals minus departures) is added to give the starting accumulation for the next period. This process is applied throughout the day to provide a daily parking demand profile.
- 6.9 In addition to the hourly arrival / departure figures, a more detailed assessment has also been undertaken for comparison based upon hourly arrivals being broken down equally into 15-minute intervals and with dwell times of 30-minutes and 45-minutes considered. For example, 25% of predicted arrivals between 16:00 – 17:00 would arrive between 16:00 – 16:15 and would depart between 16:30 – 16:45, based on a 30-minute dwell time.
- 6.10 Based upon a review of dwell time data by Mayer Brown at numerous Lidl stores extracted from Lidl store ANPR systems, although each specific site is unique based upon local site specific characteristics, the following common characteristics have been observed:
- c.20 – 30% of vehicles are onsite for 15 minutes or less;
 - c.25 – 35% of vehicles are onsite for between 15 and 30 minutes;
 - c.30 – 40% of vehicles are onsite for between 30 and 45 minutes; and
 - remaining vehicles are typically are onsite less than an hour.
- 6.11 Consequently, it is considered that assessment of a 30-minute and 45-minute dwell time to all traffic would provide an appropriate assessment.
- 6.12 A summary of the resulting predicted maximum parking demand for the various assessments is outlined below, with calculations provided in **Appendix M**.
- An hourly parking assessment indicates that during the weekday a peak demand of 46 spaces would be expected and a peak of 59 on a Saturday;
 - A 30-minute dwell time detailed parking assessment indicates a peak demand of 67 spaces during weekdays and 66 spaces on a Saturday; and
 - A 45-minute dwell time detailed parking assessment indicates a peak demand of 97 spaces during weekdays and 95 spaces on a Saturday.
- 6.13 In conclusion, it is considered that the level of parking provision provided onsite (132 spaces) is appropriate to meet the operational requirements of the proposed Lidl store in order to mitigate against potential parking overspill onto the surrounding area and impacting on the operation of the local highway network.

7 Construction Traffic Impact Assessment

7.1 A review of the impact of site construction traffic has also be identified and considered as appropriate. Details provided are preliminary estimates based upon similar new Lidl store developments and hence may be subject to change to account for site specific circumstances/constraints.

7.2 It is envisaged that if planning permission is granted for the proposed Lidl Purbrook Way store that a suitability worded pre-commencement planning condition would require submission and approval of a Construction Traffic Management Plan (CTMP) or similar.

Construction Programme

7.3 A typical new store construction programme duration is c.26 weeks, consisting of:

- Phase 1 (c. 12 weeks) – ground works, foundation, main slab and drainage; and
- Phase 2 (c. 14 weeks) – completion of the store and car park.

7.4 Following construction, Lidl store fit-out would be undertaken taking a further 8 weeks, resulting in a combined total of 34 weeks.

Site Operation

7.5 Works onsite would generally be undertaken from 08:00 - 18:00 Monday to Friday and 08:00 - 13:30 on Saturdays, although due to construction work phasing there may be requirement for some works to be undertaken outside of these hours.

7.6 The site will be completely hoarded to prevent access to the site other than through the main pedestrian and vehicle entrance gates. It is envisaged that access to the site during construction would be provided from the bounding private road via a new access point(s).

7.7 Access gates will be closed when not in use and locked outside of working hours.

7.8 During times when construction traffic is high, the entrance gates will be left open but continuously monitored and controlled to ensure vehicles do not queue back onto highway network. No lorries will be allowed to lay-up on roads in the surrounding area.

7.9 Within the site, appropriate manoeuvring space would be provided to allow all vehicles to turn around and then exit the site in a forward gear.

Traffic Management

7.10 Construction vehicle warning signage will be provided to warn local road users of turning construction vehicles and that large vehicles are utilising the route, in addition to the route being signposted on the local highway network as appropriate.

- 7.11 All suppliers / sub-contractors will be informed of any routing arrangements/restrictions on appointment.
- 7.12 Traffic management arrangements would be assessed and monitored on an ongoing basis in conjunction with the local highway authority. Alternative arrangements or improvements will be accommodated if required.

Traffic Generation

- 7.13 Where possible, the construction works would be sequenced to avoid large numbers of operatives and deliveries on site at any one time and hence avoiding large amounts of traffic generation and parking demand associated with the site.

Contractors

- 7.14 Typically, during Phase 1 there would be between 7 and 10 contractor operatives onsite at any one time rising to between 20 and 30 operatives onsite during Phase 2.
- 7.15 Where possible, operatives would share vehicles to access the site which will limit the amount of traffic and the amount of car parking spaces required.
- 7.16 As the workforce is made up of a number of different companies/teams, start and finish times tend to be staggered to suit individual preferences. In general, operatives will time their working day to avoid heavy traffic in the area, resulting in a majority of vehicular movements occurring outside local highway peak periods.
- 7.17 During Phase 1, a temporary parking area would be provided for operatives. By Phase 2 an area of the store hardstanding and car park would typically have been completed which would be used as a temporary site car park to ensure all operative vehicles can be accommodated within the site.

Deliveries

- 7.18 A majority of deliveries during construction will be undertaken by articulated vehicles, tipper trucks and rigid curtain side lorries.
- 7.19 Frequency of deliveries will vary throughout the project depending on the current phase/works. Generally, the busiest times will be importing mass fill aggregate, tarmac and concrete for large pours. At these times there will be in the region of 6 to 8 vehicles per hour, for a 4-hour period, equating to around 32 daily deliveries staggered evenly throughout the day.
- 7.20 The proposed levels of peak construction vehicles are likely to be negligible and any impact will only be for a temporary duration whilst the site is being developed.

8 Summary & Conclusions

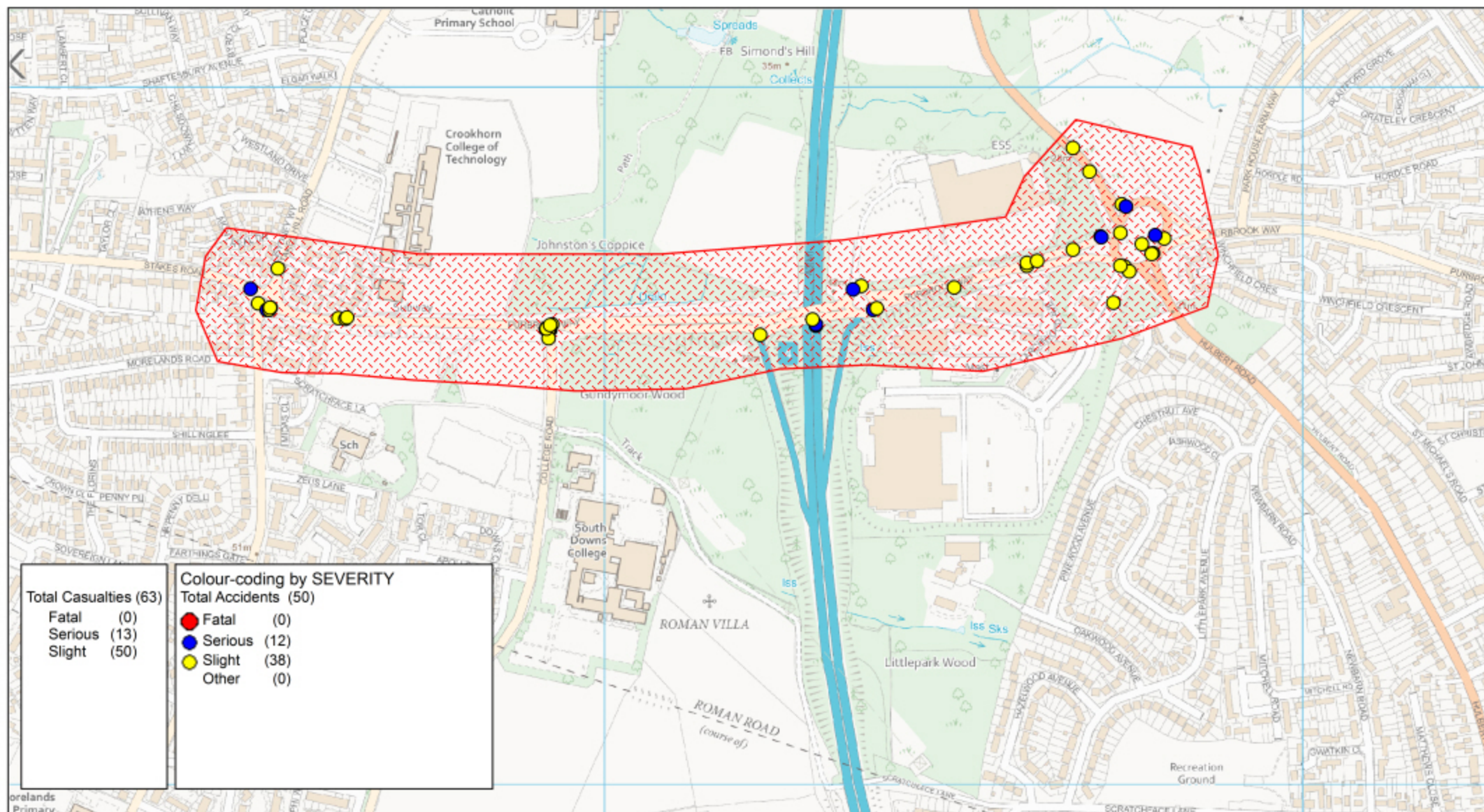
8.1 Mayer Brown Ltd has prepared this Transport Assessment on behalf of Lidl Great Britain Limited in relation to a detailed planning application for construction of a new foodstore off Purbrook Way, Havant alongside associated parking, access and landscaping.

8.2 This Transport Assessment demonstrates that:

- Development proposals aim to provide a 1,899sqm Lidl foodstore with a new vehicular access provided to the site from the private access carriageway running along the western perimeter of the site;
- The site is accessible via sustainable modes of travel, with infrastructure to facilitate pedestrian and cycle movements between the site and local residential areas, in addition to convenient access to frequent public transport services;
- No existing highway safety patterns or concerns have been highlighted which could indicate any inherent highway design problems that affect highway safety in the vicinity of the application site;
- A large proportion of vehicular trips to the proposed foodstore are expected to be associated with a redistribution of existing trips undertaken by local residents to / from current foodstore destinations and secondary (linked / passby) trips;
- Proposals are not predicted to have a significant material impact on the operation or safety of the local highway network, primarily due to proposals providing for existing trips on the network rather than generating new trips / traffic;
- Parking provision for up to 132 cars will be provided. Provision is considered consistent with local standards and appropriate to accommodate expected demand;
- A summary of predicted construction traffic associated with the proposals has been outlined, with a detailed Construction Traffic Management Plan or similar expected to be required as part of a pre-commencement planning condition.

8.3 In light of the above and preceding assessment, it is reasonable to conclude that the development proposals are fully acceptable in transport planning terms and do not generate any significant impact to the local transport network. Therefore, the development proposals accord with the principles of sustainable development set out within the National Planning Policy Framework.

APPENDIX A: Collision Data



Selected map area

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SCALE

1 : 7560

DATE

12/08/2020

DRAWING No.

DRAWN BY

APPENDIX B: 2020 Traffic Survey Peak Flows

LIDL Purbrook Way

OBSERVED 2020 TRAFFIC SURVEY FLOWS

WEEKDAY AM PEAK

08:00-09:00

Junction A - Lidl Site Access Access

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD (N)	A		117	117
LIDL ACCESS	B			0
PRIVATE RD (S)	C	140		140
	Total	140	117	257

HGV				
	A	B	C	Total
A			2	2
B				0
C	2			2
Total	2	0	2	4

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A	0	69	31	17	117
PURBROOK WAY (E)	B	71	4	377	501	953
A3(M) J4 ON-SLP	C					0
PURBROOK WAY (W)	D	69	775	409	3	1256
	Total	140	848	817	521	2326

HGV					
	A	B	C	D	Total
A	0	2	0	0	2
B	0	1	9	9	19
C					0
D	2	13	15	0	30
Total	2	16	24	9	51

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES					
		A	B	C	Total
PURBROOK WAY (E)	A	1		520	521
A3(M) J4 OFF-SLP	B	329		326	655
PURBROOK WAY (W)	C	926		0	926
	Total	1256	0	846	2102

HGV				
	A	B	C	Total
A	0		9	9
B	6		8	14
C	24		0	24
Total	30	0	17	47

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	281	111	80	85	557
PURBROOK WAY (E)	B	330	1	15	144	564	1054
B2150	C	118	37	0	113	147	415
ASDA ACCESS	D	77	100	53	1	147	378
PURBROOK WAY (W)	E	96	421	108	213	2	840
	Total	621	840	287	551	945	3244

HGV						
	A	B	C	D	E	Total
A	0	2	3	0	1	6
B	4	0	0	0	17	21
C	0	1	0	0	0	1
D	0	0	0	0	1	1
E	3	9	3	0	0	15
Total	7	12	6	0	19	44

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	13	479	148	146	786
PURBROOK WAY	B	426	10	67	251	754
CROOKHORN LN	C	159	76	0	48	283
STAKES RD	D	88	305	41	4	438
	Total	686	870	256	449	2261

HGV					
	A	B	C	D	Total
A	0	8	8	1	17
B	5	0	3	4	12
C	14	2	0	6	22
D	1	4	3	0	8
Total	20	14	14	11	59

WEEKDAY PM PEAK

15:30 - 16:30

Junction A - Lidl Site Access Access

TOTAL VEHICLES					
	A	B	C	Total	
PRMATE RD (N)	A		209	209	
LIDL ACCESS	B			0	
PRMATE RD (S)	C	192		192	
	Total	192	0	209	401

HGV				
	A	B	C	Total
A			2	2
B				0
C	1			1
Total	1	0	2	3

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A	1	108	60	40	209
PURBROOK WAY (E)	B	104	2	408	426	940
A3(M) J4 ON-SLIP	C					0
PURBROOK WAY (W)	D	87	1106	402	1	1596
	Total	192	1216	870	467	2745

HGV					
	A	B	C	D	Total
A	0	1	1	0	2
B	0	0	5	8	13
C					0
D	1	12	2	0	15
Total	1	13	8	8	30

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES					
	A	B	C	Total	
PURBROOK WAY (E)	A	1		466	467
A3(M) J4 OFF-SLIP	B	566		451	1017
PURBROOK WAY (W)	C	1029		3	1032
	Total	1596	0	920	2516

HGV				
	A	B	C	Total
A	0		8	8
B	4		13	17
C	11		0	11
Total	15	0	21	36

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	371	74	140	87	672
PURBROOK WAY (E)	B	240	2	17	204	454	917
B2150	C	132	28	0	132	112	404
ASDA ACCESS	D	115	222	95	2	274	708
PURBROOK WAY (W)	E	99	686	31	295	2	1113
	Total	586	1309	217	773	929	3814

HGV							
	A	B	C	D	E	Total	
A	0	4	0	2	1	7	
B	2	0	0	2	9	13	
C	1	0	0	0	0	1	
D	0	0	0	0	3	3	
E	0	12	0	0	0	12	
Total	3	16	0	4	13	36	

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	4	473	178	143	798
PURBROOK WAY	B	378	5	117	373	873
CROOKHORN LN	C	139	110	0	70	319
STAKES RD	D	94	347	60	0	501
	Total	615	935	355	586	2491

HGV					
	A	B	C	D	Total
A	0	1	9	1	11
B	12	0	5	6	23
C	4	2	0	3	9
D	0	1	4	0	5
Total	16	4	18	10	48

SATURDAY PEAK

11:45 - 12:45

Junction A - Lidl Site Access Access

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A		385	385	
LIDL ACCESS	B			0	
PRIVATE RD (S)	C	343		343	
	Total	343	0	385	728

HGV				
	A	B	C	Total
A			1	1
B				0
C	1			1
Total	1	0	1	2

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A	0	185	104	96	385
PURBROOK WAY (E)	B	166	1	393	375	935
A3(M) J4 ON-SLP	C					0
PURBROOK WAY (W)	D	177	811	259	2	1249
	Total	343	997	756	473	2569

HGV					
	A	B	C	D	Total
A	0	1	0	0	1
B	1	0	1	7	9
C					0
D	0	10	2	0	12
Total	1	11	3	7	22

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	A	1	472	473
A3(M) J4 OFF-SLP	B	525	292	817
PURBROOK WAY (W)	C	723	4	727
	Total	1249	0	788
				2017

HGV				
	A	B	C	Total
A	0		7	7
B	1		1	2
C	11		0	11
Total	12	0	8	20

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	268	81	144	106	599
PURBROOK WAY (E)	B	236	1	27	226	400	890
B2150	C	98	33	0	139	102	372
ASDA ACCESS	D	144	271	97	0	327	839
PURBROOK WAY (W)	E	111	479	73	332	0	995
	Total	589	1052	278	841	935	3695

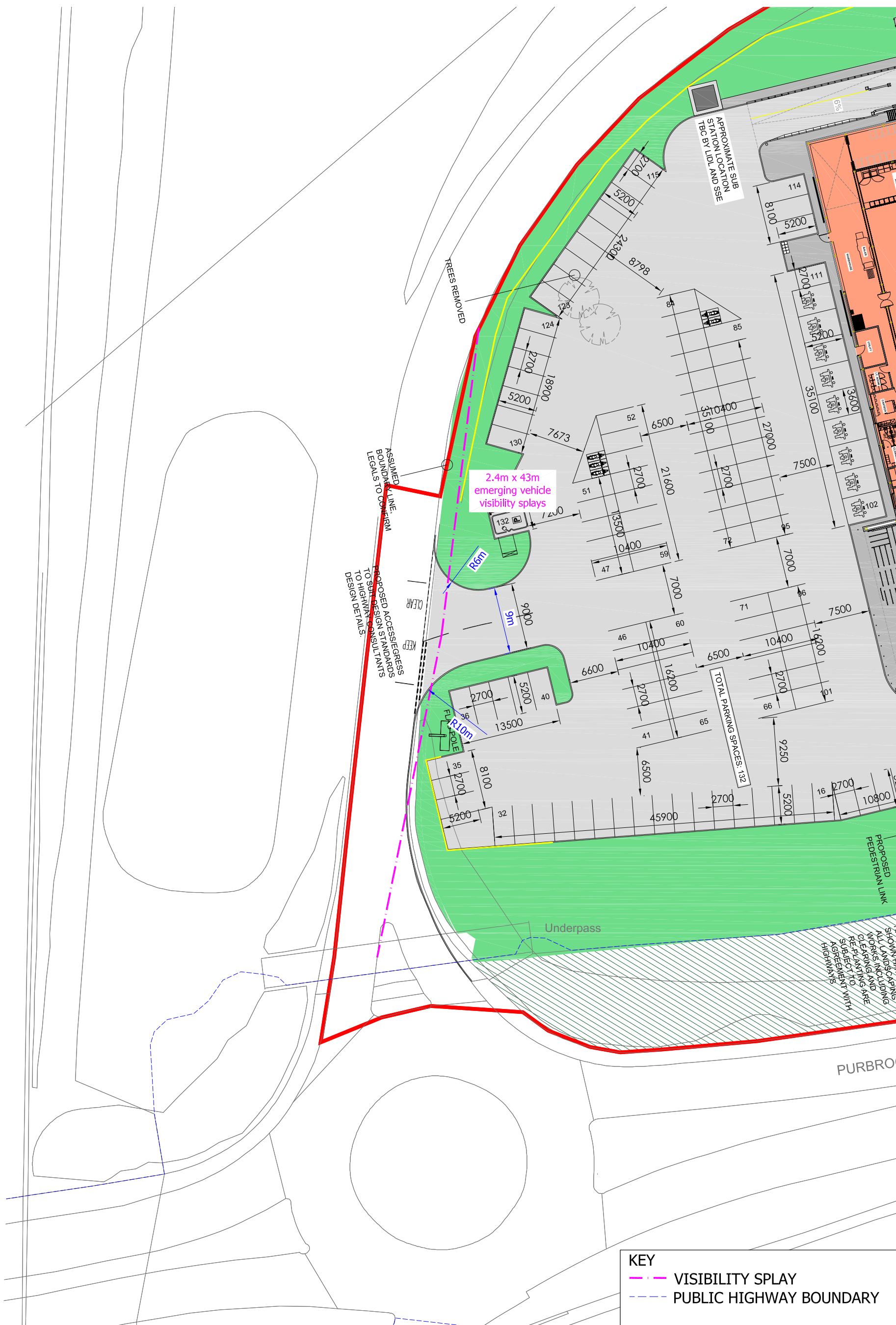
HGV						
	A	B	C	D	E	Total
A	0	1	0	0	0	1
B	2	0	0	6	2	10
C	0	0	0	0	0	0
D	0	5	0	0	6	11
E	1	3	0	8	0	12
Total	3	9	0	14	8	34

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	1	301	132	101	535
PURBROOK WAY	B	292	1	87	300	680
CROOKHORN LN	C	130	74	1	58	263
STAKES RD	D	101	309	52	2	464
	Total	524	685	272	461	1942

APPENDIX C: Proposed Site Layout

APPENDIX D: Access Arrangement



client	LIDL GREAT BRITAIN LIMITED
title	PROPOSED LIDL FOODSTORE PURBROOK WAY, HAVANT PROPOSED ACCESS ARRANGEMENT

scale	1:500 @ A3	drawn by	RB	checked by	-
date	JULY 2020		cad file 201023 - ACCESS		
drawing number	B/LIDLPUROBROOKWAY.1/01				rev. C

APPENDIX E: Swept Path Analysis

APPENDIX F: Trip Generation Calculations

PROJECT: Purbrook Way, Havant

PROPOSED

DISCOUNT FOOD RETAIL
TRICS TRIP RATES - GFA

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
TRIP RATES PER 100 sq.m GFA

WEEKDAY

Time Range	VEHICLES		
	ARR	DEP	TOT
00:00-01:00	0.000	0.000	0.000
01:00-02:00	0.000	0.000	0.000
02:00-03:00	0.000	0.000	0.000
03:00-04:00	0.000	0.000	0.000
04:00-05:00	0.000	0.000	0.000
05:00-06:00	0.000	0.000	0.000
06:00-07:00	0.000	0.000	0.000
07:00-08:00	0.280	0.117	0.397
08:00-09:00	2.240	1.529	3.769
09:00-10:00	3.174	2.800	5.974
10:00-11:00	3.944	3.512	7.456
11:00-12:00	4.539	4.341	8.880
12:00-13:00	4.877	4.317	9.194
13:00-14:00	4.446	5.286	9.732
14:00-15:00	5.169	4.971	10.140
15:00-16:00	4.866	4.959	9.825
16:00-17:00	4.387	4.399	8.786
17:00-18:00	4.294	4.294	8.588
18:00-19:00	3.291	3.734	7.025
19:00-20:00	2.765	3.057	5.822
20:00-21:00	1.669	2.100	3.769
21:00-22:00	0.350	0.782	1.132
22:00-23:00	0.047	0.187	0.234
23:00-24:00	0.000	0.000	0.000
Daily	50.338	50.385	100.723

SATURDAY

Time Range	VEHICLES		
	ARR	DEP	TOT
00:00-01:00	0.000	0.000	0.000
01:00-02:00	0.000	0.000	0.000
02:00-03:00	0.000	0.000	0.000
03:00-04:00	0.000	0.000	0.000
04:00-05:00	0.000	0.000	0.000
05:00-06:00	0.000	0.000	0.000
06:00-07:00	0.000	0.000	0.000
07:00-08:00	0.239	0.014	0.253
08:00-09:00	1.999	1.365	3.364
09:00-10:00	3.378	2.576	5.954
10:00-11:00	4.913	4.448	9.361
11:00-12:00	6.025	5.645	11.670
12:00-13:00	5.856	6.292	12.148
13:00-14:00	4.758	4.856	9.614
14:00-15:00	5.251	5.251	10.502
15:00-16:00	4.955	5.349	10.304
16:00-17:00	5.096	4.969	10.065
17:00-18:00	4.153	4.265	8.418
18:00-19:00	3.238	3.773	7.011
19:00-20:00	2.055	2.576	4.631
20:00-21:00	0.957	1.168	2.125
21:00-22:00	0.436	0.704	1.140
22:00-23:00	0.000	0.056	0.056
23:00-24:00	0.000	0.000	0.000
Daily	53.309	53.307	106.616

TRIP GENERATION

GFA 1899 sqm
18.99

Time Range	VEHICLES		
	ARR	DEP	TOT
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	5	2	7
08:00-09:00	43	29	72
09:00-10:00	60	53	113
10:00-11:00	75	67	142
11:00-12:00	86	82	168
12:00-13:00	93	82	175
13:00-14:00	84	100	184
14:00-15:00	98	94	192
15:00-16:00	92	94	186
16:00-17:00	83	84	167
17:00-18:00	82	82	164
18:00-19:00	62	71	133
19:00-20:00	53	58	111
20:00-21:00	32	40	72
21:00-22:00	7	15	22
22:00-23:00	1	4	5
23:00-24:00	0	0	0
Daily	956	957	1913

Time Range	VEHICLES		
	ARR	DEP	TOT
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	5	0	5
08:00-09:00	38	26	64
09:00-10:00	64	49	113
10:00-11:00	93	84	177
11:00-12:00	114	107	221
12:00-13:00	111	119	230
13:00-14:00	90	92	182
14:00-15:00	100	100	200
15:00-16:00	94	102	196
16:00-17:00	97	94	191
17:00-18:00	79	81	160
18:00-19:00	61	72	133
19:00-20:00	39	49	88
20:00-21:00	18	22	40
21:00-22:00	8	13	21
22:00-23:00	0	1	1
23:00-24:00	0	0	0
Daily	1012	1012	2024

PROJECT: **Lidl Purbrook Way, Havant**

Comparison Store **Lidl Whiteley**

2760 sqm GFA

WEEKDAY October 2019 Average

Trip Rate per 100sqm GFA

Period	IN	OUT	TOTAL
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	14	5	19
08:00-09:00	66	55	121
09:00-10:00	100	75	175
10:00-11:00	113	104	217
11:00-12:00	136	127	263
12:00-13:00	171	169	340
13:00-14:00	158	163	321
14:00-15:00	138	145	283
15:00-16:00	137	138	275
16:00-17:00	119	127	246
17:00-18:00	131	127	258
18:00-19:00	104	120	224
19:00-20:00	65	81	146
20:00-21:00	34	44	78
21:00-22:00	3	11	14
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily	1489	1491	2980

Period	IN	OUT	TOTAL
00:00-01:00	0.000	0.000	0.000
01:00-02:00	0.000	0.000	0.000
02:00-03:00	0.000	0.000	0.000
03:00-04:00	0.000	0.000	0.000
04:00-05:00	0.000	0.000	0.000
05:00-06:00	0.000	0.000	0.000
06:00-07:00	0.000	0.000	0.000
07:00-08:00	0.507	0.181	0.688
08:00-09:00	2.391	1.993	4.384
09:00-10:00	3.623	2.717	6.341
10:00-11:00	4.094	3.768	7.862
11:00-12:00	4.928	4.601	9.529
12:00-13:00	6.196	6.123	12.319
13:00-14:00	5.725	5.906	11.630
14:00-15:00	5.000	5.254	10.254
15:00-16:00	4.964	5.000	9.964
16:00-17:00	4.312	4.601	8.913
17:00-18:00	4.746	4.601	9.348
18:00-19:00	3.768	4.348	8.116
19:00-20:00	2.355	2.935	5.290
20:00-21:00	1.232	1.594	2.826
21:00-22:00	0.109	0.399	0.507
22:00-23:00	0.000	0.000	0.000
23:00-24:00	0.000	0.000	0.000
Daily	53.949	54.022	107.971

Period	IN	OUT	TOTAL
08:00-09:00	2.391	1.993	4.384
15:30-16:30	4.638	4.801	9.438
Daily	53.949	54.022	107.971

Proposed Purbrook Way Store

1899 sqm GFA

Period	IN	OUT	TOTAL
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	10	3	13
08:00-09:00	45	38	83
09:00-10:00	69	52	121
10:00-11:00	78	72	150
11:00-12:00	94	87	181
12:00-13:00	118	116	234
13:00-14:00	109	112	221
14:00-15:00	95	100	195
15:00-16:00	94	95	189
16:00-17:00	82	87	169
17:00-18:00	90	87	177
18:00-19:00	72	83	155
19:00-20:00	45	56	101
20:00-21:00	23	30	53
21:00-22:00	2	8	10
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily	1026	1026	2052

Period	IN	OUT	TOTAL
08:00-09:00	45	38	83
15:30-16:30	88	91	179
Daily	1026	1026	2052

SATURDAY October 2019 Average

Trip Rate per 100sqm GFA

Period	IN	OUT	TOTAL
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	11	1	12
08:00-09:00	69	46	115
09:00-10:00	102	87	189
10:00-11:00	143	115	258
11:00-12:00	163	153	316
12:00-13:00	169	169	338
13:00-14:00	160	171	331
14:00-15:00	169	160	329
15:00-16:00	163	169	332
16:00-17:00	143	154	297
17:00-18:00	124	135	259
18:00-19:00	77	110	187
19:00-20:00	42	51	93
20:00-21:00	23	33	56
21:00-22:00	1	3	4
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily	1559	1557	3116

Period	IN	OUT	TOTAL
00:00-01:00	0.000	0.000	0.000
01:00-02:00	0.000	0.000	0.000
02:00-03:00	0.000	0.000	0.000
03:00-04:00	0.000	0.000	0.000
04:00-05:00	0.000	0.000	0.000
05:00-06:00	0.000	0.000	0.000
06:00-07:00	0.000	0.000	0.000
07:00-08:00	0.399	0.036	0.435
08:00-09:00	2.500	1.667	4.167
09:00-10:00	3.696	3.152	6.848
10:00-11:00	5.181	4.167	9.348
11:00-12:00	5.906	5.543	11.449
12:00-13:00	6.123	6.123	12.246
13:00-14:00	5.797	6.196	11.993
14:00-15:00	6.123	5.797	11.920
15:00-16:00	5.906	6.123	12.029
16:00-17:00	5.181	5.580	10.761
17:00-18:00	4.493	4.891	9.384
18:00-19:00	2.790	3.986	6.775
19:00-20:00	1.522	1.848	3.370
20:00-21:00	0.833	1.196	2.029
21:00-22:00	0.036	0.109	0.145
22:00-23:00	0.000	0.000	0.000
23:00-24:00	0.000	0.000	0.000
Daily	56.486	56.413	112.899

Period	IN	OUT	TOTAL
11:45-12:45	6.069	5.978	12.047
Daily	56.4855	56.4130	112.8986

Proposed Purbrook Way Store

1899 sqm GFA

Period	IN	OUT	TOTAL
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	8	1	9
08:00-09:00	47	32	79
09:00-10:00	70	60	130
10:00-11:00	98	79	177
11:00-12:00	112	105	217
12:00-13:00	116	116	232
13:00-14:00	110	118	228
14:00-15:00	116	110	226
15:00-16:00	112	116	228
16:00-17:00	98	106	204
17:00-18:00	85	93	178
18:00-19:00	53	76	129
19:00-20:00	29	35	64
20:00-21:00	16	23	39
21:00-22:00	1	2	3
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily	1071	1072	2143

Period	IN	OUT	TOTAL
11:45-12:45	115	114	229
Daily	1071	1072	2143

SUNDAY October 2019 Average

Trip Rate per 100sqm GFA

Period	IN	OUT	TOTAL
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	4	1	5
08:00-09:00	3	1	4
09:00-10:00	7	5	12
10:00-11:00	87	35	122
11:00-12:00	223	173	396
12:00-13:00	194	209	403
13:00-14:00	194	192	386
14:00-15:00	179	192	371
15:00-16:00	161	175	336
16:00-17:00	106	151	257
17:00-18:00	4	21	25
18:00-19:00	3	6	9
19:00-20:00	2	4	6
20:00-21:00	1	1	2
21:00-22:00	0	0	0
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily	1168	1166	2334

Period	IN	OUT	TOTAL
00:00-01:00	0.000	0.000	0.000
01:00-02:00	0.000	0.000	0.000
02:00-03:00	0.000	0.000	0.000
03:00-04:00	0.000	0.000	0.000
04:00-05:00	0.000	0.000	0.000
05:00-06:00	0.000	0.000	0.000
06:00-07:00	0.000	0.000	0.000
07:00-08:00	0.145	0.036	0.181
08:00-09:00	0.109	0.036	0.145
09:00-10:00	0.254	0.181	0.435
10:00-11:00	3.152	1.268	4.420
11:00-12:00	8.080	6.268	14.348
12:00-13:00	7.029	7.572	14.601
13:00-14:00	7.029	6.957	13.986
14:00-15:00	6.486	6.957	13.442
15:00-16:00	5.833	6.341	12.174
16:00-17:00	3.841	5.471	9.312
17:00-18:00	0.145	0.761	0.906
18:00-19:00	0.109	0.217	0.326
19:00-20:00	0.072	0.145	0.217
20:00-21:00	0.036	0.036	0.072
21:00-22:00	0.000	0.000	0.000
22:00-23:00	0.000	0.000	0.000
23:00-24:00	0.000	0.000	0.000
Daily	42.319	42.246	84.565

Proposed Purbrook Way Store

1899 sqm GFA

Period	IN	OUT	TOTAL
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	3	1	4
08:00-09:00	2	1	3
09:00-10:00	5	3	8
10:00-11:00	60	24	84
11:00-12:00	153	119	272
12:00-13:00	133	144	277
13:00-14:00	133	132	265
14:00-15:00	123	132	255
15:00-16:00	111	120	231
16:00-17:00	73	104	177
17:00-18:00	3	14	17
18:00-19:00	2	4	6
19:00-20:00	1	3	4
20:00-21:00	1	1	2
21:00-22:00	0	0	0
22:00-23:00	0	0	0
23:00-24:00	0	0	0
Daily	803	802	1605

Calculation Reference: AUDIT-807401-200731-0755

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : C - DISCOUNT FOOD STORES
 VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	SM SOMERSET	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 1466 to 2440 (units: sqm)
 Range Selected by User: 700 to 2703 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 29/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Wednesday	1 days
Thursday	1 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town	4
--------------	---

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	1
Retail Zone	2
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

A1	4 days
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This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.1 to 1.5	4 days
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This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	4 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

Not Known	1 days
Yes	1 days
No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	4 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CA-01-C-01	LIDL		CAMBRIDGESHIRE
	CROMWELL ROAD			
	WISBECH			
	Edge of Town			
	Retail Zone			
	Total Gross floor area:	1466 sqm		
	Survey date: FRIDAY	21/10/16		Survey Type: MANUAL
2	NT-01-C-01	LIDL		NOTTINGHAMSHIRE
	CHAPEL LANE			
	BINGHAM			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:	2440 sqm		
	Survey date: FRIDAY	15/07/16		Survey Type: MANUAL
3	SM-01-C-01	LIDL		SOMERSET
	SEAWARD WAY			
	MINEHEAD			
	Edge of Town			
	No Sub Category			
	Total Gross floor area:	2247 sqm		
	Survey date: THURSDAY	22/06/17		Survey Type: MANUAL
4	WO-01-C-01	LIDL		WORCESTERSHIRE
	BLACKPOLE ROAD			
	WORCESTER			
	BRICKFIELDS			
	Edge of Town			
	Retail Zone			
	Total Gross floor area:	2417 sqm		
	Survey date: WEDNESDAY	13/07/16		Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Mayer Brown Oriental Road Woking

Licence No: 807401

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	4	2143	0.280	4	2143	0.117	4	2143	0.397
08:00 - 09:00	4	2143	2.240	4	2143	1.529	4	2143	3.769
09:00 - 10:00	4	2143	3.174	4	2143	2.800	4	2143	5.974
10:00 - 11:00	4	2143	3.944	4	2143	3.512	4	2143	7.456
11:00 - 12:00	4	2143	4.539	4	2143	4.341	4	2143	8.880
12:00 - 13:00	4	2143	4.877	4	2143	4.317	4	2143	9.194
13:00 - 14:00	4	2143	4.446	4	2143	5.286	4	2143	9.732
14:00 - 15:00	4	2143	5.169	4	2143	4.971	4	2143	10.140
15:00 - 16:00	4	2143	4.866	4	2143	4.959	4	2143	9.825
16:00 - 17:00	4	2143	4.387	4	2143	4.399	4	2143	8.786
17:00 - 18:00	4	2143	4.294	4	2143	4.294	4	2143	8.588
18:00 - 19:00	4	2143	3.291	4	2143	3.734	4	2143	7.025
19:00 - 20:00	4	2143	2.765	4	2143	3.057	4	2143	5.822
20:00 - 21:00	4	2143	1.669	4	2143	2.100	4	2143	3.769
21:00 - 22:00	4	2143	0.350	4	2143	0.782	4	2143	1.132
22:00 - 23:00	4	2143	0.047	4	2143	0.187	4	2143	0.234
23:00 - 24:00									
Total Rates:			50.338			50.385			100.723

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	1466 - 2440 (units: sqm)
Survey date range:	01/01/12 - 29/11/19
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-807401-200731-0740

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : C - DISCOUNT FOOD STORES
 VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	SM SOMERSET	1 days
05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 2247 to 2440 (units: sqm)
 Range Selected by User: 700 to 2703 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 29/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 3 days
 Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town 3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 1
 Retail Zone 1
 No Sub Category 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

A1 3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	2 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
50,001 to 75,000	1 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.1 to 1.5	3 days
------------	--------

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	3 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

Not Known	1 days
Yes	1 days
No	1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	3 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	NT-01-C-01 CHAPEL LANE BINGHAM	LIDL		NOTTINGHAMSHIRE
	Edge of Town Industrial Zone			
	Total Gross floor area:	2440 sqm		
	Survey date: SATURDAY	16/07/16		Survey Type: MANUAL
2	SM-01-C-01 SEAWARD WAY MINEHEAD	LIDL		SOMERSET
	Edge of Town No Sub Category			
	Total Gross floor area:	2247 sqm		
	Survey date: SATURDAY	24/06/17		Survey Type: MANUAL
3	WO-01-C-01 BLACKPOLE ROAD WORCESTER BRICKFIELDS	LIDL		WORCESTERSHIRE
	Edge of Town Retail Zone			
	Total Gross floor area:	2417 sqm		
	Survey date: SATURDAY	16/07/16		Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Mayer Brown Oriental Road Woking

Licence No: 807401

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	2368	0.239	3	2368	0.014	3	2368	0.253
08:00 - 09:00	3	2368	1.999	3	2368	1.365	3	2368	3.364
09:00 - 10:00	3	2368	3.378	3	2368	2.576	3	2368	5.954
10:00 - 11:00	3	2368	4.913	3	2368	4.448	3	2368	9.361
11:00 - 12:00	3	2368	6.025	3	2368	5.645	3	2368	11.670
12:00 - 13:00	3	2368	5.856	3	2368	6.292	3	2368	12.148
13:00 - 14:00	3	2368	4.758	3	2368	4.856	3	2368	9.614
14:00 - 15:00	3	2368	5.251	3	2368	5.251	3	2368	10.502
15:00 - 16:00	3	2368	4.955	3	2368	5.349	3	2368	10.304
16:00 - 17:00	3	2368	5.096	3	2368	4.969	3	2368	10.065
17:00 - 18:00	3	2368	4.153	3	2368	4.265	3	2368	8.418
18:00 - 19:00	3	2368	3.238	3	2368	3.773	3	2368	7.011
19:00 - 20:00	3	2368	2.055	3	2368	2.576	3	2368	4.631
20:00 - 21:00	3	2368	0.957	3	2368	1.168	3	2368	2.125
21:00 - 22:00	3	2368	0.436	3	2368	0.704	3	2368	1.140
22:00 - 23:00	3	2368	0.000	3	2368	0.056	3	2368	0.056
23:00 - 24:00									
Total Rates:			53.309			53.307			106.616

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 2247 - 2440 (units: sqm)
 Survey date range: 01/01/12 - 29/11/19
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 3
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

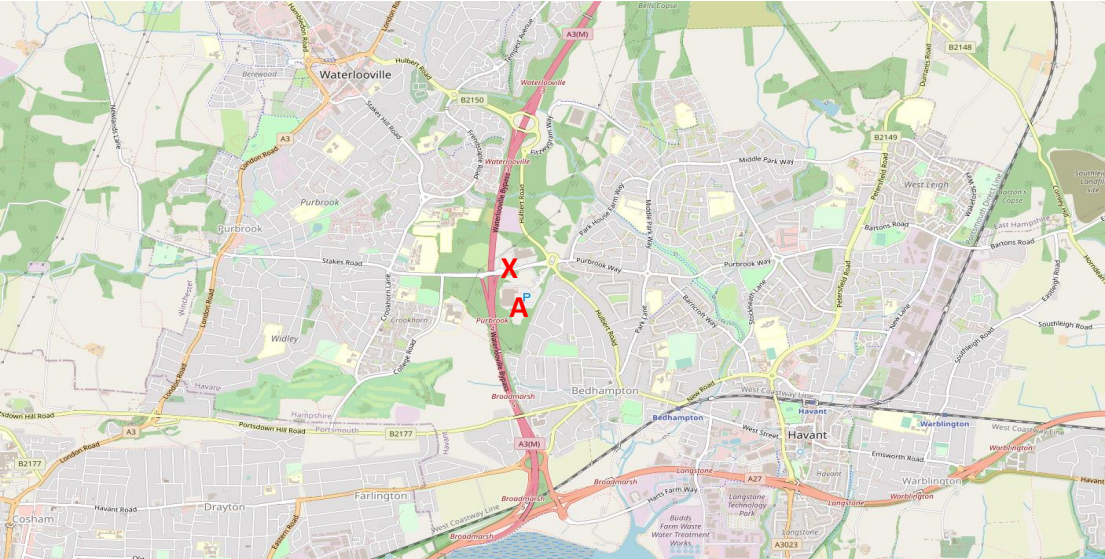
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX G: Trip Assignment Calculations

PROJECT: LIDL Purbrook Way, Havant

TRADE DRAW

Trade Draw % Source		
Simply planning estimate - email 24/09/20		
Destination		
A	Asda Havant Supercentre	Trade Draw 40.00%
O	Other	60.00%
X	Proposed Lidl Store	100%
POST CODE		PO9 3QW
		PO9 3QJ

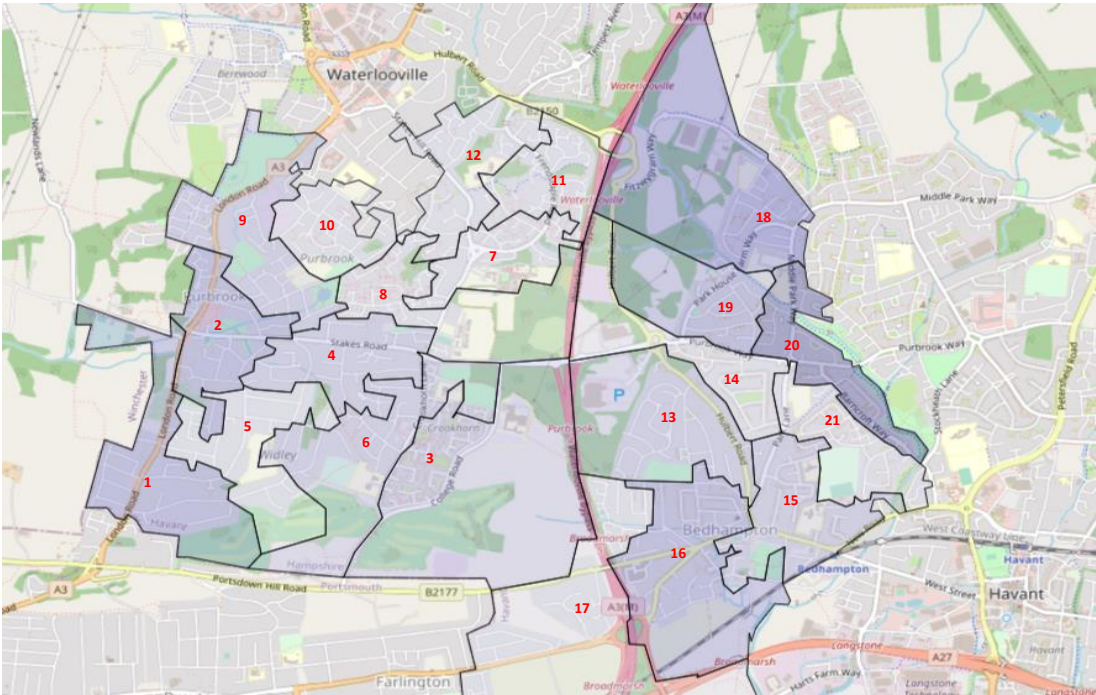


PROJECT: LIDL Purbrook Way, Havant

CUSTOMER DRAW

	Area	2011	%	POST CODE
1	Isoa2011:E01022947 : Havant 011A	1,650	5.2%	1
2	Isoa2011:E01022948 : Havant 011B	1,639	5.2%	2
3	Isoa2011:E01022949 : Havant 011C	1,525	4.8%	3
4	Isoa2011:E01022950 : Havant 011D	1,501	4.7%	4
5	Isoa2011:E01022951 : Havant 011E	1,393	4.4%	5
6	Isoa2011:E01022952 : Havant 011F	1,463	4.6%	6
7	Isoa2011:E01022960 : Havant 007A	1,421	4.5%	7
8	Isoa2011:E01022961 : Havant 007B	1,382	4.4%	8
9	Isoa2011:E01022962 : Havant 005B	1,480	4.7%	9
10	Isoa2011:E01022959 : Havant 005A	1,458	4.6%	10
11	Isoa2011:E01022964 : Havant 007D	1,376	4.4%	11
12	Isoa2011:E01022963 : Havant 007C	1,412	4.5%	12
13	Isoa2011:E01022907 : Havant 018B	1,512	4.8%	13
14	Isoa2011:E01022899 : Havant 018A	1,381	4.4%	14
15	Isoa2011:E01022911 : Havant 018E	1,502	4.7%	15
16	Isoa2011:E01022909 : Havant 018C	1,577	5.0%	16
17	Isoa2011:E01032605 : Havant 018F	1,362	4.3%	17
18	Isoa2011:E01022901 : Havant 006A	1,711	5.4%	18
19	Isoa2011:E01022902 : Havant 006B	1,572	5.0%	19
20	Isoa2011:E01022900 : Havant 010A	1,854	5.9%	20
21	Isoa2011:E01022908 : Havant 010D	1,453	4.6%	21

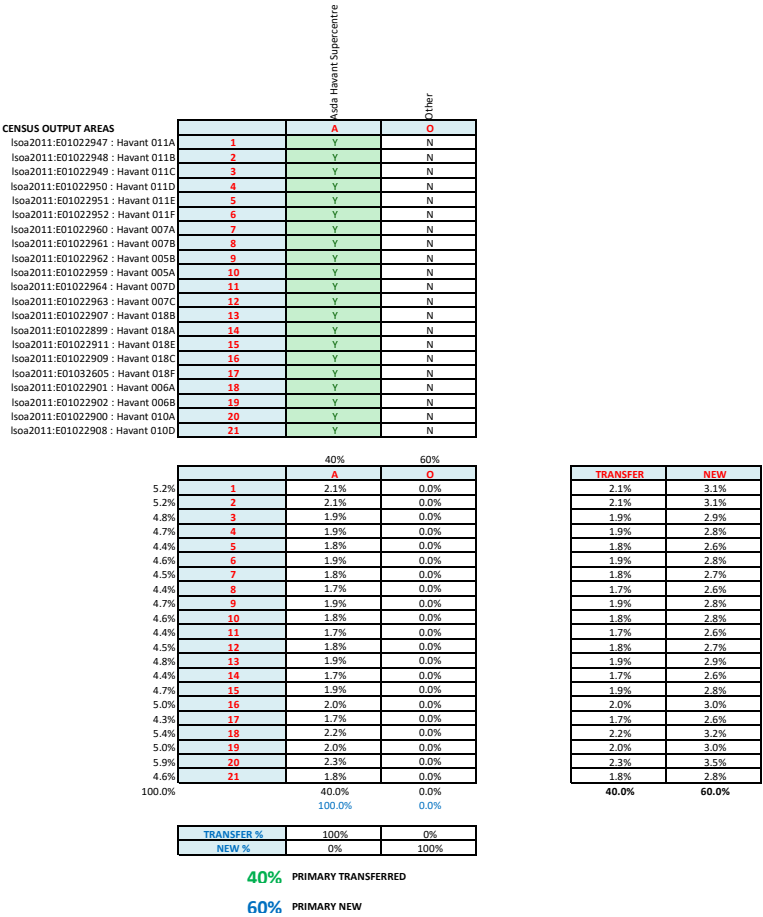
31,624



PROJECT: LIDL Purbrook Way, Havant

PRIMARY TRIP GENERATION - TRANSFERRED OR NEW

DOES CURRENT DRIVING ROUTE UTILISE ONE OR MORE IDENTIFIED KEY JUNCTIONS



LIDL TRIP ASSIGNMENT

	WEEKDAY AM PEAK			WEEKDAY PM PEAK			SATURDAY PEAK		
	08:00 - 09:00			15:30 - 16:30			11:45 - 12:45		
	%	Arrivals	Departures	%	Arrivals	Departures	%	Arrivals	Departures
TOTAL VEHICLES	100%	25	38	100%	88	91	100%	115	114
SECONDARY	20%	9	8	20%	18	18	10%	12	11
PRIMARY (COMBINED)	80%	36	30	80%	70	73	90%	103	103
PRIMARY - TRANSFERRED	32%	14	12	32%	28	29	36%	41	41
PRIMARY - NEW	48%	22	18	48%	42	44	54%	62	62

PROJECT: LEL Furberbrook Way, Havant

PROPOSED LEL - PRIMARY TRIP ROUTING - NETWORK ENTRY / EXIT POINT

ARRIVALS

	BBQ	HUBBERT RD	PURBROOK WAY	B2150	ASDA ACCESS	ASDA	COLLEGE RD	CROCKHORN RD	STANES RD	STANES HILL RD	
1	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
2	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
3	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%
4	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
5	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
6	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%
7	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
8	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
9	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
10	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
11	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%
12	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%
13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
14	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%
15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
17	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
20	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
21	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	0	0	4.5	3.5	0	1	1	1	0	4	
1,850	0	0	0	0	0	0	0	0	1850	0	
1,839	0	0	0	0	0	0	0	0	1839	0	
1,535	0	0	0	0	0	0	1535	0	0	0	
1,501	0	0	0	0	0	0	0	0	1501	0	
1,391	0	0	0	0	0	0	0	0	1391	0	
1,463	0	0	0	0	0	0	0	1463	0	0	
1,421	0	0	0	0	0	0	0	0	0	1421	
1,380	0	0	0	0	0	0	0	0	0	1380	
1,480	0	0	0	0	0	0	0	0	1480	0	
1,458	0	0	0	0	0	0	0	0	1458	0	
1,376	0	0	0	0	0	0	0	0	0	1376	
1,412	0	0	0	0	0	0	0	0	0	1412	
1,512	0	0	0	0	0	0	0	0	0	0	
1,581	0	0	0	0	0	0	0	0	0	0	
1,580	0	0	0	0	0	0	0	0	0	0	
1,577	0	0	0	0	0	0	0	0	0	0	
1,540	0	0	0	0	0	0	1540	0	0	0	
1,711	0	0	0	0	0	0	0	0	0	0	
1,572	0	0	0	0	0	0	0	0	0	0	
1,854	0	0	0	0	0	0	0	0	0	0	
1,453	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	0.00%	0.00%	23.02%	16.70%	0.00%	4.31%	4.82%	4.83%	28.84%	17.68%	
	0%	0%	23%	17%	0%	4%	5%	4%	29%	18%	

SUMMARY

	ARRIVALS
BBQ	0%
HUBBERT RD	0%
PURBROOK WAY	23%
B2150	17%
ASDA ACCESS	0%
ASDA	4%
COLLEGE RD	5%
CROCKHORN RD	5%
STANES RD	29%
STANES HILL RD	18%
	100%

DEPARTURES

	BBQ	HUBBERT RD	PURBROOK WAY	B2150	ASDA ACCESS	ASDA	COLLEGE RD	CROCKHORN RD	STANES RD	STANES HILL RD	
1	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
2	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
3	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%
4	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
5	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
6	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%
7	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
8	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
9	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
10	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
11	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%
12	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%
13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
16	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
17	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
18	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
19	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
20	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
21	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	0	0	4.5	3.5	0	1	1	1	0	4	
1,850	0	0	0	0	0	0	0	0	1850	0	
1,839	0	0	0	0	0	0	0	0	1839	0	
1,535	0	0	0	0	0	0	1535	0	0	0	
1,501	0	0	0	0	0	0	0	0	1501	0	
1,391	0	0	0	0	0	0	0	0	1391	0	
1,463	0	0	0	0	0	0	0	1463	0	0	
1,421	0	0	0	0	0	0	0	0	0	1421	
1,380	0	0	0	0	0	0	0	0	0	1380	
1,480	0	0	0	0	0	0	0	0	1480	0	
1,458	0	0	0	0	0	0	0	0	1458	0	
1,376	0	0	0	0	0	0	0	0	0	1376	
1,412	0	0	0	0	0	0	0	0	0	1412	
1,512	0	0	0	0	0	0	0	0	0	0	
1,581	0	0	0	0	0	0	0	0	0	0	
1,580	0	0	0	0	0	0	0	0	0	0	
1,577	0	0	0	0	0	0	0	0	0	0	
1,540	0	0	0	0	0	0	1540	0	0	0	
1,711	0	0	0	0	0	0	0	0	0	0	
1,572	0	0	0	0	0	0	0	0	0	0	
1,854	0	0	0	0	0	0	0	0	0	0	
1,453	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	0.00%	0.00%	23.02%	16.70%	0.00%	4.31%	4.82%	4.83%	28.84%	17.68%	
	0%	0%	23%	17%	0%	4%	5%	4%	29%	18%	

SUMMARY

	DEPARTURES
BBQ	0%
HUBBERT RD	0%
PURBROOK WAY	23%
B2150	17%
ASDA ACCESS	0%
ASDA	4%
COLLEGE RD	5%
CROCKHORN RD	5%
STANES RD	29%
STANES HILL RD	18%
	100%

LIDL Purbrook Way, Havant**LIDL TRIP GENERATION - PRIMARY TRIPS - PROPOSED****WEEKDAY AM PEAK**

	ARR	DEP
PRIMARY TRIPS (COMBINED)	36	30

HIGHWAY NETWORK ACCESS POINT

	ARR	DEP		ARR	DEP
B&Q	0%	0%		0	0
HULBERT RD	0%	0%		0	0
PURBROOK WAY	23%	23%		8	7
B2150	17%	17%		6	5
ASDA ACCESS	0%	0%		0	0
A3(M)	4%	4%		1	1
COLLEGE RD	5%	5%		2	2
CROOKHORN RD	4%	4%		2	1
STAKES RD	29%	29%		10	9
STAKES HILL RD	18%	18%		7	5
	100%	100%		36	30

WEEKDAY PM PEAK

	ARR	DEP
PRIMARY TRIPS (COMBINED)	70	73

	ARR	DEP		ARR	DEP
B&Q	0%	0%		0	0
HULBERT RD	0%	0%		0	0
PURBROOK WAY	23%	23%		16	17
B2150	17%	17%		12	12
ASDA ACCESS	0%	0%		0	0
A3(M)	4%	4%		3	3
COLLEGE RD	5%	5%		3	4
CROOKHORN RD	4%	4%		3	3
STAKES RD	29%	29%		20	21
STAKES HILL RD	18%	18%		13	13
	100%	100%		70	73

SATURDAY PEAK

	ARR	DEP
PRIMARY TRIPS (COMBINED)	103	103

	ARR	DEP		ARR	DEP
B&Q	0%	0%		0	0
HULBERT RD	0%	0%		0	0
PURBROOK WAY	23%	23%		24	24
B2150	17%	17%		17	17
ASDA ACCESS	0%	0%		0	0
A3(M)	4%	4%		4	4
COLLEGE RD	5%	5%		5	5
CROOKHORN RD	4%	4%		4	4
STAKES RD	29%	29%		30	30
STAKES HILL RD	18%	18%		19	19
	100%	100%		103	103

Junction A - Lidl Site Access Access

	A	B	C	Total
PRIVATE RD (N)	A	0		0
LIDL ACCESS	B	0	30	30
PRIVATE RD (S)	C		36	36
Total	0	36	30	66

	A	B	C	Total
PRIVATE RD (N)	A	0		0
LIDL ACCESS	B	0	73	73
PRIVATE RD (S)	C		70	70
Total	0	70	73	143

	A	B	C	Total
PRIVATE RD (N)	A	0		0
LIDL ACCESS	B	0	103	103
PRIVATE RD (S)	C		103	103
Total	0	103	103	206

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

	A	B	C	D	Total
PRIVATE RD	A	12	1	17	30
PURBROOK WAY (E)	B	14			14
A3(M) J4 ON-SLIP	C				0
PURBROOK WAY (W)	D	22			22
Total	36	12	1	17	66

	A	B	C	D	Total
PRIVATE RD	A	29	3	41	73
PURBROOK WAY (E)	B	28			28
A3(M) J4 ON-SLIP	C				0
PURBROOK WAY (W)	D	42			42
Total	70	29	3	41	143

	A	B	C	D	Total
PRIVATE RD	A	41	4	58	103
PURBROOK WAY (E)	B	41			41
A3(M) J4 ON-SLIP	C				0
PURBROOK WAY (W)	D	62			62
Total	103	41	4	58	206

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

	A	B	C	Total
PURBROOK WAY (E)	A		17	17
A3(M) J4 OFF-SLIP	B	1		1
PURBROOK WAY (W)	C	21		21
Total	22	0	17	39

	A	B	C	Total
PURBROOK WAY (E)	A		41	41
A3(M) J4 OFF-SLIP	B	3		3
PURBROOK WAY (W)	C	39		39
Total	42	0	41	83

	A	B	C	Total
PURBROOK WAY (E)	A		58	58
A3(M) J4 OFF-SLIP	B	4		4
PURBROOK WAY (W)	C	58		58
Total	62	0	58	120

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

	A	B	C	D	E	Total
HULBERT RD	A				0	0
PURBROOK WAY (E)	B				8	8
B2150	C				6	6
ASDA ACCESS	D				0	0
PURBROOK WAY (W)	E	0	7	5	0	12
Total	0	7	5	0	14	26

	A	B	C	D	E	Total
HULBERT RD	A				0	0
PURBROOK WAY (E)	B				16	16
B2150	C				12	12
ASDA ACCESS	D				0	0
PURBROOK WAY (W)	E	0	17	12	0	29
Total	0	17	12	0	28	57

	A	B	C	D	E	Total
HULBERT RD	A				0	0
PURBROOK WAY (E)	B				24	24
B2150	C				17	17
ASDA ACCESS	D				0	0
PURBROOK WAY (W)	E	0	24	17	0	41
Total	0	24	17	0	41	82

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

	A	B	C	D	Total
STAKES HILL RD	A		7		7
PURBROOK WAY	B	5		1	15
CROOKHORN LN	C		2		2
STAKES RD	D		10		10
Total	5	19	1	9	34

	A	B	C	D	Total
STAKES HILL RD	A		13		13
PURBROOK WAY	B	13		3	37
CROOKHORN LN	C		3		3
STAKES RD	D		20		20
Total	13	36	3	21	73

	A	B	C	D	Total
STAKES HILL RD	A		19		19
PURBROOK WAY	B	19		4	53
CROOKHORN LN	C		4		4
STAKES RD	D		30		30
Total	19	53	4	30	106

PROJECT:
LIDL Purbrook Way, Havant

PRIMARY TRANSFERRED TRIPS

DESTINATION

A Asda Havant Supercentre
O Other

Non Asda Havant

A Asda Havant Supercentre

	2.1%	1	1	1	0.73045788	0.626106754	1	2	2	1.46091576	1.513091323	1	2	2	2.139198077	2.139198077
3	2.1%	2	1	1	0.725588161	0.621932709	2	2	2	1.451176322	1.503004048	2	2	2	2.124936757	2.124936757
4	1.9%	3	1	1	0.675120162	0.578674424	3	2	2	1.350240324	1.398463193	3	2	2	1.977137617	1.977137617
5	1.9%	4	1	1	0.66449532	0.569567417	4	1	1	1.32899064	1.376454591	4	2	2	1.946022009	1.946022009
6	1.8%	5	0	0	0.616683531	0.528585884	5	1	1	1.233367063	1.277415887	5	2	2	1.806001771	1.806001771
7	1.9%	6	1	1	0.647672654	0.555147989	6	1	1	1.295345307	1.34160764	6	2	2	1.896755629	1.896755629
8	1.8%	7	0	0	0.62907918	0.539210726	7	1	1	1.258158361	1.303092588	7	2	2	1.842303314	1.842303314
9	1.7%	8	0	0	0.611813812	0.524411839	8	1	1	1.223627625	1.267328611	8	2	2	1.79174045	1.79174045
10	1.9%	9	1	1	0.655198583	0.561598786	9	1	1	1.310397167	1.357197066	9	2	2	1.918795851	1.918795851
11	1.8%	10	1	0	0.645459145	0.553250696	10	1	1	1.29091829	1.337022515	10	2	2	1.89027321	1.89027321
12	1.7%	11	0	0	0.609157602	0.522135087	11	1	1	1.218315204	1.261826461	11	2	2	1.783961548	1.783961548
13	1.8%	12	0	0	0.625094865	0.535795598	12	1	1	1.250189729	1.294839363	12	2	2	1.830634961	1.830634961
14	1.9%	13	1	1	0.669365039	0.573741462	13	1	2	1.338730078	1.386541867	13	2	2	1.960283329	1.960283329
15	1.7%	14	0	0	0.611371111	0.52403238	14	1	1	1.222742221	1.266411586	14	2	2	1.790443967	1.790443967
16	1.9%	15	1	1	0.664938022	0.569946876	15	1	1	1.329876044	1.377371616	15	2	2	1.947318492	1.947318492
17	2.0%	16	1	1	0.698140653	0.598406274	16	2	2	1.396281305	1.446148495	16	2	2	2.044554769	2.044554769
18	1.7%	17	0	0	0.60299777	0.516822666	17	1	1	1.205919555	1.24898811	17	1	1	1.765810777	1.765810777
19	2.2%	18	1	1	0.757462687	0.649253731	18	2	2	1.514925373	1.569029851	18	2	2	2.218283582	2.218283582
20	2.0%	19	1	1	0.695927144	0.596508981	19	2	2	1.391854288	1.44156337	19	2	2	2.03807235	2.03807235
21	2.3%	20	1	1	0.820769036	0.703516317	20	2	2	1.641538072	1.700164432	20	2	2	2.403680749	2.403680749
22	1.8%	21	1	0	0.643245636	0.551353402	21	1	1	1.286491272	1.332437389	21	2	2	1.883790792	1.883790792
	40%	14	12				28	29				41	41			

LIDL Purbrook Way, Havant**LIDL TRIP GENERATION - PRIMARY TRIPS - TRANSFERRED****WEEKDAY AM PEAK**

	ARR	DEP
PRIMARY TRIPS (TRANSFERRED)	14	12

Junction A - Lidl Site Access Access

	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	0
PRIVATE RD (S)	C	0	0	0
	Total	0	0	0

WEEKDAY PM PEAK

	ARR	DEP
	28	29

SATURDAY PEAK

	ARR	DEP
	41	41

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

	A	B	C	D	Total
PRIVATE RD	A	0	0	0	0
PURBROOK WAY (E)	B	0	0	6	6
A3(M) J4 ON-SLIP	C				0
PURBROOK WAY (W)	D	0	7	0	7
Total	0	7	0	6	13

	A	B	C	D	Total
A	0	0	0	0	0
B	0	0	1	13	14
C					0
D	0	14	0	0	14
Total	0	14	1	13	28

	A	B	C	D	Total
A	0	0	0	0	0
B	0	0	1	20	21
C					0
D	0	21	0	0	21
Total	0	21	1	20	42

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

		A	B	C	Total
PURBROOK WAY (E)	A	0		6	6
A3(M) J4 OFF-SLIP	B	0		0	0
PURBROOK WAY (W)	C	7		0	7
	Total	7	0	6	13

	A	B	C	Total
A	0		13	13
B	1		0	1
C	13		0	13
Total	14	0	13	27

	A	B	C	Total
A	0		20	20
B	1		0	1
C	20		0	20
Total	21	0	20	41

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

		A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	4	0	4
B2150	C	0	0	0	3	0	3
ASDA ACCESS	D	0	3	3	0	6	12
PURBROOK WAY (W)	E	0	0	0	7	0	7
	Total	0	3	3	14	6	26

	A	B	C	D	E	Total
A	0	0	0	2	0	2
B	0	0	0	8	0	8
C	0	0	0	4	0	4
D	2	8	5	0	14	29
E	0	0	0	14	0	14
Total	2	8	5	28	14	57

	A	B	C	D	E	Total
A	0	0	0	4	0	4
B	0	0	0	10	0	10
C	0	0	0	6	0	6
D	4	10	6	0	21	41
E	0	0	0	21	0	21
Total	4	10	6	41	21	82

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

	A	B	C	D	Total	
STAKES HILL RD	A	0	0	0	0	
PURBROOK WAY	B	0	0	2	4	6
CROOKHORN LN	C	0	2	0	0	2
STAKES RD	D	0	5	0	0	5
	Total	0	7	2	4	13

	A	B	C	D	Total
A	0	2	0	0	2
B	2	0	3	8	13
C	0	3	0	0	3
D	0	8	0	0	8
Total	2	13	3	8	26

	A	B	C	D	Total
A	0	4	0	0	4
B	4	0	4	12	20
C	0	4	0	0	4
D	0	12	0	0	12
Total	4	20	4	12	40

LIDL Purbrook Way, Havant**LIDL TRIP GENERATION - PRIMARY TRIPS - NET CHANGE****WEEKDAY AM PEAK****Junction A - Lidl Site Access Access**

	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	30
PRIVATE RD (S)	C	0	36	0
Total	0	36	30	66

WEEKDAY PM PEAK

	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	73
PRIVATE RD (S)	C	0	70	0
Total	0	70	73	143

SATURDAY PEAK

	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	103
PRIVATE RD (S)	C	0	103	0
Total	0	103	103	206

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

	A	B	C	D	Total
PRIVATE RD	A	0	12	1	17
PURBROOK WAY (E)	B	14	0	0	-6
A3(M) J4 ON-SLIP	C				0
PURBROOK WAY (W)	D	22	-7	0	15
Total	36	5	1	11	53

	A	B	C	D	Total
PRIVATE RD	A	0	29	3	41
PURBROOK WAY (E)	B	28	0	-1	-13
A3(M) J4 ON-SLIP	C				0
PURBROOK WAY (W)	D	42	-14	0	28
Total	70	15	2	28	115

	A	B	C	D	Total
PRIVATE RD	A	0	41	4	58
PURBROOK WAY (E)	B	41	0	-1	-20
A3(M) J4 ON-SLIP	C				0
PURBROOK WAY (W)	D	62	-21	0	41
Total	103	20	3	38	164

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

	A	B	C	Total
PURBROOK WAY (E)	A	0		11
A3(M) J4 OFF-SLIP	B	1		0
PURBROOK WAY (W)	C	14		0
Total	15	0	11	26

	A	B	C	Total
PURBROOK WAY (E)	A	0		28
A3(M) J4 OFF-SLIP	B	2		0
PURBROOK WAY (W)	C	26		0
Total	28	0	28	56

	A	B	C	Total
PURBROOK WAY (E)	A	0		38
A3(M) J4 OFF-SLIP	B	3		0
PURBROOK WAY (W)	C	38		0
Total	41	0	38	79

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	-4	8
B2150	C	0	0	0	-3	6
ASDA ACCESS	D	0	-3	-3	0	-6
PURBROOK WAY (W)	E	0	7	5	-7	0
Total	0	4	2	-14	8	0

	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	-2	0
PURBROOK WAY (E)	B	0	0	0	-8	16
B2150	C	0	0	0	-4	12
ASDA ACCESS	D	-2	-8	-5	0	-14
PURBROOK WAY (W)	E	0	17	12	-14	0
Total	-2	9	7	-28	14	0

	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	-4	0
PURBROOK WAY (E)	B	0	0	0	-10	24
B2150	C	0	0	0	-6	17
ASDA ACCESS	D	-4	-10	-6	0	-21
PURBROOK WAY (W)	E	0	24	17	-21	0
Total	-4	14	11	-41	20	0

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

	A	B	C	D	Total
STAKES HILL RD	A	0	7	0	0
PURBROOK WAY	B	5	0	-1	5
CROOKHORN LN	C	0	0	0	0
STAKES RD	D	0	5	0	0
Total	5	12	-1	5	21

	A	B	C	D	Total
STAKES HILL RD	A	0	11	0	0
PURBROOK WAY	B	11	0	0	13
CROOKHORN LN	C	0	0	0	0
STAKES RD	D	0	12	0	0
Total	11	23	0	13	47

	A	B	C	D	Total
STAKES HILL RD	A	0	15	0	0
PURBROOK WAY	B	15	0	0	18
CROOKHORN LN	C	0	0	0	0
STAKES RD	D	0	18	0	0
Total	15	33	0	18	66

APPENDIX H: Traffic Flow Calculations

LIDL Purbrook Way**UPLIFTED 2020 TRAFFIC SURVEY FLOWS****WEEKDAY AM PEAK****08:00-09:00****Junction A - Lidl Site Access Access:**

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A		140	140	
LIDL ACCESS	B			0	
PRIVATE RD (S)	C	168		168	
	Total	168	0	140	308

HGV				
	A	B	C	Total
A			2	2
B				0
C	2			2
Total	2	0	2	4

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A	0	83	37	20	140
PURBROOK WAY (E)	B	85	5	452	601	1143
A3(M) J4 ON-SLIP	C					0
PURBROOK WAY (W)	D	83	930	491	4	1508
	Total	168	1018	980	625	2791

HGV					
	A	B	C	D	Total
A	0	2	0	0	2
B	0	1	11	11	23
C					0
D	2	16	18	0	36
Total	2	19	29	11	61

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES					
	A	B	C	Total	
PURBROOK WAY (E)	A	1		624	625
A3(M) J4 OFF-SLIP	B	395		391	786
PURBROOK WAY (W)	C	1111		0	1111
Total	1507	0	1015	2522	

HGV				
	A	B	C	Total
A	0		11	11
B	7		10	17
C	29		0	29
Total	36	0	21	57

Junction D - Purbrook Way / Hulbert Road / B2150 Signal

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	337	133	96	102	668
PURBROOK WAY (E)	B	396	1	18	173	677	1265
B2150	C	142	44	0	136	176	498
ASDA ACCESS	D	92	120	64	1	176	453
PURBROOK WAY (W)	E	115	505	130	256	2	1008
	Total	745	1007	345	662	1133	3892

HGV						
	A	B	C	D	E	Total
A	0	2	4	0	1	7
B	5	0	0	0	20	25
C	0	1	0	0	0	1
D	0	0	0	0	1	1
E	4	11	4	0	0	19
Total	9	14	8	0	22	53

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	16	575	178	175	944
PURBROOK WAY	B	511	12	80	301	904
CROOKHORN LN	C	191	91	0	58	340
STAKES RD	D	106	366	49	5	526
	Total	824	1044	307	539	2714

HGV					
	A	B	C	D	Total
A	0	10	10	1	21
B	6	0	4	5	15
C	17	2	0	7	26
D	1	5	4	0	10
Total	24	17	18	13	72

WEEKDAY PM PEAK**15:30-16:30****Junction A - Lidl Site Access Access:**

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A		219	219	
LIDL ACCESS	B			0	
PRIVATE RD (S)	C	202		202	
	Total	202	0	219	421

HGV				
	A	B	C	Total
A			2	2
B				0
C	1			1
Total	1	0	2	3

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A	1	113	63	42	219
PURBROOK WAY (E)	B	109	2	428	447	986
A3(M) J4 ON-SLIP	C					0
PURBROOK WAY (W)	D	91	1161	422	1	1675
Total	201	1276	913	490	2880	

HGV					
	A	B	C	D	Total
A	0	1	1	0	2
B	0	0	5	8	13
C					0
D	1	13	2	0	16
Total	1	14	8	8	31

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

		TOTAL VEHICLES			
		A	B	C	Total
PURBROOK WAY (E)	A	1		489	490
A3(M) J4 OFF-SLIP	B	594		474	1068
PURBROOK WAY (W)	C	1080		3	1083
Total		1675	0	966	2641

HGV				
	A	B	C	Total
A	0		8	8
B	4		14	18
C	12		0	12
Total	16	0	22	38

Junction D - Purbrook Way / Hulbert Road / B2150 Signal

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	390	78	147	91	706
PURBROOK WAY (E)	B	252	2	18	214	477	963
B2150	C	139	29	0	139	118	425
ASDA ACCESS	D	121	233	100	2	298	744
PURBROOK WAY (W)	E	104	720	33	310	2	1169
Total	616	1374	229	812	976	4007	

HGV						
	A	B	C	D	E	Total
A	0	4	0	2	1	7
B	2	0	0	2	9	13
C	1	0	0	0	0	1
D	0	0	0	0	3	3
E	0	13	0	0	0	13
Total	3	17	0	4	13	37

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	4	497	197	150	838
PURBROOK WAY	B	397	5	123	392	917
CROOKHORN LN	C	146	116	0	74	336
STAKES RD	D	99	364	63	0	526
	Total	646	982	373	616	2617

HGV					
	A	B	C	D	Total
A	0	1	9	1	11
B	13	0	5	6	24
C	4	2	0	3	9
D	0	1	4	0	5
Total	17	4	18	10	49

SATURDAY PEAK**11:45-12:45****Junction A - Lidl Site Access Access:**

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A		385	385	
LIDL ACCESS	B			0	
PRIVATE RD (S)	C	343		343	
	Total	343	0	385	728

HGV				
	A	B	C	Total
A			1	1
B				0
C	1			1
Total	1	0	1	2

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A	0	185	104	96	385
PURBROOK WAY (E)	B	166	1	393	375	935
A3(M) J4 ON-SLIP	C					0
PURBROOK WAY (W)	D	177	811	259	2	1249
Total	343	997	756	473	2569	

HGV					
	A	B	C	D	Total
A	0	1	0	0	1
B	1	0	1	7	9
C					0
D	0	10	2	0	12
Total	1	11	3	7	22

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES					
		A	B	C	Total
PURBROOK WAY (E)	A	1		472	473
A3(M) J4 OFF-SLIP	B			292	817
PURBROOK WAY (W)	C	723		4	727
	Total	1249	0	768	2017

HGV				
	A	B	C	Total
A	0		7	7
B	1		1	2
C	11		0	11
Total	12	0	8	20

Junction D - Purbrook Way / Hulbert Road / B2150 Signal

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	268	81	144	106	599
PURBROOK WAY (E)	B	236	1	27	226	400	890
B2150	C	98	33	0	139	102	372
ASDA ACCESS	D	144	271	97	0	327	839
PURBROOK WAY (W)	E	111	479	73	332	0	995
Total	589	1052	278	841	935	3695	

HGV						
	A	B	C	D	E	Total
A	0	1	0	0	0	1
B	2	0	0	6	2	10
C	0	0	0	0	0	0
D	0	5	0	0	6	11
E	1	3	0	8	0	12
Total	3	9	0	14	8	34

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
		A	B	C	D	Total
STAKES HILL RD	A	1	301	132	101	535
PURBROOK WAY	B	292	1	87	300	680
CROOKHORN LN	C	130	74	1	58	263
STAKES RD	D	101	309	52	2	464
	Total	524	685	272	461	1942

HGV					
	A	B	C	D	Total
A	0	0	6	0	6
B	1	0	2	0	3
C	5	2	0	2	9
D	1	3	4	0	8
Total	7	5	12	2	26

Project: LIDL Purbrook Way
 Prepared By: R BROAD
 Date: 24/08/2020

TEMPRO Programme Data

TEMPRO version: **7.2b**
 TEMPRO Data Set: **72**
 NTM dataset: **NTM AF15 Dataset**

TEMPRO User Selection Data

Results Type: **Trip ends by Time Period**
 Trip Purpose Definition: **All Purposes**
 Transport Mode: **Car Driver**
 Trip End Type: **Origin/Destination**

TEMPRO Adjusted Local Growth Figure

Geographical Area: **Havant 018**

BASE YEAR	FUTURE YEAR	AREA TYPE	ROAD TYPE	SERVES AREA
2020	2025	Urban	Principal	Region
2016	2020	Urban	Principal	Region
2016	2025	Urban	Principal	Region

WEEKDAY AM	WEEKDAY PM	SATURDAY
1.0631	1.0601	1.0648
1.0559	1.0494	1.0511
1.1255	1.1125	1.1191

LIDL Purbrook Way

COMMITTED DEVELOPMENT TRAFFIC FLOWS

APP/19/01101

WEEKDAY AM PEAK

Junction A - Lidl Site Access Access:

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A			0	0
LIDL ACCESS	B				0
PRIVATE RD (S)	C	0			0
Total	0	0	0	0	0

HGV					
	A	B	C	Total	
A				0	
B				0	
C				0	
Total	0	0	0	0	0

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A	0	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	20	20
A3(M) J4 ON-SLIP	C					0
PURBROOK WAY (W)	D	0	48	141	0	189
Total	0	0	48	141	20	209

HGV						
	A	B	C	D	Total	
A					0	
B					0	
C					0	
D					0	
Total	0	0	0	0	0	0

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES					
	A	B	C	Total	
PURBROOK WAY (E)	A	0		20	20
A3(M) J4 OFF-SLIP	B	0		61	61
PURBROOK WAY (W)	C	190		0	190
Total	190	0	81	271	

HGV					
	A	B	C	Total	
A				0	
B				0	
C				0	
Total	0	0	0	0	0

Junction D - Purbrook Way / Hulbert Road / B2150 Signal:

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	0	0	0	10	10
PURBROOK WAY (E)	B	0	0	0	0	11	11
B2150	C	0	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0	0
PURBROOK WAY (W)	E	22	26	0	0	0	48
Total	22	26	0	0	21	69	

HGV							
	A	B	C	D	E	Total	
A						0	
B						0	
C						0	
D						0	
E						0	
Total	0	0	0	0	0	0	0

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	0	18	0	0	18
PURBROOK WAY	B	42	0	0	22	64
CROOKHORN LN	C	0	0	0	0	0
STAKES RD	D	0	9	0	0	9
Total	42	27	0	22	91	

HGV						
	A	B	C	D	Total	
A					0	
B					0	
C					0	
D					0	
Total	0	0	0	0	0	0

WEEKDAY PM PEAK

Junction A - Lidl Site Access Access:

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A			0	0
LIDL ACCESS	B				0
PRIVATE RD (S)	C	0			0
Total	0	0	0	0	0

HGV					
	A	B	C	Total	
A				0	
B				0	
C				0	
Total	0	0	0	0	0

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A	0	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	47	47
A3(M) J4 ON-SLIP	C					0
PURBROOK WAY (W)	D	0	30	86	0	116
Total	0	30	86	47	163	

HGV						
	A	B	C	D	Total	
A					0	
B					0	
C					0	
D					0	
Total	0	0	0	0	0	0

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES					
	A	B	C	Total	
PURBROOK WAY (E)	A	0		48	48
A3(M) J4 OFF-SLIP	B	0		140	140
PURBROOK WAY (W)	C	116		0	116
Total	116	0	188	304	

HGV					
	A	B	C	Total	
A				0	
B				0	
C				0	
Total	0	0	0	0	0

Junction D - Purbrook Way / Hulbert Road / B2150 Signal:

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	0	0	0	22	22
PURBROOK WAY (E)	B	0	0	0	0	25	25
B2150	C	0	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0	0
PURBROOK WAY (W)	E	14	16	0	0	0	30
Total	14	16	0	0	47	77	

HGV							
	A	B	C	D	E	Total	
A						0	
B						0	
C						0	
D						0	
E						0	
Total	0	0	0	0	0	0	0

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	0	42	0	0	42
PURBROOK WAY	B	25	0	0	13	38
CROOKHORN LN	C	0	0	0	0	0
STAKES RD	D	0	22	0	0	22
Total	25	64	0	13	102	

HGV						
	A	B	C	D	Total	
A					0	
B					0	
C					0	
D					0	
Total	0	0	0	0	0	0

SATURDAY PEAK

-

Junction A - Lidl Site Access Access:

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A			0	
LIDL ACCESS	B				0
PRIVATE RD (S)	C				0
Total	0	0	0	0	0

HGV					
	A	B	C	Total	
A				0	
B				0	
C				0	
Total	0	0	0	0	0

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
PRIVATE RD	A					0
PURBROOK WAY (E)	B					0
A3(M) J4 ON-SLIP	C					0
PURBROOK WAY (W)	D					0
Total	0	0	0	0	0	0

HGV						
	A	B	C	D	Total	
A					0	
B					0	
C					0	
D					0	
Total	0	0	0	0	0	0

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES					
	A	B	C	Total	
PURBROOK WAY (E)	A				0
A3(M) J4 OFF-SLIP	B				0
PURBROOK WAY (W)	C				0
Total	0	0	0	0	0

HGV					
	A	B	C	Total	
A				0	
B				0	
C				0	
Total	0	0	0	0	0

Junction D - Purbrook Way / Hulbert Road / B2150 Signal:

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A						0
PURBROOK WAY (E)	B						0
B2150	C						0
ASDA ACCESS	D						0
PURBROOK WAY (W)	E						0
Total	0	0	0	0	0	0	0

HGV							
	A	B	C	D	E	Total	
A							0
B							0
C							0
D							0
E							0
Total	0	0	0	0	0	0	0

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A					0
PURBROOK WAY	B					0
CROOKHORN LN	C					0
STAKES RD	D					0
Total	0	0	0	0	0	0

HGV						
	A	B	C	D	Total	
A					0	
B					0	
C					0	
D					0	
Total	0	0	0	0	0	0

LIDL Purbrook Way

PROPOSED LIDL FOODSTORE NET CHANGE IN TRAFFIC FLOWS

Source: 202024 - LIDL Purbrook Way - TA - Trip Generation & Assignment - ASDA 42N

PRIMARY TRIPS

WEEKDAY AM PEAK

08:00-09:00

WEEKDAY PM PEAK

15:30-16:30

SATURDAY PEAK

11:45-12:45

Junction A - Lidl Site Access Access

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	0
PRIVATE RD (S)	C	0	34	0
Total	0	0	34	34

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	0
PRIVATE RD (S)	C	0	70	0
Total	0	0	70	70

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	0
PRIVATE RD (S)	C	0	103	0
Total	0	0	103	103

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	12	1
PURBROOK WAY (E)	B	14	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	27	7	0
Total	31	14	7	52

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	28	3
PURBROOK WAY (E)	B	28	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	42	14	0
Total	70	56	3	129

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	41	4
PURBROOK WAY (E)	B	41	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	62	21	0
Total	103	82	4	189

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES			
	A	B	Total
PURBROOK WAY (E)	A	0	11
A3(M) J4 OFF-SLIP	B	1	0
PURBROOK WAY (W)	C	14	0
Total	15	11	26

TOTAL VEHICLES			
	A	B	Total
PURBROOK WAY (E)	A	0	24
A3(M) J4 OFF-SLIP	B	2	0
PURBROOK WAY (W)	C	26	0
Total	28	26	54

TOTAL VEHICLES			
	A	B	Total
PURBROOK WAY (E)	A	0	14
A3(M) J4 OFF-SLIP	B	3	0
PURBROOK WAY (W)	C	34	0
Total	41	14	55

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

TOTAL VEHICLES					
	A	B	C	D	Total
HULBERT RD	A	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	0
B2150	C	0	0	0	0
ASDA ACCESS	D	0	0	0	0
PURBROOK WAY (W)	E	0	0	0	0
Total	0	0	0	0	0

TOTAL VEHICLES					
	A	B	C	D	Total
HULBERT RD	A	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	0
B2150	C	0	0	0	0
ASDA ACCESS	D	0	0	0	0
PURBROOK WAY (W)	E	0	0	0	0
Total	0	0	0	0	0

TOTAL VEHICLES					
	A	B	C	D	Total
HULBERT RD	A	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	0
B2150	C	0	0	0	0
ASDA ACCESS	D	0	0	0	0
PURBROOK WAY (W)	E	0	0	0	0
Total	0	0	0	0	0

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES				
	A	B	C	Total
STAKES HILL RD	A	0	7	0
PURBROOK WAY	B	0	0	0
CROOKHORN LN	C	0	0	0
STAKES RD	D	0	0	0
Total	0	7	0	7

TOTAL VEHICLES				
	A	B	C	Total
STAKES HILL RD	A	0	11	0
PURBROOK WAY	B	0	0	0
CROOKHORN LN	C	0	0	0
STAKES RD	D	0	0	0
Total	0	11	0	11

TOTAL VEHICLES				
	A	B	C	Total
STAKES HILL RD	A	0	15	0
PURBROOK WAY	B	0	0	0
CROOKHORN LN	C	0	0	0
STAKES RD	D	0	0	0
Total	0	15	0	15

SECONDARY

WEEKDAY AM PEAK

08:00-09:00

WEEKDAY PM PEAK

15:30-16:30

SATURDAY PEAK

11:45-12:45

IN	OUT
0	0

IN	OUT
19	19

IN	OUT
12	15

Junction A - Lidl Site Access Access

TOTAL VEHICLES			
	A	B	Total
PRIVATE RD (N)	A	0	0
LIDL ACCESS	B	0	0
PRIVATE RD (S)	C	0	0
Total	0	0	0

TOTAL VEHICLES			
	A	B	Total
PRIVATE RD (N)	A	0	0
LIDL ACCESS	B	0	0
PRIVATE RD (S)	C	0	0
Total	0	0	0

TOTAL VEHICLES			
	A	B	Total
PRIVATE RD (N)	A	0	0
LIDL ACCESS	B	0	0
PRIVATE RD (S)	C	0	0
Total	0	0	0

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES			
	A	B	Total
PURBROOK WAY (E)	A	0	0
A3(M) J4 OFF-SLIP	B	0	0
PURBROOK WAY (W)	C	0	0
Total	0	0	0

TOTAL VEHICLES			
	A	B	Total
PURBROOK WAY (E)	A	0	0
A3(M) J4 OFF-SLIP	B	0	0
PURBROOK WAY (W)	C	0	0
Total	0	0	0

TOTAL VEHICLES			
	A	B	Total
PURBROOK WAY (E)	A	0	0
A3(M) J4 OFF-SLIP	B	0	0
PURBROOK WAY (W)	C	0	0
Total	0	0	0

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

TOTAL VEHICLES					
	A	B	C	D	Total
HULBERT RD	A	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	0
B2150	C	0	0	0	0
ASDA ACCESS	D	0	0	0	0
PURBROOK WAY (W)	E	0	0	0	0
Total	0	0	0	0	0

TOTAL VEHICLES					
	A	B	C	D	Total
HULBERT RD	A	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	0
B2150	C	0	0	0	0
ASDA ACCESS	D	0	0	0	0
PURBROOK WAY (W)	E	0	0	0	0
Total	0	0	0	0	0

TOTAL VEHICLES					
	A	B	C	D	Total
HULBERT RD	A	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	0
B2150	C	0	0	0	0
ASDA ACCESS	D	0	0	0	0
PURBROOK WAY (W)	E	0	0	0	0
Total	0	0	0	0	0

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

TOTAL VEHICLES				
	A	B	C	Total
STAKES HILL RD	A	0	0	0
PURBROOK WAY	B	0	0	0
CROOKHORN LN	C	0	0	0
STAKES RD	D	0	0	0
Total	0	0	0	0

TOTAL VEHICLES				
	A	B	C	Total
STAKES HILL RD	A	0	0	0
PURBROOK WAY	B	0	0	0
CROOKHORN LN	C	0	0	0
STAKES RD	D	0	0	0
Total	0	0	0	0

TOTAL VEHICLES				
	A	B	C	Total
STAKES HILL RD	A	0	0	0
PURBROOK WAY	B	0	0	0
CROOKHORN LN	C	0	0	0
STAKES RD	D	0	0	0
Total	0	0	0	0

COMBINED

WEEKDAY AM PEAK

08:00-09:00

WEEKDAY PM PEAK

15:30-16:30

SATURDAY PEAK

11:45-12:45

Junction A - Lidl Site Access Access

TOTAL VEHICLES			
	A	B	Total
PRIVATE RD (N)	A	0	0
LIDL ACCESS	B	0	0
PRIVATE RD (S)	C	0	0
Total	0	0	0

TOTAL VEHICLES			
	A	B	Total
PRIVATE RD (N)	A	0	0
LIDL ACCESS	B	0	0
PRIVATE RD (S)	C	0	0
Total	0	0	0

TOTAL VEHICLES			
	A	B	Total
PRIVATE RD (N)	A	0	0
LIDL ACCESS	B	0	0
PRIVATE RD (S)	C	0	0
Total	0	0	0

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

TOTAL VEHICLES			
	A	B	Total
PURBROOK WAY (E)	A	0	0
A3(M) J4 OFF-SLIP	B	0	0
PURBROOK WAY (W)	C	0	0
Total	0	0	0

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||
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LIDL Purbrook Way

Junction A - Lidl Site Access Access

WEEKDAY AM PEAK
08:00-09:00

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	140	140
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	168	0	0	168
Total	168	0	140	308	

HGV				
	A	B	C	Total
A	0	0	2	2
B	0	0	0	0
C	2	0	0	2
Total	2	0	2	4

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	1%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	1%	#DIV/0!	#DIV/0!

WEEKDAY PM PEAK
15:30-16:30

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	219	219
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	202	0	0	202
	Total	202	0	219	421

HGV				
	A	B	C	Total
A	0	0	2	2
B	0	0	0	0
C	1	0	0	1
Total	1	0	2	3

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	1%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	0%	#DIV/0!	#DIV/0!

SATURDAY PEAK
11:45-12:45

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	385	385
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	343	0	0	343
	Total	343	0	385	728

HGV				
	A	B	C	Total
A	0	0	1	1
B	0	0	0	0
C	1	0	0	1
Total	1	0	1	2

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	0%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	0%	#DIV/0!	#DIV/0!

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	140	140
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	168	0	0	168
Total	168	0	140	308	

HGV				
	A	B	C	Total
A	0	0	2	2
B	0	0	0	0
C	2	0	0	2
Total	2	0	2	4

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	1%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	1%	#DIV/0!	#DIV/0!

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	219	219
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	202	0	0	202
Total	202	0	219	421	

HGV				
	A	B	C	Total
A	0	0	2	2
B	0	0	0	0
C	1	0	0	1
Total	1	0	2	3

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	1%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	0%	#DIV/0!	#DIV/0!

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES				
	A	B	C	Total
PRIVATE RD (N)	A	0	0	385
LIDL ACCESS	B	0	0	0
PRIVATE RD (S)	C	343	0	343
	Total	343	0	728

HGV				
	A	B	C	Total
A	0	0	1	1
B	0	0	0	0
C	1	0	0	1
Total	1	0	1	2

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	0%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	0%	#DIV/0!	#DIV/0!

2025 Growthed GROWTH FACTOR 1.0031

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	149	149
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	179	0	0	179
Total	179	0	149	328	

HGV				
	A	B	C	Total
A	0	0	2	2
B	0	0	0	0
C	2	0	0	2
Total	2	0	2	4

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	1%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	1%	#DIV/0!	#DIV/0!

2025 Growthed GROWTH FACTOR 1.0051

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	232	232
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	214	0	0	214
Total	214	0	232	446	

HGV				
	A	B	C	Total
A	0	0	2	2
B	0	0	0	0
C	1	0	0	1
Total	1	0	2	3

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	1%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	0%	#DIV/0!	#DIV/0!

2025 Growthed GROWTH FACTOR 1.0048

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	410	410
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	365	0	0	365
	Total	365	0	410	775

HGV				
	A	B	C	Total
A	0	0	1	1
B	0	0	0	0
C	1	0	0	1
Total	1	0	1	2

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	0%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	0%	#DIV/0!	#DIV/0!

Committed Development

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	0	0
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	0	0	0	0
	Total	0	0	0	0

HGV				
	A	B	C	Total
A	0	0	0	0
B	0	0	0	0
C	0	0	0	0
Total	0	0	0	0

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	#DIV/0!
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	#DIV/0!	#DIV/0!	#DIV/0!

Committed Development

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	0	0
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	0	0	0	0
	Total	0	0	0	0

HGV				
	A	B	C	Total
A	0	0	0	0
B	0	0	0	0
C	0	0	0	0
Total	0	0	0	0

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	#DIV/0!
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	#DIV/0!	#DIV/0!	#DIV/0!

Committed Development

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	0	0
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	0	0	0	0
	Total	0	0	0	0

HGV				
	A	B	C	Total
A	0	0	0	0
B	0	0	0	0
C	0	0	0	0
Total	0	0	0	0

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	#DIV/0!
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	#DIV/0!	#DIV/0!	#DIV/0!

2025 Baseline

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	149	149
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	179	0	0	179
	Total	179	0	149	328

HGV				
	A	B	C	Total
A	0	0	2	2
B	0	0	0	0
C	2	0	0	2
Total	2	0	2	4

HGV (%)				
	A	B	C	
PRIVATE RD (N)	A	#DIV/0!	#DIV/0!	1%
LIDL ACCESS	B	#DIV/0!	#DIV/0!	
PRIVATE RD (S)	C	1%	#DIV/0!	#DIV/0!

2025 Baseline

TOTAL VEHICLES					
	A	B	C	Total	
PRIVATE RD (N)	A	0	0	232	232
LIDL ACCESS	B	0	0	0	0
PRIVATE RD (S)	C	214	0	0	214
	Total	214	0	232	446

HGV				
	A	B	C	Total
A	0	0	2	2
B	0	0	0	0
C	1	0	0	1
Total	1	0	2	3

HGV (%)			
	A	B	C
A	#DIV/0!	#DIV/0!	1%
B	#DIV/0!	#DIV/0!	#DIV/0!
C	0%	#DIV/0!	#DIV/0!

LIDL Purbrook Way

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

WEEKDAY AM PEAK
08:00-09:00

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	83	37
PURBROOK WAY (E)	B	85	5	432
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	83	392	491
Total	168	1028	392	825

HDV				
	A	B	C	D
PRIVATE RD	A	0	2	0
PURBROOK WAY (E)	B	0	1	11
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	2	16	16
Total	2	19	29	11

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	0%	0%
PURBROOK WAY (E)	B	0%	20%	2%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	2%	2%	4%

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	83	37
PURBROOK WAY (E)	B	86	5	432
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	83	392	491
Total	168	1028	392	825

HDV				
	A	B	C	D
PRIVATE RD	A	0	2	0
PURBROOK WAY (E)	B	0	1	11
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	2	16	16
Total	2	19	29	11

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	0%	0%
PURBROOK WAY (E)	B	0%	20%	2%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	2%	2%	4%

2025 Growthed GROWTH FACTOR 1.0031

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	86	39
PURBROOK WAY (E)	B	86	5	431
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	86	399	491
Total	170	1030	399	826

HDV				
	A	B	C	D
PRIVATE RD	A	0	2	0
PURBROOK WAY (E)	B	0	1	12
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	2	17	16
Total	2	20	31	12

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	0%	0%
PURBROOK WAY (E)	B	0%	20%	2%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	2%	2%	4%

WEEKDAY PM PEAK
15:30-16:30

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	1	113	63
PURBROOK WAY (E)	B	136	2	428
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	91	1161	422
Total	231	1276	913	490

HDV				
	A	B	C	D
PRIVATE RD	A	0	1	1
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	1	13	2
Total	1	14	6	3

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	1%	2%
PURBROOK WAY (E)	B	0%	0%	0%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	1%	1%	0%

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	1	113	63
PURBROOK WAY (E)	B	136	2	428
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	91	1161	422
Total	231	1276	913	490

HDV				
	A	B	C	D
PRIVATE RD	A	0	1	1
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	1	13	2
Total	1	14	6	3

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	1%	2%
PURBROOK WAY (E)	B	0%	0%	0%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	1%	1%	0%

2025 Growthed GROWTH FACTOR 1.0051

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	1	120	67
PURBROOK WAY (E)	B	136	2	424
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	96	1201	447
Total	233	1260	968	504

HDV				
	A	B	C	D
PRIVATE RD	A	0	1	1
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	1	14	2
Total	1	16	6	3

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	1%	2%
PURBROOK WAY (E)	B	0%	0%	0%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	1%	1%	0%

SATURDAY PEAK
11:45-12:45

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	185	104
PURBROOK WAY (E)	B	166	1	393
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	177	811	279
Total	343	897	756	473

HDV				
	A	B	C	D
PRIVATE RD	A	0	1	0
PURBROOK WAY (E)	B	1	0	1
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	10	2
Total	1	1	3	7

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	1%	0%
PURBROOK WAY (E)	B	1%	0%	2%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	0%	1%	1%

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	185	104
PURBROOK WAY (E)	B	166	1	393
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	177	811	279
Total	343	897	756	473

HDV				
	A	B	C	D
PRIVATE RD	A	0	1	0
PURBROOK WAY (E)	B	1	0	1
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	10	2
Total	1	1	3	7

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	1%	0%
PURBROOK WAY (E)	B	1%	0%	2%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	0%	1%	1%

2025 Growthed GROWTH FACTOR 1.0048

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	187	111
PURBROOK WAY (E)	B	177	1	416
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	188	804	276
Total	365	1002	805	473

HDV				
	A	B	C	D
PRIVATE RD	A	0	1	0
PURBROOK WAY (E)	B	1	0	1
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	11	2
Total	1	1	3	7

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	1%	0%
PURBROOK WAY (E)	B	1%	0%	2%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	0%	1%	1%

Committed Development

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	46	141
Total	0	46	141	200

HDV				
	A	B	C	D
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	0%	0%
PURBROOK WAY (E)	B	0%	0%	0%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	0%	0%	0%

Committed Development

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	30	86
Total	0	30	86	120

HDV				
	A	B	C	D
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	0%	0%
PURBROOK WAY (E)	B	0%	0%	0%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	0%	0%	0%

Committed Development

TOTAL VEHICLES				
	A	B	C	D
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

HDV				
	A	B	C	D
PRIVATE RD	A	0	0	0
PURBROOK WAY (E)	B	0	0	0
A3(M) J4 ON-SLIP	C	0	0	0
PURBROOK WAY (W)	D	0	0	0
Total	0	0	0	0

HDV (%)				
	A	B	C	D
PRIVATE RD	A	0%	0%	0%
PURBROOK WAY (E)	B	0%	0%	0%
A3(M) J4 ON-SLIP	C	0%	0%	0%
PURBROOK WAY (W)	D	0%	0%	0%

2025 Baseline

TOTAL VEHICLES						
		A	B	C	D	Total
PRIVATE RES	A	0	88	39	21	148
PURBROOK WAY (E	B	90	5	481	659	1235
A3(M) 14 ON-SLIP	C	0	0	0	0	0
PURBROOK WAY (W	D	88	1037	663	4	1792
Total		178	1130	1183	684	3175

LIDL Purbrook Way

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

WEEKDAY AM PEAK
08:00-09:00

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	624	625
A3(M) J4 OFF-SLIP	395	0	391	786
PURBROOK WAY (W)	1111	0	0	1111
Total	1507	0	1015	2522

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	11	11
A3(M) J4 OFF-SLIP	7	0	10	17
PURBROOK WAY (W)	29	0	0	29
Total	36	0	21	57

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	19%	19%
A3(M) J4 OFF-SLIP	2%	0%	18%	20%
PURBROOK WAY (W)	3%	0%	0%	3%

WEEKDAY PM PEAK
15:30-16:30

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	489	490
A3(M) J4 OFF-SLIP	594	0	474	1068
PURBROOK WAY (W)	1089	0	3	1092
Total	1675	0	966	2641

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	8	8
A3(M) J4 OFF-SLIP	4	0	14	18
PURBROOK WAY (W)	12	0	0	12
Total	16	0	22	38

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	2%	2%
A3(M) J4 OFF-SLIP	1%	0%	5%	6%
PURBROOK WAY (W)	1%	0%	0%	1%

SATURDAY PEAK
11:45-12:45

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	472	473
A3(M) J4 OFF-SLIP	525	0	292	817
PURBROOK WAY (W)	723	0	4	727
Total	1249	0	768	2017

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	7	7
A3(M) J4 OFF-SLIP	1	0	1	2
PURBROOK WAY (W)	11	0	0	11
Total	12	0	8	20

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	1%	1%
A3(M) J4 OFF-SLIP	0%	0%	0%	0%
PURBROOK WAY (W)	2%	0%	0%	2%

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	624	625
A3(M) J4 OFF-SLIP	395	0	391	786
PURBROOK WAY (W)	1111	0	0	1111
Total	1507	0	1015	2522

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	11	11
A3(M) J4 OFF-SLIP	7	0	10	17
PURBROOK WAY (W)	29	0	0	29
Total	36	0	21	57

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	2%	2%
A3(M) J4 OFF-SLIP	2%	0%	3%	5%
PURBROOK WAY (W)	3%	0%	0%	3%

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	489	490
A3(M) J4 OFF-SLIP	594	0	474	1068
PURBROOK WAY (W)	1089	0	3	1092
Total	1675	0	966	2641

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	8	8
A3(M) J4 OFF-SLIP	4	0	14	18
PURBROOK WAY (W)	12	0	0	12
Total	16	0	22	38

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	2%	2%
A3(M) J4 OFF-SLIP	1%	0%	3%	4%
PURBROOK WAY (W)	1%	0%	0%	1%

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	472	473
A3(M) J4 OFF-SLIP	525	0	292	817
PURBROOK WAY (W)	723	0	4	727
Total	1249	0	768	2017

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	7	7
A3(M) J4 OFF-SLIP	1	0	1	2
PURBROOK WAY (W)	11	0	0	11
Total	12	0	8	20

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	1%	1%
A3(M) J4 OFF-SLIP	0%	0%	0%	0%
PURBROOK WAY (W)	2%	0%	0%	2%

2025 Growthed GROWTH FACTOR 1.0031

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	663	664
A3(M) J4 OFF-SLIP	420	0	416	836
PURBROOK WAY (W)	1181	0	0	1181
Total	1602	0	1079	2681

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	12	12
A3(M) J4 OFF-SLIP	7	0	11	18
PURBROOK WAY (W)	31	0	0	31
Total	38	0	23	61

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	2%	2%
A3(M) J4 OFF-SLIP	2%	0%	3%	5%
PURBROOK WAY (W)	3%	0%	0%	3%

2025 Growthed GROWTH FACTOR 1.0051

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	518	519
A3(M) J4 OFF-SLIP	630	0	502	1132
PURBROOK WAY (W)	1145	0	3	1148
Total	1776	0	1023	2799

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	8	8
A3(M) J4 OFF-SLIP	4	0	15	19
PURBROOK WAY (W)	13	0	0	13
Total	17	0	23	40

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	2%	2%
A3(M) J4 OFF-SLIP	1%	0%	3%	4%
PURBROOK WAY (W)	1%	0%	0%	1%

2025 Growthed GROWTH FACTOR 1.0048

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	503	504
A3(M) J4 OFF-SLIP	559	0	311	870
PURBROOK WAY (W)	770	0	4	774
Total	1330	0	818	2148

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	7	7
A3(M) J4 OFF-SLIP	1	0	1	2
PURBROOK WAY (W)	12	0	0	12
Total	13	0	8	21

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	1%	1%
A3(M) J4 OFF-SLIP	0%	0%	0%	0%
PURBROOK WAY (W)	2%	0%	0%	2%

Committed Development

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	0	0	20	20
A3(M) J4 OFF-SLIP	0	0	61	61
PURBROOK WAY (W)	190	0	0	190
Total	190	0	81	271

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	0	0
A3(M) J4 OFF-SLIP	0	0	0	0
PURBROOK WAY (W)	0	0	0	0
Total	0	0	0	0

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	0%	0%
A3(M) J4 OFF-SLIP	0%	0%	0%	0%
PURBROOK WAY (W)	0%	0%	0%	0%

Committed Development

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	0	0	46	46
A3(M) J4 OFF-SLIP	0	0	140	140
PURBROOK WAY (W)	116	0	0	116
Total	116	0	186	304

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	0	0
A3(M) J4 OFF-SLIP	0	0	0	0
PURBROOK WAY (W)	0	0	0	0
Total	0	0	0	0

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	0%	0%
A3(M) J4 OFF-SLIP	0%	0%	0%	0%
PURBROOK WAY (W)	0%	0%	0%	0%

Committed Development

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	0	0	0	0
A3(M) J4 OFF-SLIP	0	0	0	0
PURBROOK WAY (W)	0	0	0	0
Total	0	0	0	0

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	0	0
A3(M) J4 OFF-SLIP	0	0	0	0
PURBROOK WAY (W)	0	0	0	0
Total	0	0	0	0

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	0%	0%
A3(M) J4 OFF-SLIP	0%	0%	0%	0%
PURBROOK WAY (W)	0%	0%	0%	0%

2025 Baseline

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	683	684
A3(M) J4 OFF-SLIP	420	0	477	897
PURBROOK WAY (W)	1371	0	0	1371
Total	1792	0	1160	2952

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	12	12
A3(M) J4 OFF-SLIP	7	0	11	18
PURBROOK WAY (W)	31	0	0	31
Total	38	0	23	61

HGV (%)				
	A	B	C	Total
PURBROOK WAY (E)	0%	0%	2%	2%
A3(M) J4 OFF-SLIP	2%	0%	3%	5%
PURBROOK WAY (W)	2%	0%	0%	2%

2025 Baseline

TOTAL VEHICLES				
	A	B	C	Total
PURBROOK WAY (E)	1	0	598	599
A3(M) J4 OFF-SLIP	620	0	542	1162
PURBROOK WAY (W)	1281	0	3	1284
Total	1882	0	1211	3103

HGV				
	A	B	C	Total
PURBROOK WAY (E)	0	0	8	8
A3(M) J4 OFF-SLIP	4	0	15	19
PURBROOK WAY (W)	13	0	0	13
Total	17	0	23	40

HGV (%)</

LIDL Purbrook Way

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

WEEKDAY AM PEAK
08:00-09:00

Survey Data Updated 2020 Survey

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	287	133	96	513
PURBROOK WAY (S)	B	366	1	16	173	677
PURBROOK WAY (N)	C	162	44	0	136	342
ASDA ACCESS	D	481	221	16	1	176
PURBROOK WAY (N)	E	131	556	136	256	2180
Total	1762	1057	345	362	1133	5940

HGV						
	A	B	C	D	E	Total
HULBERT RD	A	0	2	4	5	7
PURBROOK WAY (S)	B	5	0	0	0	5
PURBROOK WAY (N)	C	0	1	0	0	1
ASDA ACCESS	D	0	0	0	0	1
PURBROOK WAY (N)	E	4	11	4	0	19
Total	5	7	5	4	5	36

GROWTH FACTOR = 1.0000

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	337	133	96	566
PURBROOK WAY (S)	B	366	1	16	173	656
B2150	C	162	44	0	136	342
ASDA ACCESS	D	381	221	16	1	619
PURBROOK WAY (N)	E	131	556	136	256	2180
Total	740	1357	345	362	1133	5940

HGV						
	A	B	C	D	E	Total
PURBROOK WAY (S)	A	0	2	4	0	7
B2150	B	0	0	0	0	0
ASDA ACCESS	C	0	0	0	0	0
PURBROOK WAY (N)	D	0	0	0	0	1
Total	E	4	11	4	0	19
Total	9	14	8	0	22	53

2025 Growthed

GROWTH FACTOR = 1.0001

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	288	141	122	550	750
PURBROOK WAY (S)	B	429	1	19	164	710	1345
B2150	C	151	47	0	145	187	333
ASDA ACCESS	D	481	221	16	1	177	719
PURBROOK WAY (N)	E	132	557	136	272	2	1871
Total	762	1071	366	354	1264	4137	

HSV							
	A	B	C	D	E	Total	
HULBERT RD	A	0	2	4	0	1	7
PURBROOK WAY (S)	B	0	0	0	0	0	0
B2150	C	0	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0	0
PURBROOK WAY (N)	E	4	12	4	0	0	20
Total	0	15	6	3	0	23	45

Committed Development

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	10
PURBROOK WAY (S)	B	0	0	0	0	11
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	22	28	0	0	48
Total		22	28	0	0	51

HDV						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
Total		0	0	0	0	0

2025 Baseline

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	358	141	102	118	719
PURBROOK WAY (S)	B	431	1	19	184	731	1355
B2150	C	151	47	0	143	187	530
ASDA ACCESS	D	481	128	68	1	187	862
PURBROOK WAY (N)	E	144	552	136	272	2	1119
	Total	1144	1037	368	754	1225	4296

HGV							
	A	B	C	D	E	Total	
PURBROOK WAY (S)	A	0	2	4	0	1	7
B2150	B	0	0	0	0	1	1
ASDA ACCESS	C	0	1	0	0	0	1
PURBROOK WAY (N)	D	0	0	0	0	0	0
	E	4	13	4	0	0	21
	Total	0	15	8	0	23	46

Additional Development Trips

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
Total	0	0	0	0	0	0

HDV						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
Total	0	0	0	0	0	0

2025 + Development

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	287	133	96	513
PURBROOK WAY (S)	B	366	1	16	166	550
B2150	C	162	44	0	133	340
ASDA ACCESS	D	50	117	61	1	170
PURBROOK WAY (N)	E	110	512	135	249	2105
Total	748	1042	515	247	641	3193

HGV						
	A	B	C	D	E	Total
HULBERT RD	A	0	2	4	0	7
PURBROOK WAY (S)	B	5	0	16	55	76
B2150	C	0	1	0	0	1
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	4	11	4	0	19
Total	5	14	8	5	22	50

2025 + Development

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	358	141	122	118	719
PURBROOK WAY (S)	B	431	1	19	180	750	1360
B2150	C	151	47	0	142	163	323
ASDA ACCESS	D	481	125	65	1	191	677
PURBROOK WAY (N)	E	144	570	143	265	2	1124
	Total	816	1110	368	660	1223	4056

HGV							
	A	B	C	D	E	Total	
HULBERT RD	A	0	2	4	0	1	7
PURBROOK WAY (S)	B	5	0	0	0	21	26
B2150	C	0	1	0	0	0	1
ASDA ACCESS	D	0	0	0	0	1	1
PURBROOK WAY (N)	E	4	13	4	0	0	20
	Total	9	15	8	5	23	55

WEEKDAY PM PEAK
15:30-16:30

Survey Data Updated 2020 Survey

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	309	136	147	641
PURBROOK WAY (S)	B	202	2	16	216	637
ASDA ACCESS	C	107	221	100	3	430
PURBROOK WAY (N)	D	164	126	33	256	2180
Total	573	1238	460	432	1607	

HGV							
	A	B	C	D	E	Total	
HULBERT RD	A	0	4	0	2	1	7
PURBROOK WAY (S)	B	2	0	3	5	13	
ASDA ACCESS	C	1	0	0	0	1	
PURBROOK WAY (N)	D	0	0	0	0	3	
Total	0	13	0	0	0	13	

GROWTH FACTOR = 1.0000

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	309	76	147	531
PURBROOK WAY (S)	B	202	2	16	216	637
B2150	C	106	20	0	126	432
ASDA ACCESS	D	107	221	100	2	430
PURBROOK WAY (N)	E	164	126	33	256	2180
Total	573	1238	420	432	1607	

HQV						
	A	B	C	D	E	Total
HULBERT RD	A	0	4	0	2	1
PURBROOK WAY (S)	B	2	0	0	2	7
B2150	C	1	0	0	0	1
ASDA ACCESS	D	0	0	0	0	3
PURBROOK WAY (N)	E	0	13	0	0	13
Total	3	17	0	4	13	37

2025 Growthed

GROWTH FACTOR = 1.0001

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	313	83	168	564
PURBROOK WAY (S)	B	267	2	16	217	502
B2150	C	107	21	0	127	255
ASDA ACCESS	D	108	227	100	2	437
PURBROOK WAY (N)	E	110	763	25	328	1226
Total	573	1239	461	503	1034	4340

MOV						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	2	1	3
PURBROOK WAY (S)	B	2	0	0	2	10
B2150	C	1	0	0	0	1
ASDA ACCESS	D	0	0	0	0	3
PURBROOK WAY (N)	E	0	14	0	4	18
Total	3	16	0	4	14	35

Committed Development

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	0	0	0	22	22
PURBROOK WAY (S)	B	0	0	0	0	25	25
B2150	C	0	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0	0
PURBROOK WAY (N)	E	14	16	0	0	0	30
Total	14	16	0	0	0	47	77

HDV							
	A	B	C	D	E	Total	
HULBERT RD	A	0	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0	0
B2150	C	0	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0	0
Total	0	0	0	0	0	0	0

2025 Baseline

TOTAL VEHICLES						MOV								
	A	B	C	D	E	Total		A	B	C	D	E	Total	
HULBERT RD	A	0	413	83	158	119	770	A	0	4	0	2	1	7
PURBROOK WAY (S)	B	267	2	16	227	514	1044	B	2	0	2	10	14	18
B2150	C	107	31	5	107	155	450	C	1	0	0	0	0	1
ASDA ACCESS	D	108	227	100	2	430	736	D	0	0	0	0	0	0
PURBROOK WAY (N)	E	154	719	35	226	2	1589	E	0	14	0	0	0	14
Total	566	1072	243	381	585	4233		Total	3	16	0	4	14	33

Additional Development Trips

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	-2	0
PURBROOK WAY (S)	B	0	0	0	-16	0
B2150	C	0	0	0	-12	0
ASDA ACCESS	D	-2	-6	-5	0	-13
PURBROOK WAY (N)	E	0	17	13	0	30
Total	-2	0	7	-28	14	0

MOV						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
Total	0	0	0	0	0	0

2025 + Development

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	309	136	31	756
PURBROOK WAY (S)	B	202	2	16	206	627
B2150	C	106	20	0	126	433
ASDA ACCESS	D	107	221	86	2	715
PURBROOK WAY (N)	E	164	127	45	206	2198
Total	573	1238	548	586	670	

HDV							
	A	B	C	D	E	Total	
HULBERT RD	A	0	4	0	2	1	7
PURBROOK WAY (S)	B	2	0	0	2	9	13
B2150	C	1	0	0	0	1	2
ASDA ACCESS	D	0	0	0	0	3	3
PURBROOK WAY (N)	E	0	13	0	0	13	26
Total	3	17	0	0	4	13	37

2025 + Development

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	413	83	154	116	758
PURBROOK WAY (S)	B	207	2	19	219	447	1055
B2150	C	107	21	0	143	127	420
ASDA ACCESS	D	108	229	101	2	291	730
PURBROOK WAY (N)	E	124	796	47	315	2	1284
Total	573	1667	2250	352	1086	4233	

HDV							
	A	B	C	D	E	Total	
HULBERT RD	A	0	4	0	2	1	7
PURBROOK WAY (S)	B	2	0	5	2	10	14
B2150	C	1	0	0	0	0	1
ASDA ACCESS	D	0	0	0	0	3	3
PURBROOK WAY (N)	E	0	14	0	0	0	14
Total	3	18	0	4	14	34	

SATURDAY PEAK
11:45-12:45

Survey Data Updated 2020 Survey

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	288	31	147	566
PURBROOK WAY (S)	B	536	1	27	100	664
ASDA	C	194	271	97	1	563
PURBROOK WAY (N)	D	111	475	71	337	1094
	E	111	475	71	337	1094

HDV						
	A	B	C	D	E	Total
HULBERT RD	A	0	1	3	0	4
PURBROOK WAY (S)	B	3	0	0	0	3
ASDA	C	0	0	0	0	0
PURBROOK WAY (N)	D	0	0	0	0	0
	E	1	3	0	0	4

GROWTH FACTOR = 1.0000

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	268	81	144	593
PURBROOK WAY (S)	B	236	1	27	208	462
B2150	C	88	33	0	138	259
ASDA ACCESS	D	184	271	87	1	543
PURBROOK WAY (N)	E	111	479	71	333	1094
	Total	589	1053	270	861	3373

HDV						
	A	B	C	D	E	Total
HULBERT RD	A	0	1	0	0	1
PURBROOK WAY (S)	B	0	0	0	6	2
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
	Total	0	0	0	14	5

2025 Growthed

GROWTH FACTOR = 1.0001

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	289	31	153	573
PURBROOK WAY (S)	B	537	1	29	291	628
B2150	C	194	26	0	148	368
ASDA ACCESS	D	193	289	103	0	585
PURBROOK WAY (N)	E	118	513	71	354	1056
Total	739	1056	296	368	966	2945

HDV						
	A	B	C	D	E	Total
HULBERT RD	A	0	1	3	0	4
PURBROOK WAY (S)	B	2	0	0	6	8
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	1	3	0	3	7
Total	3	3	3	3	9	30

Committed Development

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
Total	0	0	0	0	0	0

HDV						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
Total	0	0	0	0	0	0

2025 Baseline

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	288	86	133	173	677
PURBROOK WAY (S)	B	251	1	29	241	420	946
B2150	C	194	30	0	148	138	369
ASDA ACCESS	D	123	289	103	0	240	653
PURBROOK WAY (N)	E	112	476	71	354	0	1000
Total	739	1056	290	860	866	336	

HDV							
	A	B	C	D	E	Total	
HULBERT RD	A	0	1	0	0	0	1
PURBROOK WAY (S)	B	2	0	0	6	2	10
B2150	C	0	0	0	0	0	0
ASDA ACCESS	D	0	1	0	0	6	11
PURBROOK WAY (N)	E	1	2	0	9	0	13
Total	3	3	0	15	6	35	

Additional Development Trips

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
Total	0	0	0	0	0	0

HDV						
	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (S)	B	0	0	0	0	0
B2150	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0
PURBROOK WAY (N)	E	0	0	0	0	0
Total	0	0	0	0	0	0

2025 + Development

TOTAL VEHICLES						
	A	B	C	D	E	Total
HULBERT RD	A	0	289	31	143	563
PURBROOK WAY (S)	B	236	1	27	214	478
B215	C	68	33	0	133	334
ASDA ACCESS	D	190	261	97	0	548
PURBROOK WAY (N)	E	111	555	71	3	1040
	Total	555	1039	289	583	2466

HDV						
	A	B	C	D	E	Total
HULBERT RD	A	0	1	0	0	1
PURBROOK WAY (S)	B	2	0	0	6	2
B215	C	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	11
PURBROOK WAY (N)	E	1	3	0	0	12
	Total	3	0	0	14	5

2025 + Development

TOTAL VEHICLES							
	A	B	C	D	E	Total	
HULBERT RD	A	0	285	88	149	513	533
PURBROOK WAY (S)	B	231	1	29	211	463	463
B2150	C	194	30	0	143	358	407
ASDA ACCESS	D	199	279	67	0	327	457
PURBROOK WAY (N)	E	112	534	95	333	9	1080
Total	739	1056	357	465	1016	364	

HDV							
	A	B	C	D	E	Total	
HULBERT RD	A	0	1	0	0	0	1
PURBROOK WAY (S)	B	2	0	0	0	0	2
B2150	C	0	0	0	0	0	0
ASDA ACCESS	D	0	0	0	0	0	0
PURBROOK WAY (N)	E	1	2	0	9	0	13
Total	3	0	0	0	15	6	36

LIDL Purbrook Way

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

WEEKDAY AM PEAK
08:00-09:00

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES					
	A	B	C	D	Total
STAKES HILL RD	A	16	375	175	566
PURBROOK WAY	B	511	12	60	583
CROOKHORN LN	C	191	51	0	242
STAKES RD	D	105	366	49	520
Total	524	1044	297	539	2714

HGV					
	A	B	C	D	Total
A	0	10	10	1	21
B	6	0	4	5	15
C	17	2	0	7	26
D	1	5	4	0	10
Total	24	17	18	13	72

HGV (%)				
	A	B	C	D
A	0%	2%	6%	1%
B	1%	0%	5%	2%
C	0%	2%	#DIV/0!	12%
D	1%	1%	6%	0%

WEEKDAY PM PEAK
15:30-16:30

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	4	487	187	100	838
PURBROOK WAY	B	397	5	123	362	917
CROOKHORN LN	C	146	116	0	74	336
STAKES RD	D	99	364	63	0	526
	Total	646	962	373	616	2617

HGV					
	A	B	C	D	Total
A	0	1	9	1	11
B	13	0	5	6	24
C	4	2	0	3	9
D	0	1	4	0	5
Total	17	4	18	10	49

HGV (%)				
	A	B	C	D
A	0%	0%	5%	1%
B	3%	0%	4%	2%
C	3%	2%	#DIV/0!	4%
D	0%	0%	6%	#DIV/0!

SATURDAY PEAK
11:45-12:45

Survey Data Uplifted 2020 Survey

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	1	301	132	101	535
PURBROOK WAY	B	202	1	87	359	650
CROOKHORN LN	C	130	74	1	58	263
STAKES RD	D	101	309	52	2	464
	Total	524	685	272	461	1942

HGV					
	A	B	C	D	Total
A	0	0	6	0	6
B	1	0	2	0	3
C	5	2	0	2	9
D	1	3	4	0	8
Total	7	5	12	2	26

HGV (%)				
	A	B	C	D
A	0%	0%	5%	0%
B	0%	0%	2%	0%
C	4%	3%	0%	3%
D	1%	1%	8%	0%

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES					
	A	B	C	D	Total
STAKES HILL RD	A	16	375	175	566
PURBROOK WAY	B	511	12	60	583
CROOKHORN LN	C	191	51	0	242
STAKES RD	D	105	366	49	520
Total	524	1044	297	539	2714

HGV					
	A	B	C	D	Total
A	0	10	10	1	21
B	6	0	4	5	15
C	17	2	0	7	26
D	1	5	4	0	10
Total	24	17	18	13	72

HGV (%)				
	A	B	C	D
A	0%	2%	6%	1%
B	1%	0%	5%	2%
C	9%	2%	#DIV/0!	12%
D	1%	1%	8%	0%

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	4	487	187	100	838
PURBROOK WAY	B	397	5	123	392	917
CROOKHORN LN	C	146	116	0	74	336
STAKES RD	D	99	364	63	0	526
	Total	646	962	373	616	2617

HGV					
	A	B	C	D	Total
A	0	1	9	1	11
B	13	0	5	6	24
C	4	2	0	3	9
D	0	1	4	0	5
Total	17	4	18	10	49

HGV (%)				
	A	B	C	D
A	0%	0%	5%	1%
B	3%	0%	4%	2%
C	3%	2%	#DIV/0!	4%
D	0%	0%	6%	#DIV/0!

2020 Baseline GROWTH FACTOR 1.0000

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	1	301	132	101	535
PURBROCK WAY	B	202	1	87	359	650
CROOKHORN LN	C	130	74	1	58	263
STAKES RD	D	101	300	52	2	455
	Total	524	685	272	461	1942

HGV					
	A	B	C	D	Total
A	0	0	6	0	6
B	1	0	2	0	3
C	5	2	0	2	9
D	1	3	4	0	8
Total	7	5	12	2	26

HGV (%)				
	A	B	C	D
A	0%	0%	5%	0%
B	0%	0%	2%	0%
C	4%	3%	0%	3%
D	1%	1%	8%	0%

2025 Growthed GROWTH FACTOR 1.0031

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	17	611	189	186	1003
PURBROOK WAY	B	543	13	85	320	961
CROOKHORN LN	C	203	97	0	62	362
STAKES RD	D	113	389	52	5	559
	Total	876	1110	326	573	2885

HGV					
	A	B	C	D	Total
A	0	11	11	1	23
B	6	0	4	5	15
C	18	2	0	7	27
D	1	5	4	0	10
Total	25	18	19	13	75

HGV (%)				
	A	B	C	D
A	0%	2%	0%	1%
B	1%	0%	5%	2%
C	0%	2%	#DIV/0!	11%
D	1%	1%	8%	0%

2025 Growthed GROWTH FACTOR 1.0051

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	4	527	196	159	886
PURBROOK WAY	B	421	5	130	416	972
CROOKHORN LN	C	155	123	0	78	356
STAKES RD	D	105	386	67	0	558
	Total	685	1041	365	653	2774

HGV					
	A	B	C	D	Total
A	0	1	10	1	12
B	14	0	5	6	25
C	4	2	0	3	9
D	0	1	4	0	5
Total	18	4	19	10	51

HDV (%)				
	A	B	C	D
A	0%	0%	2%	1%
B	3%	0%	4%	1%
C	3%	2%	#DIV/0!	4%
D	0%	0%	6%	#DIV/0!

2025 Growthed GROWTH FACTOR 1.0048

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	1	321	141	108	571
PURBROOK WAY	B	311	1	93	319	724
CROOKHORN LN	C	138	79	1	62	280
STAKES RD	D	108	329	55	2	494
	Total	558	730	290	491	2089

HDV					
	A	B	C	D	Total
A	0	0	6	0	6
B	1	0	2	0	3
C	5	2	0	2	9
D	1	3	4	0	8
Total	7	5	12	2	26

HGV (%)				
	A	B	C	D
A	0%	0%	4%	0%
B	0%	0%	2%	0%
C	4%	3%	0%	3%
D	1%	1%	7%	0%

Committed Development

TOTAL VEHICLES						
	A	B	C	D	Total	
STAKES HILL RD	A	0	16	0	0	16
PURBROOK WAY	B	42	0	0	22	64
CROOKHORN LN	C	0	0	0	0	0
STAKES RD	D	0	9	0	0	9
	Total	42	27	0	22	91

HGV					
	A	B	C	D	Total
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	0	0	0	0
Total	0	0	0	0	0

HGV (%)				
	A	B	C	D
A	#DIV/0!	0%	#DIV/0!	#DIV/0!
B	0%	#DIV/0!	#DIV/0!	0%
C	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
D	#DIV/0!	0%	#DIV/0!	#DIV/0!

APPENDIX I: Threshold Assessment

LIDL Purbrook Way

DETAILED THRESHOLD TESTING

30 5%

WEEKDAY AM PEAK

ADDITIONAL DEVELOPMENT TRAFFIC
Junction A - Lidl Site Access Access

	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	38
PRIVATE RD (S)	C	0	45	0
Total	0	45	38	83

2025 BASELINE IMPACT %

PRIVATE RD (N)	0.0%
LIDL ACCESS	#DIV/0!
PRIVATE RD (S)	25.2%
JUNCTION	25.2%

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

	A	B	C	D	Total
PRIVATE RD	A	0	15	4	19
PURBROOK WAY (E)	B	18	0	-2	8
A3(M) J4 ON-SLP	C	0	0	0	0
PURBROOK WAY (W)	D	27	-10	-2	15
Total	45	5	0	11	61

PRIVATE RD	25.5%
PURBROOK WAY (E)	0.5%
A3(M) J4 ON-SLP	0.0%
PURBROOK WAY (W)	1.1%
JUNCTION	1.9%

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

	A	B	C	Total
PURBROOK WAY (E)	A	0	0	11
A3(M) J4 OFF-SLP	B	1	0	0
PURBROOK WAY (W)	C	14	0	14
Total	15	0	11	26

PURBROOK WAY (E)	1.1%
A3(M) J4 OFF-SLP	0.1%
PURBROOK WAY (W)	1.0%
JUNCTION	0.9%

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	0	0
PURBROOK WAY (E)	B	0	0	0	-4	8
B2150	C	0	0	0	-3	6
ASDA ACCESS	D	0	-3	-3	0	-6
PURBROOK WAY (W)	E	0	7	5	-7	5
Total	0	4	2	-14	8	0

HULBERT RD	0.0%
PURBROOK WAY (E)	0.3%
B2150	0.6%
ASDA ACCESS	-2.2%
PURBROOK WAY (W)	0.6%
JUNCTION	0.0%

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

	A	B	C	D	Total
STAKES HILL RD	A	0	7	0	0
PURBROOK WAY	B	5	0	-1	5
CROOKHORN LN	C	0	0	0	0
STAKES RD	D	0	5	0	5
Total	5	12	-1	5	21

STAKES HILL RD	0.6%
PURBROOK WAY	1.0%
CROOKHORN LN	-0.1%
STAKES RD	0.9%
JUNCTION	0.7%

WEEKDAY PM PEAK

ADDITIONAL DEVELOPMENT TRAFFIC
Junction A - Lidl Site Access Access

	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	91
PRIVATE RD (S)	C	0	68	0
Total	0	68	91	159

2025 BASELINE IMPACT %

PRIVATE RD (N)	0.0%
LIDL ACCESS	#DIV/0!
PRIVATE RD (S)	40.1%
JUNCTION	40.1%

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

	A	B	C	D	Total
PRIVATE RD	A	0	38	9	44
PURBROOK WAY (E)	B	34	0	-4	14
A3(M) J4 ON-SLP	C	0	0	0	0
PURBROOK WAY (W)	D	54	-23	-3	28
Total	88	15	2	28	133

PRIVATE RD	40.1%
PURBROOK WAY (E)	1.2%
A3(M) J4 ON-SLP	0.2%
PURBROOK WAY (W)	2.3%
JUNCTION	0.0%

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

	A	B	C	Total
PURBROOK WAY (E)	A	0	0	28
A3(M) J4 OFF-SLP	B	2	0	0
PURBROOK WAY (W)	C	26	0	26
Total	28	0	28	56

PURBROOK WAY (E)	2.3%
A3(M) J4 OFF-SLP	0.2%
PURBROOK WAY (W)	2.2%
JUNCTION	1.8%

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	-2	0
PURBROOK WAY (E)	B	0	0	0	-8	16
B2150	C	0	0	0	-4	12
ASDA ACCESS	D	-2	-8	-5	0	-14
PURBROOK WAY (W)	E	0	17	12	-14	15
Total	-2	9	7	-28	14	0

HULBERT RD	-0.3%
PURBROOK WAY (E)	0.7%
B2150	2.2%
ASDA ACCESS	-3.5%
PURBROOK WAY (W)	1.2%
JUNCTION	0.0%

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

	A	B	C	D	Total
STAKES HILL RD	A	0	11	0	0
PURBROOK WAY	B	11	0	0	13
CROOKHORN LN	C	0	0	0	0
STAKES RD	D	0	12	0	12
Total	11	23	0	13	47

STAKES HILL RD	1.3%
PURBROOK WAY	2.2%
CROOKHORN LN	0.0%
STAKES RD	2.0%
JUNCTION	0.0%

SATURDAY PEAK

ADDITIONAL DEVELOPMENT TRAFFIC
Junction A - Lidl Site Access Access

	A	B	C	Total
PRIVATE RD (N)	A	0	0	0
LIDL ACCESS	B	0	0	114
PRIVATE RD (S)	C	0	115	0
Total	0	115	114	229

2025 BASELINE IMPACT %

PRIVATE RD (N)	0.0%
LIDL ACCESS	#DIV/0!
PRIVATE RD (S)	29.5%
JUNCTION	29.5%

Junction B - Purbrook Way / A3(M) J4 southbound roundabout

	A	B	C	D	Total
PRIVATE RD	A	0	46	8	60
PURBROOK WAY (E)	B	46	0	-4	20
A3(M) J4 ON-SLP	C	0	0	0	0
PURBROOK WAY (W)	D	69	-26	-2	41
Total	115	20	2	38	175

PRIVATE RD	29.5%
PURBROOK WAY (E)	1.9%
A3(M) J4 ON-SLP	0.2%
PURBROOK WAY (W)	4.3%
JUNCTION	0.0%

Junction C - Purbrook Way / A3(M) J4 northbound roundabout

	A	B	C	Total
PURBROOK WAY (E)	A	0	0	38
A3(M) J4 OFF-SLP	B	3	0	0
PURBROOK WAY (W)	C	38	0	38
Total	41	0	38	79

PURBROOK WAY (E)	4.3%
A3(M) J4 OFF-SLP	0.3%
PURBROOK WAY (W)	4.8%
JUNCTION	3.7%

Junction D - Purbrook Way / Hulbert Road / B2150 Signals

	A	B	C	D	E	Total
HULBERT RD	A	0	0	0	-4	0
PURBROOK WAY (E)	B	0	0	0	-10	24
B2150	C	0	0	0	-6	17
ASDA ACCESS	D	-4	-10	-6	0	-21
PURBROOK WAY (W)	E	0	24	17	-21	20
Total	-4	14	11	-41	20	0

HULBERT RD	-0.6%
PURBROOK WAY (E)	1.4%
B2150	3.2%
ASDA ACCESS	-4.6%
PURBROOK WAY (W)	1.9%
JUNCTION	0.0%

Junction E - Purbrook Way / Stakes Rd / Stakes Hill Rd / Crookhorn Ln roundabout

	A	B	C	D	Total
STAKES HILL RD	A	0	15	0	0
PURBROOK WAY	B	15	0	0	18
CROOKHORN LN	C	0	0	0	0
STAKES RD	D	0	18	0	18
Total	15	33	0	18	66

STAKES HILL RD	2.7%
PURBROOK WAY	4.5%
CROOKHORN LN	0.0%
STAKES RD	3.7%
JUNCTION	0.0%

APPENDIX J: PICADY Output – Site Access

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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Filename: PICADY - Site access junction (v2 Sept2020).j9
Path: H:\LIDL\PurbrookWay.1\05 Calculations\Junction modelling\Picady - Site access
Report generation date: 24/09/2020 11:43:29

»2020 + devt, AM
 »2025 + devt, AM
 »2020 + devt, PM
 »2025 + devt, PM
 »2020 + devt, SAT
 »2025 + devt , SAT

Summary of junction performance

	AM						PM						SAT					
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
	2020 + devt																	
Stream B-AC	D6	0.1	5.58	0.06	A	584 %	D11	0.2	6.39	0.15	A	275 %	D16	0.3	7.32	0.20	A	159 %
Stream C-AB		0.1	6.67	0.09	A	[Stream C-AB]		0.2	7.33	0.17	A	[Stream C-AB]		0.4	7.84	0.25	A	[Stream C-AB]
	2025 + devt																	
Stream B-AC	D7	0.1	5.60	0.06	A	568 %	D12	0.2	6.43	0.15	A	268 %	D17	0.3	7.43	0.21	A	152 %
Stream C-AB		0.1	6.68	0.09	A	[Stream C-AB]		0.2	7.35	0.18	A	[Stream C-AB]		0.4	7.85	0.25	A	[Stream C-AB]

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.
 Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	

Date	10/08/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAYERBROWN2K\hiorwerth
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

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2020 + devt	AM	2020 uplifted flows + development	ONE HOUR	07:45	09:15	15
D7	2025 + devt	AM	2025 flows + development	ONE HOUR	07:45	09:15	15
D11	2020 + devt	PM	2020 uplifted flows + development	ONE HOUR	15:15	16:45	15
D12	2025 + devt	PM	2025 flows + development	ONE HOUR	15:15	16:45	15
D16	2020 + devt	SAT	2020 uplifted flows + development	ONE HOUR	11:30	13:00	15
D17	2025 + devt	SAT	2025 flows + development	ONE HOUR	11:30	13:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2020 + devt, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.32	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	584	Stream C-AB

Arms

Arms

Arm	Name	Description	Arm type
A	B&Q access road (N)		Major
B	Lidl		Minor
C	B&Q access road (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - B&Q access road (S)	7.80			60.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Lidl	One lane	4.50	9	13

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	560	0.094	0.238	0.150	0.340
B-C	727	0.103	0.260	-	-
C-B	609	0.217	0.217	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2020 + devt	AM	2020 uplifted flows + development	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - B&Q access road (N)		✓	140	100.000
B - Lidl		✓	38	100.000
C - B&Q access road (S)		✓	213	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
From	A - B&Q access road (N)	0	0	140
	B - Lidl	0	0	38
	C - B&Q access road (S)	168	45	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
From	A - B&Q access road (N)	0	0	1
	B - Lidl	0	0	0
	C - B&Q access road (S)	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.06	5.58	0.1	A
C-AB	0.09	6.67	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	29	699	0.041	28	0.0	5.364	A
C-AB	34	593	0.058	34	0.1	6.439	A
C-A	126			126			
A-B	0			0			
A-C	105			105			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	34	694	0.049	34	0.1	5.454	A
C-AB	41	592	0.070	41	0.1	6.539	A
C-A	150			150			
A-B	0			0			
A-C	126			126			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	42	687	0.061	42	0.1	5.582	A
C-AB	51	591	0.086	51	0.1	6.667	A
C-A	184			184			
A-B	0			0			
A-C	154			154			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	42	687	0.061	42	0.1	5.582	A
C-AB	51	591	0.086	51	0.1	6.667	A
C-A	184			184			
A-B	0			0			
A-C	154			154			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	34	694	0.049	34	0.1	5.455	A
C-AB	41	592	0.070	41	0.1	6.541	A
C-A	150			150			
A-B	0			0			
A-C	126			126			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	29	699	0.041	29	0.0	5.368	A
C-AB	34	593	0.058	34	0.1	6.445	A
C-A	126			126			
A-B	0			0			
A-C	105			105			

2025 + devt, AM

Data Errors and Warnings*No errors or warnings*

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.26	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	568	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2025 + devt	AM	2025 flows + development	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - B&Q access road (N)		✓	149	100.000
B - Lidl		✓	38	100.000
C - B&Q access road (S)		✓	224	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
From	A - B&Q access road (N)	0	0	149
	B - Lidl	0	0	38
	C - B&Q access road (S)	179	45	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
From	A - B&Q access road (N)	0	0	1
	B - Lidl	0	0	0
	C - B&Q access road (S)	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.06	5.60	0.1	A
C-AB	0.09	6.68	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	29	698	0.041	28	0.0	5.378	A
C-AB	34	592	0.058	34	0.1	6.450	A
C-A	134			134			
A-B	0			0			
A-C	112			112			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	34	692	0.049	34	0.1	5.472	A
C-AB	41	591	0.070	41	0.1	6.553	A
C-A	160			160			
A-B	0			0			
A-C	134			134			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	42	684	0.061	42	0.1	5.605	A
C-AB	51	590	0.087	51	0.1	6.681	A
C-A	196			196			
A-B	0			0			
A-C	164			164			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	42	684	0.061	42	0.1	5.605	A
C-AB	51	590	0.087	51	0.1	6.681	A
C-A	196			196			
A-B	0			0			
A-C	164			164			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	34	692	0.049	34	0.1	5.473	A
C-AB	41	591	0.070	41	0.1	6.555	A
C-A	160			160			
A-B	0			0			
A-C	134			134			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	29	698	0.041	29	0.0	5.381	A
C-AB	34	592	0.058	34	0.1	6.459	A
C-A	134			134			
A-B	0			0			
A-C	112			112			

2020 + devt, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.09	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	275	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2020 + devt	PM	2020 uplifted flows + development	ONE HOUR	15:15	16:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - B&Q access road (N)		✓	219	100.000
B - Lidl		✓	91	100.000
C - B&Q access road (S)		✓	290	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
	A - B&Q access road (N)	0	0	219
	B - Lidl	0	0	91
	C - B&Q access road (S)	202	88	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
	A - B&Q access road (N)	0	0	1
	B - Lidl	0	0	0
	C - B&Q access road (S)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.15	6.39	0.2	A
C-AB	0.17	7.33	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	684	0.100	68	0.1	5.843	A
C-AB	68	590	0.116	68	0.1	6.884	A
C-A	150			150			
A-B	0			0			
A-C	165			165			

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	82	675	0.121	82	0.1	6.063	A
C-AB	83	591	0.140	83	0.2	7.079	A
C-A	178			178			
A-B	0			0			
A-C	197			197			

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	100	664	0.151	100	0.2	6.383	A
C-AB	104	595	0.174	103	0.2	7.329	A
C-A	216			216			
A-B	0			0			
A-C	241			241			

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	100	664	0.151	100	0.2	6.386	A
C-AB	104	595	0.174	104	0.2	7.334	A
C-A	216			216			
A-B	0			0			
A-C	241			241			

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	82	675	0.121	82	0.1	6.067	A

C-AB	83	591	0.140	83	0.2	7.092	A
C-A	178			178			
A-B	0			0			
A-C	197			197			

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	684	0.100	69	0.1	5.854	A
C-AB	68	590	0.116	68	0.1	6.905	A
C-A	150			150			
A-B	0			0			
A-C	165			165			

2025 + devt, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.02	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	268	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2025 + devt	PM	2025 flows + development	ONE HOUR	15:15	16:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - B&Q access road (N)		✓	232	100.000
B - Lidl		✓	91	100.000
C - B&Q access road (S)		✓	302	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
	A - B&Q access road (N)	0	0	232
	B - Lidl	0	0	91
	C - B&Q access road (S)	214	88	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
	A - B&Q access road (N)	0	0	1
	B - Lidl	0	0	0
	C - B&Q access road (S)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.15	6.43	0.2	A
C-AB	0.18	7.35	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	681	0.101	68	0.1	5.867	A
C-AB	68	589	0.116	68	0.1	6.900	A
C-A	159			159			
A-B	0			0			
A-C	175			175			

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	82	672	0.122	82	0.1	6.095	A
C-AB	83	590	0.141	83	0.2	7.096	A
C-A	189			189			
A-B	0			0			
A-C	209			209			

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	100	660	0.152	100	0.2	6.426	A
C-AB	104	594	0.175	104	0.2	7.346	A
C-A	228			228			
A-B	0			0			
A-C	255			255			

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	100	660	0.152	100	0.2	6.429	A
C-AB	104	594	0.175	104	0.2	7.353	A
C-A	228			228			
A-B	0			0			
A-C	255			255			

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	82	672	0.122	82	0.1	6.100	A
C-AB	83	590	0.141	83	0.2	7.108	A
C-A	189			189			
A-B	0			0			
A-C	209			209			

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	69	681	0.101	69	0.1	5.876	A
C-AB	68	589	0.116	69	0.1	6.917	A
C-A	159			159			
A-B	0			0			
A-C	175			175			

2020 + devt, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.94	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	159	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D16	2020 + devt	SAT	2020 uplifted flows + development	ONE HOUR	11:30	13:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - B&Q access road (N)		✓	385	100.000
B - Lidl		✓	114	100.000
C - B&Q access road (S)		✓	458	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
From	A - B&Q access road (N)	0	0	385
	B - Lidl	0	0	114
	C - B&Q access road (S)	343	115	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
From	A - B&Q access road (N)	0	0	0
	B - Lidl	0	0	0
	C - B&Q access road (S)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.20	7.32	0.3	A
C-AB	0.25	7.84	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:30 - 11:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	652	0.132	85	0.2	6.347	A
C-AB	93	587	0.159	92	0.2	7.272	A
C-A	252			252			
A-B	0			0			
A-C	290			290			

11:45 - 12:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	102	637	0.161	102	0.2	6.729	A
C-AB	115	593	0.194	115	0.3	7.523	A
C-A	297			297			
A-B	0			0			
A-C	346			346			

12:00 - 12:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	126	617	0.203	125	0.3	7.318	A
C-AB	149	609	0.245	149	0.4	7.821	A
C-A	355			355			
A-B	0			0			
A-C	424			424			

12:15 - 12:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	126	617	0.203	126	0.3	7.323	A
C-AB	149	609	0.245	149	0.4	7.837	A
C-A	355			355			
A-B	0			0			
A-C	424			424			

12:30 - 12:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	102	637	0.161	103	0.2	6.738	A
C-AB	115	593	0.194	115	0.3	7.546	A
C-A	297			297			
A-B	0			0			
A-C	346			346			

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	652	0.132	86	0.2	6.366	A
C-AB	93	587	0.159	93	0.2	7.304	A
C-A	252			252			
A-B	0			0			
A-C	290			290			

2025 + devt , SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.87	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	152	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D17	2025 + devt	SAT	2025 flows + development	ONE HOUR	11:30	13:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - B&Q access road (N)		✓	410	100.000
B - Lidl		✓	114	100.000
C - B&Q access road (S)		✓	480	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
	A - B&Q access road (N)	0	0	410
	B - Lidl	0	0	114
	C - B&Q access road (S)	365	115	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
From	A - B&Q access road (N)	0	0	0
	B - Lidl	0	0	0
	C - B&Q access road (S)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.21	7.43	0.3	A
C-AB	0.25	7.85	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:30 - 11:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	647	0.133	85	0.2	6.402	A
C-AB	94	586	0.160	93	0.2	7.297	A
C-A	268			268			
A-B	0			0			
A-C	309			309			

11:45 - 12:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	102	631	0.162	102	0.2	6.803	A
C-AB	116	593	0.196	116	0.3	7.545	A
C-A	316			316			
A-B	0			0			
A-C	369			369			

12:00 - 12:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	126	610	0.206	125	0.3	7.426	A
C-AB	151	610	0.248	151	0.4	7.836	A
C-A	377			377			
A-B	0			0			
A-C	451			451			

12:15 - 12:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
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B-AC	126	610	0.206	126	0.3	7.432	A
C-AB	151	610	0.248	151	0.4	7.853	A
C-A	377			377			
A-B	0			0			
A-C	451			451			

12:30 - 12:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	102	631	0.162	103	0.2	6.812	A
C-AB	116	593	0.196	116	0.3	7.570	A
C-A	316			316			
A-B	0			0			
A-C	369			369			

12:45 - 13:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	86	647	0.133	86	0.2	6.419	A
C-AB	94	586	0.160	94	0.2	7.327	A
C-A	268			268			
A-B	0			0			
A-C	309			309			

APPENDIX K: ARCADY Output – Purbrook Way / A3(M) Roundabouts

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.1.7462
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Filename: Arcady - Purbrook Way - Site access - A3(M) (v1 Aug2020).j9

Path: H:\LIDL\PurbrookWay.1\05 Calculations\Junction modelling\Arcady - Purbrook Way dumbbell roundabouts

Report generation date: 24/09/2020 15:02:13

»2020 observed, AM
»2020 uplifted, AM
»2025 base, AM
»2020 + devt, AM
»2025 + devt, AM
»2020 observed, PM
»2020 uplifted, PM
»2025 base, PM
»2020 + devt, PM
»2025 + devt, PM
»2020 observed, SAT
»2020 uplifted, SAT
»2025 base, SAT
»2020 + devt, SAT
»2025 + devt, SAT

Summary of junction performance

	AM						PM						SAT					
	Se t ID	Que ue (Ve h)	Del ay (s)	R F C	L O S	Netwo rk Resid ual Capac ity	Se t ID	Que ue (Ve h)	Del ay (s)	R F C	L O S	Netwo rk Resid ual Capac ity	Se t ID	Que ue (Ve h)	Del ay (s)	R F C	L O S	Netwo rk Resid ual Capac ity
	2020 observed																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D1	0.2	5.55	0.17	A	25 %	D6	0.7	10.84	0.41	B	9 %	D1	0.9	7.85	0.48	A	17 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		1.2	4.25	0.55	A	[1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)]		1.2	4.25	0.55	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.1	4.02	0.53	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		1.6	4.12	0.61	A	3.4		7.02	0.77	A	1.6	4.29		0.62	A			
2 - Western roundabout - 1 - Purbrook Way (E)		0.5	2.94	0.32	A	0.4		2.80	0.29	A	0.4	2.79		0.29	A			
2 - Western roundabout - 2 - A3(M) off-slip		0.7	3.40	0.41	A	1.6		5.03	0.61	A	0.9	3.73		0.48	A			
2 - Western roundabout - 3 - Purbrook Way (W)		1.5	5.47	0.61	A	2.9		9.43	0.75	A	1.1	4.86		0.52	A			

	2020 uplifted																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D 2	0.3	8.04	0.26	A	14 %	D7	0.9	13.47	0.47	B	6 %	D1 2	0.9	7.85	0.48	A	17 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		2.2	6.47	0.69	A	[1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)]		1.4	4.64	0.58	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.1	4.02	0.53	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		2.8	6.15	0.74	A			4.3	8.52	0.81	A			1.6	4.29	0.62	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.6	3.24	0.38	A			0.4	2.86	0.30	A			0.4	2.79	0.29	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.0	4.36	0.51	A			1.8	5.63	0.65	A			0.9	3.73	0.48	A	
2 - Western roundabout - 3 - Purbrook Way (W)		3.0	8.97	0.75	A			3.8	11.87	0.80	B			1.1	4.86	0.52	A	
	2025 base																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D 3	0.6	14.57	0.40	B	1 %	D8	2.2	32.16	0.70	D	-1 %	D1 3	1.2	9.47	0.54	A	12 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		4.3	11.63	0.82	B	[2 - Western roundabout - 3 - Purbrook Way (W)]		2.1	6.27	0.68	A	[2 - Western roundabout - 3 - Purbrook Way (W)]		1.4	4.48	0.58	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		6.4	12.27	0.87	B			9.8	17.95	0.92	C			2.0	4.87	0.67	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.7	3.44	0.42	A			0.5	3.01	0.34	A			0.4	2.86	0.31	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.5	5.45	0.60	A			3.7	9.85	0.79	A			1.1	4.09	0.52	A	
2 - Western roundabout - 3 - Purbrook Way (W)		11.3	28.74	0.93	D			13.6	37.47	0.95	E			1.3	5.45	0.56	A	
	2020 + devt																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D 4	0.5	8.63	0.32	A	13 %	D9	1.7	18.76	0.64	C	3 %	D1 4	1.5	9.86	0.60	A	12 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		2.4	6.78	0.71	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.5	5.01	0.61	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.3	4.37	0.56	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		3.0	6.47	0.75	A			4.9	9.78	0.84	A			1.8	4.68	0.65	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.6	3.27	0.39	A			0.5	2.93	0.32	A			0.5	2.88	0.31	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.1	4.42	0.52	A			1.9	5.86	0.66	A			1.0	3.87	0.49	A	
2 - Western roundabout - 3 - Purbrook Way (W)		3.1	9.27	0.76	A			4.2	12.96	0.82	B			1.2	5.03	0.54	A	
	2025 + devt																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D 5	0.9	16.53	0.49	C	1 %	D1 0	6.4	68.06	0.91	F	-3 %	D1 5	2.0	12.55	0.67	B	8 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		4.7	12.91	0.83	B	[2 - Western roundabout - 3 - Purbrook Way (W)]		2.4	7.12	0.71	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.5	4.93	0.60	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		7.0	13.43	0.88	B			12.5	22.67	0.94	C			2.2	5.37	0.69	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.7	3.48	0.42	A			0.6	3.11	0.36	A			0.5	2.96	0.33	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.5	5.53	0.60	A			4.1	10.82	0.81	B			1.1	4.26	0.53	A	
2 - Western roundabout - 3 - Purbrook Way (W)		12.4	31.26	0.94	D			17.0	45.37	0.97	E			1.4	5.66	0.58	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	05/08/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAYERBROWN2K\hiorwerth
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

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2020 observed	AM	ONE HOUR	07:45	09:15	15
D2	2020 uplifted	AM	ONE HOUR	07:45	09:15	15
D3	2025 base	AM	ONE HOUR	07:45	09:15	15
D4	2020 + devt	AM	ONE HOUR	07:45	09:15	15
D5	2025 + devt	AM	ONE HOUR	07:45	09:15	15
D6	2020 observed	PM	ONE HOUR	15:15	16:45	15
D7	2020 uplifted	PM	ONE HOUR	15:15	16:45	15
D8	2025 base	PM	ONE HOUR	15:15	16:45	15
D9	2020 + devt	PM	ONE HOUR	15:15	16:45	15
D10	2025 + devt	PM	ONE HOUR	15:15	16:45	15
D11	2020 observed	SAT	ONE HOUR	11:30	13:00	15
D12	2020 uplifted	SAT	ONE HOUR	11:30	13:00	15
D13	2025 base	SAT	ONE HOUR	11:30	13:00	15
D14	2020 + devt	SAT	ONE HOUR	11:30	13:00	15
D15	2025 + devt	SAT	ONE HOUR	11:30	13:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2020 observed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	4.24	A
2	Western roundabout	Standard Roundabout		1, 2, 3	4.20	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	25	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)

Arms

Arms

Junction	Arm	Name	Description
1 - Eastern (B&Q) roundabout	1	B&Q / site	
	2	Purbrook Way (E)	
	3	A3(M) on-slip	
	4	Purbrook Way (W)	
2 - Western roundabout	1	Purbrook Way (E)	
	2	A3(M) off-slip	
	3	Purbrook Way (W)	

Roundabout Geometry

Junction	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)	Exit only
1 - Eastern (B&Q) roundabout	1 - B&Q / site	3.60	5.90	13.5	35.0	41.5	11.0	
	2 - Purbrook Way (E)	6.90	6.90	0.0	120.0	41.5	5.0	
	3 - A3(M) on-slip							✓
	4 - Purbrook Way (W)	7.10	8.10	2.3	36.0	41.5	23.0	
2 - Western roundabout	1 - Purbrook Way (E)	6.00	6.00	0.0	30.0	30.0	32.0	
	2 - A3(M) off-slip	6.70	7.50	9.3	32.0	30.0	27.0	
	3 - Purbrook Way (W)	6.00	6.00	0.0	90.0	30.0	11.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.660	1676
	2 - Purbrook Way (E)	0.807	2357
	3 - A3(M) on-slip		
	4 - Purbrook Way (W)	0.788	2383
2 - Western roundabout	1 - Purbrook Way (E)	0.688	1835
	2 - A3(M) off-slip	0.786	2284

	3 - Purbrook Way (W)	0.753	2007
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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 segment length (min)
D1	2020 observed	AM	ONE HOUR	07:45	09:15	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	117	100.000
	2 - Purbrook Way (E)		✓	953	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	655	100.000
	3 - Purbrook Way (W)		✓	926	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	69	31	17
	2 - Purbrook Way (E)	71	4	377	501
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	69	775	409	3

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	520
	2 - A3(M) off-slip	329	0	326
	3 - Purbrook Way (W)	926	0	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

From	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	2	0	0
	2 - Purbrook Way (E)	0	20	2	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	2	2	4	0

Heavy Vehicle Percentages

2 - Western roundabout

From	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	0	0	2
	2 - A3(M) off-slip	2	0	3
	3 - Purbrook Way (W)	3	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.17	5.55	0.2	A
	2 - Purbrook Way (E)	0.55	4.25	1.2	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.61	4.12	1.6	A
2 - Western roundabout	1 - Purbrook Way (E)	0.32	2.94	0.5	A
	2 - A3(M) off-slip	0.41	3.40	0.7	A
	3 - Purbrook Way (W)	0.61	5.47	1.5	A

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	88	892	1059	0.083	88	0.1	3.706	A
	2 - Purbrook Way (E)	717	344	2030	0.353	715	0.5	2.733	A
	3 - A3(M) on-slip		447						
	4 - Purbrook Way (W)	943	56	2278	0.414	940	0.7	2.686	A
2 - Western roundabout	1 - Purbrook Way (E)	391	0	1799	0.217	390	0.3	2.554	A
	2 - A3(M) off-slip	493	390	1923	0.256	492	0.3	2.512	A

	3 - Purbrook Way (W)	697	248	1764	0.395	695	0.6	3.358	A
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08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	105	1069	940	0.112	105	0.1	4.311	A
	2 - Purbrook Way (E)	857	413	1974	0.434	856	0.8	3.214	A
	3 - A3(M) on-slip		535						
	4 - Purbrook Way (W)	1129	67	2269	0.497	1128	1.0	3.151	A
2 - Western roundabout	1 - Purbrook Way (E)	468	0	1799	0.260	467	0.3	2.703	A
	2 - A3(M) off-slip	589	467	1863	0.316	588	0.5	2.825	A
	3 - Purbrook Way (W)	832	296	1728	0.482	831	0.9	4.012	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	129	1308	781	0.165	129	0.2	5.518	A
	2 - Purbrook Way (E)	1049	505	1899	0.553	1047	1.2	4.220	A
	3 - A3(M) on-slip		655						
	4 - Purbrook Way (W)	1381	82	2258	0.612	1379	1.6	4.087	A
2 - Western roundabout	1 - Purbrook Way (E)	572	0	1799	0.318	572	0.5	2.933	A
	2 - A3(M) off-slip	721	572	1781	0.405	720	0.7	3.390	A
	3 - Purbrook Way (W)	1020	363	1678	0.608	1017	1.5	5.428	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	129	1312	777	0.166	129	0.2	5.550	A
	2 - Purbrook Way (E)	1049	507	1897	0.553	1049	1.2	4.245	A
	3 - A3(M) on-slip		656						
	4 - Purbrook Way (W)	1384	83	2257	0.613	1384	1.6	4.121	A
2 - Western roundabout	1 - Purbrook Way (E)	573	0	1799	0.319	573	0.5	2.935	A
	2 - A3(M) off-slip	721	573	1780	0.405	721	0.7	3.399	A
	3 - Purbrook Way (W)	1020	363	1678	0.608	1019	1.5	5.469	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	105	1076	935	0.112	105	0.1	4.340	A
	2 - Purbrook Way (E)	857	416	1972	0.434	859	0.8	3.237	A
	3 - A3(M) on-slip		537						
	4 - Purbrook Way (W)	1133	68	2269	0.499	1135	1.0	3.183	A
2 - Western roundabout	1 - Purbrook Way (E)	469	0	1799	0.261	469	0.4	2.710	A
	2 - A3(M) off-slip	589	469	1861	0.316	590	0.5	2.835	A
	3 - Purbrook Way (W)	832	297	1727	0.482	835	0.9	4.047	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	88	900	1054	0.084	88	0.1	3.731	A
	2 - Purbrook Way (E)	717	347	2028	0.354	718	0.6	2.750	A
	3 - A3(M) on-slip		449						
	4 - Purbrook Way (W)	948	57	2278	0.416	949	0.7	2.711	A
2 - Western roundabout	1 - Purbrook Way (E)	392	0	1799	0.218	393	0.3	2.561	A
	2 - A3(M) off-slip	493	393	1921	0.257	494	0.3	2.524	A
	3 - Purbrook Way (W)	697	249	1763	0.395	698	0.7	3.383	A

2020 uplifted, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	6.38	A

2	Western roundabout	Standard Roundabout		1, 2, 3	6.13	A
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Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	14	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2020 uplifted	AM	ONE HOUR	07:45	09:15	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	140	100.000
	2 - Purbrook Way (E)		✓	1143	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	786	100.000
	3 - Purbrook Way (W)		✓	1111	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	83	37	20
	2 - Purbrook Way (E)	85	5	452	601
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	83	930	491	4

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	624
	2 - A3(M) off-slip	395	0	391
	3 - Purbrook Way (W)	1111	0	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	2	0	0
	2 - Purbrook Way (E)	0	20	2	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	2	2	4	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	2
	2 - A3(M) off-slip	2	0	3
	3 - Purbrook Way (W)	3	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.26	8.04	0.3	A
	2 - Purbrook Way (E)	0.69	6.47	2.2	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.74	6.15	2.8	A
2 - Western roundabout	1 - Purbrook Way (E)	0.38	3.24	0.6	A
	2 - A3(M) off-slip	0.51	4.36	1.0	A
	3 - Purbrook Way (W)	0.75	8.97	3.0	A

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	105	1069	940	0.112	105	0.1	4.305	A
	2 - Purbrook Way (E)	861	413	1974	0.436	857	0.8	3.216	A
	3 - A3(M) on-slip		536						
	4 - Purbrook Way (W)	1131	68	2269	0.498	1127	1.0	3.142	A
2 - Western roundabout	1 - Purbrook Way (E)	468	0	1799	0.260	467	0.4	2.700	A
	2 - A3(M) off-slip	592	467	1863	0.318	590	0.5	2.824	A
	3 - Purbrook Way (W)	836	297	1727	0.484	833	0.9	4.009	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	126	1282	798	0.158	126	0.2	5.354	A
	2 - Purbrook Way (E)	1028	495	1907	0.539	1026	1.2	4.078	A
	3 - A3(M) on-slip		642						
	4 - Purbrook Way (W)	1354	81	2259	0.599	1352	1.5	3.959	A
2 - Western roundabout	1 - Purbrook Way (E)	561	0	1799	0.312	560	0.5	2.906	A
	2 - A3(M) off-slip	707	560	1790	0.395	706	0.6	3.319	A
	3 - Purbrook Way (W)	999	356	1683	0.593	997	1.4	5.226	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	154	1564	609	0.253	154	0.3	7.893	A
	2 - Purbrook Way (E)	1258	604	1818	0.692	1254	2.2	6.344	A
	3 - A3(M) on-slip		785						
	4 - Purbrook Way (W)	1654	99	2245	0.737	1649	2.7	5.991	A
2 - Western roundabout	1 - Purbrook Way (E)	685	0	1799	0.381	685	0.6	3.229	A
	2 - A3(M) off-slip	865	685	1693	0.511	864	1.0	4.336	A
	3 - Purbrook Way (W)	1223	435	1624	0.753	1217	2.9	8.721	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	154	1574	602	0.256	154	0.3	8.040	A
	2 - Purbrook Way (E)	1258	608	1814	0.694	1258	2.2	6.469	A
	3 - A3(M) on-slip		787						

	4 - Purbrook Way (W)	1660	99	2245	0.740	1660	2.8	6.155	A
2 - Western roundabout	1 - Purbrook Way (E)	688	0	1799	0.382	688	0.6	3.238	A
	2 - A3(M) off-slip	865	688	1690	0.512	865	1.0	4.363	A
	3 - Purbrook Way (W)	1223	436	1623	0.753	1223	3.0	8.974	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	126	1297	788	0.160	126	0.2	5.452	A
	2 - Purbrook Way (E)	1028	500	1902	0.540	1032	1.2	4.156	A
	3 - A3(M) on-slip		645						
	4 - Purbrook Way (W)	1363	81	2258	0.603	1368	1.5	4.064	A
2 - Western roundabout	1 - Purbrook Way (E)	564	0	1799	0.313	564	0.5	2.918	A
	2 - A3(M) off-slip	707	564	1787	0.395	708	0.7	3.344	A
	3 - Purbrook Way (W)	999	357	1683	0.594	1005	1.5	5.357	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	105	1081	932	0.113	106	0.1	4.356	A
	2 - Purbrook Way (E)	861	417	1971	0.437	862	0.8	3.254	A
	3 - A3(M) on-slip		539						
	4 - Purbrook Way (W)	1138	68	2269	0.502	1140	1.0	3.197	A
2 - Western roundabout	1 - Purbrook Way (E)	471	0	1799	0.262	472	0.4	2.711	A
	2 - A3(M) off-slip	592	472	1859	0.318	593	0.5	2.842	A
	3 - Purbrook Way (W)	836	299	1726	0.485	839	0.9	4.066	A

2025 base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
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Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	12.13	B
2	Western roundabout	Standard Roundabout		1, 2, 3	15.80	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	2 - Western roundabout - 3 - Purbrook Way (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2025 base	AM	ONE HOUR	07:45	09:15	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	148	100.000
	2 - Purbrook Way (E)		✓	1235	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	897	100.000
	3 - Purbrook Way (W)		✓	1371	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	88	39	21
	2 - Purbrook Way (E)	90	5	481	659
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	88	1037	663	4

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	683
	2 - A3(M) off-slip	420	0	477
	3 - Purbrook Way (W)	1371	0	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	2	0	0
	2 - Purbrook Way (E)	0	20	2	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	2	2	3	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	2
	2 - A3(M) off-slip	2	0	2
	3 - Purbrook Way (W)	2	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.40	14.57	0.6	B
	2 - Purbrook Way (E)	0.82	11.63	4.3	B
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.87	12.27	6.4	B
2 - Western roundabout	1 - Purbrook Way (E)	0.42	3.44	0.7	A
	2 - A3(M) off-slip	0.60	5.45	1.5	A
	3 - Purbrook Way (W)	0.93	28.74	11.3	D

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	111	1270	808	0.138	111	0.2	5.158	A
	2 - Purbrook Way (E)	930	541	1873	0.496	926	1.0	3.785	A
	3 - A3(M) on-slip		584						
	4 - Purbrook Way (W)	1337	71	2272	0.589	1332	1.4	3.804	A
2 - Western roundabout	1 - Purbrook Way (E)	512	0	1799	0.285	511	0.4	2.790	A
	2 - A3(M) off-slip	675	511	1838	0.368	673	0.6	3.084	A
	3 - Purbrook Way (W)	1032	316	1730	0.597	1026	1.5	5.076	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	133	1522	640	0.208	133	0.3	7.092	A
	2 - Purbrook Way (E)	1110	648	1786	0.622	1108	1.6	5.289	A
	3 - A3(M) on-slip		699						
	4 - Purbrook Way (W)	1600	85	2262	0.707	1596	2.4	5.379	A
2 - Western roundabout	1 - Purbrook Way (E)	613	0	1799	0.341	613	0.5	3.032	A
	2 - A3(M) off-slip	806	613	1758	0.459	805	0.8	3.777	A
	3 - Purbrook Way (W)	1233	378	1683	0.732	1228	2.7	7.824	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	163	1833	432	0.377	162	0.6	13.252	B
	2 - Purbrook Way (E)	1360	781	1677	0.811	1350	4.0	10.697	B
	3 - A3(M) on-slip		852						
	4 - Purbrook Way (W)	1936	104	2247	0.862	1922	5.7	10.668	B
2 - Western roundabout	1 - Purbrook Way (E)	747	0	1799	0.415	746	0.7	3.418	A
	2 - A3(M) off-slip	988	746	1652	0.598	985	1.5	5.374	A

	3 - Purbrook Way (W)	1509	462	1620	0.93 2	1480	9.9	22.33 3	C
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08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	163	1867	410	0.39 8	163	0.6	14.56 9	B
	2 - Purbrook Way (E)	1360	795	1666	0.81 6	1359	4.3	11.63 4	B
	3 - A3(M) on-slip		857						
	4 - Purbrook Way (W)	1960	105	2247	0.87 3	1958	6.4	12.26 6	B
2 - Western roundabout	1 - Purbrook Way (E)	752	0	1799	0.41 8	752	0.7	3.437	A
	2 - A3(M) off-slip	988	752	1648	0.59 9	988	1.5	5.451	A
	3 - Purbrook Way (W)	1509	463	1619	0.93 3	1504	11.3	28.73 6	D

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	133	1578	602	0.22 1	134	0.3	7.717	A
	2 - Purbrook Way (E)	1110	670	1767	0.62 8	1120	1.7	5.649	A
	3 - A3(M) on-slip		707						
	4 - Purbrook Way (W)	1640	86	2261	0.72 5	1655	2.7	6.080	A
2 - Western roundabout	1 - Purbrook Way (E)	620	0	1799	0.34 5	621	0.5	3.059	A
	2 - A3(M) off-slip	806	621	1751	0.46 1	809	0.9	3.833	A
	3 - Purbrook Way (W)	1233	380	1682	0.73 3	1266	2.8	9.330	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	111	1292	793	0.14 0	112	0.2	5.286	A
	2 - Purbrook Way (E)	930	550	1866	0.49 8	933	1.0	3.871	A
	3 - A3(M) on-slip		588						
	4 - Purbrook Way (W)	1350	72	2272	0.59 4	1355	1.5	3.947	A
2 - Western roundabout	1 - Purbrook Way (E)	516	0	1799	0.28 7	517	0.4	2.809	A
	2 - A3(M) off-slip	675	517	1833	0.36 8	676	0.6	3.114	A
	3 - Purbrook Way (W)	1032	317	1729	0.59 7	1037	1.5	5.249	A

2020 + devt, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	6.73	A
2	Western roundabout	Standard Roundabout		1, 2, 3	6.28	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	13	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2020 + devt	AM	ONE HOUR	07:45	09:15	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	178	100.000
	2 - Purbrook Way (E)		✓	1151	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			

2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	787	100.000
	3 - Purbrook Way (W)		✓	1122	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	98	41	39
	2 - Purbrook Way (E)	103	5	450	593
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	110	920	489	4

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	633
	2 - A3(M) off-slip	396	0	391
	3 - Purbrook Way (W)	1122	0	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	2	0	0
	2 - Purbrook Way (E)	0	20	2	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	2	2	4	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	2
	2 - A3(M) off-slip	2	0	3
	3 - Purbrook Way (W)	3	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.32	8.63	0.5	A
	2 - Purbrook Way (E)	0.71	6.78	2.4	A

	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.75	6.47	3.0	A
2 - Western roundabout	1 - Purbrook Way (E)	0.39	3.27	0.6	A
	2 - A3(M) off-slip	0.52	4.42	1.1	A
	3 - Purbrook Way (W)	0.76	9.27	3.1	A

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	134	1058	949	0.141	133	0.2	4.411	A
	2 - Purbrook Way (E)	867	428	1963	0.441	863	0.8	3.264	A
	3 - A3(M) on-slip		558						
	4 - Purbrook Way (W)	1140	81	2259	0.505	1136	1.0	3.193	A
2 - Western roundabout	1 - Purbrook Way (E)	476	0	1799	0.265	475	0.4	2.716	A
	2 - A3(M) off-slip	592	475	1857	0.319	591	0.5	2.840	A
	3 - Purbrook Way (W)	845	298	1726	0.489	841	0.9	4.049	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	160	1268	807	0.198	160	0.2	5.556	A
	2 - Purbrook Way (E)	1035	513	1893	0.546	1033	1.2	4.177	A
	3 - A3(M) on-slip		668						
	4 - Purbrook Way (W)	1364	97	2247	0.607	1362	1.5	4.061	A
2 - Western roundabout	1 - Purbrook Way (E)	570	0	1799	0.317	570	0.5	2.928	A
	2 - A3(M) off-slip	707	570	1783	0.397	707	0.7	3.345	A
	3 - Purbrook Way (W)	1009	357	1683	0.599	1007	1.5	5.306	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	196	1547	621	0.316	195	0.5	8.443	A
	2 - Purbrook Way (E)	1267	626	1801	0.704	1263	2.3	6.633	A
	3 - A3(M) on-slip		816						

	4 - Purbrook Way (W)	1667	118	2230	0.748	1662	2.9	6.274	A
2 - Western roundabout	1 - Purbrook Way (E)	697	0	1799	0.387	696	0.6	3.262	A
	2 - A3(M) off-slip	867	696	1684	0.515	865	1.1	4.389	A
	3 - Purbrook Way (W)	1235	436	1623	0.761	1229	3.1	8.988	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	196	1558	613	0.320	196	0.5	8.627	A
	2 - Purbrook Way (E)	1267	630	1798	0.705	1267	2.4	6.782	A
	3 - A3(M) on-slip		819						
	4 - Purbrook Way (W)	1674	119	2230	0.751	1674	3.0	6.467	A
2 - Western roundabout	1 - Purbrook Way (E)	699	0	1799	0.389	699	0.6	3.272	A
	2 - A3(M) off-slip	867	699	1681	0.515	866	1.1	4.418	A
	3 - Purbrook Way (W)	1235	437	1623	0.761	1235	3.1	9.272	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	160	1284	797	0.201	161	0.3	5.669	A
	2 - Purbrook Way (E)	1035	519	1888	0.548	1039	1.2	4.263	A
	3 - A3(M) on-slip		672						
	4 - Purbrook Way (W)	1374	98	2246	0.612	1380	1.6	4.181	A
2 - Western roundabout	1 - Purbrook Way (E)	574	0	1799	0.319	574	0.5	2.939	A
	2 - A3(M) off-slip	707	574	1779	0.398	709	0.7	3.371	A
	3 - Purbrook Way (W)	1009	358	1682	0.600	1015	1.5	5.449	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	134	1070	940	0.143	134	0.2	4.469	A
	2 - Purbrook Way (E)	867	432	1959	0.442	868	0.8	3.307	A
	3 - A3(M) on-slip		561						
	4 - Purbrook Way (W)	1147	81	2259	0.508	1150	1.0	3.251	A
2 - Western roundabout	1 - Purbrook Way (E)	479	0	1799	0.266	480	0.4	2.728	A

	2 - A3(M) off-slip	592	480	1853	0.32 0	593	0.5	2.860	A
	3 - Purbrook Way (W)	845	299	1725	0.49 0	847	1.0	4.107	A

2025 + devt, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	13.41	B
2	Western roundabout	Standard Roundabout		1, 2, 3	17.01	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	2 - Western roundabout - 3 - Purbrook Way (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2025 + devt	AM	ONE HOUR	07:45	09:15	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	186	100.000
	2 - Purbrook Way (E)		✓	1243	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	898	100.000
	3 - Purbrook Way (W)		✓	1382	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	103	43	40
	2 - Purbrook Way (E)	108	5	479	651
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	115	1027	661	4

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	692
	2 - A3(M) off-slip	421	0	477
	3 - Purbrook Way (W)	1382	0	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	2	0	0
	2 - Purbrook Way (E)	0	20	3	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	2	2	3	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	2
	2 - A3(M) off-slip	2	0	2
	3 - Purbrook Way (W)	2	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.49	16.53	0.9	C
	2 - Purbrook Way (E)	0.83	12.91	4.7	B
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.88	13.43	7.0	B
2 - Western roundabout	1 - Purbrook Way (E)	0.42	3.48	0.7	A
	2 - A3(M) off-slip	0.60	5.53	1.5	A
	3 - Purbrook Way (W)	0.94	31.26	12.4	D

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	140	1259	816	0.172	139	0.2	5.310	A
	2 - Purbrook Way (E)	936	555	1855	0.505	932	1.0	3.883	A
	3 - A3(M) on-slip		606						
	4 - Purbrook Way (W)	1346	85	2262	0.595	1340	1.5	3.883	A
2 - Western roundabout	1 - Purbrook Way (E)	520	0	1799	0.289	519	0.4	2.807	A
	2 - A3(M) off-slip	676	519	1831	0.369	674	0.6	3.103	A
	3 - Purbrook Way (W)	1040	317	1729	0.602	1034	1.5	5.139	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	167	1509	649	0.258	167	0.3	7.452	A
	2 - Purbrook Way (E)	1117	666	1766	0.633	1115	1.7	5.508	A
	3 - A3(M) on-slip		725						
	4 - Purbrook Way (W)	1611	101	2249	0.716	1607	2.5	5.565	A
2 - Western roundabout	1 - Purbrook Way (E)	622	0	1799	0.346	622	0.5	3.056	A
	2 - A3(M) off-slip	807	622	1750	0.461	806	0.8	3.811	A
	3 - Purbrook Way (W)	1242	379	1682	0.738	1237	2.7	8.000	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	205	1814	445	0.460	203	0.8	14.729	B
	2 - Purbrook Way (E)	1369	801	1656	0.827	1358	4.4	11.670	B
	3 - A3(M) on-slip		882						
	4 - Purbrook Way (W)	1946	123	2232	0.872	1931	6.2	11.437	B
2 - Western roundabout	1 - Purbrook Way (E)	758	0	1799	0.421	757	0.7	3.454	A
	2 - A3(M) off-slip	989	757	1644	0.601	986	1.5	5.453	A
	3 - Purbrook Way (W)	1522	463	1619	0.940	1490	10.7	23.639	C

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	205	1849	422	0.486	204	0.9	16.525	C
	2 - Purbrook Way (E)	1369	816	1644	0.833	1367	4.7	12.907	B
	3 - A3(M) on-slip		889						
	4 - Purbrook Way (W)	1972	124	2231	0.884	1969	7.0	13.434	B
2 - Western roundabout	1 - Purbrook Way (E)	764	0	1799	0.424	763	0.7	3.475	A
	2 - A3(M) off-slip	989	763	1639	0.603	989	1.5	5.534	A
	3 - Purbrook Way (W)	1522	465	1618	0.941	1515	12.4	31.262	D

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	167	1570	609	0.275	169	0.4	8.235	A
	2 - Purbrook Way (E)	1117	691	1745	0.640	1129	1.8	5.950	A
	3 - A3(M) on-slip		734						
	4 - Purbrook Way (W)	1655	103	2248	0.736	1672	2.9	6.417	A
2 - Western roundabout	1 - Purbrook Way (E)	631	0	1799	0.351	631	0.5	3.086	A
	2 - A3(M) off-slip	807	631	1743	0.463	810	0.9	3.869	A
	3 - Purbrook Way (W)	1242	381	1681	0.739	1280	2.9	9.777	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	140	1282	801	0.175	141	0.2	5.459	A
	2 - Purbrook Way (E)	936	565	1847	0.507	939	1.0	3.979	A
	3 - A3(M) on-slip		610						

	4 - Purbrook Way (W)	1359	85	2262	0.60 1	1365	1.5	4.038	A
2 - Western roundabout	1 - Purbrook Way (E)	524	0	1799	0.29 1	525	0.4	2.825	A
	2 - A3(M) off-slip	676	525	1826	0.37 0	677	0.6	3.134	A
	3 - Purbrook Way (W)	1040	318	1728	0.60 2	1046	1.5	5.322	A

2020 observed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	6.36	A
2	Western roundabout	Standard Roundabout		1, 2, 3	6.41	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	9	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2020 observed	PM	ONE HOUR	15:15	16:45	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	

2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	
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Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	209	100.000
	2 - Purbrook Way (E)		✓	940	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	1017	100.000
	3 - Purbrook Way (W)		✓	1032	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	1	108	60	40
	2 - Purbrook Way (E)	104	2	408	426
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	87	1106	402	1

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	466
	2 - A3(M) off-slip	566	0	451
	3 - Purbrook Way (W)	1029	0	3

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	1	2	0
	2 - Purbrook Way (E)	0	0	1	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	1	1	0	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	2
	2 - A3(M) off-slip	1	0	3
	3 - Purbrook Way (W)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.41	10.84	0.7	B
	2 - Purbrook Way (E)	0.55	4.25	1.2	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.77	7.02	3.4	A
2 - Western roundabout	1 - Purbrook Way (E)	0.29	2.80	0.4	A
	2 - A3(M) off-slip	0.61	5.03	1.6	A
	3 - Purbrook Way (W)	0.75	9.43	2.9	A

Main Results for each time segment

15:15 - 15:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	157	1132	914	0.172	157	0.2	4.748	A
	2 - Purbrook Way (E)	708	377	2025	0.350	706	0.5	2.724	A
	3 - A3(M) on-slip		431						
	4 - Purbrook Way (W)	1200	80	2302	0.521	1195	1.1	3.240	A
2 - Western roundabout	1 - Purbrook Way (E)	350	2	1798	0.195	349	0.2	2.484	A
	2 - A3(M) off-slip	766	351	1965	0.390	763	0.6	2.988	A
	3 - Purbrook Way (W)	777	425	1667	0.466	773	0.9	4.015	A

15:30 - 15:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	188	1357	766	0.245	187	0.3	6.218	A
	2 - Purbrook Way (E)	845	453	1965	0.430	844	0.8	3.211	A
	3 - A3(M) on-slip		515						

	4 - Purbrook Way (W)	1436	96	2290	0.627	1433	1.7	4.193	A
2 - Western roundabout	1 - Purbrook Way (E)	419	3	1797	0.233	418	0.3	2.610	A
	2 - A3(M) off-slip	914	421	1910	0.479	913	0.9	3.607	A
	3 - Purbrook Way (W)	928	509	1604	0.578	926	1.4	5.294	A

15:45 - 16:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	230	1655	570	0.403	229	0.7	10.499	B
	2 - Purbrook Way (E)	1035	552	1886	0.549	1033	1.2	4.215	A
	3 - A3(M) on-slip		631						
	4 - Purbrook Way (W)	1754	118	2273	0.772	1748	3.3	6.766	A
2 - Western roundabout	1 - Purbrook Way (E)	512	3	1797	0.285	512	0.4	2.801	A
	2 - A3(M) off-slip	1120	515	1836	0.610	1117	1.5	4.991	A
	3 - Purbrook Way (W)	1136	623	1518	0.748	1130	2.9	9.142	A

16:00 - 16:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	230	1667	562	0.409	230	0.7	10.837	B
	2 - Purbrook Way (E)	1035	556	1882	0.550	1035	1.2	4.247	A
	3 - A3(M) on-slip		632						
	4 - Purbrook Way (W)	1761	118	2273	0.775	1761	3.4	7.017	A
2 - Western roundabout	1 - Purbrook Way (E)	513	3	1797	0.286	513	0.4	2.804	A
	2 - A3(M) off-slip	1120	517	1835	0.610	1120	1.6	5.031	A
	3 - Purbrook Way (W)	1136	624	1517	0.749	1136	2.9	9.428	A

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	188	1375	754	0.249	189	0.3	6.391	A
	2 - Purbrook Way (E)	845	458	1960	0.431	847	0.8	3.237	A
	3 - A3(M) on-slip		517						
	4 - Purbrook Way (W)	1446	96	2290	0.631	1452	1.7	4.333	A
2 - Western roundabout	1 - Purbrook Way (E)	420	3	1797	0.234	421	0.3	2.615	A

	2 - A3(M) off-slip	914	423	1909	0.479	917	0.9	3.638	A
	3 - Purbrook Way (W)	928	511	1602	0.579	934	1.4	5.432	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	157	1145	905	0.174	158	0.2	4.820	A
	2 - Purbrook Way (E)	708	382	2021	0.350	709	0.5	2.745	A
	3 - A3(M) on-slip		433						
	4 - Purbrook Way (W)	1207	81	2302	0.524	1210	1.1	3.304	A
2 - Western roundabout	1 - Purbrook Way (E)	351	2	1798	0.196	352	0.2	2.489	A
	2 - A3(M) off-slip	766	354	1963	0.390	767	0.6	3.013	A
	3 - Purbrook Way (W)	777	428	1665	0.467	779	0.9	4.070	A

2020 uplifted, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	7.56	A
2	Western roundabout	Standard Roundabout		1, 2, 3	7.66	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	6	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
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D7	2020 uplifted	PM	ONE HOUR	15:15	16:45	15
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Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	219	100.000
	2 - Purbrook Way (E)		✓	986	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	1068	100.000
	3 - Purbrook Way (W)		✓	1083	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	1	113	63	42
	2 - Purbrook Way (E)	109	2	428	447
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	91	1161	422	1

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	489
	2 - A3(M) off-slip	594	0	474
	3 - Purbrook Way (W)	1080	0	3

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
From		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	1	2	0
	2 - Purbrook Way (E)	0	0	1	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	1	1	0	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
From		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	0	0	2
	2 - A3(M) off-slip	1	0	3
	3 - Purbrook Way (W)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.47	13.47	0.9	B
	2 - Purbrook Way (E)	0.58	4.64	1.4	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.81	8.52	4.3	A
2 - Western roundabout	1 - Purbrook Way (E)	0.30	2.86	0.4	A
	2 - A3(M) off-slip	0.65	5.63	1.8	A
	3 - Purbrook Way (W)	0.80	11.87	3.8	B

Main Results for each time segment

15:15 - 15:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	165	1187	877	0.188	164	0.2	5.040	A
	2 - Purbrook Way (E)	742	396	2010	0.369	740	0.6	2.830	A
	3 - A3(M) on-slip		452						
	4 - Purbrook Way (W)	1259	84	2299	0.547	1254	1.2	3.428	A
2 - Western roundabout	1 - Purbrook Way (E)	367	2	1798	0.204	366	0.3	2.514	A
	2 - A3(M) off-slip	804	368	1952	0.412	801	0.7	3.121	A
	3 - Purbrook Way (W)	815	446	1651	0.494	811	1.0	4.268	A

15:30 - 15:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	197	1424	722	0.273	196	0.4	6.840	A
	2 - Purbrook Way (E)	886	475	1947	0.455	885	0.8	3.387	A
	3 - A3(M) on-slip		541						
	4 - Purbrook Way (W)	1506	101	2287	0.659	1504	1.9	4.581	A
2 - Western roundabout	1 - Purbrook Way (E)	439	3	1797	0.244	439	0.3	2.650	A
	2 - A3(M) off-slip	960	442	1894	0.507	959	1.0	3.843	A
	3 - Purbrook Way (W)	974	534	1585	0.614	971	1.6	5.841	A

15:45 - 16:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	241	1733	519	0.465	239	0.8	12.777	B
	2 - Purbrook Way (E)	1086	578	1865	0.582	1083	1.4	4.594	A
	3 - A3(M) on-slip		661						
	4 - Purbrook Way (W)	1838	123	2269	0.810	1830	4.1	8.040	A
2 - Western roundabout	1 - Purbrook Way (E)	537	3	1797	0.299	537	0.4	2.857	A
	2 - A3(M) off-slip	1176	540	1817	0.647	1173	1.8	5.565	A
	3 - Purbrook Way (W)	1192	653	1495	0.797	1184	3.7	11.260	B

16:00 - 16:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	241	1749	508	0.475	241	0.9	13.465	B
	2 - Purbrook Way (E)	1086	583	1861	0.583	1086	1.4	4.645	A
	3 - A3(M) on-slip		663						
	4 - Purbrook Way (W)	1848	123	2269	0.815	1848	4.3	8.516	A
2 - Western roundabout	1 - Purbrook Way (E)	539	3	1797	0.300	539	0.4	2.860	A
	2 - A3(M) off-slip	1176	542	1815	0.648	1176	1.8	5.627	A
	3 - Purbrook Way (W)	1192	655	1494	0.798	1192	3.8	11.872	B

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	197	1448	706	0.279	199	0.4	7.124	A
	2 - Purbrook Way (E)	886	482	1941	0.457	889	0.8	3.426	A
	3 - A3(M) on-slip		543						
	4 - Purbrook Way (W)	1520	101	2286	0.665	1529	2.0	4.809	A
2 - Western roundabout	1 - Purbrook Way (E)	441	3	1797	0.245	442	0.3	2.655	A
	2 - A3(M) off-slip	960	444	1892	0.507	963	1.0	3.890	A
	3 - Purbrook Way (W)	974	537	1583	0.615	982	1.6	6.079	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	165	1203	867	0.190	165	0.2	5.135	A
	2 - Purbrook Way (E)	742	401	2006	0.370	743	0.6	2.852	A
	3 - A3(M) on-slip		454						
	4 - Purbrook Way (W)	1267	84	2299	0.551	1271	1.2	3.512	A
2 - Western roundabout	1 - Purbrook Way (E)	369	2	1798	0.205	369	0.3	2.520	A
	2 - A3(M) off-slip	804	371	1949	0.412	805	0.7	3.152	A
	3 - Purbrook Way (W)	815	449	1649	0.494	818	1.0	4.344	A

2025 base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	15.03	C
2	Western roundabout	Standard Roundabout		1, 2, 3	19.86	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
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Left	Normal/unknown	-1	2 - Western roundabout - 3 - Purbrook Way (W)
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Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2025 base	PM	ONE HOUR	15:15	16:45	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	233	100.000
	2 - Purbrook Way (E)		✓	1093	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	1272	100.000
	3 - Purbrook Way (W)		✓	1264	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	1	120	67	45
	2 - Purbrook Way (E)	116	2	454	521
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	96	1261	533	1

Demand (Veh/hr)

2 - Western roundabout

	To			
From		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	1	0	566
	2 - A3(M) off-slip	630	0	642
	3 - Purbrook Way (W)	1261	0	3

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

From	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	1	1	0
	2 - Purbrook Way (E)	0	0	1	0
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	1	1	0	0

Heavy Vehicle Percentages

2 - Western roundabout

From	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	0	0	1
	2 - A3(M) off-slip	1	0	2
	3 - Purbrook Way (W)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.70	32.16	2.2	D
	2 - Purbrook Way (E)	0.68	6.27	2.1	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.92	17.95	9.8	C
2 - Western roundabout	1 - Purbrook Way (E)	0.34	3.01	0.5	A
	2 - A3(M) off-slip	0.79	9.85	3.7	A
	3 - Purbrook Way (W)	0.95	37.47	13.6	E

Main Results for each time segment

15:15 - 15:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	175	1344	777	0.226	174	0.3	5.964	A
	2 - Purbrook Way (E)	823	484	1958	0.420	820	0.7	3.155	A
	3 - A3(M) on-slip		515						
	4 - Purbrook Way (W)	1421	89	2296	0.619	1414	1.6	4.055	A
2 - Western roundabout	1 - Purbrook Way (E)	421	2	1815	0.232	420	0.3	2.577	A
	2 - A3(M) off-slip	958	422	1920	0.499	954	1.0	3.710	A

	3 - Purbrook Way (W)	952	473	1631	0.583	946	1.4	5.215	A
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15:30 - 15:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	209	1610	601	0.348	209	0.5	9.141	A
	2 - Purbrook Way (E)	983	580	1881	0.522	981	1.1	3.993	A
	3 - A3(M) on-slip		616						
	4 - Purbrook Way (W)	1700	107	2282	0.745	1695	2.8	6.073	A
2 - Western roundabout	1 - Purbrook Way (E)	504	3	1815	0.278	503	0.4	2.744	A
	2 - A3(M) off-slip	1143	506	1854	0.617	1141	1.6	5.031	A
	3 - Purbrook Way (W)	1136	566	1561	0.728	1131	2.6	8.288	A

15:45 - 16:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	257	1928	392	0.654	252	1.7	24.790	C
	2 - Purbrook Way (E)	1203	695	1788	0.673	1200	2.0	6.075	A
	3 - A3(M) on-slip		752						
	4 - Purbrook Way (W)	2050	131	2264	0.906	2029	8.2	14.161	B
2 - Western roundabout	1 - Purbrook Way (E)	615	3	1815	0.339	615	0.5	2.998	A
	2 - A3(M) off-slip	1400	618	1767	0.793	1392	3.6	9.416	A
	3 - Purbrook Way (W)	1392	691	1467	0.949	1357	11.3	26.827	D

16:00 - 16:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	257	1970	364	0.704	255	2.2	32.159	D
	2 - Purbrook Way (E)	1203	709	1777	0.677	1203	2.1	6.269	A
	3 - A3(M) on-slip		755						
	4 - Purbrook Way (W)	2079	131	2263	0.919	2073	9.8	17.952	C
2 - Western roundabout	1 - Purbrook Way (E)	618	3	1815	0.340	618	0.5	3.006	A
	2 - A3(M) off-slip	1400	621	1764	0.794	1400	3.7	9.855	A
	3 - Purbrook Way (W)	1392	695	1464	0.950	1382	13.6	37.470	E

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	209	1690	549	0.382	216	0.6	10.996	B
	2 - Purbrook Way (E)	983	607	1859	0.528	986	1.1	4.141	A
	3 - A3(M) on-slip		620						
	4 - Purbrook Way (W)	1753	107	2282	0.768	1779	3.4	7.493	A
2 - Western roundabout	1 - Purbrook Way (E)	508	3	1815	0.280	508	0.4	2.757	A
	2 - A3(M) off-slip	1143	511	1850	0.618	1152	1.6	5.214	A
	3 - Purbrook Way (W)	1136	571	1557	0.730	1180	2.8	10.581	B

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	175	1370	760	0.231	177	0.3	6.191	A
	2 - Purbrook Way (E)	823	493	1951	0.422	824	0.7	3.199	A
	3 - A3(M) on-slip		518						
	4 - Purbrook Way (W)	1435	90	2296	0.625	1442	1.7	4.250	A
2 - Western roundabout	1 - Purbrook Way (E)	424	2	1815	0.233	424	0.3	2.587	A
	2 - A3(M) off-slip	958	426	1917	0.500	960	1.0	3.775	A
	3 - Purbrook Way (W)	952	476	1629	0.584	957	1.4	5.404	A

2020 + devt, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	9.11	A

2	Western roundabout	Standard Roundabout		1, 2, 3	8.19	A
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Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	3	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2020 + devt	PM	ONE HOUR	15:15	16:45	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	310	100.000
	2 - Purbrook Way (E)		✓	1000	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	1070	100.000
	3 - Purbrook Way (W)		✓	1105	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	1	151	72	86
	2 - Purbrook Way (E)	143	2	424	431
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	145	1138	419	1

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	512
	2 - A3(M) off-slip	596	0	474
	3 - Purbrook Way (W)	1102	0	3

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	1	1	0
	2 - Purbrook Way (E)	0	0	1	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	1	1	0	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	2
	2 - A3(M) off-slip	1	0	3
	3 - Purbrook Way (W)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.64	18.76	1.7	C
	2 - Purbrook Way (E)	0.61	5.01	1.5	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.84	9.78	4.9	A
2 - Western roundabout	1 - Purbrook Way (E)	0.32	2.93	0.5	A
	2 - A3(M) off-slip	0.66	5.86	1.9	A
	3 - Purbrook Way (W)	0.82	12.96	4.2	B

Main Results for each time segment

15:15 - 15:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	233	1165	896	0.261	232	0.3	5.415	A
	2 - Purbrook Way (E)	753	433	1982	0.380	750	0.6	2.916	A
	3 - A3(M) on-slip		498						
	4 - Purbrook Way (W)	1277	110	2279	0.560	1272	1.3	3.555	A
2 - Western roundabout	1 - Purbrook Way (E)	387	2	1798	0.215	386	0.3	2.550	A
	2 - A3(M) off-slip	806	388	1936	0.416	803	0.7	3.168	A
	3 - Purbrook Way (W)	832	448	1650	0.504	828	1.0	4.359	A

15:30 - 15:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	279	1397	743	0.375	278	0.6	7.727	A
	2 - Purbrook Way (E)	899	518	1914	0.470	898	0.9	3.541	A
	3 - A3(M) on-slip		596						
	4 - Purbrook Way (W)	1528	131	2263	0.675	1525	2.0	4.858	A
2 - Western roundabout	1 - Purbrook Way (E)	463	3	1797	0.258	463	0.3	2.698	A
	2 - A3(M) off-slip	962	466	1875	0.513	961	1.0	3.931	A
	3 - Purbrook Way (W)	993	536	1584	0.627	991	1.7	6.045	A

15:45 - 16:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	341	1697	544	0.627	337	1.6	17.078	C
	2 - Purbrook Way (E)	1101	630	1825	0.603	1099	1.5	4.940	A
	3 - A3(M) on-slip		728						
	4 - Purbrook Way (W)	1864	160	2240	0.832	1853	4.7	9.070	A
2 - Western roundabout	1 - Purbrook Way (E)	566	3	1797	0.315	566	0.5	2.924	A
	2 - A3(M) off-slip	1178	569	1794	0.657	1175	1.9	5.784	A
	3 - Purbrook Way (W)	1217	655	1494	0.815	1207	4.1	12.156	B

16:00 - 16:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	341	1716	532	0.642	341	1.7	18.760	C
	2 - Purbrook Way (E)	1101	637	1819	0.605	1101	1.5	5.011	A
	3 - A3(M) on-slip		731						

	4 - Purbrook Way (W)	1875	161	2239	0.837	1874	4.9	9.780	A
2 - Western roundabout	1 - Purbrook Way (E)	568	3	1797	0.316	568	0.5	2.929	A
	2 - A3(M) off-slip	1178	572	1792	0.657	1178	1.9	5.862	A
	3 - Purbrook Way (W)	1217	657	1492	0.815	1216	4.2	12.956	B

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	279	1424	725	0.384	283	0.6	8.227	A
	2 - Purbrook Way (E)	899	528	1906	0.472	901	0.9	3.595	A
	3 - A3(M) on-slip		600						
	4 - Purbrook Way (W)	1543	132	2262	0.682	1554	2.2	5.162	A
2 - Western roundabout	1 - Purbrook Way (E)	466	3	1797	0.260	467	0.4	2.708	A
	2 - A3(M) off-slip	962	470	1872	0.514	965	1.1	3.983	A
	3 - Purbrook Way (W)	993	539	1582	0.628	1003	1.7	6.333	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	233	1181	885	0.264	234	0.4	5.543	A
	2 - Purbrook Way (E)	753	438	1978	0.381	754	0.6	2.943	A
	3 - A3(M) on-slip		501						
	4 - Purbrook Way (W)	1286	110	2279	0.564	1289	1.3	3.652	A
2 - Western roundabout	1 - Purbrook Way (E)	389	2	1798	0.217	390	0.3	2.557	A
	2 - A3(M) off-slip	806	392	1933	0.417	807	0.7	3.202	A
	3 - Purbrook Way (W)	832	450	1648	0.505	835	1.0	4.441	A

2025 + devt, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
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Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	21.90	C
2	Western roundabout	Standard Roundabout		1, 2, 3	23.40	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-3	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2025 + devt	PM	ONE HOUR	15:15	16:45	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	324	100.000
	2 - Purbrook Way (E)		✓	1107	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	1274	100.000
	3 - Purbrook Way (W)		✓	1286	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	1	158	76	89
	2 - Purbrook Way (E)	150	2	450	505
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	150	1238	530	1

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	589
	2 - A3(M) off-slip	632	0	642
	3 - Purbrook Way (W)	1283	0	3

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	1	1	0
	2 - Purbrook Way (E)	0	0	1	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	1	1	0	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	1
	2 - A3(M) off-slip	1	0	2
	3 - Purbrook Way (W)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.91	68.06	6.4	F
	2 - Purbrook Way (E)	0.71	7.12	2.4	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.94	22.67	12.5	C
2 - Western roundabout	1 - Purbrook Way (E)	0.36	3.11	0.6	A
	2 - A3(M) off-slip	0.81	10.82	4.1	B
	3 - Purbrook Way (W)	0.97	45.37	17.0	E

Main Results for each time segment

15:15 - 15:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	244	1321	792	0.308	242	0.4	6.521	A
	2 - Purbrook Way (E)	833	520	1912	0.436	830	0.8	3.319	A
	3 - A3(M) on-slip		561						
	4 - Purbrook Way (W)	1439	115	2276	0.632	1432	1.7	4.231	A
2 - Western roundabout	1 - Purbrook Way (E)	449	2	1815	0.247	448	0.3	2.630	A
	2 - A3(M) off-slip	959	450	1898	0.505	955	1.0	3.803	A
	3 - Purbrook Way (W)	968	475	1630	0.594	962	1.4	5.348	A

15:30 - 15:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	291	1583	620	0.470	290	0.9	10.833	B
	2 - Purbrook Way (E)	995	623	1830	0.544	994	1.2	4.295	A
	3 - A3(M) on-slip		671						
	4 - Purbrook Way (W)	1721	137	2258	0.762	1715	3.1	6.557	A
2 - Western roundabout	1 - Purbrook Way (E)	537	3	1815	0.296	537	0.4	2.817	A
	2 - A3(M) off-slip	1145	540	1828	0.627	1143	1.7	5.234	A
	3 - Purbrook Way (W)	1156	568	1560	0.741	1151	2.8	8.693	A

15:45 - 16:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	357	1884	422	0.846	343	4.2	40.762	E
	2 - Purbrook Way (E)	1219	741	1736	0.702	1214	2.3	6.843	A
	3 - A3(M) on-slip		817						
	4 - Purbrook Way (W)	2068	168	2235	0.926	2041	9.9	16.654	C
2 - Western roundabout	1 - Purbrook Way (E)	654	3	1815	0.360	653	0.6	3.098	A
	2 - A3(M) off-slip	1403	657	1736	0.808	1393	4.0	10.226	B

	3 - Purbrook Way (W)	1416	692	1466	0.966	1373	13.4	30.337	D
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16:00 - 16:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	357	1929	392	0.910	348	6.4	68.060	F
	2 - Purbrook Way (E)	1219	757	1723	0.707	1219	2.4	7.124	A
	3 - A3(M) on-slip		821						
	4 - Purbrook Way (W)	2101	168	2234	0.940	2090	12.5	22.674	C
2 - Western roundabout	1 - Purbrook Way (E)	657	3	1815	0.362	657	0.6	3.109	A
	2 - A3(M) off-slip	1403	660	1734	0.809	1402	4.1	10.819	B
	3 - Purbrook Way (W)	1416	697	1463	0.968	1401	17.0	45.375	E

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	291	1681	555	0.525	312	1.1	16.031	C
	2 - Purbrook Way (E)	995	664	1797	0.554	1000	1.3	4.539	A
	3 - A3(M) on-slip		681						
	4 - Purbrook Way (W)	1788	138	2258	0.792	1822	4.0	8.861	A
2 - Western roundabout	1 - Purbrook Way (E)	546	3	1815	0.301	547	0.4	2.839	A
	2 - A3(M) off-slip	1145	550	1820	0.629	1155	1.7	5.486	A
	3 - Purbrook Way (W)	1156	574	1555	0.743	1212	3.0	12.131	B

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	244	1350	774	0.315	247	0.5	6.862	A
	2 - Purbrook Way (E)	833	531	1903	0.438	835	0.8	3.376	A
	3 - A3(M) on-slip		565						
	4 - Purbrook Way (W)	1454	115	2275	0.639	1463	1.8	4.476	A
2 - Western roundabout	1 - Purbrook Way (E)	453	2	1815	0.249	453	0.3	2.642	A
	2 - A3(M) off-slip	959	455	1894	0.506	962	1.0	3.875	A
	3 - Purbrook Way (W)	968	478	1627	0.595	974	1.5	5.562	A

2020 observed, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	4.72	A
2	Western roundabout	Standard Roundabout		1, 2, 3	3.92	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	17	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2020 observed	SAT	ONE HOUR	11:30	13:00	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	385	100.000
	2 - Purbrook Way (E)		✓	935	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			

2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	817	100.000
	3 - Purbrook Way (W)		✓	727	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

		To			
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	185	104	96
	2 - Purbrook Way (E)	166	1	393	375
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	177	811	259	2

Demand (Veh/hr)

2 - Western roundabout

		To		
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	472
	2 - A3(M) off-slip	525	0	292
	3 - Purbrook Way (W)	723	0	4

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

		To			
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	1	0	0
	2 - Purbrook Way (E)	1	0	0	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	0	1	1	0

Heavy Vehicle Percentages

2 - Western roundabout

		To		
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	1
	2 - A3(M) off-slip	0	0	0
	3 - Purbrook Way (W)	2	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.48	7.85	0.9	A
	2 - Purbrook Way (E)	0.53	4.02	1.1	A

	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.62	4.29	1.6	A
2 - Western roundabout	1 - Purbrook Way (E)	0.29	2.79	0.4	A
	2 - A3(M) off-slip	0.48	3.73	0.9	A
	3 - Purbrook Way (W)	0.52	4.86	1.1	A

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	290	805	1134	0.256	288	0.3	4.250	A
	2 - Purbrook Way (E)	704	346	2057	0.342	702	0.5	2.654	A
	3 - A3(M) on-slip		480						
	4 - Purbrook Way (W)	940	125	2264	0.415	937	0.7	2.708	A
2 - Western roundabout	1 - Purbrook Way (E)	357	3	1815	0.197	356	0.2	2.467	A
	2 - A3(M) off-slip	615	359	1999	0.308	613	0.4	2.594	A
	3 - Purbrook Way (W)	547	395	1676	0.327	545	0.5	3.177	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	346	965	1028	0.337	345	0.5	5.272	A
	2 - Purbrook Way (E)	841	414	2001	0.420	840	0.7	3.097	A
	3 - A3(M) on-slip		575						
	4 - Purbrook Way (W)	1125	150	2244	0.501	1124	1.0	3.210	A
2 - Western roundabout	1 - Purbrook Way (E)	427	4	1814	0.235	427	0.3	2.594	A
	2 - A3(M) off-slip	734	431	1942	0.378	734	0.6	2.978	A
	3 - Purbrook Way (W)	654	472	1619	0.404	653	0.7	3.721	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	424	1181	885	0.479	422	0.9	7.752	A
	2 - Purbrook Way (E)	1029	507	1927	0.534	1028	1.1	3.995	A
	3 - A3(M) on-slip		703						

	4 - Purbrook Way (W)	1377	184	2218	0.621	1374	1.6	4.255	A
2 - Western roundabout	1 - Purbrook Way (E)	523	4	1814	0.288	522	0.4	2.787	A
	2 - A3(M) off-slip	900	527	1866	0.482	898	0.9	3.716	A
	3 - Purbrook Way (W)	800	578	1541	0.519	799	1.1	4.840	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	424	1185	882	0.480	424	0.9	7.850	A
	2 - Purbrook Way (E)	1029	508	1926	0.535	1029	1.1	4.015	A
	3 - A3(M) on-slip		705						
	4 - Purbrook Way (W)	1379	184	2218	0.622	1379	1.6	4.293	A
2 - Western roundabout	1 - Purbrook Way (E)	524	4	1814	0.289	524	0.4	2.789	A
	2 - A3(M) off-slip	900	528	1865	0.482	900	0.9	3.729	A
	3 - Purbrook Way (W)	800	579	1540	0.520	800	1.1	4.865	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	346	972	1024	0.338	348	0.5	5.339	A
	2 - Purbrook Way (E)	841	417	1999	0.420	842	0.7	3.114	A
	3 - A3(M) on-slip		577						
	4 - Purbrook Way (W)	1129	150	2244	0.503	1131	1.0	3.243	A
2 - Western roundabout	1 - Purbrook Way (E)	429	4	1814	0.236	429	0.3	2.598	A
	2 - A3(M) off-slip	734	433	1940	0.379	736	0.6	2.990	A
	3 - Purbrook Way (W)	654	474	1618	0.404	655	0.7	3.746	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	290	812	1129	0.257	291	0.3	4.296	A
	2 - Purbrook Way (E)	704	349	2054	0.343	705	0.5	2.668	A
	3 - A3(M) on-slip		482						
	4 - Purbrook Way (W)	944	126	2263	0.417	946	0.7	2.735	A
2 - Western roundabout	1 - Purbrook Way (E)	359	3	1815	0.198	359	0.2	2.472	A

	2 - A3(M) off-slip	615	362	1997	0.30 8	616	0.4	2.609	A
	3 - Purbrook Way (W)	547	396	1675	0.32 7	548	0.5	3.198	A

2020 uplifted, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	4.72	A
2	Western roundabout	Standard Roundabout		1, 2, 3	3.92	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	17	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2020 uplifted	SAT	ONE HOUR	11:30	13:00	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	385	100.000
	2 - Purbrook Way (E)		✓	935	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	817	100.000
	3 - Purbrook Way (W)		✓	727	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	185	104	96
	2 - Purbrook Way (E)	166	1	393	375
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	177	811	259	2

Demand (Veh/hr)

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	472
	2 - A3(M) off-slip	525	0	292
	3 - Purbrook Way (W)	723	0	4

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	1	0	0
	2 - Purbrook Way (E)	1	0	0	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	0	1	1	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	1
	2 - A3(M) off-slip	0	0	0
	3 - Purbrook Way (W)	2	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.48	7.85	0.9	A
	2 - Purbrook Way (E)	0.53	4.02	1.1	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.62	4.29	1.6	A
2 - Western roundabout	1 - Purbrook Way (E)	0.29	2.79	0.4	A
	2 - A3(M) off-slip	0.48	3.73	0.9	A
	3 - Purbrook Way (W)	0.52	4.86	1.1	A

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	290	805	1134	0.256	288	0.3	4.250	A
	2 - Purbrook Way (E)	704	346	2057	0.342	702	0.5	2.654	A
	3 - A3(M) on-slip		480						
	4 - Purbrook Way (W)	940	125	2264	0.415	937	0.7	2.708	A
2 - Western roundabout	1 - Purbrook Way (E)	357	3	1815	0.197	356	0.2	2.467	A
	2 - A3(M) off-slip	615	359	1999	0.308	613	0.4	2.594	A
	3 - Purbrook Way (W)	547	395	1676	0.327	545	0.5	3.177	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	346	965	1028	0.337	345	0.5	5.272	A
	2 - Purbrook Way (E)	841	414	2001	0.420	840	0.7	3.097	A
	3 - A3(M) on-slip		575						
	4 - Purbrook Way (W)	1125	150	2244	0.501	1124	1.0	3.210	A
2 - Western roundabout	1 - Purbrook Way (E)	427	4	1814	0.235	427	0.3	2.594	A
	2 - A3(M) off-slip	734	431	1942	0.378	734	0.6	2.978	A
	3 - Purbrook Way (W)	654	472	1619	0.404	653	0.7	3.721	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	424	1181	885	0.479	422	0.9	7.752	A
	2 - Purbrook Way (E)	1029	507	1927	0.534	1028	1.1	3.995	A
	3 - A3(M) on-slip		703						
	4 - Purbrook Way (W)	1377	184	2218	0.621	1374	1.6	4.255	A
2 - Western roundabout	1 - Purbrook Way (E)	523	4	1814	0.288	522	0.4	2.787	A
	2 - A3(M) off-slip	900	527	1866	0.482	898	0.9	3.716	A
	3 - Purbrook Way (W)	800	578	1541	0.519	799	1.1	4.840	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	424	1185	882	0.480	424	0.9	7.850	A
	2 - Purbrook Way (E)	1029	508	1926	0.535	1029	1.1	4.015	A
	3 - A3(M) on-slip		705						
	4 - Purbrook Way (W)	1379	184	2218	0.622	1379	1.6	4.293	A
2 - Western roundabout	1 - Purbrook Way (E)	524	4	1814	0.289	524	0.4	2.789	A
	2 - A3(M) off-slip	900	528	1865	0.482	900	0.9	3.729	A
	3 - Purbrook Way (W)	800	579	1540	0.520	800	1.1	4.865	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	346	972	1024	0.338	348	0.5	5.339	A
	2 - Purbrook Way (E)	841	417	1999	0.420	842	0.7	3.114	A
	3 - A3(M) on-slip		577						
	4 - Purbrook Way (W)	1129	150	2244	0.503	1131	1.0	3.243	A
2 - Western roundabout	1 - Purbrook Way (E)	429	4	1814	0.236	429	0.3	2.598	A
	2 - A3(M) off-slip	734	433	1940	0.379	736	0.6	2.990	A
	3 - Purbrook Way (W)	654	474	1618	0.404	655	0.7	3.746	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	290	812	1129	0.257	291	0.3	4.296	A
	2 - Purbrook Way (E)	704	349	2054	0.343	705	0.5	2.668	A
	3 - A3(M) on-slip		482						

	4 - Purbrook Way (W)	944	126	2263	0.41 7	946	0.7	2.735	A
2 - Western roundabout	1 - Purbrook Way (E)	359	3	1815	0.19 8	359	0.2	2.472	A
	2 - A3(M) off-slip	615	362	1997	0.30 8	616	0.4	2.609	A
	3 - Purbrook Way (W)	547	396	1675	0.32 7	548	0.5	3.198	A

2025 base, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	5.41	A
2	Western roundabout	Standard Roundabout		1, 2, 3	4.30	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	12	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D13	2025 base	SAT	ONE HOUR	11:30	13:00	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	

2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	
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Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	410	100.000
	2 - Purbrook Way (E)		✓	995	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	870	100.000
	3 - Purbrook Way (W)		✓	774	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

		To			
From		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	197	111	102
	2 - Purbrook Way (E)	177	1	418	399
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	188	864	276	2

Demand (Veh/hr)

2 - Western roundabout

		To		
From		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	1	0	503
	2 - A3(M) off-slip	559	0	311
	3 - Purbrook Way (W)	770	0	4

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

		To			
From		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	1	0	0
	2 - Purbrook Way (E)	1	0	0	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	0	1	1	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	0	0	1
	2 - A3(M) off-slip	0	0	0
	3 - Purbrook Way (W)	2	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.54	9.47	1.2	A
	2 - Purbrook Way (E)	0.58	4.48	1.4	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.67	4.87	2.0	A
2 - Western roundabout	1 - Purbrook Way (E)	0.31	2.86	0.4	A
	2 - A3(M) off-slip	0.52	4.09	1.1	A
	3 - Purbrook Way (W)	0.56	5.45	1.3	A

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	309	857	1099	0.281	307	0.4	4.536	A
	2 - Purbrook Way (E)	749	368	2039	0.367	747	0.6	2.782	A
	3 - A3(M) on-slip		511						
	4 - Purbrook Way (W)	1001	134	2257	0.443	998	0.8	2.851	A
2 - Western roundabout	1 - Purbrook Way (E)	380	3	1815	0.209	379	0.3	2.505	A
	2 - A3(M) off-slip	655	382	1981	0.331	653	0.5	2.707	A
	3 - Purbrook Way (W)	583	420	1658	0.352	581	0.5	3.335	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	369	1028	986	0.374	368	0.6	5.814	A
	2 - Purbrook Way (E)	894	441	1980	0.452	894	0.8	3.310	A
	3 - A3(M) on-slip		611						

	4 - Purbrook Way (W)	1198	160	2237	0.536	1196	1.1	3.456	A
2 - Western roundabout	1 - Purbrook Way (E)	454	4	1814	0.250	454	0.3	2.646	A
	2 - A3(M) off-slip	782	458	1921	0.407	781	0.7	3.158	A
	3 - Purbrook Way (W)	696	503	1597	0.436	695	0.8	3.988	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	451	1257	835	0.541	449	1.2	9.286	A
	2 - Purbrook Way (E)	1096	539	1901	0.576	1093	1.3	4.445	A
	3 - A3(M) on-slip		748						
	4 - Purbrook Way (W)	1466	196	2208	0.664	1462	1.9	4.808	A
2 - Western roundabout	1 - Purbrook Way (E)	556	4	1814	0.306	555	0.4	2.860	A
	2 - A3(M) off-slip	958	560	1840	0.521	956	1.1	4.068	A
	3 - Purbrook Way (W)	852	616	1513	0.563	850	1.3	5.412	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	451	1262	831	0.543	451	1.2	9.475	A
	2 - Purbrook Way (E)	1096	541	1899	0.577	1095	1.4	4.478	A
	3 - A3(M) on-slip		750						
	4 - Purbrook Way (W)	1469	196	2208	0.665	1469	2.0	4.866	A
2 - Western roundabout	1 - Purbrook Way (E)	557	4	1814	0.307	557	0.4	2.863	A
	2 - A3(M) off-slip	958	561	1838	0.521	958	1.1	4.089	A
	3 - Purbrook Way (W)	852	617	1513	0.563	852	1.3	5.450	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	369	1036	981	0.376	371	0.6	5.920	A
	2 - Purbrook Way (E)	894	445	1977	0.452	897	0.8	3.340	A
	3 - A3(M) on-slip		614						
	4 - Purbrook Way (W)	1202	160	2236	0.538	1205	1.2	3.505	A
2 - Western roundabout	1 - Purbrook Way (E)	456	4	1814	0.251	457	0.3	2.653	A

	2 - A3(M) off-slip	782	460	1919	0.408	784	0.7	3.178	A
	3 - Purbrook Way (W)	696	504	1595	0.436	698	0.8	4.020	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	309	866	1094	0.282	310	0.4	4.595	A
	2 - Purbrook Way (E)	749	371	2036	0.368	750	0.6	2.801	A
	3 - A3(M) on-slip		513						
	4 - Purbrook Way (W)	1006	134	2257	0.446	1007	0.8	2.883	A
2 - Western roundabout	1 - Purbrook Way (E)	382	3	1815	0.210	382	0.3	2.512	A
	2 - A3(M) off-slip	655	385	1978	0.331	656	0.5	2.724	A
	3 - Purbrook Way (W)	583	422	1656	0.352	584	0.5	3.358	A

2020 + devt, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	5.51	A
2	Western roundabout	Standard Roundabout		1, 2, 3	4.05	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	12	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
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D14	2020 + devt	SAT	ONE HOUR	11:30	13:00	15
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Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	499	100.000
	2 - Purbrook Way (E)		✓	955	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	819	100.000
	3 - Purbrook Way (W)		✓	761	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
From		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	231	112	156
	2 - Purbrook Way (E)	212	1	389	353
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	246	785	257	2

Demand (Veh/hr)

2 - Western roundabout

	To			
From		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	1	0	507
	2 - A3(M) off-slip	527	0	292
	3 - Purbrook Way (W)	757	0	4

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

	To				
From		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	0	0	0
	2 - Purbrook Way (E)	0	0	0	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	0	1	1	0

Heavy Vehicle Percentages

2 - Western roundabout

	To			
From		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	0	0	1
	2 - A3(M) off-slip	0	0	0
	3 - Purbrook Way (W)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.60	9.86	1.5	A
	2 - Purbrook Way (E)	0.56	4.37	1.3	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.65	4.68	1.8	A
2 - Western roundabout	1 - Purbrook Way (E)	0.31	2.88	0.5	A
	2 - A3(M) off-slip	0.49	3.87	1.0	A
	3 - Purbrook Way (W)	0.54	5.03	1.2	A

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	376	777	1158	0.324	374	0.5	4.578	A
	2 - Purbrook Way (E)	719	393	2023	0.355	717	0.5	2.750	A
	3 - A3(M) on-slip		543						
	4 - Purbrook Way (W)	962	160	2239	0.430	959	0.7	2.808	A
2 - Western roundabout	1 - Purbrook Way (E)	385	3	1815	0.212	384	0.3	2.514	A
	2 - A3(M) off-slip	617	387	1977	0.312	615	0.5	2.639	A
	3 - Purbrook Way (W)	573	396	1692	0.339	571	0.5	3.206	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	449	932	1055	0.425	448	0.7	5.915	A
	2 - Purbrook Way (E)	859	471	1961	0.438	858	0.8	3.260	A
	3 - A3(M) on-slip		650						
	4 - Purbrook Way (W)	1151	191	2214	0.520	1150	1.1	3.378	A
2 - Western roundabout	1 - Purbrook Way (E)	460	4	1814	0.254	460	0.3	2.658	A
	2 - A3(M) off-slip	736	464	1916	0.384	736	0.6	3.049	A
	3 - Purbrook Way (W)	684	474	1634	0.419	683	0.7	3.784	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	549	1139	917	0.599	547	1.5	9.642	A
	2 - Purbrook Way (E)	1051	576	1876	0.560	1050	1.3	4.343	A
	3 - A3(M) on-slip		795						
	4 - Purbrook Way (W)	1409	234	2181	0.646	1406	1.8	4.629	A
2 - Western roundabout	1 - Purbrook Way (E)	563	4	1814	0.310	563	0.4	2.877	A
	2 - A3(M) off-slip	902	567	1834	0.492	900	1.0	3.852	A
	3 - Purbrook Way (W)	838	580	1554	0.539	836	1.2	4.999	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	549	1144	914	0.601	549	1.5	9.861	A
	2 - Purbrook Way (E)	1051	578	1874	0.561	1051	1.3	4.374	A
	3 - A3(M) on-slip		797						
	4 - Purbrook Way (W)	1412	235	2181	0.647	1412	1.8	4.682	A
2 - Western roundabout	1 - Purbrook Way (E)	565	4	1814	0.311	565	0.5	2.881	A
	2 - A3(M) off-slip	902	569	1832	0.492	902	1.0	3.869	A
	3 - Purbrook Way (W)	838	581	1554	0.539	838	1.2	5.027	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	449	938	1051	0.42 7	452	0.8	6.037	A
	2 - Purbrook Way (E)	859	475	1958	0.43 9	860	0.8	3.286	A
	3 - A3(M) on-slip		653						
	4 - Purbrook Way (W)	1155	192	2214	0.52 2	1158	1.1	3.421	A
2 - Western roundabout	1 - Purbrook Way (E)	463	4	1814	0.25 5	463	0.3	2.664	A
	2 - A3(M) off-slip	736	467	1913	0.38 5	738	0.6	3.064	A
	3 - Purbrook Way (W)	684	476	1633	0.41 9	686	0.7	3.811	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	376	784	1153	0.32 6	377	0.5	4.642	A
	2 - Purbrook Way (E)	719	397	2021	0.35 6	720	0.6	2.771	A
	3 - A3(M) on-slip		546						
	4 - Purbrook Way (W)	967	161	2238	0.43 2	968	0.8	2.838	A
2 - Western roundabout	1 - Purbrook Way (E)	387	3	1815	0.21 3	387	0.3	2.523	A
	2 - A3(M) off-slip	617	390	1974	0.31 2	617	0.5	2.655	A
	3 - Purbrook Way (W)	573	398	1691	0.33 9	574	0.5	3.227	A

2025 + devt, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	1 - Eastern (B&Q) roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	2 - Western roundabout - 1 - Purbrook Way (E)	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked roundabouts	2 - Western roundabout	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern (B&Q) roundabout	Standard Roundabout		1, 2, 3, 4	6.50	A
2	Western roundabout	Standard Roundabout		1, 2, 3	4.45	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
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Left	Normal/unknown	8	1 - Eastern (B&Q) roundabout - 1 - B&Q / site
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Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D15	2025 + devt	SAT	ONE HOUR	11:30	13:00	15

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Eastern (B&Q) roundabout	4 - Purbrook Way (W)	2	1	Simple (vertical queueing)	Normal	0	100.00	
2 - Western roundabout	1 - Purbrook Way (E)	1	4	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		✓	524	100.000
	2 - Purbrook Way (E)		✓	1015	100.000
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	✓			
2 - Western roundabout	1 - Purbrook Way (E)	✓			
	2 - A3(M) off-slip		✓	872	100.000
	3 - Purbrook Way (W)		✓	808	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Eastern (B&Q) roundabout

	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
From	1 - B&Q / site	0	243	119	162
	2 - Purbrook Way (E)	223	1	414	377
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	257	838	274	2

Demand (Veh/hr)

2 - Western roundabout

	To			
From		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	1	0	538
	2 - A3(M) off-slip	561	0	311
	3 - Purbrook Way (W)	804	0	4

Vehicle Mix

Heavy Vehicle Percentages

1 - Eastern (B&Q) roundabout

From	To				
		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	0	0	0
	2 - Purbrook Way (E)	0	0	0	2
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	0	1	1	0

Heavy Vehicle Percentages

2 - Western roundabout

From	To			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
	1 - Purbrook Way (E)	0	0	1
	2 - A3(M) off-slip	0	0	0
	3 - Purbrook Way (W)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.67	12.55	2.0	B
	2 - Purbrook Way (E)	0.60	4.93	1.5	A
	3 - A3(M) on-slip				
	4 - Purbrook Way (W)	0.69	5.37	2.2	A
2 - Western roundabout	1 - Purbrook Way (E)	0.33	2.96	0.5	A
	2 - A3(M) off-slip	0.53	4.26	1.1	A
	3 - Purbrook Way (W)	0.58	5.66	1.4	A

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	829	1124	0.351	392	0.5	4.909	A
	2 - Purbrook Way (E)	764	416	2005	0.381	762	0.6	2.888	A
	3 - A3(M) on-slip		574						
	4 - Purbrook Way (W)	1023	168	2232	0.458	1019	0.8	2.958	A
2 - Western roundabout	1 - Purbrook Way (E)	407	3	1815	0.224	406	0.3	2.553	A
	2 - A3(M) off-slip	656	409	1959	0.335	654	0.5	2.756	A

	3 - Purbrook Way (W)	608	422	1673	0.364	606	0.6	3.367	A
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11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	994	1014	0.465	470	0.9	6.602	A
	2 - Purbrook Way (E)	912	498	1939	0.471	911	0.9	3.500	A
	3 - A3(M) on-slip		687						
	4 - Purbrook Way (W)	1224	201	2207	0.555	1222	1.2	3.650	A
2 - Western roundabout	1 - Purbrook Way (E)	487	4	1814	0.269	487	0.4	2.712	A
	2 - A3(M) off-slip	784	491	1894	0.414	783	0.7	3.238	A
	3 - Purbrook Way (W)	726	505	1611	0.451	725	0.8	4.061	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	1215	867	0.666	573	1.9	12.074	B
	2 - Purbrook Way (E)	1118	608	1851	0.604	1115	1.5	4.877	A
	3 - A3(M) on-slip		839						
	4 - Purbrook Way (W)	1497	246	2171	0.690	1494	2.2	5.281	A
2 - Western roundabout	1 - Purbrook Way (E)	596	4	1814	0.328	595	0.5	2.952	A
	2 - A3(M) off-slip	960	600	1808	0.531	958	1.1	4.229	A
	3 - Purbrook Way (W)	890	618	1527	0.583	887	1.4	5.610	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	1220	863	0.669	577	2.0	12.554	B
	2 - Purbrook Way (E)	1118	611	1848	0.605	1117	1.5	4.929	A
	3 - A3(M) on-slip		842						
	4 - Purbrook Way (W)	1501	247	2171	0.691	1500	2.2	5.367	A
2 - Western roundabout	1 - Purbrook Way (E)	598	4	1814	0.330	598	0.5	2.959	A
	2 - A3(M) off-slip	960	602	1806	0.532	960	1.1	4.256	A
	3 - Purbrook Way (W)	890	619	1526	0.583	890	1.4	5.657	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	1002	1008	0.467	475	0.9	6.809	A
	2 - Purbrook Way (E)	912	503	1935	0.472	915	0.9	3.539	A
	3 - A3(M) on-slip		691						
	4 - Purbrook Way (W)	1229	202	2206	0.557	1232	1.3	3.713	A
2 - Western roundabout	1 - Purbrook Way (E)	491	4	1814	0.270	491	0.4	2.720	A
	2 - A3(M) off-slip	784	495	1891	0.414	786	0.7	3.260	A
	3 - Purbrook Way (W)	726	506	1610	0.451	729	0.8	4.097	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	837	1118	0.353	396	0.5	4.994	A
	2 - Purbrook Way (E)	764	419	2002	0.382	765	0.6	2.912	A
	3 - A3(M) on-slip		577						
	4 - Purbrook Way (W)	1028	169	2232	0.460	1029	0.9	2.999	A
2 - Western roundabout	1 - Purbrook Way (E)	410	3	1815	0.226	410	0.3	2.564	A
	2 - A3(M) off-slip	656	413	1956	0.336	657	0.5	2.773	A
	3 - Purbrook Way (W)	608	424	1671	0.364	609	0.6	3.392	A

APPENDIX L: ARCADY Output – Purbrook Way / Stakes Rd Roundabout

Junctions 9						
ARCADY 9 - Roundabout Module						
Version: 9.5.1.7462 © Copyright TRL Limited, 2019						
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk						
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: Arcady - Stakes Road roundabout AM with IC (v1 Sept2020).j9

Path: H:\LIDL\PurbrookWay.1\05 Calculations\Junction modelling\Arcady - Stakes hill roundabout

Report generation date: 29/09/2020 17:22:31

»2020 observed, AM
 »2020 uplifted, AM
 »2025 baseline, AM
 »2020 + devt, AM
 »2025 + devt, AM

Summary of junction performance

	AM					
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
	2020 observed					
1 - Stakes Hill Road (N)	D1	4.0	17.30	0.81	C	-17 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		11.0	50.91	0.94	F	
3 - Crookhorn Lane (S)		10.0	120.40	0.98	F	
4 - Stakes Road (W)		21.0	153.51	1.05	F	
	2020 uplifted					
1 - Stakes Hill Road (N)	D2	16.5	59.77	0.97	F	-31 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		88.2	339.90	1.19	F	
3 - Crookhorn Lane (S)		43.5	526.25	1.23	F	
4 - Stakes Road (W)		79.4	627.01	1.27	F	
	2025 baseline					
1 - Stakes Hill Road (N)	D3	42.1	126.44	1.05	F	-36 % [3 - Crookhorn Lane (S)]
2 - Purbrook Way (E)		191.9	759.84	1.36	F	
3 - Crookhorn Lane (S)		66.5	783.61	1.32	F	
4 - Stakes Road (W)		121.2	977.47	1.38	F	
	2020 + devt					
1 - Stakes Hill Road (N)	D4	18.1	64.44	0.98	F	-31 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		92.8	363.41	1.20	F	
3 - Crookhorn Lane (S)		44.2	535.69	1.23	F	
4 - Stakes Road (W)		83.8	658.70	1.28	F	
	2025 + devt					
1 - Stakes Hill Road (N)	D5	45.5	134.62	1.06	F	-37 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		198.7	785.24	1.37	F	
3 - Crookhorn Lane (S)		66.9	786.91	1.32	F	
4 - Stakes Road (W)		126.5	1020.41	1.39	F	

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Stakes Hill roundabout
Location	Purbrook Way
Site number	
Date	10/08/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	B\LidlPurbrookWay.1
Enumerator	MAYERBROWN2K\hiorwerth
Description	Advice from TRL regarding modelling unusual arrangement: I have to admit that these are always tricky to both measure and decide how best to model so there is no definite answer – just intelligent decisions and some pragmatism. Where there is any hatching between lanes on an approach we tend to recommend that you try your best to construct draw the construction lines as if the hatching is invisible to you – so using the median line of the approaching Arm and the kerb line etc. Then try to take off from one side or the other (kerb or median line the space used up by the hatching. Then take the measurements from these repositioned construction lines – in the normal way. I hope that makes some kind of sense. Also any physical evidence of existing situation where vehicles are clearly ignoring hatching – e.g. cutting corner on the nearside hatching is justification for including that part within the measurements – No such situation in the case below by the look of it. As for the fact that the left turns are to some extent bypassing the roundabout, we tend to recommend to stay with what is likely to be pessimistic result, by assuming traffic that is turning left is still yielding (as normal) to the full circulating traffic flow. If you are able to collect decent quality local data, there is scope here to adjust for any benefit that comes from the arrangement you have in your junction where traffic probably can pull out from the nearside kerb-side lane more readily than is usually the case. Regards, Jim Jim Binning BSc (Hons) MCIHT Product Owner, TRL Software

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	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2020 observed	AM	ONE HOUR	07:45	09:15	15	✓
D2	2020 uplifted	AM	ONE HOUR	07:45	09:15	15	✓
D3	2025 baseline	AM	ONE HOUR	07:45	09:15	15	✓
D4	2020 + devt	AM	ONE HOUR	07:45	09:15	15	✓
D5	2025 + devt	AM	ONE HOUR	07:45	09:15	15	✓

Analysis Set Details

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

2020 observed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	68.03	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-17	4 - Stakes Road (W)

Arms

Arms

Arm	Name	Description
1	Stakes Hill Road (N)	
2	Purbrook Way (E)	
3	Crookhorn Lane (S)	
4	Stakes Road (W)	

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)	Exit only
1 - Stakes Hill Road (N)	4.00	6.80	14.0	21.0	26.0	32.0	
2 - Purbrook Way (E)	5.10	7.10	53.0	14.0	26.0	32.0	
3 - Crookhorn Lane (S)	3.00	3.30	9.0	3.0	26.0	31.0	
4 - Stakes Road (W)	3.25	3.25	0.0	3.0	26.0	27.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - Stakes Hill Road (N)	Direct		-318
2 - Purbrook Way (E)	Direct		-845
3 - Crookhorn Lane (S)	Direct		-21
4 - Stakes Road (W)	Direct		32

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Stakes Hill Road (N)	0.664	1403
2 - Purbrook Way (E)	0.720	1183
3 - Crookhorn Lane (S)	0.371	692
4 - Stakes Road (W)	0.377	755

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 segment length (min)	Run automatically
D1	2020 observed	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	786	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	754	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	283	100.000
4 - Stakes Road (W)		ONE HOUR	✓	438	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	13	479	148	146
	2 - Purbrook Way (E)	426	10	67	251
	3 - Crookhorn Lane (S)	159	76	0	48
	4 - Stakes Road (W)	88	305	41	4

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	2	6	1
	2 - Purbrook Way (E)	1	0	5	2
	3 - Crookhorn Lane (S)	9	2	0	12
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	0.81	17.30	4.0	C	721	1082
2 - Purbrook Way (E)	0.94	50.91	11.0	F	692	1038
3 - Crookhorn Lane (S)	0.98	120.40	10.0	F	260	390
4 - Stakes Road (W)	1.05	153.51	21.0	F	402	603

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	592	148	322	1156	0.512	588	510	0.0	1.0	6.293	A
2 - Purbrook Way (E)	568	142	263	970	0.585	562	647	0.0	1.4	8.706	A
3 - Crookhorn Lane (S)	213	53	634	422	0.505	209	191	0.0	1.0	16.621	C
4 - Stakes Road (W)	330	82	508	548	0.602	324	335	0.0	1.4	15.682	C

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 - Stakes Hill Road (N)	707	177	386	1114	0.634	704	611	1.0	1.7	8.727	A
2 - Purbrook Way (E)	678	169	315	932	0.727	673	775	1.4	2.5	13.657	B
3 - Crookhorn Lane (S)	254	64	759	378	0.672	251	229	1.0	1.9	27.449	D
4 - Stakes Road (W)	394	98	609	510	0.772	388	401	1.4	3.0	28.076	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 - Stakes Hill Road (N)	865	216	442	1077	0.804	857	721	1.7	3.8	15.803	C
2 - Purbrook Way (E)	830	208	380	884	0.939	804	919	2.5	9.0	36.763	E
3 - Crookhorn Lane (S)	312	78	910	326	0.957	291	274	1.9	7.1	76.984	F
4 - Stakes Road (W)	482	121	721	467	1.032	442	480	3.0	13.1	85.841	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 - Stakes Hill Road (N)	865	216	452	1070	0.808	864	738	3.8	4.0	17.297	C
2 - Purbrook Way (E)	830	208	384	881	0.942	822	932	9.0	11.0	50.912	F
3 - Crookhorn Lane (S)	312	78	928	319	0.975	300	278	7.1	10.0	120.395	F

4 - Stakes Road (W)	482	121	739	460	1.048	451	489	13.1	21.0	153.508	F
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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 - Stakes Hill Road (N)	707	177	450	1071	0.660	715	664	4.0	2.0	10.305	B
2 - Purbrook Way (E)	678	169	326	924	0.734	710	839	11.0	2.9	19.054	C
3 - Crookhorn Lane (S)	254	64	796	366	0.696	284	240	10.0	2.6	53.802	F
4 - Stakes Road (W)	394	98	658	491	0.802	456	421	21.0	5.4	104.217	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	592	148	342	1143	0.518	595	526	2.0	1.1	6.618	A
2 - Purbrook Way (E)	568	142	268	967	0.587	574	669	2.9	1.5	9.292	A
3 - Crookhorn Lane (S)	213	53	646	418	0.510	219	195	2.6	1.1	18.616	C
4 - Stakes Road (W)	330	82	523	542	0.608	345	342	5.4	1.6	19.470	C

2020 uplifted, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	322.16	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-31	4 - Stakes Road (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2020 uplifted	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	944	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	904	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	340	100.000
4 - Stakes Road (W)		ONE HOUR	✓	526	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	16	575	178	175
	2 - Purbrook Way (E)	511	12	80	301
	3 - Crookhorn Lane (S)	191	91	0	58
	4 - Stakes Road (W)	106	366	49	5

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	2	6	1
	2 - Purbrook Way (E)	1	0	5	2
	3 - Crookhorn Lane (S)	9	2	0	12
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	0.97	59.77	16.5	F	866	1299
2 - Purbrook Way (E)	1.19	339.90	88.2	F	830	1244
3 - Crookhorn Lane (S)	1.23	526.25	43.5	F	312	468
4 - Stakes Road (W)	1.27	627.01	79.4	F	483	724

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	711	178	382	1116	0.637	704	608	0.0	1.7	8.591	A
2 - Purbrook Way (E)	681	170	315	932	0.730	670	771	0.0	2.6	13.271	B
3 - Crookhorn Lane (S)	256	64	757	379	0.675	248	228	0.0	1.9	26.232	D
4 - Stakes Road (W)	396	99	606	511	0.775	384	400	0.0	3.0	26.290	D

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 - Stakes Hill Road (N)	849	212	439	1079	0.787	842	713	1.7	3.4	14.766	B
2 - Purbrook Way (E)	813	203	374	889	0.915	793	907	2.6	7.5	32.356	D
3 - Crookhorn Lane (S)	306	76	897	330	0.926	289	270	1.9	6.0	69.100	F
4 - Stakes Road (W)	473	118	713	470	1.005	440	474	3.0	11.3	77.749	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 - Stakes Hill Road (N)	1039	260	454	1069	0.972	1002	749	3.4	12.8	40.166	E
2 - Purbrook Way (E)	995	249	438	842	1.183	834	1018	7.5	47.8	133.294	F
3 - Crookhorn Lane (S)	374	94	967	306	1.224	301	305	6.0	24.5	209.382	F
4 - Stakes Road (W)	579	145	749	457	1.268	454	519	11.3	42.6	232.823	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 - Stakes Hill Road (N)	1039	260	456	1068	0.973	1024	751	12.8	16.5	59.770	F
2 - Purbrook Way (E)	995	249	447	835	1.192	834	1033	47.8	88.2	300.306	F
3 - Crookhorn Lane (S)	374	94	972	304	1.231	303	309	24.5	42.3	418.060	F
4 - Stakes Road (W)	579	145	751	456	1.271	455	524	42.6	73.7	475.770	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 - Stakes Hill Road (N)	849	212	451	1071	0.793	898	762	16.5	4.2	25.339	D

2 - Purbrook Way (E)	813	203	397	872	0.93 2	862	952	88.2	75.9	339.89 7	F
3 - Crookhorn Lane (S)	306	76	972	304	1.00 5	301	288	42.3	43.5	526.24 8	F
4 - Stakes Road (W)	473	118	764	451	1.04 8	450	509	73.7	79.4	627.01 0	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	711	178	441	1078	0.65 9	719	781	4.2	2.0	10.279	B
2 - Purbrook Way (E)	681	170	326	924	0.73 7	912	834	75.9	18.1	190.35 6	F
3 - Crookhorn Lane (S)	256	64	981	301	0.85 0	294	257	43.5	33.9	475.57 6	F
4 - Stakes Road (W)	396	99	784	444	0.89 3	438	491	79.4	68.8	609.87 1	F

2025 baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	587.00	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-36	3 - Crookhorn Lane (S)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 baseline	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	1021	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	1025	100.000

3 - Crookhorn Lane (S)		ONE HOUR	✓	362	100.000
4 - Stakes Road (W)		ONE HOUR	✓	568	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	17	629	189	186
	2 - Purbrook Way (E)	585	13	85	342
	3 - Crookhorn Lane (S)	203	97	0	62
	4 - Stakes Road (W)	113	398	52	5

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	2	6	1
	2 - Purbrook Way (E)	1	0	5	2
	3 - Crookhorn Lane (S)	9	2	0	12
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	1.05	126.44	42.1	F	937	1405
2 - Purbrook Way (E)	1.36	759.84	191.9	F	941	1411
3 - Crookhorn Lane (S)	1.32	783.61	66.5	F	332	498
4 - Stakes Road (W)	1.38	977.47	121.2	F	521	782

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	769	192	406	1101	0.698	760	670	0.0	2.2	10.301	B
2 - Purbrook Way (E)	772	193	333	919	0.839	753	833	0.0	4.5	19.958	C

3 - Crookhorn Lane (S)	273	68	846	348	0.783	261	240	0.0	3.0	37.297	E
4 - Stakes Road (W)	428	107	668	488	0.877	407	438	0.0	5.1	38.473	E

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 - Stakes Hill Road (N)	918	229	445	1075	0.854	906	751	2.2	5.1	20.056	C
2 - Purbrook Way (E)	921	230	393	875	1.053	849	958	4.5	22.7	72.468	F
3 - Crookhorn Lane (S)	325	81	963	307	1.059	290	279	3.0	11.8	117.985	F
4 - Stakes Road (W)	511	128	751	456	1.120	445	502	5.1	21.6	129.308	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 - Stakes Hill Road (N)	1124	281	455	1069	1.052	1041	753	5.1	25.9	66.635	F
2 - Purbrook Way (E)	1129	282	445	837	1.349	835	1050	22.7	95.9	266.500	F
3 - Crookhorn Lane (S)	399	100	977	302	1.318	300	304	11.8	36.4	312.943	F
4 - Stakes Road (W)	625	156	754	455	1.375	454	524	21.6	64.5	357.576	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 - Stakes Hill Road (N)	1124	281	456	1068	1.053	1059	752	25.9	42.1	126.441	F
2 - Purbrook Way (E)	1129	282	452	831	1.357	831	1063	95.9	170.2	582.775	F
3 - Crookhorn Lane (S)	399	100	977	302	1.318	302	307	36.4	60.5	597.019	F
4 - Stakes Road (W)	625	156	753	455	1.374	455	526	64.5	107.1	691.917	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 - Stakes Hill Road (N)	918	229	455	1068	0.859	1046	753	42.1	10.0	97.598	F
2 - Purbrook Way (E)	921	230	447	835	1.103	835	1054	170.2	191.9	759.840	F
3 - Crookhorn Lane (S)	325	81	978	302	1.077	301	305	60.5	66.5	779.069	F
4 - Stakes Road (W)	511	128	754	455	1.123	454	525	107.1	121.2	926.530	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	769	192	443	1076	0.714	798	780	10.0	2.6	14.211	B
2 - Purbrook Way (E)	772	193	351	906	0.852	901	891	191.9	159.5	702.359	F
3 - Crookhorn Lane (S)	273	68	989	298	0.914	294	263	66.5	61.2	783.614	F
4 - Stakes Road (W)	428	107	782	444	0.963	441	500	121.2	118.0	977.474	F

2020 + devt, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	338.81	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-31	4 - Stakes Road (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2020 + devt	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	951	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	913	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	340	100.000
4 - Stakes Road (W)		ONE HOUR	✓	531	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	16	582	178	175
	2 - Purbrook Way (E)	516	12	79	306
	3 - Crookhorn Lane (S)	191	91	0	58
	4 - Stakes Road (W)	106	371	49	5

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	2	6	1
	2 - Purbrook Way (E)	1	0	5	2
	3 - Crookhorn Lane (S)	9	2	0	12
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	0.98	64.44	18.1	F	873	1309
2 - Purbrook Way (E)	1.20	363.41	92.8	F	838	1257
3 - Crookhorn Lane (S)	1.23	535.69	44.2	F	312	468
4 - Stakes Road (W)	1.28	658.70	83.8	F	487	731

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	716	179	385	1114	0.643	709	611	0.0	1.7	8.738	A
2 - Purbrook Way (E)	687	172	314	932	0.737	677	780	0.0	2.6	13.574	B
3 - Crookhorn Lane (S)	256	64	764	377	0.680	248	227	0.0	1.9	26.677	D
4 - Stakes Road (W)	400	100	609	510	0.784	387	403	0.0	3.2	27.113	D

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 - Stakes Hill Road (N)	855	214	441	1077	0.793	848	716	1.7	3.6	15.194	C
2 - Purbrook Way (E)	821	205	374	889	0.923	799	915	2.6	8.0	33.966	D
3 - Crookhorn Lane (S)	306	76	904	328	0.933	288	269	1.9	6.3	71.312	F
4 - Stakes Road (W)	477	119	716	469	1.017	442	477	3.2	12.1	81.989	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 - Stakes Hill Road (N)	1047	262	455	1069	0.980	1007	748	3.6	13.7	42.215	E
2 - Purbrook Way (E)	1005	251	437	843	1.193	836	1024	8.0	50.3	139.352	F
3 - Crookhorn Lane (S)	374	94	970	305	1.228	300	303	6.3	24.9	213.582	F
4 - Stakes Road (W)	585	146	749	457	1.281	454	521	12.1	44.8	244.328	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 - Stakes Hill Road (N)	1047	262	456	1067	0.981	1029	750	13.7	18.1	64.437	F
2 - Purbrook Way (E)	1005	251	446	836	1.202	835	1040	50.3	92.8	315.057	F
3 - Crookhorn Lane (S)	374	94	974	303	1.234	302	307	24.9	42.9	424.903	F
4 - Stakes Road (W)	585	146	751	456	1.283	455	525	44.8	77.1	497.769	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 - Stakes Hill Road (N)	855	214	452	1070	0.799	910	761	18.1	4.4	27.976	D
2 - Purbrook Way (E)	821	205	399	870	0.943	861	963	92.8	82.7	363.409	F
3 - Crookhorn Lane (S)	306	76	974	304	1.007	301	286	42.9	44.2	535.693	F
4 - Stakes Road (W)	477	119	763	451	1.057	451	512	77.1	83.8	658.702	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	716	179	442	1077	0.665	725	780	4.4	2.0	10.486	B

2 - Purbrook Way (E)	687	172	326	924	0.74 4	913	841	82.7	26.4	219.04 8	F
3 - Crookhorn Lane (S)	256	64	984	300	0.85 3	293	255	44.2	34.8	487.20 0	F
4 - Stakes Road (W)	400	100	783	444	0.90 1	439	494	83.8	74.2	649.31 9	F

2025 + devt, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	607.07	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-37	4 - Stakes Road (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 + devt	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	1028	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	1034	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	362	100.000
4 - Stakes Road (W)		ONE HOUR	✓	573	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	17	636	189	186
	2 - Purbrook Way (E)	590	13	84	347
	3 - Crookhorn Lane (S)	203	97	0	62
	4 - Stakes Road (W)	113	403	52	5

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	2	6	1
	2 - Purbrook Way (E)	1	0	5	2
	3 - Crookhorn Lane (S)	9	2	0	11
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	1.06	134.62	45.5	F	943	1415
2 - Purbrook Way (E)	1.37	785.24	198.7	F	949	1423
3 - Crookhorn Lane (S)	1.32	786.91	66.9	F	332	498
4 - Stakes Road (W)	1.39	1020.41	126.5	F	526	789

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	774	193	408	1099	0.704	765	673	0.0	2.3	10.500	B
2 - Purbrook Way (E)	778	195	332	919	0.847	759	841	0.0	4.7	20.570	C
3 - Crookhorn Lane (S)	273	68	852	346	0.787	260	240	0.0	3.0	37.885	E
4 - Stakes Road (W)	431	108	671	486	0.887	410	441	0.0	5.4	39.932	E

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 - Stakes Hill Road (N)	924	231	446	1075	0.860	912	751	2.3	5.3	20.735	C
2 - Purbrook Way (E)	930	232	392	876	1.062	852	966	4.7	24.2	76.023	F
3 - Crookhorn Lane (S)	325	81	967	307	1.062	290	277	3.0	12.0	119.559	F
4 - Stakes Road (W)	515	129	752	456	1.130	445	504	5.4	22.8	135.230	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 - Stakes Hill Road (N)	1132	283	455	1068	1.059	1043	753	5.3	27.5	69.750	F
2 - Purbrook Way (E)	1138	285	443	838	1.358	837	1055	24.2	99.5	276.641	F
3 - Crookhorn Lane (S)	399	100	979	302	1.319	300	301	12.0	36.6	315.420	F
4 - Stakes Road (W)	631	158	754	455	1.388	454	525	22.8	67.1	372.748	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 - Stakes Hill Road (N)	1132	283	456	1068	1.060	1060	752	27.5	45.5	134.617	F
2 - Purbrook Way (E)	1138	285	450	834	1.366	833	1067	99.5	175.7	600.491	F
3 - Crookhorn Lane (S)	399	100	979	302	1.319	302	304	36.6	60.8	600.504	F
4 - Stakes Road (W)	631	158	754	455	1.387	455	527	67.1	111.2	718.744	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 - Stakes Hill Road (N)	924	231	456	1068	0.865	1045	754	45.5	15.2	109.782	F
2 - Purbrook Way (E)	930	232	444	838	1.109	838	1057	175.7	198.7	785.241	F
3 - Crookhorn Lane (S)	325	81	980	302	1.078	301	301	60.8	66.9	783.062	F
4 - Stakes Road (W)	515	129	755	454	1.134	454	526	111.2	126.5	963.394	F

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	774	193	445	1075	0.720	824	777	15.2	2.7	16.983	C

2 - Purbrook Way (E)	778	195	358	900	0.86 4	896	911	198.7	169.3	739.828	F
3 - Crookhorn Lane (S)	273	68	990	298	0.91 3	294	264	66.9	61.5	786.906	F
4 - Stakes Road (W)	431	108	780	445	0.96 9	442	504	126.5	123.9	1020.40 9	F

Junctions 9						
ARCADY 9 - Roundabout Module						
Version: 9.5.1.7462 © Copyright TRL Limited, 2019						
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Filename: Arcady - Stakes Road roundabout PM with IC (v1 Sept2020).j9
Path: H:\LIDL\PurbrookWay.1\05 Calculations\Junction modelling\Arcady - Stakes hill roundabout
Report generation date: 29/09/2020 17:27:33

»2020 observed, PM
 »2020 uplifted, PM
 »2025 baseline, PM
 »2020 + devt, PM
 »2025 + devt, PM

Summary of junction performance

	PM					
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
	2020 observed					
1 - Stakes Hill Road (N)	D6	6.0	26.07	0.87	D	-12 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		13.0	51.51	0.96	F	
3 - Crookhorn Lane (S)		6.0	66.45	0.89	F	
4 - Stakes Road (W)		16.0	105.92	1.00	F	
	2020 uplifted					
1 - Stakes Hill Road (N)	D7	9.0	37.45	0.92	E	-17 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		26.0	90.66	1.02	F	
3 - Crookhorn Lane (S)		9.9	101.13	0.96	F	
4 - Stakes Road (W)		27.3	162.98	1.07	F	
	2025 baseline					
1 - Stakes Hill Road (N)	D8	28.6	97.84	1.02	F	-24 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		69.9	216.55	1.12	F	
3 - Crookhorn Lane (S)		18.0	165.55	1.04	F	
4 - Stakes Road (W)		59.1	392.35	1.19	F	
	2020 + devt					
1 - Stakes Hill Road (N)	D9	10.2	42.02	0.93	E	-18 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		32.8	108.48	1.04	F	
3 - Crookhorn Lane (S)		10.6	107.68	0.97	F	
4 - Stakes Road (W)		33.5	193.56	1.09	F	
	2025 + devt					
1 - Stakes Hill Road (N)	D10	33.0	109.67	1.04	F	-26 % [4 - Stakes Road (W)]
2 - Purbrook Way (E)		79.4	256.92	1.14	F	
3 - Crookhorn Lane (S)		18.6	171.19	1.05	F	
4 - Stakes Road (W)		67.3	455.39	1.22	F	

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Stakes Hill roundabout
Location	Purbrook Way
Site number	
Date	10/08/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	B\LidlPurbrookWay.1
Enumerator	MAYERBROWN2K\hiorwerth
Description	Advice from TRL regarding modelling unusual arrangement: I have to admit that these are always tricky to both measure and decide how best to model so there is no definite answer – just intelligent decisions and some pragmatism. Where there is any hatching between lanes on an approach we tend to recommend that you try your best to construct draw the construction lines as if the hatching is invisible to you – so using the median line of the approaching Arm and the kerb line etc. Then try to take off from one side or the other (kerb or median line the space used up by the hatching. Then take the measurements from these repositioned construction lines – in the normal way. I hope that makes some kind of sense. Also any physical evidence of existing situation where vehicles are clearly ignoring hatching – e.g. cutting corner on the nearside hatching is justification for including that part within the measurements – No such situation in the case below by the look of it. As for the fact that the left turns are to some extent bypassing the roundabout, we tend to recommend to stay with what is likely to be pessimistic result, by assuming traffic that is turning left is still yielding (as normal) to the full circulating traffic flow. If you are able to collect decent quality local data, there is scope here to adjust for any benefit that comes from the arrangement you have in your junction where traffic probably can pull out from the nearside kerb-side lane more readily than is usually the case. Regards, Jim Jim Binning BSc (Hons) MCIHT Product Owner, TRL Software

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	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2020 observed	PM	ONE HOUR	15:15	16:45	15	✓
D7	2020 uplifted	PM	ONE HOUR	15:15	16:45	15	✓
D8	2025 baseline	PM	ONE HOUR	15:15	16:45	15	✓
D9	2020 + devt	PM	ONE HOUR	15:15	16:45	15	✓
D10	2025 + devt	PM	ONE HOUR	15:15	16:45	15	✓

Analysis Set Details

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

2020 observed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	56.16	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-12	4 - Stakes Road (W)

Arms

Arms

Arm	Name	Description
1	Stakes Hill Road (N)	
2	Purbrook Way (E)	
3	Crookhorn Lane (S)	
4	Stakes Road (W)	

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)	Exit only
1 - Stakes Hill Road (N)	4.00	6.80	14.0	21.0	26.0	32.0	
2 - Purbrook Way (E)	5.10	7.10	53.0	14.0	26.0	32.0	
3 - Crookhorn Lane (S)	3.00	3.30	9.0	3.0	26.0	31.0	
4 - Stakes Road (W)	3.25	3.25	0.0	3.0	26.0	27.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - Stakes Hill Road (N)	Direct		-325
2 - Purbrook Way (E)	Direct		-681
3 - Crookhorn Lane (S)	Direct		66
4 - Stakes Road (W)	Direct		101

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Stakes Hill Road (N)	0.664	1396
2 - Purbrook Way (E)	0.720	1347
3 - Crookhorn Lane (S)	0.371	779
4 - Stakes Road (W)	0.377	823

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 segment length (min)	Run automatically
D6	2020 observed	PM	ONE HOUR	15:15	16:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	798	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	873	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	319	100.000
4 - Stakes Road (W)		ONE HOUR	✓	501	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	4	473	178	143
	2 - Purbrook Way (E)	378	5	117	373
	3 - Crookhorn Lane (S)	139	110	0	70
	4 - Stakes Road (W)	94	347	60	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	1
	2 - Purbrook Way (E)	3	0	4	2
	3 - Crookhorn Lane (S)	3	2	0	4
	4 - Stakes Road (W)	0	0	6	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 - Stakes Hill Road (N)	0.87	26.07	6.0	D	732	1098
2 - Purbrook Way (E)	0.96	51.51	13.0	F	801	1202
3 - Crookhorn Lane (S)	0.89	66.45	6.0	F	293	439
4 - Stakes Road (W)	1.00	105.92	16.0	F	460	690

Main Results for each time segment

15:15 - 15:30

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 - Stakes Hill Road (N)	601	150	387	1122	0.536	596	458	0.0	1.1	6.794	A
2 - Purbrook Way (E)	657	164	287	1103	0.596	651	696	0.0	1.4	7.875	A
3 - Crookhorn Lane (S)	240	60	674	509	0.472	237	265	0.0	0.9	13.080	B
4 - Stakes Road (W)	377	94	474	635	0.594	372	437	0.0	1.4	13.384	B

15:30 - 15:45

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 - Stakes Hill Road (N)	717	179	464	1071	0.670	714	548	1.1	2.0	9.997	A
2 - Purbrook Way (E)	785	196	344	1062	0.739	780	834	1.4	2.7	12.539	B
3 - Crookhorn Lane (S)	287	72	807	460	0.624	284	317	0.9	1.6	20.170	C
4 - Stakes Road (W)	450	113	567	599	0.752	445	523	1.4	2.8	22.563	C

15:45 - 16:00

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 - Stakes Hill Road (N)	879	220	543	1018	0.863	865	652	2.0	5.4	21.803	C
2 - Purbrook Way (E)	961	240	414	1011	0.951	931	994	2.7	10.3	35.815	E
3 - Crookhorn Lane (S)	351	88	965	401	0.875	338	380	1.6	4.9	49.128	E
4 - Stakes Road (W)	552	138	676	557	0.990	519	627	2.8	11.0	64.758	F

16:00 - 16:15

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 - Stakes Hill Road (N)	879	220	557	1009	0.871	876	667	5.4	6.0	26.070	D
2 - Purbrook Way (E)	961	240	420	1006	0.955	951	1012	10.3	13.0	51.515	F
3 - Crookhorn Lane (S)	351	88	985	394	0.891	347	386	4.9	6.0	66.449	F

4 - Stakes Road (W)	552	138	692	551	1.00 1	532	639	11.0	16.0	105.91 8	F
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16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	717	179	515	1037	0.69 2	732	586	6.0	2.3	12.32 4	B
2 - Purbrook Way (E)	785	196	358	1052	0.74 6	824	889	13.0	3.1	18.22 7	C
3 - Crookhorn Lane (S)	287	72	849	444	0.64 6	303	334	6.0	2.0	27.92 9	D
4 - Stakes Road (W)	450	113	602	586	0.76 9	499	550	16.0	3.8	52.78 1	F

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	601	150	402	1112	0.54 0	605	469	2.3	1.2	7.167	A
2 - Purbrook Way (E)	657	164	293	1099	0.59 8	664	714	3.1	1.5	8.385	A
3 - Crookhorn Lane (S)	240	60	686	504	0.47 6	244	270	2.0	0.9	14.06 1	B
4 - Stakes Road (W)	377	94	485	631	0.59 8	386	446	3.8	1.5	15.22 6	C

2020 uplifted, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	89.45	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-17	4 - Stakes Road (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2020 uplifted	PM	ONE HOUR	15:15	16:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	838	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	917	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	336	100.000
4 - Stakes Road (W)		ONE HOUR	✓	526	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	4	497	187	150
	2 - Purbrook Way (E)	397	5	123	392
	3 - Crookhorn Lane (S)	146	116	0	74
	4 - Stakes Road (W)	99	364	63	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	1
	2 - Purbrook Way (E)	3	0	4	2
	3 - Crookhorn Lane (S)	3	2	0	4
	4 - Stakes Road (W)	0	0	6	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 - Stakes Hill Road (N)	0.92	37.45	9.0	E	769	1153
2 - Purbrook Way (E)	1.02	90.66	26.0	F	841	1262
3 - Crookhorn Lane (S)	0.96	101.13	9.9	F	308	462
4 - Stakes Road (W)	1.07	162.98	27.3	F	483	724

Main Results for each time segment

15:15 - 15:30

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 - Stakes Hill Road (N)	631	158	406	1109	0.569	626	480	0.0	1.3	7.368	A
2 - Purbrook Way (E)	690	173	301	1093	0.632	684	730	0.0	1.7	8.662	A
3 - Crookhorn Lane (S)	253	63	707	496	0.510	249	278	0.0	1.0	14.326	B
4 - Stakes Road (W)	396	99	497	626	0.632	389	459	0.0	1.6	14.819	B

15:30 - 15:45

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 - Stakes Hill Road (N)	753	188	485	1057	0.713	749	575	1.3	2.4	11.535	B
2 - Purbrook Way (E)	824	206	361	1050	0.785	817	874	1.7	3.4	15.045	C
3 - Crookhorn Lane (S)	302	76	845	445	0.678	298	333	1.0	2.0	23.858	C
4 - Stakes Road (W)	473	118	595	589	0.803	465	549	1.6	3.6	27.539	D

15:45 - 16:00

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 - Stakes Hill Road (N)	923	231	554	1011	0.912	902	668	2.4	7.6	28.623	D
2 - Purbrook Way (E)	1010	252	430	999	1.010	954	1025	3.4	17.2	51.773	F
3 - Crookhorn Lane (S)	370	92	992	391	0.945	349	392	2.0	7.1	65.629	F
4 - Stakes Road (W)	579	145	695	550	1.053	527	646	3.6	16.5	87.420	F

16:00 - 16:15

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 - Stakes Hill Road (N)	923	231	564	1004	0.919	917	683	7.6	9.0	37.453	E
2 - Purbrook Way (E)	1010	252	437	994	1.016	975	1044	17.2	26.0	90.662	F
3 - Crookhorn Lane (S)	370	92	1012	384	0.964	359	400	7.1	9.9	101.130	F
4 - Stakes Road (W)	579	145	711	544	1.065	536	660	16.5	27.3	162.979	F

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	753	188	562	1006	0.749	777	644	9.0	3.2	17.097	C

2 - Purbrook Way (E)	824	206	381	1035	0.797	911	957	26.0	4.4	40.778	E
3 - Crookhorn Lane (S)	302	76	931	414	0.730	329	361	9.9	3.1	50.645	F
4 - Stakes Road (W)	473	118	660	564	0.839	547	601	27.3	8.9	129.918	F

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	631	158	438	1088	0.580	638	500	3.2	1.4	8.123	A
2 - Purbrook Way (E)	690	173	310	1086	0.636	701	766	4.4	1.8	9.581	A
3 - Crookhorn Lane (S)	253	63	724	490	0.516	261	287	3.1	1.1	16.202	C
4 - Stakes Road (W)	396	99	514	620	0.639	424	471	8.9	1.9	20.751	C

2025 baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	207.07	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-24	4 - Stakes Road (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2025 baseline	PM	ONE HOUR	15:15	16:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	930	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	1010	100.000

3 - Crookhorn Lane (S)		ONE HOUR	✓	356	100.000
4 - Stakes Road (W)		ONE HOUR	✓	580	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	4	569	198	159
	2 - Purbrook Way (E)	446	5	130	429
	3 - Crookhorn Lane (S)	155	123	0	78
	4 - Stakes Road (W)	105	408	67	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	1
	2 - Purbrook Way (E)	3	0	4	2
	3 - Crookhorn Lane (S)	3	2	0	4
	4 - Stakes Road (W)	0	0	6	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 - Stakes Hill Road (N)	1.02	97.84	28.6	F	853	1280
2 - Purbrook Way (E)	1.12	216.55	69.9	F	927	1390
3 - Crookhorn Lane (S)	1.04	165.55	18.0	F	327	490
4 - Stakes Road (W)	1.19	392.35	59.1	F	532	798

Main Results for each time segment

15:15 - 15:30

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 - Stakes Hill Road (N)	700	175	444	1084	0.646	693	527	0.0	1.8	9.045	A
2 - Purbrook Way (E)	760	190	318	1081	0.704	751	819	0.0	2.3	10.659	B

3 - Crookhorn Lane (S)	268	67	776	471	0.569	263	294	0.0	1.3	16.927	C
4 - Stakes Road (W)	437	109	544	608	0.718	427	495	0.0	2.4	19.007	C

15:30 - 15:45

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 - Stakes Hill Road (N)	836	209	525	1031	0.811	827	626	1.8	3.9	17.010	C
2 - Purbrook Way (E)	908	227	379	1036	0.876	894	973	2.3	5.9	23.169	C
3 - Crookhorn Lane (S)	320	80	924	417	0.768	314	349	1.3	2.9	33.038	D
4 - Stakes Road (W)	521	130	647	568	0.917	503	590	2.4	6.8	45.988	E

15:45 - 16:00

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 - Stakes Hill Road (N)	1024	256	565	1005	1.019	964	689	3.9	18.8	55.416	F
2 - Purbrook Way (E)	1112	278	436	995	1.117	981	1093	5.9	38.7	94.920	F
3 - Crookhorn Lane (S)	392	98	1024	380	1.032	357	393	2.9	11.7	95.909	F
4 - Stakes Road (W)	639	160	721	540	1.182	533	660	6.8	33.2	153.892	F

16:00 - 16:15

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 - Stakes Hill Road (N)	1024	256	570	1001	1.023	985	697	18.8	28.6	97.836	F
2 - Purbrook Way (E)	1112	278	444	989	1.124	987	1110	38.7	69.9	207.407	F
3 - Crookhorn Lane (S)	392	98	1033	376	1.041	367	398	11.7	18.0	165.546	F
4 - Stakes Road (W)	639	160	731	536	1.191	535	668	33.2	59.1	324.690	F

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	836	209	569	1001	0.835	926	696	28.6	6.1	59.350	F
2 - Purbrook Way (E)	908	227	422	1006	0.903	991	1074	69.9	49.0	216.545	F
3 - Crookhorn Lane (S)	320	80	1026	379	0.845	359	387	18.0	8.1	140.514	F
4 - Stakes Road (W)	521	130	727	538	0.970	538	658	59.1	55.1	392.355	F

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	700	175	561	1007	0.695	715	648	6.1	2.4	12.911	B
2 - Purbrook Way (E)	760	190	342	1063	0.715	945	934	49.0	2.8	64.787	F
3 - Crookhorn Lane (S)	268	67	949	407	0.659	292	338	8.1	2.1	36.376	E
4 - Stakes Road (W)	437	109	653	566	0.771	556	588	55.1	25.2	264.383	F

2020 + devt, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	104.30	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-18	4 - Stakes Road (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2020 + devt	PM	ONE HOUR	15:15	16:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	849	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	941	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	336	100.000
4 - Stakes Road (W)		ONE HOUR	✓	538	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	4	508	187	150
	2 - Purbrook Way (E)	408	5	123	405
	3 - Crookhorn Lane (S)	146	116	0	74
	4 - Stakes Road (W)	99	376	63	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	1
	2 - Purbrook Way (E)	3	0	4	1
	3 - Crookhorn Lane (S)	3	2	0	4
	4 - Stakes Road (W)	0	0	6	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 - Stakes Hill Road (N)	0.93	42.02	10.2	E	779	1169
2 - Purbrook Way (E)	1.04	108.48	32.8	F	863	1295
3 - Crookhorn Lane (S)	0.97	107.68	10.6	F	308	462
4 - Stakes Road (W)	1.09	193.56	33.5	F	494	741

Main Results for each time segment

15:15 - 15:30

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 - Stakes Hill Road (N)	639	160	414	1104	0.579	634	488	0.0	1.3	7.574	A
2 - Purbrook Way (E)	708	177	301	1098	0.645	701	747	0.0	1.8	8.931	A
3 - Crookhorn Lane (S)	253	63	725	491	0.515	249	278	0.0	1.0	14.636	B
4 - Stakes Road (W)	405	101	505	623	0.650	398	469	0.0	1.8	15.531	C

15:30 - 15:45

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 - Stakes Hill Road (N)	763	191	495	1051	0.726	758	584	1.3	2.5	12.125	B
2 - Purbrook Way (E)	846	211	360	1055	0.802	838	893	1.8	3.7	16.060	C
3 - Crookhorn Lane (S)	302	76	866	439	0.688	298	332	1.0	2.0	24.828	C
4 - Stakes Road (W)	484	121	604	585	0.826	475	560	1.8	4.0	30.294	D

15:45 - 16:00

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 - Stakes Hill Road (N)	935	234	558	1009	0.927	911	673	2.5	8.5	31.154	D
2 - Purbrook Way (E)	1036	259	428	1005	1.031	969	1041	3.7	20.5	58.358	F
3 - Crookhorn Lane (S)	370	92	1007	387	0.955	348	389	2.0	7.5	68.880	F
4 - Stakes Road (W)	592	148	701	548	1.081	530	655	4.0	19.6	99.367	F

16:00 - 16:15

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 - Stakes Hill Road (N)	935	234	567	1003	0.932	928	687	8.5	10.2	42.024	E
2 - Purbrook Way (E)	1036	259	436	1000	1.036	987	1059	20.5	32.8	108.482	F
3 - Crookhorn Lane (S)	370	92	1026	380	0.973	358	396	7.5	10.6	107.681	F
4 - Stakes Road (W)	592	148	717	542	1.093	537	667	19.6	33.5	193.558	F

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	763	191	559	1008	0.757	791	661	10.2	3.3	18.362	C
2 - Purbrook Way (E)	846	211	381	1040	0.814	957	969	32.8	5.2	59.536	F
3 - Crookhorn Lane (S)	302	76	975	399	0.757	330	362	10.6	3.6	61.296	F
4 - Stakes Road (W)	484	121	681	556	0.870	539	624	33.5	19.5	180.077	F

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	639	160	482	1059	0.604	646	518	3.3	1.6	8.864	A

2 - Purbrook Way (E)	708	177	315	1087	0.65 2	721	813	5.2	1.9	10.17 1	B
3 - Crookhorn Lane (S)	253	63	744	484	0.52 3	263	292	3.6	1.1	16.98 9	C
4 - Stakes Road (W)	405	101	525	616	0.65 8	475	483	19.5	2.1	37.03 1	E

2025 + devt, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	238.96	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-26	4 - Stakes Road (W)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2025 + devt	PM	ONE HOUR	15:15	16:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	941	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	1034	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	356	100.000
4 - Stakes Road (W)		ONE HOUR	✓	592	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	4	580	198	159
	2 - Purbrook Way (E)	457	5	130	442
	3 - Crookhorn Lane (S)	155	123	0	78
	4 - Stakes Road (W)	105	420	67	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	1
	2 - Purbrook Way (E)	3	0	4	1
	3 - Crookhorn Lane (S)	3	2	0	4
	4 - Stakes Road (W)	0	0	6	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 - Stakes Hill Road (N)	1.04	109.67	33.0	F	863	1295
2 - Purbrook Way (E)	1.14	256.92	79.4	F	949	1423
3 - Crookhorn Lane (S)	1.05	171.19	18.6	F	327	490
4 - Stakes Road (W)	1.22	455.39	67.3	F	543	815

Main Results for each time segment

15:15 - 15:30

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 - Stakes Hill Road (N)	708	177	453	1079	0.657	701	534	0.0	1.9	9.349	A
2 - Purbrook Way (E)	778	195	318	1085	0.717	769	836	0.0	2.4	11.062	B
3 - Crookhorn Lane (S)	268	67	794	466	0.576	263	293	0.0	1.3	17.342	C
4 - Stakes Road (W)	446	111	552	605	0.736	435	505	0.0	2.6	20.134	C

15:30 - 15:45

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 - Stakes Hill Road (N)	846	211	532	1026	0.824	836	634	1.9	4.2	18.114	C
2 - Purbrook Way (E)	930	232	379	1041	0.893	913	990	2.4	6.6	25.248	D
3 - Crookhorn Lane (S)	320	80	943	411	0.779	313	349	1.3	3.0	34.617	D
4 - Stakes Road (W)	532	133	656	565	0.941	510	600	2.6	8.0	51.742	F

15:45 - 16:00

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 - Stakes Hill Road (N)	1036	259	567	1004	1.032	969	691	4.2	21.0	60.152	F
2 - Purbrook Way (E)	1138	285	432	1002	1.136	991	1103	6.6	43.6	104.096	F
3 - Crookhorn Lane (S)	392	98	1034	377	1.038	356	389	3.0	12.1	99.069	F
4 - Stakes Road (W)	652	163	725	539	1.210	533	665	8.0	37.6	172.238	F

16:00 - 16:15

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 - Stakes Hill Road (N)	1036	259	571	1001	1.035	988	698	21.0	33.0	109.667	F
2 - Purbrook Way (E)	1138	285	440	997	1.142	995	1119	43.6	79.4	231.465	F
3 - Crookhorn Lane (S)	392	98	1041	375	1.046	366	393	12.1	18.6	171.194	F
4 - Stakes Road (W)	652	163	734	535	1.218	534	672	37.6	67.0	365.896	F

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	846	211	566	1004	0.843	950	695	33.0	6.9	73.175	F
2 - Purbrook Way (E)	930	232	425	1008	0.922	995	1092	79.4	63.0	256.915	F
3 - Crookhorn Lane (S)	320	80	1035	377	0.849	360	385	18.6	8.6	147.960	F
4 - Stakes Road (W)	532	133	730	537	0.991	531	665	67.0	67.3	455.391	F

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Stakes Hill Road (N)	708	177	555	1012	0.700	726	677	6.9	2.4	13.335	B

2 - Purbrook Way (E)	778	195	340	1069	0.72 8	1018	941	63.0	3.3	107.48 5	F
3 - Crookhorn Lane (S)	268	67	1015	384	0.69 8	292	342	8.6	2.6	45.924	E
4 - Stakes Road (W)	446	111	686	554	0.80 5	546	622	67.3	42.3	364.14 5	F

Junctions 9						
ARCADY 9 - Roundabout Module						
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Filename: Arcady - Stakes Road roundabout SATURDAY with IC (v1 Sept2020).j9
Path: H:\LIDL\PurbrookWay.1\05 Calculations\Junction modelling\Arcady - Stakes hill roundabout
Report generation date: 29/09/2020 17:17:16

»2020 observed, SAT
 »2020 uplifted, SAT
 »2025 baseline, SAT
 »2020 + devt, SAT
 »2025 + devt, SAT

Summary of junction performance

	SAT					
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
	2020 observed					
1 - Stakes Hill Road (N)	D11	3.0	19.02	0.76	C	-7 % [3 - Crookhorn Lane (S)]
2 - Purbrook Way (E)		8.0	41.24	0.91	E	
3 - Crookhorn Lane (S)		4.0	53.50	0.83	F	
4 - Stakes Road (W)		6.0	45.38	0.88	E	
	2020 uplifted					
1 - Stakes Hill Road (N)	D12	3.0	19.02	0.76	C	-7 % [3 - Crookhorn Lane (S)]
2 - Purbrook Way (E)		8.0	41.24	0.91	E	
3 - Crookhorn Lane (S)		4.0	53.50	0.83	F	
4 - Stakes Road (W)		6.0	45.38	0.88	E	
	2025 baseline					
1 - Stakes Hill Road (N)	D13	4.4	26.49	0.83	D	-13 % [3 - Crookhorn Lane (S)]
2 - Purbrook Way (E)		16.7	77.52	0.99	F	
3 - Crookhorn Lane (S)		6.7	84.28	0.91	F	
4 - Stakes Road (W)		10.6	74.00	0.95	F	
	2020 + devt					
1 - Stakes Hill Road (N)	D14	3.6	22.14	0.79	C	-9 % [3 - Crookhorn Lane (S)]
2 - Purbrook Way (E)		12.0	58.22	0.95	F	
3 - Crookhorn Lane (S)		4.6	62.12	0.85	F	
4 - Stakes Road (W)		8.2	59.48	0.92	F	
	2025 + devt					
1 - Stakes Hill Road (N)	D15	5.3	31.28	0.86	D	-15 % [3 - Crookhorn Lane (S)]
2 - Purbrook Way (E)		26.0	109.38	1.03	F	
3 - Crookhorn Lane (S)		7.6	94.98	0.93	F	
4 - Stakes Road (W)		14.8	97.42	0.99	F	

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Stakes Hill roundabout
Location	Purbrook Way
Site number	
Date	10/08/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	B\LidlPurbrookWay.1
Enumerator	MAYERBROWN2K\hiorwerth
Description	Advice from TRL regarding modelling unusual arrangement: I have to admit that these are always tricky to both measure and decide how best to model so there is no definite answer – just intelligent decisions and some pragmatism. Where there is any hatching between lanes on an approach we tend to recommend that you try your best to construct draw the construction lines as if the hatching is invisible to you – so using the median line of the approaching Arm and the kerb line etc. Then try to take off from one side or the other (kerb or median line the space used up by the hatching. Then take the measurements from these repositioned construction lines – in the normal way. I hope that makes some kind of sense. Also any physical evidence of existing situation where vehicles are clearly ignoring hatching – e.g. cutting corner on the nearside hatching is justification for including that part within the measurements – No such situation in the case below by the look of it. As for the fact that the left turns are to some extent bypassing the roundabout, we tend to recommend to stay with what is likely to be pessimistic result, by assuming traffic that is turning left is still yielding (as normal) to the full circulating traffic flow. If you are able to collect decent quality local data, there is scope here to adjust for any benefit that comes from the arrangement you have in your junction where traffic probably can pull out from the nearside kerb-side lane more readily than is usually the case. Regards, Jim Jim Binning BSc (Hons) MCIHT Product Owner, TRL Software

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	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2020 observed	SAT	ONE HOUR	11:30	13:00	15	✓
D12	2020 uplifted	SAT	ONE HOUR	11:30	13:00	15	✓
D13	2025 baseline	SAT	ONE HOUR	11:30	13:00	15	✓
D14	2020 + devt	SAT	ONE HOUR	11:30	13:00	15	✓
D15	2025 + devt	SAT	ONE HOUR	11:30	13:00	15	✓

Analysis Set Details

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

2020 observed, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	37.82	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-7	3 - Crookhorn Lane (S)

Arms

Arms

Arm	Name	Description
1	Stakes Hill Road (N)	
2	Purbrook Way (E)	
3	Crookhorn Lane (S)	
4	Stakes Road (W)	

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)	Exit only
1 - Stakes Hill Road (N)	4.00	6.80	14.0	21.0	26.0	32.0	
2 - Purbrook Way (E)	5.10	7.10	53.0	14.0	26.0	32.0	
3 - Crookhorn Lane (S)	3.00	3.30	9.0	3.0	26.0	31.0	
4 - Stakes Road (W)	3.25	3.25	0.0	3.0	26.0	27.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - Stakes Hill Road (N)	Direct		-610
2 - Purbrook Way (E)	Direct		-965
3 - Crookhorn Lane (S)	Direct		-67
4 - Stakes Road (W)	Direct		78

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Stakes Hill Road (N)	0.664	1112
2 - Purbrook Way (E)	0.720	1063
3 - Crookhorn Lane (S)	0.371	646
4 - Stakes Road (W)	0.377	801

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 segment length (min)	Run automatically
D11	2020 observed	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	535	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	680	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	263	100.000
4 - Stakes Road (W)		ONE HOUR	✓	464	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	1	301	132	101
	2 - Purbrook Way (E)	292	1	87	300
	3 - Crookhorn Lane (S)	130	74	1	58
	4 - Stakes Road (W)	101	309	52	2

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	0
	2 - Purbrook Way (E)	0	0	2	0
	3 - Crookhorn Lane (S)	4	3	0	3
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	0.76	19.02	3.0	C	491	736
2 - Purbrook Way (E)	0.91	41.24	8.0	E	624	936
3 - Crookhorn Lane (S)	0.83	53.50	4.0	F	241	362
4 - Stakes Road (W)	0.88	45.38	6.0	E	426	639

Main Results for each time segment

11:30 - 11:45

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 - Stakes Hill Road (N)	403	101	326	880	0.458	399	390	0.0	0.8	7.449	A
2 - Purbrook Way (E)	512	128	216	900	0.569	507	510	0.0	1.3	9.046	A
3 - Crookhorn Lane (S)	198	50	520	438	0.452	195	203	0.0	0.8	14.596	B
4 - Stakes Road (W)	349	87	371	647	0.540	345	343	0.0	1.1	11.740	B

11:45 - 12:00

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 - Stakes Hill Road (N)	481	120	391	836	0.576	479	468	0.8	1.3	10.037	B
2 - Purbrook Way (E)	611	153	259	868	0.704	607	612	1.3	2.3	13.613	B
3 - Crookhorn Lane (S)	236	59	623	401	0.589	234	243	0.8	1.4	21.233	C
4 - Stakes Road (W)	417	104	445	619	0.674	414	412	1.1	2.0	17.252	C

12:00 - 12:15

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 - Stakes Hill Road (N)	589	147	471	783	0.753	583	562	1.3	2.8	17.526	C
2 - Purbrook Way (E)	749	187	314	827	0.906	730	740	2.3	6.9	32.386	D
3 - Crookhorn Lane (S)	290	72	750	356	0.814	281	294	1.4	3.5	43.854	E
4 - Stakes Road (W)	511	128	535	586	0.873	498	496	2.0	5.2	36.538	E

12:15 - 12:30

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 - Stakes Hill Road (N)	589	147	480	776	0.759	588	573	2.8	3.0	19.023	C
2 - Purbrook Way (E)	749	187	318	824	0.909	744	751	6.9	8.0	41.244	E
3 - Crookhorn Lane (S)	290	72	764	351	0.825	287	298	3.5	4.0	53.499	F

4 - Stakes Road (W)	511	128	546	581	0.879	508	505	5.2	6.0	45.377	E
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12:30 - 12:45

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 - Stakes Hill Road (N)	481	120	409	824	0.584	487	488	3.0	1.4	10.882	B
2 - Purbrook Way (E)	611	153	264	864	0.708	633	632	8.0	2.6	16.928	C
3 - Crookhorn Lane (S)	236	59	647	393	0.602	246	251	4.0	1.6	25.905	D
4 - Stakes Road (W)	417	104	465	612	0.682	432	427	6.0	2.3	21.480	C

12:45 - 13:00

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 - Stakes Hill Road (N)	403	101	335	874	0.461	405	399	1.4	0.9	7.718	A
2 - Purbrook Way (E)	512	128	219	897	0.571	517	521	2.6	1.4	9.577	A
3 - Crookhorn Lane (S)	198	50	529	435	0.455	201	206	1.6	0.9	15.577	C
4 - Stakes Road (W)	349	87	380	644	0.543	354	350	2.3	1.2	12.582	B

2020 uplifted, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	37.82	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-7	3 - Crookhorn Lane (S)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2020 uplifted	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	535	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	680	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	263	100.000
4 - Stakes Road (W)		ONE HOUR	✓	464	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	1	301	132	101
	2 - Purbrook Way (E)	292	1	87	300
	3 - Crookhorn Lane (S)	130	74	1	58
	4 - Stakes Road (W)	101	309	52	2

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	0
	2 - Purbrook Way (E)	0	0	2	0
	3 - Crookhorn Lane (S)	4	3	0	3
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	0.76	19.02	3.0	C	491	736
2 - Purbrook Way (E)	0.91	41.24	8.0	E	624	936
3 - Crookhorn Lane (S)	0.83	53.50	4.0	F	241	362
4 - Stakes Road (W)	0.88	45.38	6.0	E	426	639

Main Results for each time segment

11:30 - 11:45

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 - Stakes Hill Road (N)	403	101	326	880	0.458	399	390	0.0	0.8	7.449	A
2 - Purbrook Way (E)	512	128	216	900	0.569	507	510	0.0	1.3	9.046	A
3 - Crookhorn Lane (S)	198	50	520	438	0.452	195	203	0.0	0.8	14.596	B
4 - Stakes Road (W)	349	87	371	647	0.540	345	343	0.0	1.1	11.740	B

11:45 - 12:00

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 - Stakes Hill Road (N)	481	120	391	836	0.576	479	468	0.8	1.3	10.037	B
2 - Purbrook Way (E)	611	153	259	868	0.704	607	612	1.3	2.3	13.613	B
3 - Crookhorn Lane (S)	236	59	623	401	0.589	234	243	0.8	1.4	21.233	C
4 - Stakes Road (W)	417	104	445	619	0.674	414	412	1.1	2.0	17.252	C

12:00 - 12:15

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 - Stakes Hill Road (N)	589	147	471	783	0.753	583	562	1.3	2.8	17.526	C
2 - Purbrook Way (E)	749	187	314	827	0.906	730	740	2.3	6.9	32.386	D
3 - Crookhorn Lane (S)	290	72	750	356	0.814	281	294	1.4	3.5	43.854	E
4 - Stakes Road (W)	511	128	535	586	0.873	498	496	2.0	5.2	36.538	E

12:15 - 12:30

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 - Stakes Hill Road (N)	589	147	480	776	0.759	588	573	2.8	3.0	19.023	C
2 - Purbrook Way (E)	749	187	318	824	0.909	744	751	6.9	8.0	41.244	E
3 - Crookhorn Lane (S)	290	72	764	351	0.825	287	298	3.5	4.0	53.499	F
4 - Stakes Road (W)	511	128	546	581	0.879	508	505	5.2	6.0	45.377	E

12:30 - 12:45

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 - Stakes Hill Road (N)	481	120	409	824	0.584	487	488	3.0	1.4	10.882	B

2 - Purbrook Way (E)	611	153	264	864	0.708	633	632	8.0	2.6	16.928	C
3 - Crookhorn Lane (S)	236	59	647	393	0.602	246	251	4.0	1.6	25.905	D
4 - Stakes Road (W)	417	104	465	612	0.682	432	427	6.0	2.3	21.480	C

12:45 - 13:00

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 - Stakes Hill Road (N)	403	101	335	874	0.461	405	399	1.4	0.9	7.718	A
2 - Purbrook Way (E)	512	128	219	897	0.571	517	521	2.6	1.4	9.577	A
3 - Crookhorn Lane (S)	198	50	529	435	0.455	201	206	1.6	0.9	15.577	C
4 - Stakes Road (W)	349	87	380	644	0.543	354	350	2.3	1.2	12.582	B

2025 baseline, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	63.54	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-13	3 - Crookhorn Lane (S)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2025 baseline	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	571	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	724	100.000

3 - Crookhorn Lane (S)		ONE HOUR	✓	280	100.000
4 - Stakes Road (W)		ONE HOUR	✓	494	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	1	321	141	108
	2 - Purbrook Way (E)	311	1	93	319
	3 - Crookhorn Lane (S)	138	79	1	62
	4 - Stakes Road (W)	108	329	55	2

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	0
	2 - Purbrook Way (E)	0	0	2	0
	3 - Crookhorn Lane (S)	4	3	0	3
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	0.83	26.49	4.4	D	524	786
2 - Purbrook Way (E)	0.99	77.52	16.7	F	664	997
3 - Crookhorn Lane (S)	0.91	84.28	6.7	F	257	385
4 - Stakes Road (W)	0.95	74.00	10.6	F	453	680

Main Results for each time segment

11:30 - 11:45

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 - Stakes Hill Road (N)	430	107	346	866	0.496	426	414	0.0	1.0	8.114	A
2 - Purbrook Way (E)	545	136	230	889	0.613	539	543	0.0	1.5	10.103	B

3 - Crookhorn Lane (S)	211	53	552	427	0.494	207	216	0.0	0.9	16.136	C
4 - Stakes Road (W)	372	93	394	638	0.583	367	365	0.0	1.3	12.999	B

11:45 - 12:00

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 - Stakes Hill Road (N)	513	128	415	820	0.626	511	497	1.0	1.6	11.553	B
2 - Purbrook Way (E)	651	163	275	855	0.761	645	651	1.5	3.0	16.673	C
3 - Crookhorn Lane (S)	252	63	662	388	0.650	249	259	0.9	1.7	25.334	D
4 - Stakes Road (W)	444	111	472	609	0.729	440	438	1.3	2.5	20.683	C

12:00 - 12:15

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 - Stakes Hill Road (N)	629	157	493	768	0.819	619	587	1.6	4.0	22.880	C
2 - Purbrook Way (E)	797	199	332	813	0.981	760	779	3.0	12.2	49.274	E
3 - Crookhorn Lane (S)	308	77	783	344	0.896	294	310	1.7	5.2	60.086	F
4 - Stakes Road (W)	544	136	558	577	0.943	521	519	2.5	8.1	51.077	F

12:15 - 12:30

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 - Stakes Hill Road (N)	629	157	505	760	0.828	627	602	4.0	4.4	26.488	D
2 - Purbrook Way (E)	797	199	337	809	0.985	779	795	12.2	16.7	77.522	F
3 - Crookhorn Lane (S)	308	77	801	338	0.913	302	315	5.2	6.7	84.280	F
4 - Stakes Road (W)	544	136	572	571	0.952	534	531	8.1	10.6	73.999	F

12:30 - 12:45

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 - Stakes Hill Road (N)	513	128	448	798	0.643	523	539	4.4	1.9	13.547	B
2 - Purbrook Way (E)	651	163	285	848	0.767	703	686	16.7	3.6	31.344	D
3 - Crookhorn Lane (S)	252	63	715	368	0.683	269	273	6.7	2.4	40.669	E
4 - Stakes Road (W)	444	111	513	594	0.748	473	470	10.6	3.3	34.926	D

12:45 - 13:00

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 - Stakes Hill Road (N)	430	107	359	858	0.501	433	428	1.9	1.0	8.550	A
2 - Purbrook Way (E)	545	136	234	886	0.615	553	558	3.6	1.6	11.054	B
3 - Crookhorn Lane (S)	211	53	566	422	0.500	216	221	2.4	1.0	17.940	C
4 - Stakes Road (W)	372	93	407	633	0.587	379	375	3.3	1.5	14.536	B

2020 + devt, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	49.17	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-9	3 - Crookhorn Lane (S)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2020 + devt	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	550	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	713	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	263	100.000
4 - Stakes Road (W)		ONE HOUR	✓	482	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	1	316	132	101
	2 - Purbrook Way (E)	307	1	87	318
	3 - Crookhorn Lane (S)	130	74	1	58
	4 - Stakes Road (W)	101	327	52	2

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	5	0
	2 - Purbrook Way (E)	0	0	2	0
	3 - Crookhorn Lane (S)	4	3	0	3
	4 - Stakes Road (W)	1	1	8	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 - Stakes Hill Road (N)	0.79	22.14	3.6	C	505	757
2 - Purbrook Way (E)	0.95	58.22	12.0	F	654	981
3 - Crookhorn Lane (S)	0.85	62.12	4.6	F	241	362
4 - Stakes Road (W)	0.92	59.48	8.2	F	442	663

Main Results for each time segment

11:30 - 11:45

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 - Stakes Hill Road (N)	414	104	339	871	0.475	411	401	0.0	0.9	7.757	A
2 - Purbrook Way (E)	537	134	215	900	0.596	531	534	0.0	1.4	9.614	A
3 - Crookhorn Lane (S)	198	50	544	430	0.461	195	203	0.0	0.8	15.117	C
4 - Stakes Road (W)	363	91	382	643	0.564	358	357	0.0	1.3	12.411	B

11:45 - 12:00

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 - Stakes Hill Road (N)	494	124	407	826	0.599	492	480	0.9	1.5	10.722	B
2 - Purbrook Way (E)	641	160	258	868	0.738	636	641	1.4	2.7	15.198	C
3 - Crookhorn Lane (S)	236	59	652	391	0.605	234	243	0.8	1.4	22.548	C
4 - Stakes Road (W)	433	108	458	615	0.705	429	427	1.3	2.2	19.024	C

12:00 - 12:15

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 - Stakes Hill Road (N)	606	151	486	773	0.784	598	573	1.5	3.3	19.844	C
2 - Purbrook Way (E)	785	196	313	827	0.949	757	771	2.7	9.5	40.831	E
3 - Crookhorn Lane (S)	290	72	778	346	0.837	280	292	1.4	3.9	48.633	E
4 - Stakes Road (W)	531	133	546	581	0.913	513	512	2.2	6.7	44.063	E

12:15 - 12:30

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 - Stakes Hill Road (N)	606	151	498	765	0.792	605	587	3.3	3.6	22.141	C
2 - Purbrook Way (E)	785	196	317	824	0.952	775	785	9.5	12.0	58.220	F
3 - Crookhorn Lane (S)	290	72	795	340	0.852	287	297	3.9	4.6	62.116	F
4 - Stakes Road (W)	531	133	559	576	0.921	525	522	6.7	8.2	59.483	F

12:30 - 12:45

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 - Stakes Hill Road (N)	494	124	431	809	0.611	502	510	3.6	1.6	12.000	B
2 - Purbrook Way (E)	641	160	266	863	0.743	676	668	12.0	3.1	22.396	C
3 - Crookhorn Lane (S)	236	59	689	378	0.626	248	253	4.6	1.8	29.700	D
4 - Stakes Road (W)	433	108	486	604	0.717	455	450	8.2	2.7	26.963	D

12:45 - 13:00

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 - Stakes Hill Road (N)	414	104	349	864	0.479	417	411	1.6	0.9	8.096	A

2 - Purbrook Way (E)	537	134	219	897	0.59 8	543	547	3.1	1.5	10.34 2	B
3 - Crookhorn Lane (S)	198	50	556	425	0.46 5	202	207	1.8	0.9	16.32 1	C
4 - Stakes Road (W)	363	91	392	639	0.56 8	368	365	2.7	1.4	13.55 1	B

2025 + devt, SAT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Purbrook Way (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	83.18	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-15	3 - Crookhorn Lane (S)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2025 + devt	SAT	ONE HOUR	11:30	13:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Stakes Hill Road (N)		ONE HOUR	✓	586	100.000
2 - Purbrook Way (E)		ONE HOUR	✓	757	100.000
3 - Crookhorn Lane (S)		ONE HOUR	✓	280	100.000
4 - Stakes Road (W)		ONE HOUR	✓	512	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	1	336	141	108
	2 - Purbrook Way (E)	326	1	93	337
	3 - Crookhorn Lane (S)	138	79	1	62
	4 - Stakes Road (W)	108	347	55	2

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - Stakes Hill Road (N)	2 - Purbrook Way (E)	3 - Crookhorn Lane (S)	4 - Stakes Road (W)
From	1 - Stakes Hill Road (N)	0	0	4	0
	2 - Purbrook Way (E)	0	0	2	0
	3 - Crookhorn Lane (S)	4	3	0	3
	4 - Stakes Road (W)	1	1	7	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 - Stakes Hill Road (N)	0.86	31.28	5.3	D	538	807
2 - Purbrook Way (E)	1.03	109.38	26.0	F	695	1042
3 - Crookhorn Lane (S)	0.93	94.98	7.6	F	257	385
4 - Stakes Road (W)	0.99	97.42	14.8	F	470	705

Main Results for each time segment

11:30 - 11:45

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 - Stakes Hill Road (N)	441	110	359	860	0.513	437	425	0.0	1.0	8.434	A
2 - Purbrook Way (E)	570	142	229	891	0.640	563	567	0.0	1.7	10.775	B
3 - Crookhorn Lane (S)	211	53	577	418	0.504	207	216	0.0	1.0	16.764	C
4 - Stakes Road (W)	385	96	405	635	0.607	380	378	0.0	1.5	13.782	B

11:45 - 12:00

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 - Stakes Hill Road (N)	527	132	431	812	0.649	524	509	1.0	1.8	12.357	B
2 - Purbrook Way (E)	681	170	275	857	0.794	673	679	1.7	3.5	18.883	C
3 - Crookhorn Lane (S)	252	63	690	377	0.667	248	258	1.0	1.8	27.147	D
4 - Stakes Road (W)	460	115	485	605	0.761	455	453	1.5	2.9	23.080	C

12:00 - 12:15

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 - Stakes Hill Road (N)	645	161	505	762	0.847	634	594	1.8	4.7	25.992	D
2 - Purbrook Way (E)	833	208	331	816	1.022	780	808	3.5	16.9	61.847	F
3 - Crookhorn Lane (S)	308	77	804	337	0.916	293	307	1.8	5.8	65.831	F
4 - Stakes Road (W)	564	141	566	575	0.981	533	531	2.9	10.5	61.565	F

12:15 - 12:30

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 - Stakes Hill Road (N)	645	161	518	753	0.857	643	608	4.7	5.3	31.276	D
2 - Purbrook Way (E)	833	208	336	812	1.027	797	825	16.9	26.0	109.384	F
3 - Crookhorn Lane (S)	308	77	821	330	0.933	301	312	5.8	7.6	94.985	F
4 - Stakes Road (W)	564	141	580	569	0.990	546	542	10.5	14.8	97.422	F

12:30 - 12:45

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 - Stakes Hill Road (N)	527	132	475	783	0.673	539	570	5.3	2.2	15.481	C
2 - Purbrook Way (E)	681	170	287	848	0.803	765	727	26.0	4.8	58.511	F
3 - Crookhorn Lane (S)	252	63	774	347	0.725	270	279	7.6	3.0	53.099	F
4 - Stakes Road (W)	460	115	542	584	0.788	502	502	14.8	4.4	53.961	F

12:45 - 13:00

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 - Stakes Hill Road (N)	441	110	376	849	0.520	445	442	2.2	1.1	9.015	A

2 - Purbrook Way (E)	570	142	235	887	0.64 3	582	586	4.8	1.9	12.22 8	B
3 - Crookhorn Lane (S)	211	53	595	412	0.51 2	218	222	3.0	1.1	19.31 6	C
4 - Stakes Road (W)	385	96	422	629	0.61 3	396	391	4.4	1.6	16.14 2	C

APPENDIX M: Parking Accumulation Data

PROJECT: LDL Putbrook Way

Parking Assessment

WEEKDAY

HOURLY TRIP RATES

TIME	1800 sqm GFA		0		ACCUM
	IN	OUT	IN	OUT	
00:00-01:00	0.000	0.000	0	0	0
01:00-02:00	0.000	0.000	0	0	0
02:00-03:00	0.000	0.000	0	0	0
03:00-04:00	0.000	0.000	0	0	0
04:00-05:00	0.000	0.000	0	0	0
05:00-06:00	0.000	0.000	0	0	0
06:00-07:00	0.000	0.000	0	0	0
07:00-08:00	0.507	0.181	10	3	7
08:00-09:00	2.391	1.992	45	38	14
09:00-10:00	3.623	2.717	69	52	31
10:00-11:00	4.094	3.768	78	72	37
11:00-12:00	4.928	4.601	94	87	44
12:00-13:00	6.196	6.123	110	110	46
13:00-14:00	5.725	5.906	109	112	43
14:00-15:00	5.000	5.254	95	100	38
15:00-16:00	4.964	5.000	94	95	37
16:00-17:00	4.312	4.601	82	87	32
17:00-18:00	4.746	4.601	90	87	35
18:00-19:00	3.768	4.348	72	83	24
19:00-20:00	2.355	2.935	45	56	13
20:00-21:00	1.232	1.594	23	30	6
21:00-22:00	0.100	0.399	2	8	0
22:00-23:00	0.000	0.000	0	0	0
23:00-24:00	0.000	0.000	0	0	0

MAX 46

30 MINUTE DWELL TIME

TIME	08:00		7		ACCUM
	IN	OUT	IN	OUT	
08:00-08:15	25%	11	0	18	
08:15-08:30	25%	11	0	29	
08:30-08:45	25%	11	11	29	
08:45-09:00	25%	12	11	30	
09:00-09:15	25%	17	11	36	
09:15-09:30	25%	17	12	41	
09:30-09:45	25%	17	17	41	
09:45-10:00	25%	18	17	42	
10:00-10:15	25%	20	17	45	
10:15-10:30	25%	20	18	47	
10:30-10:45	25%	20	20	47	
10:45-11:00	25%	18	20	45	
11:00-11:15	25%	24	20	49	
11:15-11:30	25%	24	18	55	
11:30-11:45	25%	24	24	55	
11:45-12:00	25%	22	24	63	
12:00-12:15	25%	30	24	59	
12:15-12:30	25%	30	22	67	
12:30-12:45	25%	30	30	67	
12:45-13:00	25%	28	30	65	
13:00-13:15	25%	27	30	62	
13:15-13:30	25%	27	28	61	
13:30-13:45	25%	27	27	61	
13:45-14:00	25%	28	27	62	
14:00-14:15	25%	24	27	59	
14:15-14:30	25%	24	28	55	
14:30-14:45	25%	24	24	55	
14:45-15:00	25%	23	24	54	
15:00-15:15	25%	24	24	54	
15:15-15:30	25%	24	24	55	
15:30-15:45	25%	24	24	55	
15:45-16:00	25%	22	24	53	
16:00-16:15	25%	21	24	50	
16:15-16:30	25%	21	22	49	
16:30-16:45	25%	21	21	49	
16:45-17:00	25%	19	21	47	
17:00-17:15	25%	23	21	49	
17:15-17:30	25%	23	19	53	
17:30-17:45	25%	23	23	53	
17:45-18:00	25%	21	23	51	
18:00-18:15	25%	18	23	46	
18:15-18:30	25%	18	21	43	
18:30-18:45	25%	18	18	43	
18:45-19:00	25%	18	18	43	
19:00-19:15	25%	11	18	36	
19:15-19:30	25%	11	18	29	
19:30-19:45	25%	11	11	29	
19:45-20:00	25%	12	11	30	
20:00-20:15	25%	6	11	25	
20:15-20:30	25%	6	12	19	
20:30-20:45	25%	6	6	19	
20:45-21:00	25%	5	6	18	

MAX 67

45 MINUTE DWELL TIME

TIME	08:00		7		ACCUM
	IN	OUT	IN	OUT	
08:00-08:15	25%	11	0	18	
08:15-08:30	25%	11	0	29	
08:30-08:45	25%	11	0	40	
08:45-09:00	25%	12	11	41	
09:00-09:15	25%	17	11	47	
09:15-09:30	25%	17	11	53	
09:30-09:45	25%	17	12	58	
09:45-10:00	25%	18	17	59	
10:00-10:15	25%	20	17	62	
10:15-10:30	25%	20	17	65	
10:30-10:45	25%	20	18	67	
10:45-11:00	25%	18	20	65	
11:00-11:15	25%	24	20	69	
11:15-11:30	25%	24	20	73	
11:30-11:45	25%	24	18	79	
11:45-12:00	25%	22	24	77	
12:00-12:15	25%	30	24	83	
12:15-12:30	25%	30	24	89	
12:30-12:45	25%	30	22	97	
12:45-13:00	25%	28	30	95	
13:00-13:15	25%	27	30	92	
13:15-13:30	25%	27	30	89	
13:30-13:45	25%	27	28	88	
13:45-14:00	25%	28	27	89	
14:00-14:15	25%	24	27	86	
14:15-14:30	25%	24	27	83	
14:30-14:45	25%	24	28	79	
14:45-15:00	25%	23	24	78	
15:00-15:15	25%	24	24	78	
15:15-15:30	25%	24	24	78	
15:30-15:45	25%	24	23	79	
15:45-16:00	25%	22	24	77	
16:00-16:15	25%	21	24	74	
16:15-16:30	25%	21	24	71	
16:30-16:45	25%	21	22	70	
16:45-17:00	25%	19	21	68	
17:00-17:15	25%	23	21	70	
17:15-17:30	25%	23	21	72	
17:30-17:45	25%	23	19	76	
17:45-18:00	25%	21	23	74	
18:00-18:15	25%	18	23	69	
18:15-18:30	25%	18	23	64	
18:30-18:45	25%	18	21	61	
18:45-19:00	25%	18	18	61	
19:00-19:15	25%	11	18	54	
19:15-19:30	25%	11	18	47	
19:30-19:45	25%	11	18	40	
19:45-20:00	25%	12	11	41	
20:00-20:15	25%	6	11	36	
20:15-20:30	25%	6	11	31	
20:30-20:45	25%	6	12	25	
20:45-21:00	25%	5	6	24	

MAX 97

SATURDAY

HOURLY TRIP RATES

TIME	1800 sqm GFA		1		ACCUM
	IN	OUT	IN	OUT	
00:00-01:00	0.000	0.000	0	0	1
01:00-02:00	0.000	0.000	0	0	1
02:00-03:00	0.000	0.000	0	0	1
03:00-04:00	0.000	0.000	0	0	1
04:00-05:00	0.000	0.000	0	0	1
05:00-06:00	0.000	0.000	0	0	1
06:00-07:00	0.000	0.000	0	0	1
07:00-08:00	0.399	0.036	8	1	8
08:00-09:00	2.500	1.987	47	32	23
09:00-10:00	3.696	3.152	70	60	33
10:00-11:00	5.181	4.167	98	79	52
11:00-12:00	5.906	5.543	112	105	59
12:00-13:00	6.123	6.123	116	116	59
13:00-14:00	5.797	6.196	110	118	51
14:00-15:00	6.123	5.797	116	110	57
15:00-16:00	5.906	6.123	112	116	53
16:00-17:00	5.181	5.580	98	106	45
17:00-18:00	4.493	4.891	85	93	37
18:00-19:00	2.790	3.886	53	76	14
19:00-20:00	1.522	1.848	29	35	8
20:00-21:00	0.833	1.196	16	23	1
21:00-22:00	0.036	0.109	1	2	0
22:00-23:00	0.000	0.000	0	0	0
23:00-24:00	0.000	0.000	0	0	0

MAX 59

30 MINUTE DWELL TIME

TIME	08:00		8		ACCUM
	IN	OUT	IN	OUT	
08:00-08:15	25%	12	0	20	
08:15-08:30	25%	12	0	32	
08:30-08:45	25%	12	12	32	
08:45-09:00	25%	11	12	31	
09:00-09:15	25%	18	12	37	
09:15-09:30	25%	18	11	44	
09:30-09:45	25%	18	18	44	
09:45-10:00	25%	16	18	42	
10:00-10:15	25%	25	18	49	
10:15-10:30	25%	25	16	58	
10:30-10:45	25%	25	25	58	
10:45-11:00	25%	23	25	56	
11:00-11:15	25%	28	25	59	
11:15-11:30	25%	28	23	64	
11:30-11:45	25%	28	28	64	
11:45-12:00	25%	28	28	64	
12:00-12:15	25%	29	28	65	
12:15-12:30	25%	29	28	66	
12:30-12:45	25%	29	29	66	
12:45-13:00	25%	28	29	65	
13:00-13:15	25%	28	29	64	
13:15-13:30	25%	28	29	64	
13:30-13:45	25%	28	28	64	
13:45-14:00	25%	26	28	62	
14:00-14:15	25%	29	28	63	
14:15-14:30	25%	29	26	66	
14:30-14:45	25%	29	29	66	
14:45-15:00	25%	29	29	66	
15:00-15:15	25%	28	29	65	
15:15-15:30	25%	28	29	64	
15:30-15:45	25%	28	28	64	
15:45-16:00	25%	28	28	64	
16:00-16:15	25%	25	28	61	
16:15-16:30	25%	25	28	58	
16:30-16:45	25%	25	25	58	
16:45-17:00	25%	23	25	56	
17:00-17:15	25%	21	25	52	
17:15-17:30	25%	21	23	50	
17:30-17:45	25%	21	21	50	
17:45-18:00	25%	22	21	51	
18:00-18:15	25%	13	21	43	
18:15-18:30	25%	13	22	34	
18:30-18:45	25%	13	13	34	
18:45-19:00	25%	14	13	35	
19:00-19:15	25%	7	13	29	
19:15-19:30	25%	7	14	22	
19:30-19:45	25%	7	7	22	
19:45-20:00	25%	8	7	23	
20:00-20:15	25%	4	7	20	
20:15-20:30	25%	4	8	16	
20:30-20:45	25%	4	4	16	
20:45-21:00	25%	4	4	16	

MAX 66

45 MINUTE DWELL TIME

