

Technical Note

1.1 Mayer Brown Ltd has prepared this Technical Note in response to the most recent consultation response from Hampshire County Council, dated 27th May 2021, within their role as local highway authority (LHA) and relating to the Transport Assessment (TA), subsequent Addendums and Travel Plan submitted as part of Havant Borough Council planning application APP/20/01221 for the proposed construction of a Lidl foodstore on land adjacent to the B&Q store on Purbrook Way, Havant.

1.2 A copy of the most recent LHA consultation response is attached to this note at **Appendix A**, with salient comments considered and addressed within this Technical Note.

Purbrook Way Pedestrian / Cycle Link

1.3 To address the LHA remaining comments in relation to the proposed pedestrian / cycle link to the store frontage the proposals have been revised to achieve a 4.45% gradient and a total length of 37.51m.

1.4 The revised link is in line with guidance set out within Department for Transport Local Transport Note 1/20 'Cycle Infrastructure Design' (LTN 1/20), adopted July 2020. Namely, Table 5.8 of LTN 1/20 indicates a desirable maximum length of 40m for path gradients of 4.5%.

1.5 An updated proposed site plan, incorporating the revised pedestrian / cycle link is provided at **Appendix B**.

B&Q arm crossing points

1.6 As requested by the LHA, a PV^2 assessment has been undertaken to assess the degree of conflict between vehicles and pedestrians / cyclists at the B&Q arm crossing points. Associated calculations are provided in **Appendix C**.

1.7 PV^2 is calculated based upon the following elements:

- V - the number of vehicles per hour
- P - the number of pedestrians crossing per hour over a 100m section.

1.8 When assessing requests for crossings, generally if the value of PV^2 is less than 0.2×10^8 , no formal crossing facilities are required. If the value of PV^2 is above 0.2×10^8 then a more in-depth assessment should be carried out, in line with appropriate guidance / policy.

Existing Trips

- 1.9 Existing vehicular trips and pedestrian / cyclists crossing trips at the B&Q access arm have been extracted from the traffic surveys undertaken at this location on Friday 11th September 2020. These surveys covered the periods 07:00 – 10:00 and 15:00 – 19:00, which include the key peak periods in terms of commuting and school trips on the network, with the crossing point expected to be less utilised during the interpeak period (10:00 – 15:00).
- 1.10 For the purposes of this assessment both pedestrians and cyclists have been included within the P-value.
- 1.11 Review of the survey data indicated a significant increase in westbound crossing movements between 08:00 – 09:00 and eastbound movements between 15:00 – 16:00, associated with school pupils accessing education provision to the west.

Proposed Development Trips

- 1.12 Vehicular trip generation associated with the proposed Lidl store has been extracted from the previous TA and Addendums, utilising Lidl Whiteley trip rate data for robustness.
- 1.13 Pedestrian and cyclists trip generation figures have been calculated based upon predicted vehicular trip generation and multimodal trip generation proportions outlined within the TA.
- 1.14 In terms of distributing pedestrian and cycle trips, as per detailed in Addendum 2 and based on the proposed customer catchment area it is predicted that:
- Based on an 800m walking catchment, which does not quite reach the Stakes Hill roundabout to the west and just about reaches the Havant & South Downs College access, it is envisaged that a majority (90%) of pedestrian trips to the site would be to / from residential areas in Bedhampton, travelling to / from the east, with the remaining 10% of pedestrian trips to / from the west.
 - Based on a 5km cycle distance, around 56% of cyclists would approach from the west and 44% from the east.

PV² Calculation

- 1.15 Maximum PV² values of 0.15×10^8 and 0.16×10^8 were calculated for the B&Q entry and exiting arm crossing points respectively, which is below the typical PV² value where the level of vehicle / pedestrian conflict would warrant provision of formal crossing facilities.

- 1.16 Additionally, guidance provided on the LHA website indicates that:

"Whether a crossing is needed at a location depends upon the overall pedestrian and traffic flow over the busiest four hours of the day. There should be at least 50 pedestrians and 1000 vehicles passing through the location every hour.

The underlying principle is that crossings will only operate correctly if they are used on a regular basis throughout the day. If there are too few pedestrians for most of the day drivers may tend to ignore the crossing and put pedestrians at risk on the occasions when they are using the facility. Conversely, if traffic flows are low then pedestrians can comfortably cross in the gaps without needing a crossing."

- 1.17 It is noted that except for the core school trip generation periods (08:00 – 09:00 and 15:00 – 16:00), typical pedestrian and cyclist numbers combined were below 50 per hour, whilst vehicle numbers were typically around or less than 300 per hour at each crossing point for the duration of the survey periods.

Road Safety Audit

- 1.18 As requested by the LHA, following undertaking the PV² assessment the resulting flow data and results have been utilised to inform a brief to carry out a Stage 1 Road Safety Audit (RSA) to understand if the additional flow would be considered to have a safety impact at the roundabout crossing point.
- 1.19 The RSA brief was approved with the LHA prior to undertaking the audit, with the LHA confirming that they were happy with the RSA brief via email dated 23/06/21, and also included consideration of the proposed B&Q arm egress road improvement works (widening and traffic calming) outlined later within this Technical Note.
- 1.20 The Stage 1 RSA has been undertaken by a member of the independent Mayer Brown road safety team in accordance with the current guidance on Safety Audits. A copy of the Stage 1 RSA is provided in **Appendix D**.
- 1.21 In summary, the Stage 1 RSA only raised pedestrian / vehicle intervisibility as a concern at the crossing point, but it was considered by the Auditors that planned trimming / maintenance of vegetation to provide appropriate visibility would significantly increase the margin of safety at the roundabout junction. The remaining point raised within the RSA related to the provision of tactile paving where none is currently present to be considered at the detailed design stage.
- 1.22 Items raised during the Stage 1 RSA have been outlined in turn alongside a response from the design team on how this is to be addressed within the RSA response report provided in **Appendix E**.

Site Access Visibility

- 1.23 As noted within TA Addendum 2 and the most recent LHA response, the proposed site access will be constructed within private land ownership and therefore will not require future consultation to be undertaken with the LHA in relation to construction of the access.
- 1.24 Appropriate visibility at the site access will be provided as per drawing B/LIDL PURBROOKWAY.1/01 rev. D. It is envisaged that the visibility splays would be secured via an appropriately worded planning condition noting provision and maintenance of 43 metres x 2.4 metres visibility splays at the access with no obstructions over 0.6 metres within the splays.

Vehicle Visibility approaching A3(M) junction 4

- 1.25 Within their response the LHA have requested an additional review of the existing B&Q roundabout approach to be undertaken, illustrating the Stopping Sight Distance (SSD) to the roundabout in accordance with the design speed of the access road.
- 1.26 The LHA indicated that this should be backed up with speed surveys along the access road, carried out in accordance with Hampshire County Council Technical Guidance Note *TG3 - Stopping Sight Distances and Visibility Splays* (revised May-19).
- 1.27 It is noted that traffic flow volumes have no material influence on SSD calculations and resulting visibility requirements, being based solely upon vehicle speeds and crossing point location.
- 1.28 TG3 has been utilised to produce associated visibility splay plans for the existing and proposed arrangements, provided in **Appendix F** with visibility splays utilising a robust set-back distance of 2.5m for cyclists.

SSD Requirements

- 1.29 Automatic Traffic Counts (ATCs) were laid on the B&Q access road, located c. 20m and c.40m from the crossing point for a weeklong period (11th to 17th June 2021) to advise on existing traffic speeds approaching the junction, with the ATC survey data provided in **Appendix G**.
- 1.30 In summary, for exiting (southbound) traffic at the 40m ATC an 85th percentile speed of 28.6mph and mean average speed of 23.5mph was recorded, whilst a 24.3mph 85th percentile speed and 18.4mph mean average speed was recorded at the 20m ATC.
- 1.31 Based upon 85th percentile speeds and a 5% longitudinal gradient upgrade, the LHA SSD calculator indicates resulting SSD's of 38m for the 85th percentile speed measured at the 40m ATC point and 31m at the 20m ATC point.

Existing Arrangement Assessment

- 1.32 A review of the existing crossing point arrangement indicates that it provides appropriate visibility for pedestrians based on a 24m SSD and for cyclists based on a 21m SSD. Consequently, the existing achievable SSD's are equivalent to 85th percentile speeds of 20mph for pedestrian visibility and 18mph for cyclist visibility.
- 1.33 The achievable horizontal visibility is currently limited by the existing B&Q totem, situated on third party land outside of the control of the applicant and LHA, in addition to adjacent vegetation / trees located along the eastern side of the B&Q arm.
- 1.34 In addition to horizontal visibility splays, due to varying level differences in the vicinity of the B&Q arm, longitudinal cross sections of the visibility splays have been undertaken to ascertain achievable vertical visibility envelopes, provided in **Appendix F**. The vertical visibility envelope has been developed based on a driver eye height of between 1.05m to 2m (in line with Manual for Streets).
- 1.35 Consequently, an object height of 0.58m to 2m (at the crossing point) can be attained for the achievable visibility splay, whilst for the SSD recommended visibility splay an object height of 0.62m to 2m can be attained.
- 1.36 For both splays the achievable vertical visibility envelope is primarily dictated by the height of the existing and required road restraint barrier in the vicinity of the crossing point.

Proposed Arrangement Assessment

- 1.37 Whilst development proposals look to widen the entry width of the B&Q arm of the A3(M) roundabout, it is noted that this would have no material impact upon the eastern crossing point visibility, with associated widening occurring as a result of alterations to the central island.
- 1.38 Based upon the existing visibility constraints at the eastern crossing point, it is proposed that traffic calming measures are introduced to reduce vehicle speeds in line with achievable visibility splays over land within the applicants and LHA's control. Namely, aiming for 18mph 85th percentile speeds in line with 21m achievable SSD visibility.
- 1.39 Department for Transport Local Transport Notes (LTN) 1/07 'Traffic Calming' (March 2007) outlines different types of traffic calming measures and their perceived impact on traffic speeds. In relation to speed cushions LTN 1/07 notes:

"The speed of vehicles on roads with speed cushions depends on the width, length, height and spacing of the speed cushions. The speed before installation was also found to be a factor in the speed of vehicles at the speed cushions." LTN 1/07 Para 4.4.11

"The overall mean speeds at 1.6m and 1.9m wide speed cushions were about 19.5 mph and 15.5 mph, based on before mean speeds of 30 mph." LTN 1/07 Para 4.4.11

- 1.40 Consequently, based upon LTN 1/07 indicating a potential for a 14.5mph reduction in observed speeds, it is proposed to provide 1.9m wide speed cushions on the B&Q egress carriageway for a length of around 150m, with a cushion placed c. 30m back from the roundabout give-way line and then at 40m spacings, resulting in 3 speed cushions being provided in total. An indicative plan showing planned traffic calming improvements is provided in **Appendix J**.
- 1.41 Based on an existing 85th percentile speed of 28.6mph, it is envisaged that the proposed traffic calming could potentially achieve speeds nearer to 14 - 18mph, within achievable SSD visibility splays for the western crossing point (21m / 18mph 85th percentile speed).

Construction Traffic Management Plan

- 1.42 As noted within the TA and LHA response, if planning permission is granted it is imagined that a suitability worded pre-commencement planning condition would require submission and approval of a Construction Traffic Management Plan (CTMP) or similar, on which Havant Borough Council are highly likely to consult with the LHA as part of the condition discharge process.
- 1.43 Specific details in relation to construction access would be outlined within the CTMP, although initially due to significant level constraints associated with development of the site it is envisaged that access to the site for construction/delivery vehicles would be achieved via the private access road in a similar location to the future store access. Specific phasing of construction and access arrangements would be looked at in detail by the appointed contractor for the site.

Junction Modelling - Overview

- 1.44 Within their most recent response the LHA note that it is accepted that the proposed development will not have a significant impact at the College Road/Purbrook Way junction or the Asda Roundabout junction.
- 1.45 Regarding Stakes Hill roundabout, the LHA note that given the envisaged increase in trips at the junction during peak hours is not considered significant and that measures have been secured to improve the operation of the junction (through the West of Waterlooville MDA development) the development is not considered to need to contribute towards any additional measures at the roundabout.

Junction Modelling - Lidl Site Access

- 1.46 In relation to the models prepared and submitted for reviewing the site access the LHA requested a minor amendment to be made, regarding available stacking space prior to blocking occurring on the B&Q access road.
- 1.47 This has been duly rectified with a summary of the revised Lidl site access capacity results for the 'with development' scenarios shown in **Table 1**.
- 1.48 Full PICADY outputs have been provided in **Appendix H** and a revised junction model provided directly to the LHA to aid review.

Peak Hour	2020 + Development			2025 + Development		
	Max RFC	B&Q arm Max Q (veh)	Lidl Arm Max Q (veh)	Max RFC	B&Q arm Max Q (veh)	Lidl Arm Max Q (veh)
Weekday AM	0.09	0.1	0.1	0.09	0.1	0.1
Weekday PM	0.18	0.3	0.2	0.18	0.3	0.2
Saturday	0.31	0.7	0.3	0.32	0.8	0.3

Table 1: PICADY Summary – Lidl Site Access

- 1.49 **Table 1** indicates that the proposed site access arrangement will operate well within capacity during network peak periods post development, with maximum queuing on the northbound carriageway (waiting to turn right into the site) expected to be less than 0.7 vehicles at its peak for the 2020 scenario and 0.8 vehicles for the 2025 scenario.

Junction Modelling - A3(M) Roundabouts

- 1.50 The LHA response indicated that the geometric parameters for the western roundabout are considered acceptable; however amendments are required to the eastern roundabout parameters, namely:
- The entry width for the B&Q arm should be reduced from 5.9m to 3.9 m, with the effective flare length for the B&Q arm corrected accordingly.
 - The entry width for the Purbrook Way western arm should be reduced from 8.2m to 7.1m and effective flare adjusted accordingly.
- 1.51 Measurements used in the previous Mayer Brown model were based on standard OS mapping and were measured accurately. However, a comparison of the OS mapping and Topographical Survey data / measurements taken from Google Maps indicates the standard OS mapping is notably different.
- 1.52 Consequently, the Mayer Brown model has been duly updated to address the above geometric parameter amendments.

- 1.53 Full ARCADY outputs are provided in **Appendix I**, with modelling files provided directly to the LHA to aid review.

Baseline Modelling

- 1.54 A summary of the ARCADY capacity modelling results for the A3(M) roundabouts including the geometric parameter amendments are shown in **Table 2** for the baseline scenarios.
- 1.55 To assist review, the eastern roundabout arms have been marked with a 'E' prefix and western roundabout arms marked with a 'W' prefix.

Arm	Weekday AM			Weekday PM			Saturday		
	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec
2020 Baseline									
E: B&Q Access	0.43	0.7	28	0.69	2.0	47	0.77	3.2	28
E: Purbrook Way (E)	0.69	2.2	6	0.55	1.2	4	0.53	1.1	4
E: A3(M) On-Slip	-	-	-	-	-	-	-	-	-
E: Purbrook Way (W)	0.82	4.4	9	0.83	4.6	10	0.66	1.9	5
W: Purbrook Way (E)	0.44	0.8	4	0.36	0.6	3	0.29	0.4	3
W: A3(M) Off-Slip	0.53	1.1	5	0.78	3.5	9	0.48	0.9	4
W: Purbrook Way (W)	0.83	4.8	13	0.74	2.8	10	0.52	1.1	5
2025 Baseline									
E: B&Q Access	1.20	9.2	306	1.05	9.7	191	0.90	6.6	56
E: Purbrook Way (E)	0.80	3.9	11	0.63	1.7	5	0.58	1.4	4
E: A3(M) On-Slip	-	-	-	-	-	-	-	-	-
E: Purbrook Way (W)	0.94	13.0	25	0.89	7.2	14	0.71	2.4	6
W: Purbrook Way (E)	0.48	0.9	4	0.40	0.7	3	0.31	0.4	3
W: A3(M) Off-Slip	0.63	1.7	6	0.91	8.7	22	0.52	1.1	4
W: Purbrook Way (W)	1.03	42.3	86	0.83	4.7	15	0.56	1.3	5

Table 2: ARCADY Summary – A3(M) Roundabouts – Baseline

- 1.56 **Table 2** demonstrates that the A3(M) roundabouts operate within capacity in the 2020 baseline scenario, with a maximum RFC of 0.83 during the weekday peaks and 0.77 RFC during the Saturday peak.
- 1.57 Following the growing of 2020 traffic flows to a 2025 future year baseline scenario and including committed development traffic requested by the LHA, namely the Campdown development, there is a significant increase in queuing and delay during the weekday peak periods, most notably on the B&Q arm, resulting in this arm operating over capacity with a delay of 5 minutes for vehicles trying to exit during the weekday morning peak.

Campdown Development

- 1.58 The Campdown development on College Road to the west was considered as committed development as part of the original TA supporting the Lidl planning application, based upon the site being identified within the Draft Local Plan and the current live hybrid planning application APP/19/01101.
- 1.59 As part of APP/19/01101 a supporting TA dated November 2019 was prepared by Paul Basham Associates. Following undertaking modelling of the A3(M) roundabouts the Campdown TA noted the following:
- “...the A3(M) roundabouts are approaching capacity in the 2019 baseline scenario and operates over capacity in the 2029 baseline scenario assessed, before the addition of any development traffic. Given the junction is demonstrated as operating significantly over capacity on the both the Purbrook Way (EB) and B&Q arms in the AM peak period and the B&Q arm in the PM peak period, additional mitigation measures have been explored to increase the capacity at the roundabouts”.* Section 8, para 8.21
- 1.60 A highway improvement scheme was identified within the Campdown TA to mitigate the impact at A3(M) roundabouts, involving various changes to horizontal geometry and alterations to the B&Q roundabout entry arm by increasing the entry width to 5.9m and effective flare length to 10m. This would allow two vehicles to wait at the give way line, with a second car also able to join the queue.
- 1.61 Alongside the wider other A3(M) roundabouts improvement works, the Campdown development mitigation scheme demonstrated *“...a substantial impact on the overall capacity at the roundabouts”*, providing *“...sufficient benefit to accommodate the Campdown development with queue lengths all equal to or below 2029 baseline scenario results.”* Section 9, para 9.23
- 1.62 In relation to the A3(M) roundabouts improvement works, the LHA consultation response dated 16 January 2020 noted that *“Whilst there is likely to be some capacity benefits provided by the proposals, the proposed improvements are considered unlikely at this stage to mitigate the impact of development trips from the site. The applicant should engage with the Highway Authority to discuss alternative junction improvement schemes at this location.”*
- 1.63 Liaison with the LHA in relation to alternative junction improvement scheme(s) put forward to mitigate the Campdown development indicated that the Campdown development consultants have not undertaken further discussions with the LHA.
- 1.64 For the purposes of this Technical Note, a comparable junction modelling exercise has been undertaken for the 2025 baseline scenario with no additional committed development other

than that already accounted for within the Temprow growth factors, with a summary of ARCADY results shown in **Table 3**.

Arm	Weekday AM			Weekday PM			Saturday		
	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec
2025 Baseline (No Committed Development)									
E: B&Q Access	0.63	1.5	56	0.73	2.4	53	0.90	6.6	56
E: Purbrook Way (E)	0.75	2.9	8	0.58	1.4	4	0.58	1.4	4
E: A3(M) On-Slip	-	-	-	-	-	-	-	-	-
E: Purbrook Way (W)	0.87	6.5	13	0.83	4.6	10	0.71	2.4	6
W: Purbrook Way (E)	0.47	0.9	4	0.38	0.6	3	0.31	0.4	3
W: A3(M) Off-Slip	0.58	1.4	5	0.80	3.8	10	0.52	1.1	4
W: Purbrook Way (W)	0.90	8.1	21	0.74	2.8	10	0.56	1.3	5

Table 3: ARCADY Summary – A3(M) Roundabouts – Baseline / No Campdown

- 1.65 **Table 3** indicates that if the Campdown development is omitted from the 2025 baseline, then the A3(M) roundabouts are expected to work more effectively with all arms operating within capacity in each of the three time periods. Queuing and delay on the B&Q access is reduced, with delays reduced from five minutes to less than one minute in the morning peak, and with queues also considerably reduced on Purbrook Way at the western roundabout (e.g. from 42 vehicles to 8 in the AM peak).

Lidl Development Scenarios (No Mitigation, includes Campdown development)

- 1.66 A summary of the ARCADY capacity modelling results for the A3(M) roundabouts existing arrangement for the with development (Lidl) scenarios is shown in **Table 4**. For clarification, this assessment includes the Campdown development within 2025 baseline traffic flows

Arm	Weekday AM			Weekday PM			Saturday		
	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec
2020 + Development									
E: B&Q Access	0.59	1.3	36	0.85	4.3	65	0.96	11.4	78
E: Purbrook Way (E)	0.70	2.3	7	0.56	1.3	4	0.56	1.3	4
E: A3(M) On-Slip	-	-	-	-	-	-	-	-	-
E: Purbrook Way (W)	0.83	4.8	10	0.80	4.0	9	0.69	2.2	6
W: Purbrook Way (E)	0.45	0.8	4	0.37	0.6	3	0.31	0.4	3
W: A3(M) Off-Slip	0.53	1.1	5	0.75	2.9	8	0.49	1.0	4
W: Purbrook Way (W)	0.84	5.1	14	0.71	2.4	8	0.54	1.2	5
2025 + Development									
E: B&Q Access	1.42	19.4	473	1.49	42.7	521	1.09	32.2	187
E: Purbrook Way (E)	0.81	4.1	12	0.64	1.8	5	0.60	1.5	5
E: A3(M) On-Slip	-	-	-	-	-	-	-	-	-
E: Purbrook Way (W)	0.95	14.5	27	0.91	9.1	18	0.74	2.7	7
W: Purbrook Way (E)	0.48	0.9	4	0.41	0.7	3	0.32	0.5	3
W: A3(M) Off-Slip	0.63	1.7	6	0.91	9.0	22	0.53	1.1	4
W: Purbrook Way (W)	1.04	48.3	95	0.85	5.4	17	0.59	1.4	6

Table 4: ARCADY Summary – Existing A3(M) Roundabouts – With Lidl

- 1.67 **Table 4** demonstrates that the Lidl development traffic is predicted to have a nominal impact in terms of junction operation on a vast majority of junction arms compared to the baseline scenarios. The only significant impact is to the B&Q Access arm, due to the proposed development being accessed via this private access road.
- 1.68 In the 2020 scenario the B&Q arm comes close to capacity during the busiest Saturday midday peak hour, operating at around 96% of capacity, whilst during the 2025 scenario the B&Q arm exceeds capacity during all peak hours, primarily due to the B&Q arm already operating over capacity at 120% and 105% during the weekday morning and afternoon peak hours respectively within the baseline (without development) scenario due to the committed Campdown development traffic.

- 1.69 With the junction already operating over capacity during the baseline, any additional development traffic would have an exponential / disproportional impact, as shown by the 2020 modelling which indicated only a relatively small change (16% increase) in the B&Q arm RFC compared with a 22% and 42% increase during the weekday morning and evening peaks respectively for the 2025 scenario.
- 1.70 During the Saturday, it is noted that committed development was only considered through the Local Temprow growth factors, with the increase in RFC and queuing being due to the B&Q and Lidl combined trip generation being typically at their highest.

Lidl Development Scenarios (No Mitigation, excludes Campdown Development)

- 1.71 A comparable assessment for the 2025 + development scenario has been undertaken to understand the impact of the Lidl development proposals in isolation, excluding the Campdown development within 2025 baseline traffic flows.
- 1.72 A summary of the ARCADY capacity modelling results for the A3(M) roundabouts existing arrangement, for the with development (Lidl) scenarios is shown in **Table 5**.

Arm	Weekday AM			Weekday PM			Saturday		
	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec
2025 + Development									
E: B&Q Access	0.82	3.4	91	1.07	15.0	189	1.09	32.2	187
E: Purbrook Way (E)	0.76	3.1	9	0.60	1.5	5	0.60	1.5	5
E: A3(M) On-Slip	-	-	-	-	-	-	-	-	-
E: Purbrook Way (W)	0.89	7.2	15	0.85	5.5	11	0.74	2.7	7
W: Purbrook Way (E)	0.48	0.9	4	0.39	0.6	3	0.32	0.5	3
W: A3(M) Off-Slip	0.58	1.4	6	0.81	4.0	11	0.53	1.1	4
W: Purbrook Way (W)	0.91	8.9	23	0.76	3.1	11	0.59	1.4	6

Table 5: ARCADY Summary – Existing A3(M) Rndbts – With Lidl / No Campdown

- 1.73 **Table 5** demonstrates that with the exception of the B&Q access arm, the addition of the Lidl traffic has only a marginal impact on other arms of the roundabouts, with queuing on other arms increasing by no more than one vehicle.
- 1.74 On the B&Q / Lidl arm, capacity is exceeded in the PM and Saturday peak hours and associated material increases in queuing and delay compared to the 2025 Baseline (No Committed Development) scenario results shown in Table 3.

Lidl Development Scenarios (With Mitigation, includes Campdown development)

- 1.75 In order to identify a suitable mitigation scheme, the highway improvement scheme identified within the Campdown TA to mitigate the impact of this committed development at the A3(M) roundabouts has been considered, focusing primarily on the B&Q access arm.
- 1.76 In summary, the Campdown highway improvement scheme looked to increase the B&Q roundabout arm entry width to 5.9m and effective flare length to 10m.
- 1.77 A slightly amended scheme has been considered, with a 6m entry width to provide two 3m lanes at the give way lane and a resulting effective flare length of 14m. A plan showing the proposed junction amendments is provided in **Appendix J**.
- 1.78 Swept path analysis for a 16.5m articulated HGV exiting the B&Q arm indicates that larger delivery vehicles would need to utilise a majority of the arm width and hence would straddle both lanes when exiting.
- 1.79 The highway improvement scheme would increase the pedestrian / cycle crossing distance at the B&Q egress arm from to 4.8m to 7.3m.
- 1.80 The ARCADY model for the A3(M) roundabouts has been updated to reflect the revised B&Q arm parameters, with a summary of the capacity modelling results for the with development scenarios shown in **Table 6**.
- 1.81 For clarification, this assessment includes the Campdown development within 2025 baseline traffic flows.
- 1.82 Full ARCADY outputs are provided in **Appendix K** and revised roundabout modelling files provided directly to the LHA to aid review.

Arm	Weekday AM			Weekday PM			Saturday		
	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec	Max RFC	Max Q veh	Delay sec
2020 + Development									
E: B&Q Access	0.27	0.4	9	0.42	0.7	10	0.59	1.4	10
E: Purbrook Way (E)	0.70	2.3	6	0.56	1.3	4	0.56	1.3	4
E: A3(M) On-Slip	-	-	-	-	-	-	-	-	-
E: Purbrook Way (W)	0.83	4.8	10	0.80	4.0	9	0.69	2.2	6
W: Purbrook Way (E)	0.45	0.8	4	0.37	0.6	3	0.31	0.5	3
W: A3(M) Off-Slip	0.53	1.1	5	0.75	3.0	8	0.49	1.0	4
W: Purbrook Way (W)	0.84	5.1	14	0.71	2.4	8	0.54	1.2	5
2025 + Development									
E: B&Q Access	0.40	0.6	16	0.57	1.3	18	0.66	1.9	12
E: Purbrook Way (E)	0.82	4.3	12	0.65	1.9	6	0.61	1.5	5
E: A3(M) On-Slip	-	-	-	-	-	-	-	-	-
E: Purbrook Way (W)	0.95	14.5	27	0.91	9.1	18	0.74	2.7	7
W: Purbrook Way (E)	0.49	0.9	4	0.42	0.7	3	0.33	0.5	3
W: A3(M) Off-Slip	0.63	1.7	6	0.92	10.2	26	0.53	1.1	4
W: Purbrook Way (W)	1.04	48.3	95	0.85	5.4	17	0.59	1.4	6

Table 6: ARCADY Summary – Revised A3(M) Roundabouts – With Lidl

- 1.83 **Table 6** demonstrates that following the proposed Campdown improvement scheme at the B&Q access arm, the A3(M) roundabouts are predicted to work within capacity in the PM and Saturday peaks. In the morning peak hour, queuing on the Purbrook Way (W) arm of the western roundabout is still high but comparable with the non-mitigation results and only marginally increased when compared to the baseline scenario.
- 1.84 These results generally show RFC rates at a level broadly comparable with the 2025 baseline. Additionally, queuing on the B&Q arm is reduced considerably, with maximum queues on this arm in 2025 of two vehicles.

Lane Simulation Assessment

1.85 The LHA raised potential for unequal lane usage at the Purbrook Way (W) arm of the eastern A3(M) roundabout due to the lane markings and turning proportions.

1.86 In relation to use of lane simulation, the TRL website advises the following, with further advice given in the Help document:

'A certain amount of variable lane usage is built into the original empirical ARCADY model. The original research looked at a large amount of data and investigated whether including the number of lanes made the model any more accurate, and found that it did not; the main geometric features such as entry width were far more important.

However, if there is persistent and obvious unequal lane usage (for example if a dedicated left-turn lane is not used because there are no left-turning vehicles), this is NOT included in the model, and must be accounted for by the user. We would recommend the use of ARCADY 8 or above in Lane Simulation mode to investigate such behaviour.'

1.87 Additionally the TRL website notes:

'The fact that one queue may be shorter than another is necessarily a problem – even one car waiting at a give-way line is enough to ensure that capacity is not being lost. There can however be a problem with some roundabout designs, or flow patterns, which should not be overlooked. Such problems occurs only if there is persistent entry-starvation – the queue in a particular lane is zero or very low when there is queueing in other lane(s).'

1.88 **Table 7** sets out the observed queues from the 2020 surveys. There is queuing space for 18 PCUs in each lane before a queue would reach the western roundabout.

Time Period	Nearside lane (left and straight ahead)	Offside lane (right and u-turn)
Weekday AM peak	1	0
Weekday PM peak	5	0
Saturday peak	2	0

Table 7: Observed Queuing – Eastern A3(M) Roundabout – Purbrook Way (W)

1.89 It is noted that the 2020 surveys were undertaken during Covid restrictions so traffic flows would have been lower than normal. However, even allowing for some Covid adjustments, this does not suggest any entry-starvation or significant unequal lane usage, given there is traffic using both lanes (the queueing surveys do suggest occasional minor queuing on the offside lane but the average is zero), nor any blocking back to the next junction that could be problematic.

- 1.90 The model has been run in lane simulation with two lanes on the western approach to the eastern roundabout, with movements as per the road markings (with no mitigation to the B&Q arm). However, for the 2020 baseline this results in queues on the western arm of the western roundabout of 60, 180 and 23 vehicles for the AM, PM and Saturday peaks respectively. This compares with observed queues of around 5-7 vehicles and is therefore considerably overestimating queuing. The lane simulation model also shows queues of around 16 vehicles on the western arm of the eastern roundabout in each peak hour, compared to 1-5 in the surveys, but no further split between lanes is provided.
- 1.91 Given the high queuing results when compared to the observed queues and the TRL advice on use of this model, it is considered that lane simulation does not accurately model the existing arrangement and so no further assessment has been undertaken.

Travel Plan

- 1.92 The LHA note that the amended Travel Plan (Final 03) has addressed most of the comments raised within the previous LHA response. However, the following remaining points are outstanding and need to be addressed before the Travel Plan can be considered acceptable:
- A revised action plan appended to the plan to calculate the cost of the cash deposit/bond.
 - There is also no commitment to pay the County Council's monitoring and approval fee.
 - Cost estimate of £12,000 - £15,000 for the Travel Plan Co-ordinator role not considered enough to ensure that all of the proposed measures are delivered.
- 1.93 Subsequent correspondence has been undertaken with the LHA in relation to the above points, confirming:
- i) A revised Action Plan is included within the Travel Plan at Table 7.2.
 - ii) Para 1.8 of the Travel Plan commits the paying the County Councils monitoring and evaluation / approval fees, noting *"The Travel Plan together with associated costs, including appropriate monitoring and evaluation fees and a bond will be secured through a Section 106 Agreement with the local authorities (Hampshire County Council as Highway Authority and Havant Borough Council as Local Planning Authority)."*
 - iii) Cost estimate for the Travel Plan Co-ordinator role is based upon practical experience by Mayer Brown in terms of TPC role costs at other Lidl stores with similar travel plans to that proposed, in addition to fees being understood to be consistent with what has been previously agreed and accepted by Hampshire County Council at the Lidl Whiteley store (£2,500 - £3,000 per yr.).

- 1.94 The LHA subsequently confirmed that, based upon the above clarification, it was accepted that a suitable commitment to pay the County Council's monitoring and approval fee is included.
- 1.95 In relation to the action plan / cost estimate, these elements primarily relate to the level of Travel Plan bond secured via the S106 Agreement and hence the LHA confirmed that instead of the cost of these measures being set during planning, the following wording has previously been used in the S106 agreement to cover the Travel Plan bond:
- "means a cash deposit being the sum of the cost of implementation and compliance with the targets/measures of the Travel Plan (as estimated by the County Council) plus 10% thereof".*
- 1.96 The LHA confirmed that, should the above be acceptable to Lidl, this would cover the remaining outstanding points and would make the Action Plan acceptable at this stage and the Travel Plan considered suitable.
- 1.97 Lidl confirmed that they are happy to accept the suggested wording for the Travel Plan bond within the subsequent S106 Agreement, although the LHA have since suggested that a cash deposit of £15,000 would be proportionate and cover the measures that are proposed for the site.

Summary

- 1.98 This Technical Note has been produced in response to the Local Highway Authority consultation response prepared by Hampshire County Council dated 27th May 2021 regarding the proposed construction of a Lidl foodstore on land adjacent to the B&Q store on Purbrook Way, Havant.
- 1.99 Salient points dealt within this note are summarised below:
- **Purbrook Way Pedestrian / Cycle Link** – the proposed pedestrian / cycle link has been adjusted to be consistent with guidance set out within LTN 1/20.
 - **B&Q Arm Crossing Point** – post development PV² assessment values are below that where the level of vehicle/pedestrian conflict would warrant provision of formal crossing facilities. The Road Safety Audit indicated that the planned clearance / maintenance of vegetation would significantly increase the margin of safety at the roundabout junction crossing point in addition to the provision of traffic calming reducing vehicle speeds and providing a betterment compared to existing.
 - **Site Access Visibility** – clarification is provided in regard to how appropriate visibility splays would be secured at the site access, based on this being located outside of the adopted public highway.
 - **Construction Traffic Access** – construction traffic access to the site would be achieved via the private access road in a similar location to the future store access based upon level differences, with specific details considered and outlined within the conditioned Construction Traffic Management Plan.
 - **Site Access** – Following updating models in line with LHA comments, the proposed site access is predicted to still operate well within capacity post development.
 - **A3(M) Roundabouts** – Following updating models in line with LHA comments, highway improvement works have been outlined to address B&Q junction arm capacity concerns during the future year 'baseline' and 'with development' scenarios, resulting in proposals having no material impact upon the operation of the A3(M) roundabouts.
 - **Travel Plan** – based upon subsequent correspondence undertaken with the LHA it is now considered that the submitted Travel Plan is suitable.
- 1.100 It is considered that the outstanding information requested by the LHA within their most recent consultation response has been provided and suitability addressed as appropriate within this Technical Note to enable a positive formal recommendation to be made.

Author: RB

Checked: RG

Revision: Final 01

Date: 22/07/21

APPENDIX A: Hampshire County Council Highways Comments - 27 May 2021



Head of Planning

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<i>Enquiries to</i>	Chris Hirst	<i>My reference</i>	6-3-13-214
<i>Direct Line</i>	0370 779 0563	<i>Your reference</i>	APP/20/01221
<i>Date</i>	27 th May 2021	<i>Email</i>	Chris.Hirst@hants.gov.uk

For the attention of L Oliver

Land to the west of B&Q, Purbrook Way, Havant

Erection of retail foodstore with associated car parking, access, landscaping and engineering works.

Thank you for re-consulting the Highway Authority on the above application. Following on from the Highway Authority's original response dated 4th March 2021, the applicant has supplied two separate Transport Assessment Addendums (TAA1 and TAA2).

The Highway Authority have reviewed the latest documents and wish to make the following comments.

Site Accessibility

Within the Highway Authority's previous response, comments were raised with regards to the proposed development's accessibility for pedestrians and cyclists. A summary of these comments is included below:

- The proposed pedestrian link from the site onto Purbrook Way should be widened to cater for both pedestrian and cycle access. The gradient of the link needed to be reconsidered alongside LTN 1/20 and further details were sought on the culvert located underneath the new ped/cycle access.
- Visibility for pedestrians and cyclists crossing at the A3(M) Junction 4 roundabout is constrained by existing vegetation and the B&Q sign. Given the increase in traffic flow across the northern arm of the roundabout, the visibility issue must be addressed and pedestrian and cycle improvements proposed to ensure safe access for sustainable modes of transport.

*Director of Economy, Transport and Environment
Stuart Jarvis BSc DipTP FCIHT MRTPI*

Purbrook Way Pedestrian/Cycle Link

To address the comments raised with regards to the new pedestrian/cycle link onto Purbrook Way, the following design changes have been made:

- The alignment has been reduced from 1:15 to 1:20;
- 900mm railings are provided either side of the link;
- Confirmation that discussions will be held with the OWC team at HCC during the detailed design; and
- Visibility splays provided for the point at which the link joins Purbrook Way.

The link has been illustratively shown on drawing number AD_110_Rev B and the visibility splays have been detailed on drawing number B/LIDLPUROBROOKWAY2.1/02. The principle and location of a shared use link to the new foodstore is accepted at this location. The revised gradient will need to be adjusted to ensure that the max length of the 5% gradient for the cycleway is 30.0m, as stated within LTN 1/20. The addition of the guard railings is considered suitable against the previous comments raised. It is noted from the site sections plan (drawing number AD_118) that a culvert will be installed to bridge the ditch underneath the proposed link. This feature will require OWC consent but it is accepted that the exact details of the culvert can be agreed at the detailed design stage with HCC's OWC team.

The works within the public highway should be delivered via a Section 278 agreement with HCC prior to occupation of the development and tied into those within private land ownership.

Pedestrian & Cycle Visibility at A3(M) Junction 4

As previously noted, visibility for pedestrian and cyclists heading westbound across the northern arm of the A3(M) Junction 4 roundabout is constrained by vegetation and the location of the B&Q sign.

To address the constraints caused by the vegetation, the development proposals feature the removal of several trees which currently restrict the visibility northbound along the B&Q access arm of the roundabout. It is noted that any retained or proposed vegetation would feature low-level planting provided to a maximum height of 600mm which is considered acceptable and should be secured via an appropriate planning condition.

To demonstrate the additional visibility afforded by the vegetation removal, the applicant has provided drawing number B/LIDLPUROBROOKWAY2.1/03. Whilst the drawing demonstrates that the intervisibility will be improved, there remains approximately 10m in-between the existing and proposed extension of the intervisibility which is blocked by the location of the B&Q sign.

TAA2 notes that no objection was raised to the location of the totem during the planning application in 2016. However, consideration was not given at the time to additional traffic flow on the B&Q access arm as a result of the

proposed development which restricts the ability of pedestrians and cyclists to cross the junction.

To contextualise the additional pedestrian and cyclist movements across the junction, the applicant has taken the predicted multi-modal trips from the original TA and calculated the ped/cycle movements to the store by looking at the proposed catchment area to derive the arrivals from the east or west. Based on this methodology, 11-13 cyclists are expected to approach the store from the west across a typical day. Whilst the number of additional pedestrian movements is not stated within TAA2, the Highway Authority has calculated them to be circa 88 daily movements based on the figures from the original TA.

However, the assessment above does not take account of the existing ped/cycle movements across the junction, nor the increase in traffic flows across the B&Q arm of the roundabout. The additional 38 and 88 trips onto the roundabout in the respective AM and PM peak hours represents a traffic flow increase of 43% and 58% as a result of the development, increasing the total 2020 flow to 126 and 238 in the AM and PM peak hours. During the Saturday peak, the additional 114 trips represent an increase in traffic flow of 29%, increasing the total flow onto the roundabout from that arm to 499. All of these trips will be new on the network. The Highway Authority remain concerned that the resultant development trips and restricted visibility could result in a vulnerable user accident along one of the main cycling routes between Waterloooville and Havant.

Therefore, to understand the existing use of the crossing by pedestrians and cyclists, the Highway Authority require a PV2 assessment of pedestrian and cyclists at the junction to understand how the additional development flows will impact on both existing and proposed crossing movements. The data should be categorised to understand how many pedestrians and cyclists are travelling to school, commuting, etc. given that the route provides direct access to Crookhorn College.

The flow data should then be used to inform a brief to carry out a Stage 1 Road Safety Audit to inform if the additional flow would be considered to have a safety impact at the roundabout. The Highway Authority requires that we approve the brief for the audit in this instance.

Personal Injury Accident Data

Further information has been provided within TAA1 around the PIA data provided as part of the original TA. The accident breakdown looks into potential causation factors such as road conditions, time of occurrence, collision type and location.

It is agreed that the junctions observed at the College Road/Purbrook Way and Stakes Hill Road Roundabout junctions may be reduced by the improvement schemes identified by the Waterloooville MDA. The former of the two junctions has recently been subject to the aforementioned improvement to signalise the junction. The improved junction layout will be monitored for any accident patterns which emerge. Therefore, there is no requirement for additional safety measures at this junction as a result of this development.

The TAA1 notes that the ASDA roundabout was subject to an improvement scheme during 2016 which overlapped with 5 of the 14 recorded accidents. However, this junction has been monitored by HCC's Safety Engineering team who have identified further recent accidents at the junction. The junction will therefore be subject to a more detailed accident review by the Highway Authority to understand how the recorded accidents can be reduced. Based on the threshold assessment provided by the applicant, the maximum increase in traffic flow through any of the junction is 3.2% in the Saturday peak period. Given the low level of impact across the roundabout, a contribution will not be sought from this development in accordance with the criteria set out within NPPF.

Site Access

The applicant has provided further information to address comments raised in the Highway Authority's original response with regards to the proposed site access onto the B&Q access road.

To ensure that the northbound visibility splay from the site access is not obstructed by the proposed retaining wall, it has been set back by 1m to the back of the splay. The Highway Authority are satisfied that the amended location of the retaining wall will not conflict with the visibility splay.

Section 4.10 of the TAA2 states that no amendments are required to the road restraint system within the highway; any changes required will be done so within private land ownership. The applicant has provided drawing number B/LIDLPUROBROOKWAY2.1/04 to confirm the exact amendments to the crash barrier to ensure that it does not obstruct the northbound visibility splay from the site access. It is noted in Section 4.13 that specific details of the alterations will be agreed at the detailed design stage; however, because the access will be constructed within private land ownership and will therefore not require a Section 278 agreement, it is unclear how the Highway Authority will be consulted to confirm that the northbound visibility splay is suitable. Further clarity is sought from the applicant on this point.

The SSD to the roundabout should be shown in accordance with the design speed of the access road. This should be backed up with speed surveys along the access road carried out in accordance with HCC TG3. The SSD currently appears substandard with limited visibility afforded to pedestrians and cyclists waiting at the crossing points (adding to the concerns raised above). Adjustments to the existing signage and road restraints system may be required, alongside the vegetation removal.

Whilst a CTMP would be required as a condition on any planning permission, confirmation is sought from the applicant as to how access to the site for delivery vehicles will be achieved whilst the access is being constructed.

Parking

Confirmation that the applicant is willing to pay a contribution to Havant Borough Council's Traffic Management team to implement a TRO on Purbrook Way if required is welcomed and this shall be secured through an obligation within the S106 agreement.

Trip Generation

To justify the predicted split of trips to the site, the applicant has provided further information within TAA1 and TAA2 which looks at trade draw figures accepted for applications in neighbouring counties and also within Hampshire.

Based on the information presented, the 40% trade draw figure from the nearby ASDA is considered robust and suitable for this assessment. The total split of trips from the site is therefore as follows:

	AM	PM	Saturday
Primary New	40	83	124
Primary Transferred	26	56	82
Secondary	17	34	23
Total	83	173	229

Junction Modelling

Within the original TA, the applicant undertook junction modelling for the following junctions:

- Lidl Site Access;
- Purbrook Way/A3(M) Junction 4 Roundabouts; and
- Purbrook Way/Stakes Hill Road/Crookhorn Lane Roundabout.

Following a review of the original transport information, the Highway Authority questioned why the College Road/Purbrook Way junction and the Asda Roundabout had not been considered within the modelling. Within TAA2, junction modelling was provided for both junctions which demonstrated that there will be a marginal impact at the junctions in the future year scenario. It is therefore accepted that the proposed development will not have a significant impact at either of the College Road/Purbrook Way junction or the Asda Roundabout junctions.

Weekday baseline traffic flows have been obtained by growing the traffic flows supporting the College Road (Campdown) development with TEMPRO data as requested. Saturday traffic data has been gathered as part of the current application and has been utilised in the absence of any data being provided through the Campdown application. These approaches are considered acceptable.

The applicant has provided the model files for the site access, A3(M) roundabout and the Stakes Hill Road roundabout. Following a review of the models, a number of points needs to be addressed before they can be considered acceptable.

Lidl Site Access

The geometry and modelling parameters are deemed acceptable for the site access aside from the blocking queue on the B&Q access road major arm due to right turners is set as 1 PCU. This value should be set to zero as there is

not sufficient space for a vehicle to pass along the mainline while a vehicle turning right into the Lidl store. For completeness, this should be rectified within the modelling.

Whilst the model results show the junction to be operating within capacity in isolation, the access must be considered alongside the A3(M) roundabout which is noted below.

A3(M) Junction 4 Roundabouts

The model files sets out the two A3(M) roundabouts as separate ARCADY models linked to one another. A Junctions 9 model has then been developed by linking the two standard ARCADY models together. The geometric parameters for the western roundabout has been reviewed and is considered acceptable; however, there are input parameters for the eastern roundabout which are incorrect and therefore need to be updated:

- The entry width for B&Q Road is over-estimated i.e. the modelled widths is 5.9 metres whereas the CAD measurement suggests it to be only around 3.9 meters. Effective flare length should also be corrected for the B&Q arm.
- The CAD and google earth measurements at Purbrook Way West arm suggests no local widening at the entry. Hence, the entry width should be reduced to 7.1 meters (identical to approach road half width) from existing modelled value of 8.2 meters. The effective flare length should also be reduced to zero.

The parameters should be updated and the model re-run to understand the impact on the junction operation.

Furthermore, there is the possibility for unequal lane usage at the Purbrook Way West arm on the eastern roundabout due to the lane markings allowing only left turners and through movements on the nearside line which is more than double the number of the right turners which are allowed from the offside lane. The short link between the two roundabouts may also have an impact on lane usages. A line simulation test should be undertaken with the appropriate lane designations to understand the potential unequal lane usage.

Stakes Hill Road Roundabout

The geometric measurements of the model have been reviewed and it is noted that there are a number of the parameters which require changes or clarification. However, it is considered at this stage that whilst the existing roundabout operates over capacity in the base year of 2020, the resulting increase of 21 and 47 trips at the junction in the respective AM and PM peak hours would not be considered significant. When assessed against the 2020 growthed traffic flows through the junction, the additional development flows would represent an increase of 0.7% in the AM peak and 1.7% in the PM peak which is not considered a significant increase in traffic across the roundabout. The trip increase of 21 and 47 two-way movements is a net increase which has taken account of trips already on the network heading to ASDA which instead will route to the Lidl store once constructed.

Therefore, given that through the West of Waterloo MDA development measures have been secured to improve the operation of the junction, no further changes to the model are required and the development is not considered to need to contribute towards any additional measures at the roundabout.

Travel Plan

The amended Travel Plan has addressed most of the comments raised within the Highway Authority's original response. However, there are important elements of the plan which need to be clarified.

A revised action plan has not been appended to the plan which is required to calculate the cost of the cash deposit/bond. There is also no commitment to pay the County Council's monitoring and approval fee. All of these matters will need to be provided for the purposes of the Section 106 agreement.

It is also noted that a cost estimate of £12,000 - £15,000 has been given for the Travel Plan Co-ordinator but this is not considered enough to ensure that all of the proposed measures are delivered. The cost of the TPC should be re-evaluated within the action plan.

The points above need to be addressed before the Travel Plan can be considered acceptable.

Recommendation

The Highway Authority requires further information on the following before a formal recommendation can be made:

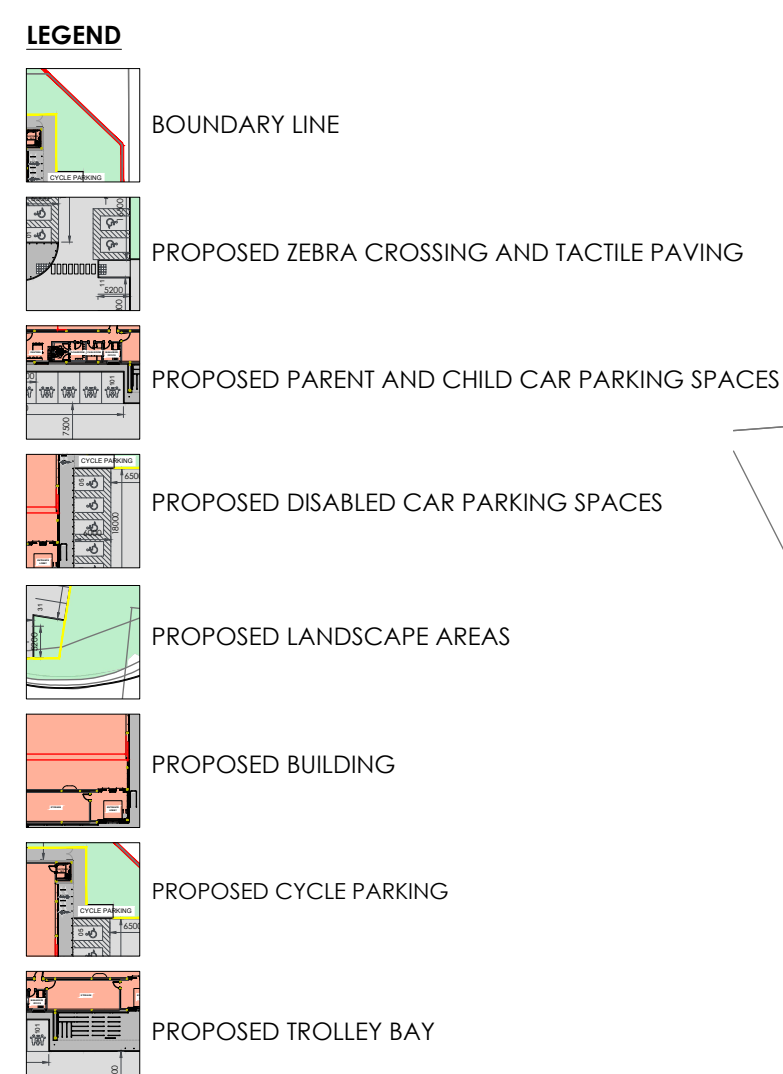
- Pedestrian/cycle count at the A3(M) J4 eastern roundabout;
- RSA1 for the A3(M) J4 eastern roundabout pedestrian/cyclist crossing;
- Clarification on how the Highway Authority will be consulted on changes to the Road Restraint System;
- Provision of speed survey data for the site access road and SSD shown to the roundabout;
- Updates to the junction modelling; and
- Updates to the Travel Plan.

I trust that the above is clear however should you have any queries, please do not hesitate to contact Chris Hirst on the number noted above.

Yours Sincerely,

Ben Clifton – Transport Team Leader

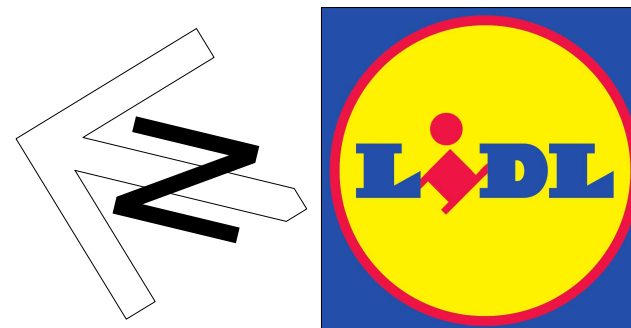
APPENDIX B: Proposed Site Plan



SCALE 1:500 @ A1



IMPORTANT INFORMATION
Dimensions to be confirmed on site prior to start of works and ODAS to be informed of discrepancies immediately. No dimensions to be scaled from this drawing.
All materials and works are to be carried out in accordance with current British Standards, Planning Approval, current Building Regulations and Codes of Practice.
Party Wall Act - Notices under the Party Wall Act are to be served by the property owner or appointed third party in accordance with the Act.
Health and Safety - CDM 2015 Regulations apply to all construction works to be carried out and apply to designers, contractors and the client. As such all parties have duties under these regulations.



C	03.06.21	CYCLE PATH AMENDED IN LINE WITH HIGHWAYS COMMENTS	KW	
B	25.03.21	UPDATED IN LINE WITH CLIENT COMMENTS. REMOVE FLAGPOLE TO REAR OF SITE 3No VERTICAL CYCLE RACKS IN WAREHOUSE	KW	
A	05.03.21	UPDATED IN LINE WITH CLIENT COMMENTS	LWC	
Rev	Date	Description	Revised By	Checked By

Client:
LIDL GREAT BRITAIN LTD.
FOXES PARK, BROWNHILL WAY,
SOUTHAMPTON, SO16 0AW

Project Name:
HAVANT

Drawing Title:
PROPOSED SITE PLAN

Drawing Status:	PLANNING
-----------------	----------

Project No: 19139

Drawing No: AD 110_REV C

Drawn By: LMC

Checked By: PAH

Date: AUG 2020

Scale @ A1: 1:250

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APPENDIX C: PV² Assessment

PROJECT: Lidl Purbrook Way, Havant

PV² INPUT DATA

Existing

11/09/2020 Survey		
Vehicles		
Period	IN	OUT
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	100	64
08:00-09:00	140	117
09:00-10:00	163	135
10:00-11:00		
11:00-12:00		
12:00-13:00		
13:00-14:00		
14:00-15:00		
15:00-16:00	198	207
16:00-17:00	182	192
17:00-18:00	151	160
18:00-19:00	114	142
19:00-20:00		
20:00-21:00		
21:00-22:00		
22:00-23:00		
23:00-24:00		

11/09/2020 Survey		
Pedestrians		
E - W	W - E	
3	3	
86	6	
13	4	
8	122	
8	15	
1	2	
3	5	

11/09/2020 Survey		
Cycle		
E - W	W - E	
10	3	
50	1	
7	2	
6	28	
6	12	
18	9	
16	5	

Mainlly school children

Mainlly school children

PV² Calculation - PROPOSED

ENTRY CROSSING POINT

Period	VEH	PEDS	CYCLE
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	110	7	13
08:00-09:00	185	96	53
09:00-10:00	232	22	11
10:00-11:00			
11:00-12:00			
12:00-13:00			
13:00-14:00			
14:00-15:00			
15:00-16:00	292	137	36
16:00-17:00	264	30	20
17:00-18:00	241	10	29
18:00-19:00	186	14	22
19:00-20:00			
20:00-21:00			
21:00-22:00			
22:00-23:00			
23:00-24:00			

P	V	V2	PV²
20	110	12100	245360
149	185	34225	5083855
32	232	53824	1733133
173	292	85264	14760396
50	264	69696	3457613
39	241	58081	2265831
36	186	34596	1250888

MAX 14760396

PV² 10⁸
0.0025
0.0508
0.0173
0.1476
0.0346
0.0227
0.0125

0.1476 x 10⁸

Proposed Development

60.5%		
Vehicles		
Period	IN	OUT
00:00-01:00	0	0
01:00-02:00	0	0
02:00-03:00	0	0
03:00-04:00	0	0
04:00-05:00	0	0
05:00-06:00	0	0
06:00-07:00	0	0
07:00-08:00	10	3
08:00-09:00	45	38
09:00-10:00	69	52
10:00-11:00	78	72
11:00-12:00	94	87
12:00-13:00	118	116
13:00-14:00	109	112
14:00-15:00	95	100
15:00-16:00	94	95
16:00-17:00	82	87
17:00-18:00	90	87
18:00-19:00	72	83
19:00-20:00	45	56
20:00-21:00	23	30
21:00-22:00	2	8
22:00-23:00	0	0
23:00-24:00	0	0

9.3%			75%		25%	
Pedestrians			TO/FROM EAST		TO/FROM WEST	
IN	OUT		IN	OUT	IN	OUT
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
2	0	1	0	1	0	0
7	6	5	4	2	2	2
11	8	8	6	3	2	2
12	11	9	8	3	3	3
14	13	11	10	3	3	3
18	18	14	13	4	5	5
17	17	13	13	4	4	4
15	15	11	12	4	3	3
14	15	11	11	3	4	4
13	13	9	10	4	3	3
14	13	10	10	4	3	3
11	13	8	10	3	3	3
7	9	5	6	2	3	3
4	5	3	3	1	2	2
0	1	0	1	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

1.3%		44%		56%	
CYCLE		TO/FROM EAST		TO/FROM WEST	
IN	OUT	IN	OUT	IN	OUT
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
1	1	0	0	1	1
1	1	1	0	0	1
2	2	1	1	1	1
2	2	1	1	1	1
3	2	1	1	2	1
2	2	1	1	1	1
2	2	1	1	1	1
2	2	1	1	1	1
2	2	1	1	1	1
2	2	1	1	1	1
1	1	0	1	1	0
0	1	0	0	0	1
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

EXIT CROSSING POINT

Period	VEH	PEDS	CYCLE
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	67	7	13
08:00-09:00	155	96	53
09:00-10:00	187	22	11
10:00-11:00			
11:00-12:00			
12:00-13:00			
13:00-14:00			
14:00-15:00			
15:00-16:00	302	137	36
16:00-17:00	279	30	20
17:00-18:00	247	10	29
18:00-19:00	225	14	22
19:00-20:00			
20:00-21:00			
21:00-22:00			
22:00-23:00			
23:00-24:00			

P	V	V2	PV²
20	67	4489	91027
149	155	24025	3568725
32	187	34969	1126002
173	302	91204	15788694
50	279	77841	3861686
39	247	61009	2380057
36	225	50625	1830449

MAX 15788694

PV² 10⁸
0.0009
0.0357
0.0113
0.1579
0.0386
0.0238
0.0183

0.1579 x 10⁸

APPENDIX D: Stage 1 Road Safety Audit



**LIDL GREAT BRITAIN LTD
NEW FOODSTORE
PURBROOK WAY, HAVANT**

STAGE 1 - ROAD SAFETY AUDIT

JULY 2021



the journey is the reward

Report title:	Lidl Great Britain Ltd New Foodstore Purbrook Way, Havant Stage 1 - Road Safety Audit
Date:	July 2021
Document reference and revision:	S/LIDL PURBROOKWAY2.1.1.6 Rev A
Prepared by:	Martyn Parr - Mayer Brown Ltd
Approved by:	John Reid - Mayer Brown Ltd
On behalf of:	Lidl Great Britain Ltd
Status:	Final

**Lidl Great Britain Ltd
New Foodstore
Purbrook Way, Havant
Stage 1 - Road Safety Audit**

List of Contents

Sections

1	Introduction	1
2	Items Raised at the Stage 1 Road Safety Audit.....	3
3	Issues identified during the Stage 1 Road Safety Audit that are outside the Terms of Reference	4
4	Audit Team Statement	5

Appendices

APPENDIX A: Site Location Plan

APPENDIX B: Reference Plans

APPENDIX C: Stage 1 Audit Brief

1 Introduction

- 1.1 This report results from a Stage 1 Road Safety Audit carried out following instructions from Mayer Brown Limited's Bristol Office, on new highway works associated with a Lidl supermarket store on Purbrook Way, Havant.
- 1.2 As set out in the initial Stage 1 Audit Brief, the works comprise of:
- *Existing vegetation along the inside of the junction arm removed to improve intervisibility between pedestrians / cyclists and drivers exiting via the B&Q arm*
 - *Widening of junction arm roundabout entry width from 3.9m to 6m and increasing effective flare length from 1m to 14m, providing two lanes of traffic at give way line – resulting in crossing distance on B&Q egress arm increasing from 4.8m to 7.3m.*
 - *Traffic calming measures provided on egress carriageway to reduce vehicular approach speeds to crossing point.*
- 1.3 The Audit is concerned only with highway works on the B&Q access arm that will be adopted and maintained by Hampshire County Council. The limit of adoption is detailed in drawing '210609 - LIDL Purbrook Way - 06 - B&Q Arm Improvements', provided in **Appendix B**.
- 1.4 The Road Safety Audit took place on 6th July 2021.
- 1.5 The Road Safety Audit comprised an examination of the Audit Brief provided by Mr Richard Broad at Mayer Brown Ltd (Design Team), provided in **Appendix C**.
- 1.6 The Overseeing Organisation is Hampshire County Council.
- 1.7 The Road Safety Audit Team membership was as follows:

Team Leader

Martyn Parr MSoRSA, MCIHT, HECOC
Road Safety Manager – Mayer Brown Limited

Team Member

John Reid MSc, DipHTE, MCIHT, FSoRSA, MITAI, HECOC
Technical Director (Safety) – Mayer Brown Limited

- 1.8 A site visit was conducted by the Audit Team together on 2nd July 2021 from 12:00 hrs onwards, during which the weather was fine, and the carriageway surface was dry. Moderate traffic was observed using the B&Q access road. A low-moderate number of pedestrians were observed crossing the B&Q access. No pedal cycles were observed.

1.9 For reference, a reduced-scale copies of the following drawings are provided in **Appendix B** of this report:

- 210609 - LIDL Purbrook Way - 06 - B&Q Arm Improvements
- 210623 - LIDL Purbrook Way - 07 - B&Q Arm Visibility - 02 – PROPOSED

1.10 The Audit Team are advised that the SSD visibility splays on the southbound approach to the roundabout junction on Purbrook Way do not accord with 'HCC Technical Guidance Note TG3'. This departure from standard is subject to comment in Paragraph 2.1 of this report.

2 Items Raised at the Stage 1 Road Safety Audit

Junctions

2.1 Problem

Location: B&Q Access Arm (please refer to reference point 2.1 in **Appendix B**).

Summary: Pedestrian/vehicle intervisibility at pedestrian crossing landing point – Pedestrian & vehicle collisions.

As set out in the Audit Brief, the existing forward visibility splays on the southbound approach to the existing roundabout junction, and the east-west pedestrian crossing point, do not accord with current standards.

The plans and the Audit Brief provided for Audit set out the SSD visibility splays in accordance with 'HCC Technical Guidance Note TG3'. These splays are currently obscured by over-growing vegetation and a B&Q totem sign which the Auditors are advised "sits on third party-controlled land, sitting outside land within the control of applicant and the local highway authority."

Whilst the Auditors accept that the B&Q totem sign will partially obstruct forward visibility splays to the pedestrian crossing point, the Auditors consider that if vegetation is trimmed back to provide the SSD visibility splays indicated on the drawings provided and maintained clear of vegetation, then this would significantly increase the margin of safety at the roundabout junction.

Furthermore, vehicles egressing from the proposed food store access will likely be travelling at a low speed having just emerged from the access. In addition, the provision of three speed cushions on the southbound approach to the roundabout junction will reduce the speed of existing movements of vehicles egressing the B&Q store. During the site inspection, observed vehicle speeds appeared to be relatively low due to three prominent factors: the steep incline from the B&Q store, the bend in the access road and the proximity of the roundabout junction.

Recommendation

It is recommended that the existing vegetation is trimmed back and maintained to provided SSD visibility splays in accordance with 'HCC Technical Guidance Note TG3'.

3 Issues identified during the Stage 1 Road Safety Audit that are outside the Terms of Reference

3.1 Safety issues identified during the Audit and site inspection that are considered to be outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrants that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.

3.2 Issue

Location: Purbrook Way/B&Q access arm (please refer to reference point 3.2 in **Appendix B**).

Reason considered to be outside the Terms of Reference: Issue for consideration at detailed design stage.

Summary: Tactile paving.

Details of tactile paving provision have not been provided. It is important to provide tactile paving to aid vision impaired users across the B&Q access arm.

Recommendation

It is recommended that that adequate dropped kerbs and tactile paving facilities are provided in accordance with design standards.

4 Audit Team Statement

4.0 AUDIT TEAM STATEMENT

We certify that this Road Safety Audit has been carried out following the principles of GG119.

ROAD SAFETY AUDIT TEAM LEADER

Martyn Parr – MSoRSA, MCIHT, HECOC
Road Safety Manager
Mayer Brown Limited
Lion House
Oriental Road
Woking
Surrey
GU22 8AR

Signed



Date 06/07/21

ROAD SAFETY AUDIT TEAM MEMBER

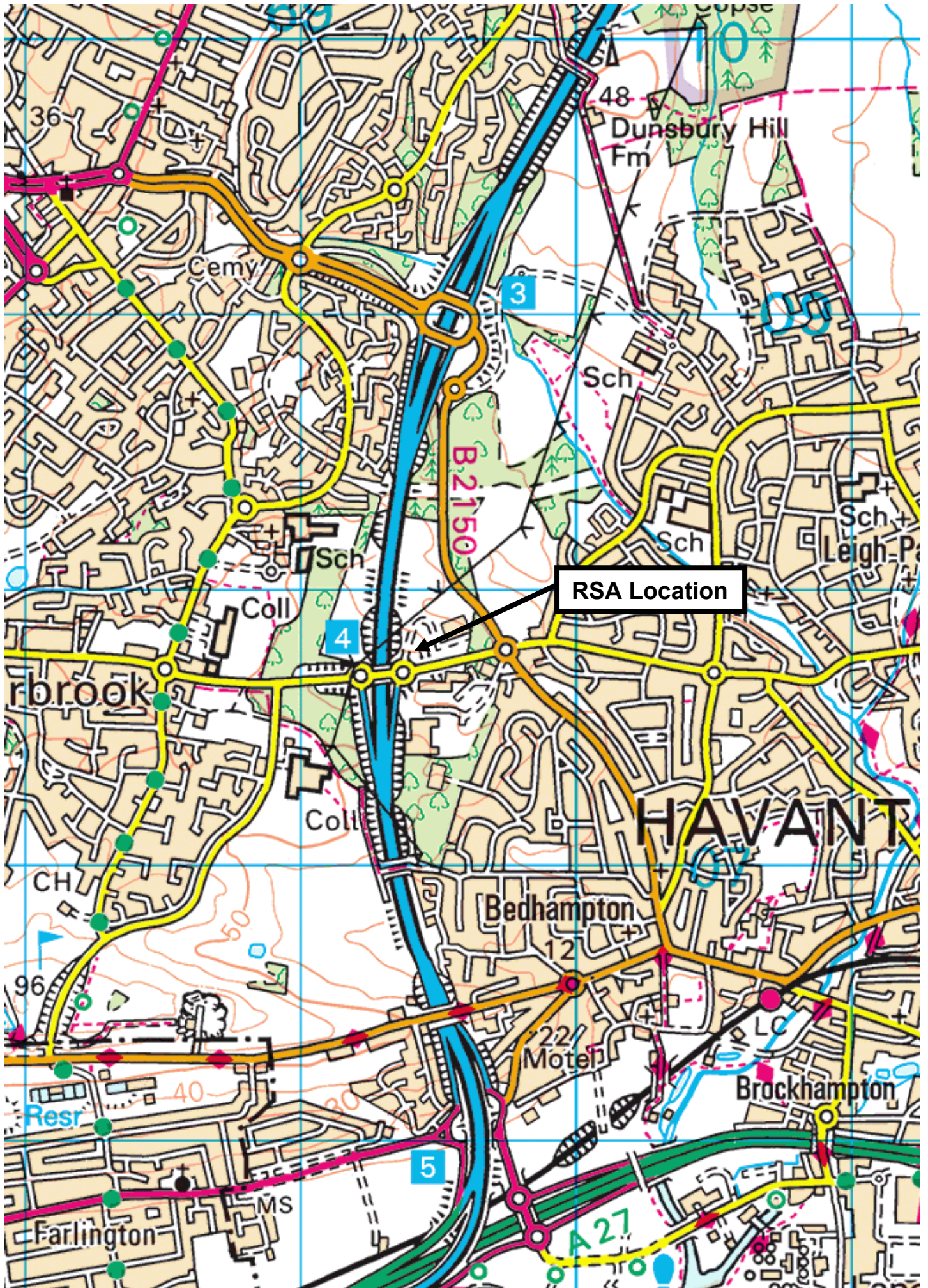
John Reid - MSc, DipHTE, MCIHT, FSoRSA, MITAI, HECOC
Technical Director (Safety)
Mayer Brown Limited
Lion House
Oriental Road
Woking
Surrey
GU22 8AR

Signed



Date 06/07/21

APPENDIX A: Site Location Plan



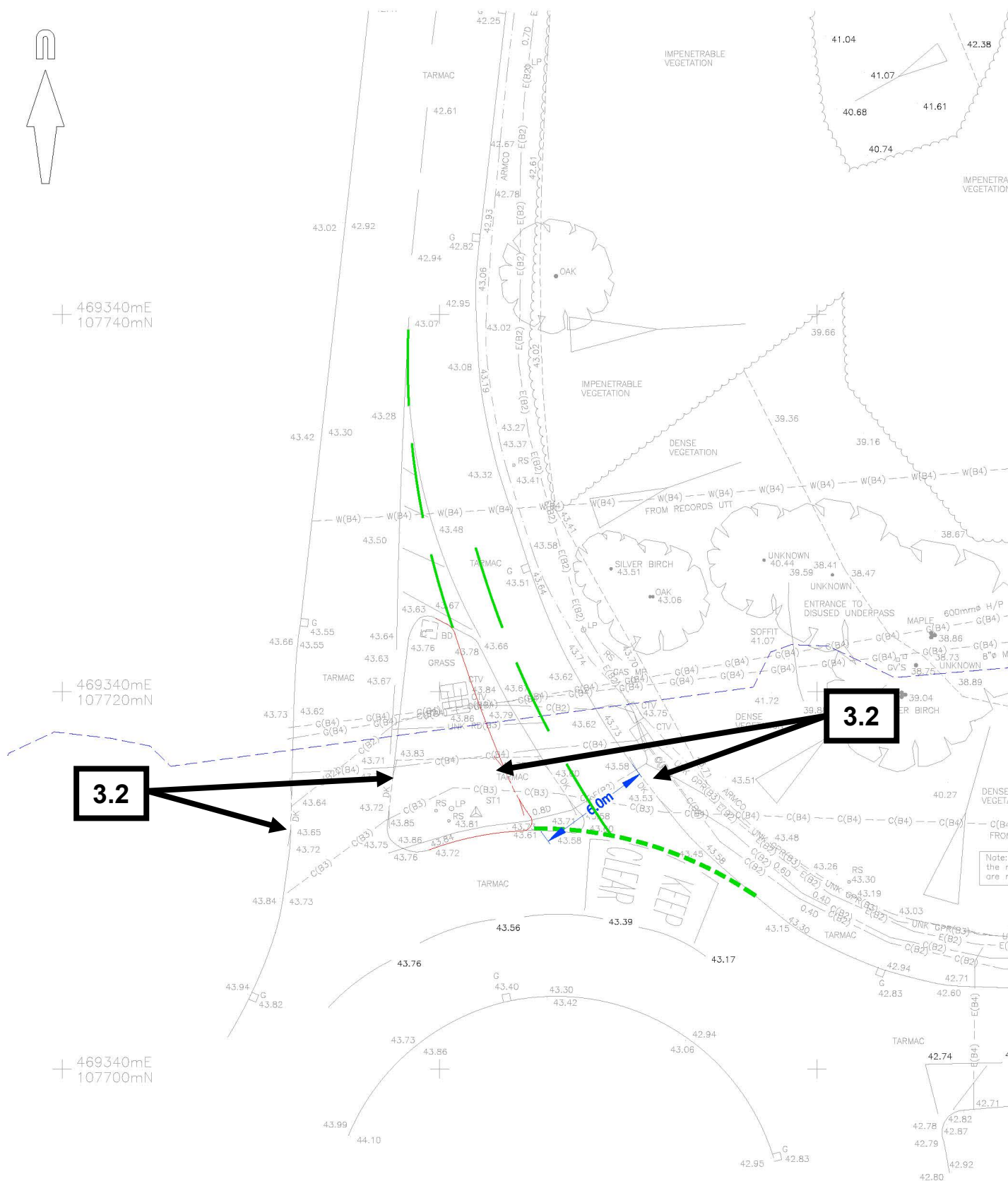
APPENDIX B: Reference Plans



+ 469340mE
107740mN

+ 469340mE
107720mN

+ 469340mE
107700mN



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client
LIDL GREAT BRITAIN LIMITED

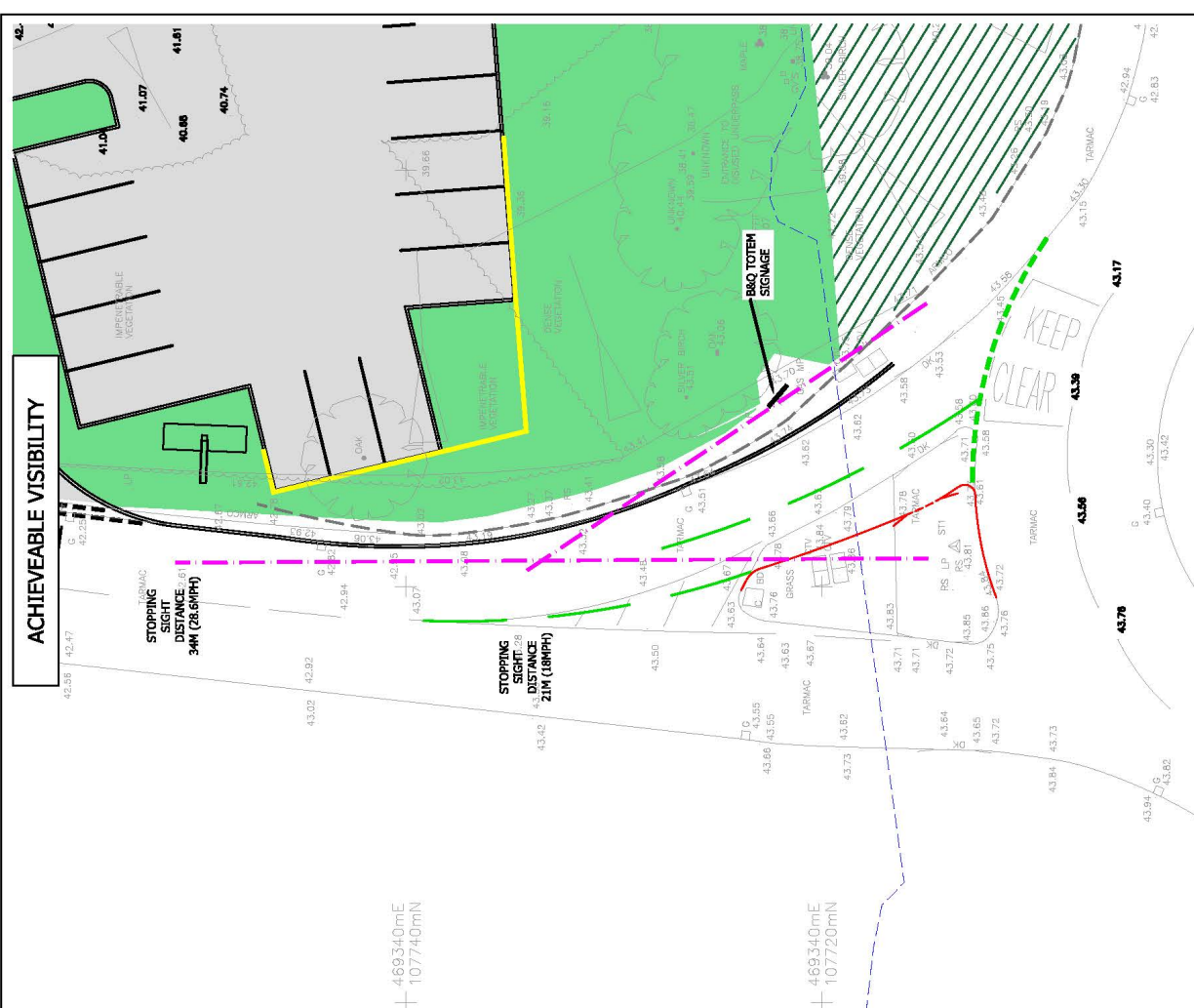
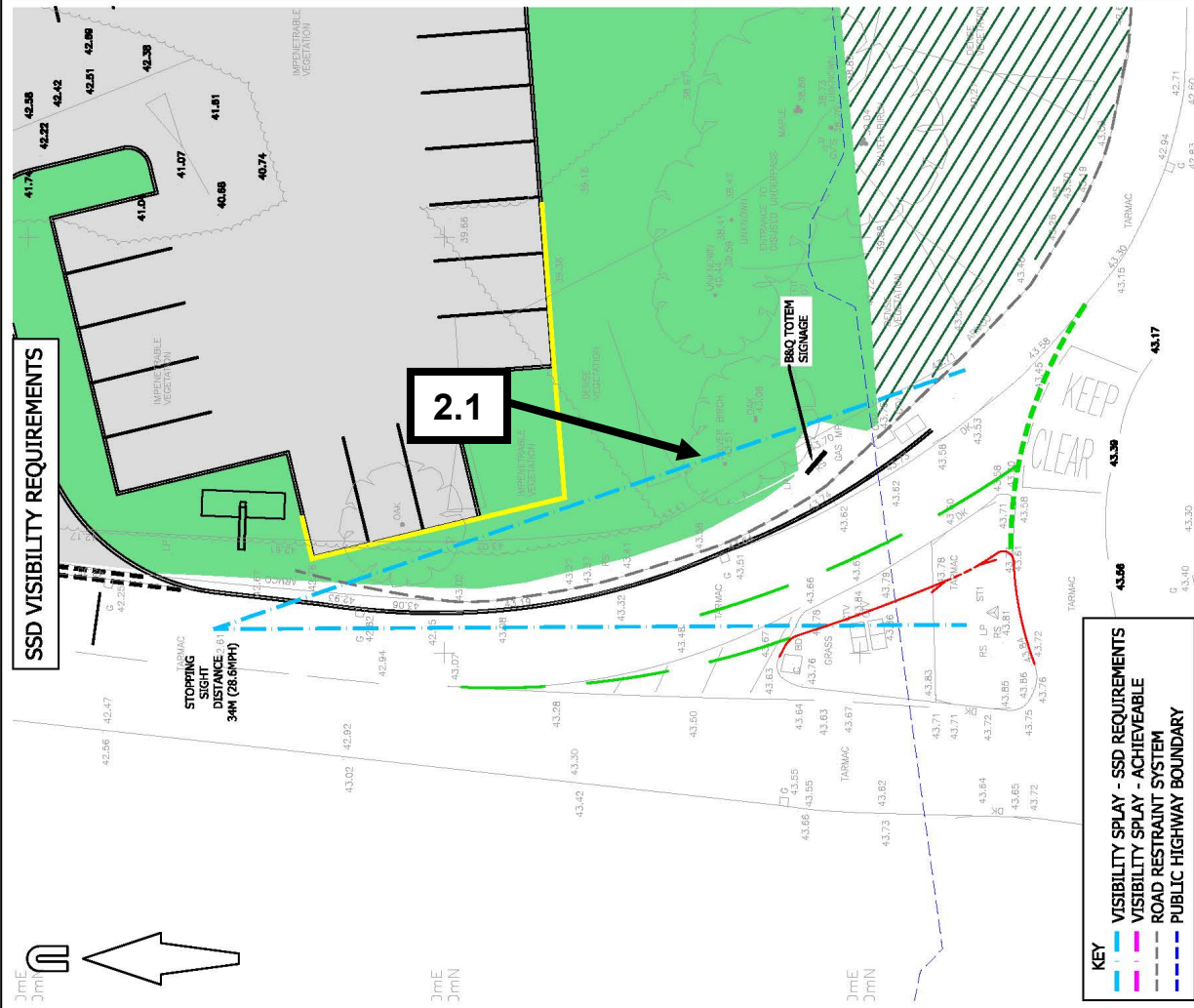
title
**PROPOSED LIDL FOODSTORE
PURBROOK WAY, HAVANT**

PROPOSED B&Q ARM IMPROVEMENTS

scale **1:200 @ A3** drawn by **RB** checked by **-**

date **JUNE 2021** cad file **210609 - B&Q ARM**

drawing number **B/LIDL PURBROOKWAY2.1/06** rev. **-**



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client **LIDL GREAT BRITAIN LIMITED**

project **PROPOSED LIDL FOODSTORE
PURBROOK WAY, HAVANT**

**B&Q ARM EGRESS CROSSING POINT
STOPPING SIGHT DISTANCE VISIBILITY REVIEW
PROPOSED ARRANGEMENT**

scale 1:250 @ A3

drawn by RB

checked by -

date JUNE 2021

cad file 210623 - B&Q ARM VISIBILITY

drawing number B/LIDL/PURBROOKWAY2.1/07-01

rev. -

APPENDIX C: Stage 1 Audit Brief

Road Safety Audit Brief

Proposed Lidl Store, Purbrook Way, Havant – Crossing Point / Highway Works

Table C.1 Project Summary

Document reference:	B/LIDL Purbrook Way 2.1/RSA
Prepared by:	Mayer Brown Limited
On behalf of:	Lidl Great Britain Limited
AUTHORISATION SHEET	
Project:	Purbrook Way, Havant
Report title:	Stage 1 Road Safety Audit
PREPARED BY:	
Name:	Richard Broad
Signed:	
Organisation:	Mayer Brown Limited
Date:	23 rd June 2021

Table C.2 General Details

General details				
Highway scheme name and road number:		B&Q Access Arm, Purbrook Way, Havant		
Type of scheme:	Crossing Point review and junction arm capacity improvement works			
RSA stage tick as appropriate.	1	2	3	4
	Interim			
Overseeing Organisation details		Design organisation details		
Hampshire County Council		Richard Broad Mayer Brown Limited Suite 501 City Point, Temple Gate Bristol BS1 6PL 07717 452 288 rbroad@mayerbrown.co.uk		
Police contact details		Maintaining agent contact details		
(Required for stage 3 RSAs)		Hampshire County Council		
RSA team membership				
Independent Mayer Brown Road Safety Team For reference, the Mayer Brown Road Safety Team is independent of the design team, with the design team having no influence on the outcome of the RSA. Mayer Browns Road Safety Team have worked on numerous developments within Hampshire where the design team were also Mayer Brown and this approach has been acceptable to Hampshire Highways, including Berewood Development in Waterlooville (Over 20 RSAs, all stages) and Wellesley Development in Aldershot (10 - 20 RSAs, all stages).				
Terms of reference				
The Stage 1 Road Safety Audit is to be undertaken in accordance with DMRB Standard GG119, as well as the contents of this Road Safety Audit Brief.				

Table C.3 Scheme Details

Scheme description/objective
General Scheme Extents - B&Q egress arm onto A3(M) Junction 4 On-slip / Purbrook Way roundabout Scheme Description - Existing vegetation along the inside of the junction arm removed to improve intervisibility between pedestrians / cyclists and drivers exiting via the B&Q arm - Widening of junction arm roundabout entry width from 3.9m to 6m and increasing effective flare length from 1m to 14m, providing two lanes of traffic at give way line – resulting in crossing distance on B&Q egress arm increasing from 4.8m to 7.3m. - Traffic calming measures provided on egress carriageway to reduce vehicular approach speeds to crossing point. Scheme Objectives - Vegetation removal and traffic calming to improve visibility at the B&Q arm crossing point compared to existing - carriageway widening works to address future year junction arm capacity / queuing / delay issues Construction Programme - To be confirmed
Design standards applied to the scheme design
- DMRB - Manual For Streets - HCC Technical Guidance Note TG3 '<i>Stopping Sight Distance and Visibility Splays</i>'
Design speeds
Refer to speed surveys on the B&Q egress arm, located c.20m and c.40m upstream of crossing point 20m – 85%ile = 24.3 mph / mean average = 18.4mph 40m – 85%ile = 28.6 mph / mean average = 23.5mph
Speed limits
Purbrook Way and roundabout (Public Highway) – advertised 40mph speed limit B&Q Access Road (Private Road) – advertised 10mph speed limit starts c.65m north of roundabout.

Existing traffic flows/queues

- Traffic and queue surveys undertaken September 2020, with pedestrian / cycle crossing counts subsequently extracted from video footage review. Surveys undertaken on Friday 11th September 2020, covering the periods 07:00 – 10:00 and 15:00 – 19:00, which include the key peak periods in terms of commuting and school trips on the network
- ATC surveys undertaken on B&Q access road 11/06/21 to 17/06/21, located c.20m and c.40m upstream of crossing point.

Existing traffic flows for a weekday, extracted from September 2020 surveys

A summary is provided below with more detail provided in the calculations appended.

Please note that traffic flow calculations included within the Transport Assessment and TA Addendum 1 utilise uplifted September 2020 surveys, whilst TA Addendum 2 utilises growthed 2016 data to inform junction modeling at the request of Hampshire Highways.

Vehicles - key peak hour vehicular trip generation in relation to the crossing point are

08:00 – 09:00 = 140 arrivals / 117 departures

15:00 – 16:00 = 198 arrivals / 207 departures

HGV – includes OGV1 / OGV 2 and Buses/coaches

Weekday AM (07:00 – 10:00) = 5 arrivals / 7 departures travelling on the B&Q arm daily

Weekday PM (15:00 – 19:00) = 2 arrivals / 7 departures travelling on the B&Q arm daily

Pedestrians

Weekday AM

07:00 – 08:00 = 3 westbound / 3 eastbound

08:00 – 09:00 = 86 westbound / 6 eastbound

09:00 – 10:00 = 13 westbound / 4 eastbound

Weekday PM

15:00 – 16:00 = 8 westbound / 122 eastbound

16:00 – 17:00 = 8 westbound / 15 eastbound

17:00 – 18:00 = 1 westbound / 2 eastbound

18:00 – 19:00 = 3 westbound / 5 eastbound

Cyclists

Weekday AM

07:00 – 08:00 = 10 westbound / 3 eastbound

08:00 – 09:00 = 50 westbound / 1 eastbound

09:00 – 10:00 = 7 westbound / 2 eastbound

Weekday PM

15:00 – 16:00 = 6 westbound / 28 eastbound

16:00 – 17:00 = 6 westbound / 12 eastbound

17:00 – 18:00 = 18 westbound / 9 eastbound

18:00 – 19:00 = 16 westbound / 5 eastbound

Horse Riders

No horse riders being observed

Forecast traffic flows
<u>Forecast additional traffic flows post development on a weekday.</u> A summary is provided below with more detail provided in the calculations appended. Vehicles - Proposals are predicted to generate an additional 1,026 vehicles daily utilising the B&Q junction arm, key peak hour vehicular trip generation in relation to the crossing point are 08:00 – 09:00 = 45 arrivals / 38 departures 15:00 – 16:00 = 94 arrivals / 95 departures HGV – On average proposals are expected to generate up to 3 HGV deliveries per day = 3 arrivals and 3 departures travelling on the B&Q arm daily. Pedestrians - Proposals are predicted to result in around an additional 40 pedestrians daily accessing the development from the west = 40 arrivals and 40 departures crossing the B&Q arm daily, with a majority of pedestrians approaching from the east (117 daily). Cyclists – Proposals are predicted to result in around an additional 12 cyclists daily accessing the development from the west = 12 arrivals and 12 departures crossing the B&Q arm daily, with a further 10 cyclists daily approaching the site from the east. Horse Riders – Nil / No change expected
Pedestrian, cyclist and equestrian desire lines
Shared footway/cycleway runs along the northern side of Purbrook Way, providing link between Purbrook, Waterlooville to the west and Bedhampton, Havant to the east. No equestrian desire line and the route is not a bridleway / does not form an obvious shortcut between two bridleways. Pedestrian / cycle crossing counts survey data indicated an increase in westbound crossing movements between 08:00 – 09:00 and eastbound movements between 15:00 – 16:00, associated with school pupils accessing education provision to the west. Proposed access to development for pedestrians / cyclists provided c.60m to the east of the B&Q arm. PV² Assessment undertaken for the crossing point, with a maximum PV² value of 0.15 x 10⁸ and 0.16 x 10⁸ were calculated for the B&Q entry and exit arm crossing points respectively for the ‘with development’ scenario. HCC’s SSD calculator utilised to provide SSD distance, based upon ATC survey data to inform visibility splay requirements at B&Q exit arm crossing point, indicating resulting SSD’s of 38m and 31m for the 40m and 20m ATC points respectively. HCC Technical Guidance Note TG3 ‘<i>Stopping Sight Distance and Visibility Splays</i>’ has been utilised to produce associated visibility splay plans, with associated plans for pedestrians and cyclists appended. Vertical visibility envelopes have been developed based on a driver eye height of between 1.05m to 2m (in line with Manual for Streets), indicating that an object height of 0.71m to 2m (2.5m back from the crossing point) can be attained for the existing achievable visibility splay, whilst for the SSD recommended visibility splay an object height of 0.68m to 2m can be attained. For both splays the achievable vertical visibility envelope is primarily dictated by the height of the road restraint barrier in the vicinity of the crossing point, which has been assumed to be a standard 0.61m height, although in the vicinity of the crossing point, the barrier seems to be descending towards the ground and therefore is likely to be below 0.61m in height, which in turn would increase the object height visibility envelope.
Environmental constraints
None that the Designer is aware of.

Table C.4 Locality

Description of locality
The application site is located on the western edge of Havant in Bedhampton. 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.
General description
The site is bounded by a private access road to the north and west and Purbrook Way to the south, although there are severe level differences between the application site and surrounding highway / uses. 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. The private access road joins Purbrook Way at a roundabout junction, with a fourth exit-only lane leading southbound onto the A3(M). Uncontrolled pedestrian crossing points consisting of dropped kerbs and central refuges are provided on the northern B&Q arm of the roundabout. Near 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. 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.
Relevant factors which may affect road safety
The Auditors should note that the existing B&Q totem sits on third party controlled land, sitting outside land within the control of applicant and the local highway authority. The B&Q totem was renewed following planning permission being granted in 2016, as part of which the Council's Highways Engineer was consulted and did not raise any objections to the proposed signage in terms of highway safety, although it has been noted by the local highway authority that consideration was not given at this time to additional traffic on the B&Q access arm as a result of the proposed development. Level differences between the B&Q arm and bounding land result in the ground dropping away to the east and west of the B&Q arm, with the carriageway acting as a bridging structure across this 'gully', resulting in road restraint barriers being provided. As noted previously, pedestrian / cycle surveys at the B&Q arm crossing point during a weekday indicate increases in westbound and eastbound movements, associated with school pupils accessing education provision to the west in the morning and afternoon periods.

Table C.5 Analysis

Collision data analysis		
Refer to Mayer Brown Transport Assessment (Nov-20) and TA Addendum 1 (Feb-21)		
Regarding the B&Q roundabout arm, 2 collisions (1 serious / 1 slight) were identified:		
- Ref 44180085609 – Slight – Cyclist travelling w-bound along Purbrook Way collided with vehicle exiting B&Q access road - Ref 44180327401 – Serious – Cyclist travelling w-bound along Purbrook Way collided with vehicle entering B&Q access road		
Departures from standards		
None		
Previous road safety audit stage reports, road safety audit response reports and evidence of agreed actions		
None		
Strategic decisions		
None		
List of included documents and drawings		
Documents		
Reference and revision.....	Title.....	Date.....
rev. Final 02	Transport Assessment	November 2020
rev. Final 01	Transport Assessment Addendum 1	February 2021
rev. Final 01	Transport Assessment Addendum 2	March 2021
MHC-235-20	Classified Junction Count & Queue Length Surveys	September 2020
360TSL-ATC	ATC Survey	11/06/21 - 17/06/21
CHQSR0820090	Road Traffic Collision data (Report & Map)	01/01/15 – 31/12/19
210603	PV2 Calculations	June 2021
Drawings		
Drawing no. and revision.....	Title.....	
B/LIDL Purbrook Way 2.1/06 rev -	B&Q Arm improvements	
B/LIDL Purbrook Way 2.1/07-01 rev -	B&Q Arm - SSD Visibility Review - Existing	
B/LIDL Purbrook Way 2.1/07-02 rev -	B&Q Arm - SSD Visibility Review – Proposed	
B/LIDL Purbrook Way 2.1/07-03 rev -	B&Q Arm – Vertical Visibility Envelope	
B/LIDL Purbrook Way 2.1/08 rev -	B&Q Arm – Traffic Calming	
19139 AD 110_rev C	Proposed Site Plan	
JSL3712-RPS-XX-EX-DR-L-901 rev P08	Detailed Soft Landscaping Proposals	

Table C.6 Checklist

Tick all that are included and provide reasons for those that are not included			
Site location plan	✓	Scale layout plans	✓
Departures and relaxations from standards	✓	Construction/ typical details	N/A
Previous RSA reports	N/A	Previous RSA response reports and evidence of agreed actions	N/A
Collision data and collision data analysis	✓	Road traffic collision plot	✓
Traffic signal staging	N/A	Traffic counts	✓
Speed surveys	✓	Pedestrian, cyclist and horse riding desire lines and volumes	✓
Walking, cycling and horse riding assessment and reviews	✓	Items outside the scope of the RSA/ strategic decisions	N/A
Other factors that may impact on road safety	✓	Design speeds/ speed limits	✓
Design standards used	✓	Adjacent land uses	✓

Author: RB

Date: 23 June 2021

Local Highway Authority Approval

Name: Chris Hirst, Hampshire County Council

Date: 23 June 2021

Source: via email 23/06/21



APPENDIX E: Stage 1 Road Safety Audit Response

Road Safety Audit Response Report

- 1.1 Mayer Brown Limited has prepared this Road Safety Audit (RSA) Response Report in response to a Stage 1 RSA associated with the proposed development of land off Purbrook Way in Havant for a new discount foodstore with associated parking. The RSA was requested by Hampshire County Council within their role as local highway authority (LHA) to cover the B&Q access arm crossing point.
- 1.2 A RSA Audit was carried out by Mayer Brown Limited's independent Road Safety Team, with a site inspection on 3rd July 2021. Agreement for the RSA Brief team was obtained from the LHA, along with approval for Mayer Brown to carry out both the audit and be responsible for the design based upon the independent nature of the Road Safety Team.
- 1.3 Items raised during the Stage 1 Road Safety Audit have been outlined in turn alongside a response from the design team on how this is to be addressed.

Items Raised

Junctions - Problem 2.1

Summary: Pedestrian/vehicle intervisibility at pedestrian crossing landing point – Pedestrian & vehicle collisions.

Location: B&Q Access Arm

As set out in the Audit Brief, the existing forward visibility splays on the southbound approach to the existing roundabout junction, and the east-west pedestrian crossing point, do not accord with current standards.

The plans and the Audit Brief provided for Audit set out the SSD visibility splays in accordance with 'HCC Technical Guidance Note TG3'. These splays are currently obscured by over-growing vegetation and a B&Q totem sign which the Auditors are advised "sits on third party-controlled land, sitting outside land within the control of applicant and the local highway authority."

Whilst the Auditors accept that the B&Q totem sign will partially obstruct forward visibility splays to the pedestrian crossing point, the Auditors consider that if vegetation is trimmed back to provide the SSD visibility splays indicated on the drawings provided and maintained clear of vegetation, then this would significantly increase the margin of safety at the roundabout junction.

Furthermore, vehicles egressing from the proposed food store access will likely be travelling at a low speed having just emerged from the access. In addition, the provision of three speed cushions on the southbound approach to the roundabout junction will reduce the speed of existing movements of vehicles egressing the B&Q store. During the site inspection, observed vehicle speeds appeared to be relatively low due to three prominent factors: the steep incline from the B&Q store, the bend in the access road and the proximity of the roundabout junction.

Recommendation

It is recommended that the existing vegetation is trimmed back and maintained to provided SSD visibility splays in accordance with 'HCC Technical Guidance Note TG3'.

Design Team Response

Agreed (in part) – whilst is acknowledged that full compliance with TG3 cannot be achieved, mainly due to the presence of the B&Q totem on third party-controlled land, proposals include targeted clearance and maintenance of vegetation on land within the control of applicant and the local highway authority.

Retained / proposed planting or trees would be set back sufficiently so as not to encroach into the SSD visibility splay envelope shown on drawing B/LIDL PURBROOKWAY2.1/07-02 (**Appendix A**) once fully mature, or consist of low-level planting (<0.6m in height) within the SSD visibility splay envelope.

Issues identified that are outside the Terms of Reference

Issue 3.2

Summary: Tactile paving.

Location: Purbrook Way/B&Q access arm

Reason considered to be outside the Terms of Reference: Issue for consideration at detailed design stage.

Details of tactile paving provision have not been provided. It is important to provide tactile paving to aid vision impaired users across the B&Q access arm.

Recommendation

It is recommended that that adequate dropped kerbs and tactile paving facilities are provided in accordance with design standards.

Design Team Response

Agreed - This would be addressed at the detailed design stage

Conclusion

- 1.4 This report has considered the problems / issues raised by the Stage 1 Road Safety Audit, which shall be addressed as indicated in the Response Report. As a result, the Design Team sees no reason why the proposed works should not progress to detailed design following Stage 1 approval from the local authority.

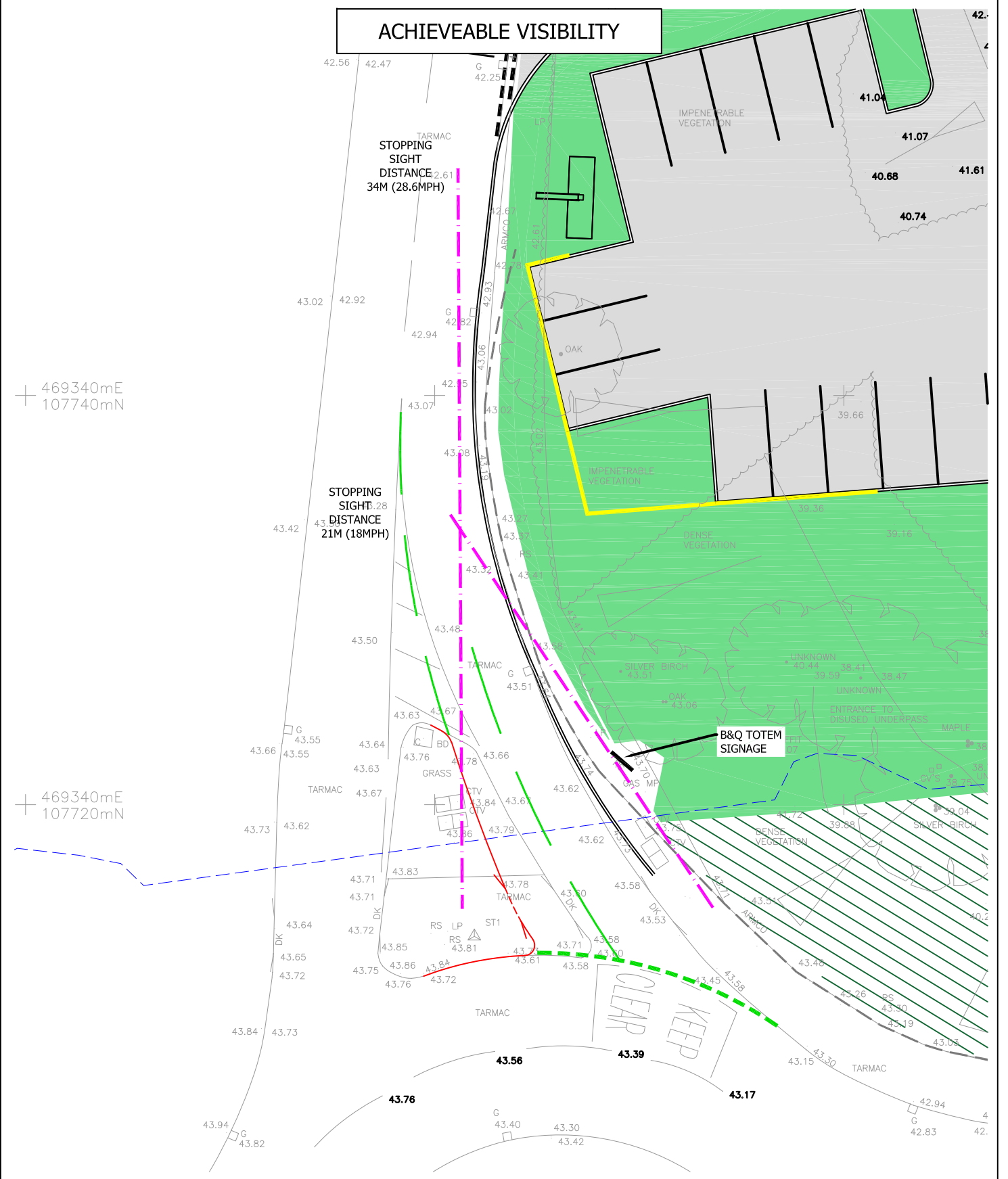
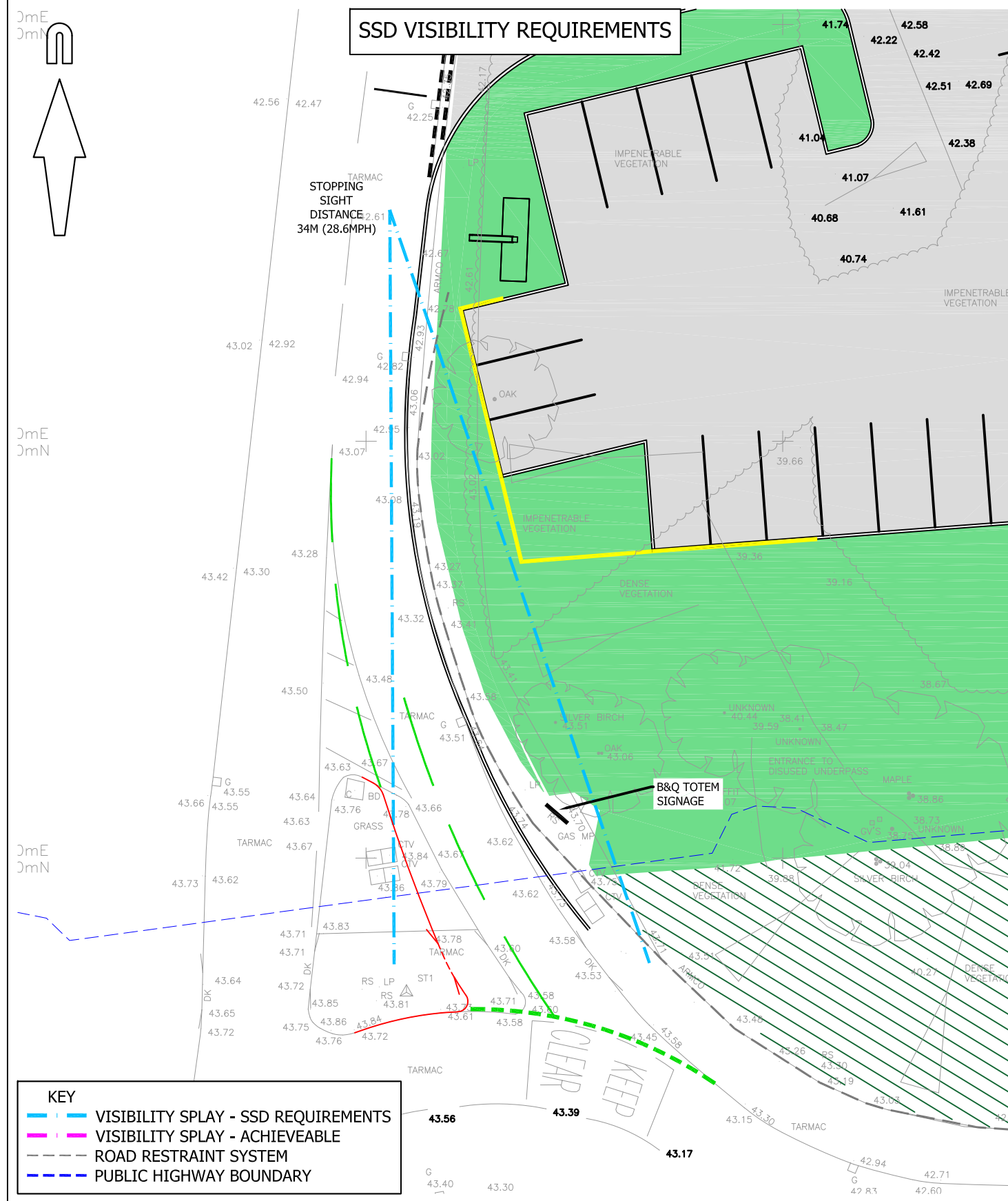
Author: RB

Checked: RG

Revision: Final 01

Date: 09/07/21

APPENDIX A: B&Q Arm – SSD Visibility Review - Proposed



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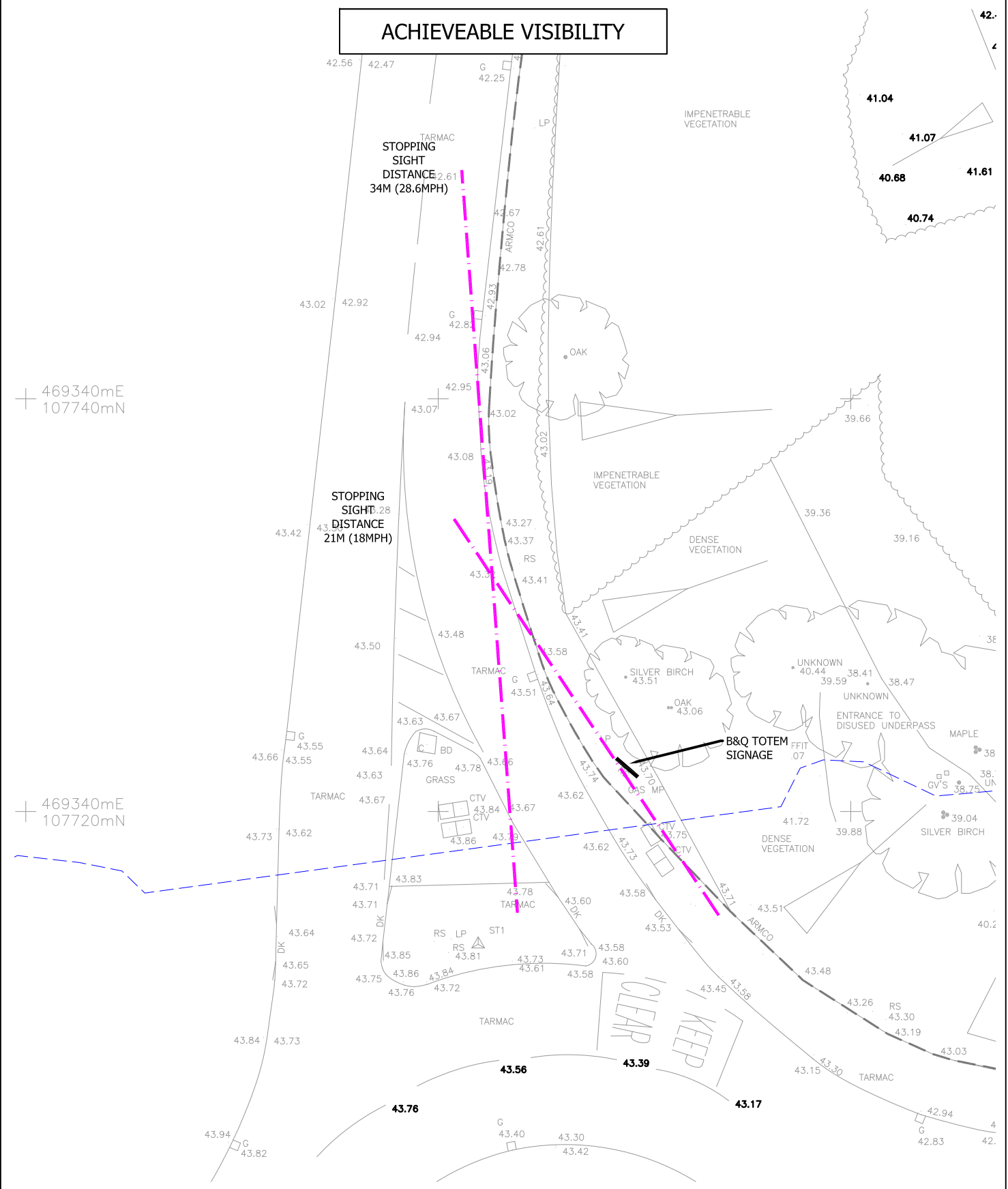
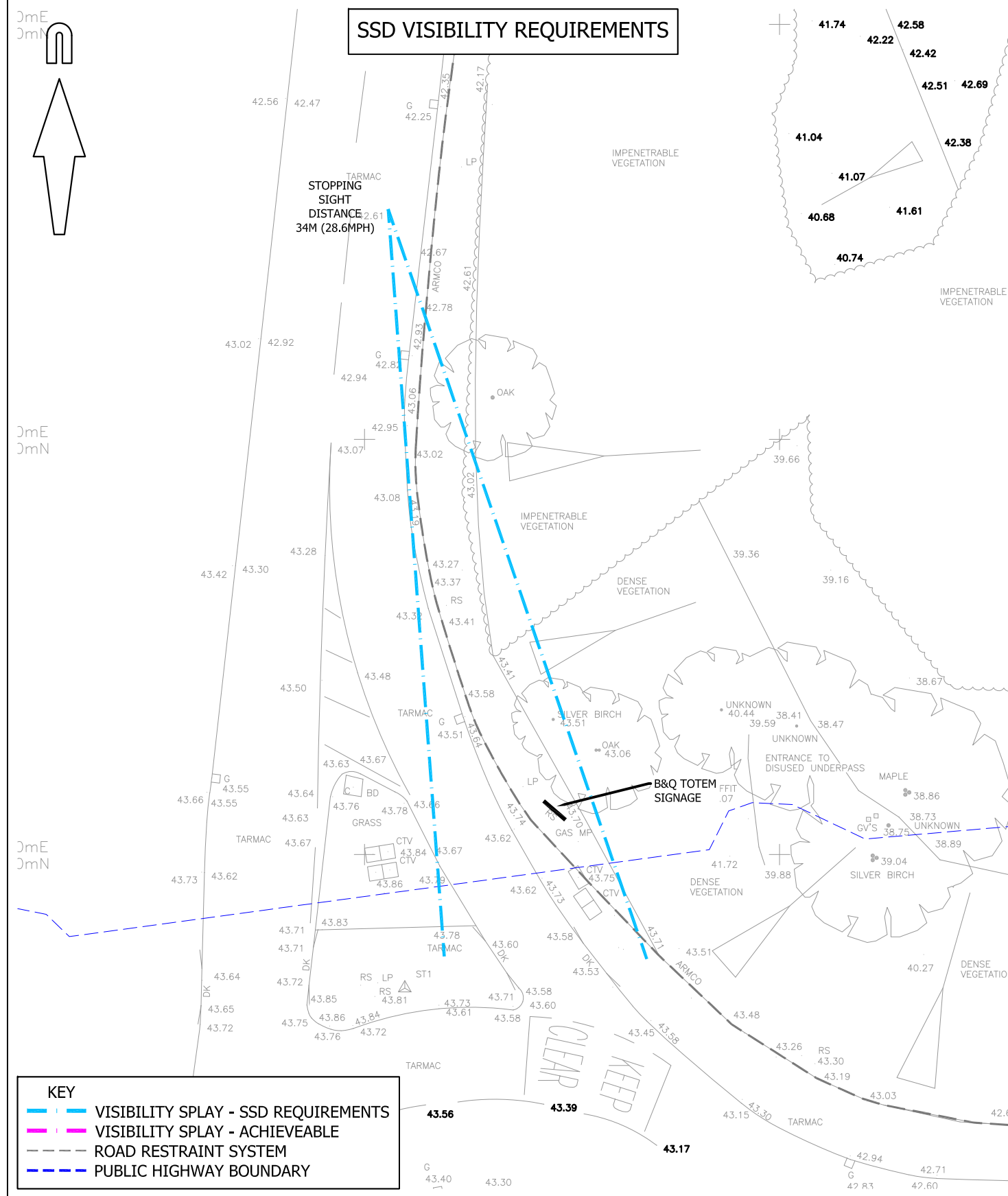
client
LIDL GREAT BRITAIN LIMITED

project
**PROPOSED LIDL FOODSTORE
PURBROOK WAY, HAVANT**

title
**B&Q ARM EGRESS CROSSING POINT
STOPPING SIGHT DISTANCE VISIBILITY REVIEW
PROPOSED ARRANGEMENT**

scale 1:250 @ A3	drawn by RB	checked by -
date JUNE 2021	cad file 210706 - B&Q ARM VISIBILITY	
drawing number B/LIDLPURBROOKWAY2.1/07-02	rev. -	

APPENDIX F: SSD Visibility Plans



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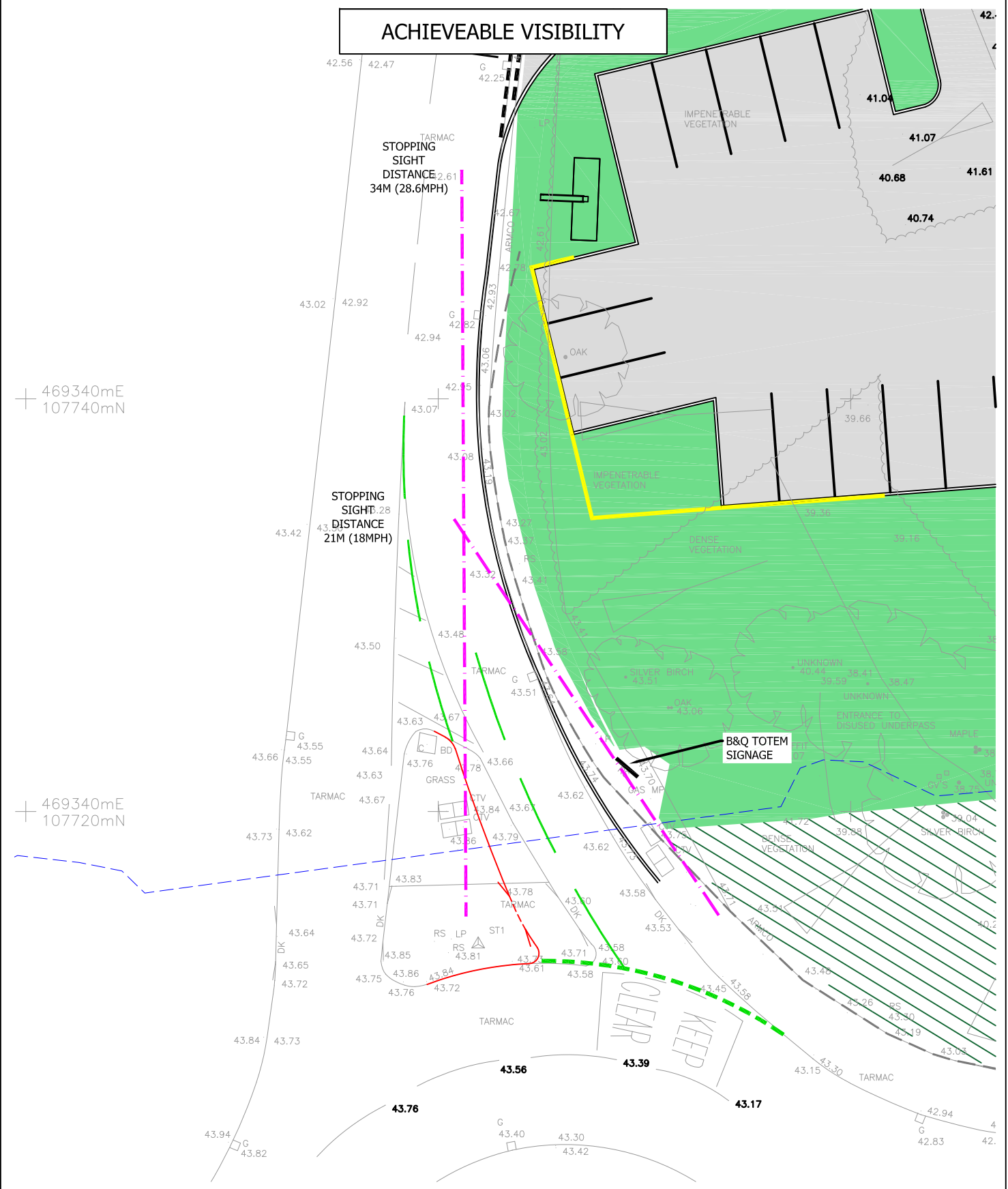
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client
LIDL GREAT BRITAIN LIMITED

project
**PROPOSED LIDL FOODSTORE
PURBROOK WAY, HAVANT**

title
**B&Q ARM EGRESS CROSSING POINT
STOPPING SIGHT DISTANCE VISIBILITY REVIEW
EXISTING ARRANGEMENT**

scale 1:250 @ A3	drawn by RB	checked by -
date JUNE 2021	cad file 210706 - B&Q ARM VISIBILITY	
drawing number B/LIDLPURBROOKWAY2.1/07-01	rev. -	



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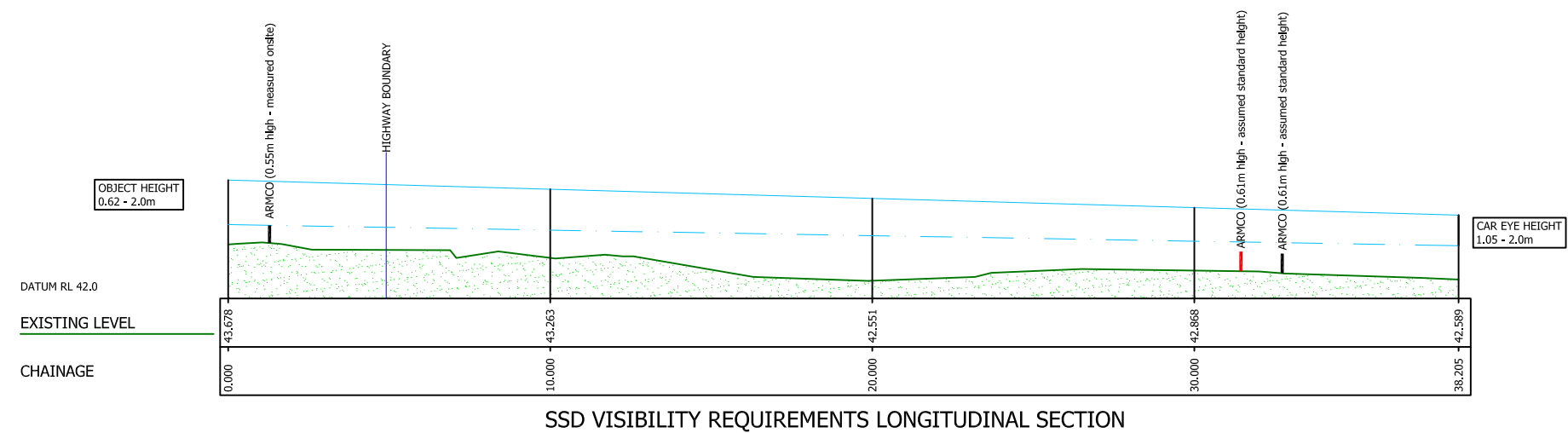
project
**PROPOSED LIDL FOODSTORE
PURBROOK WAY, HAVANT**

title
**B&Q ARM EGRESS CROSSING POINT
STOPPING SIGHT DISTANCE VISIBILITY REVIEW
PROPOSED ARRANGEMENT**

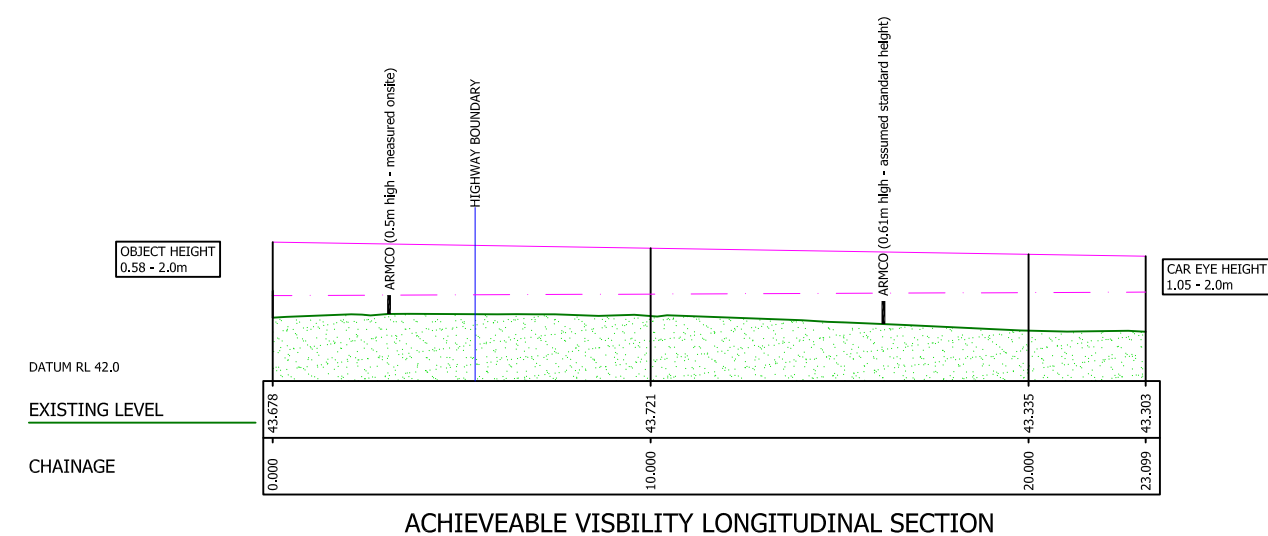
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date JUNE 2021	cad file 210706 - B&Q ARM VISIBILITY	
drawing number B/LIDLPURBROOKWAY2.1/07-02	rev. -	



SSD VISIBILITY REQUIREMENTS



ACHIEVEABLE VISIBILITY



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project
**PROPOSED LIDL FOODSTORE
PURBROOK WAY, HAVANT**

title
**B&Q ARM EGRESS CROSSING POINT
ACHIEVEABLE VERTICAL VISIBILITY ENVELOPE
BASED ON 1.05M TO 2M DRIVER EYE HEIGHT**

scale NOT TO SCALE drawn by RB checked by -

date JUNE 2021 cad file 210706 - B&Q ARM VISIBILITY

drawing number **B/LIDLPURBROOKWAY2.1/07-03** rev. **A**

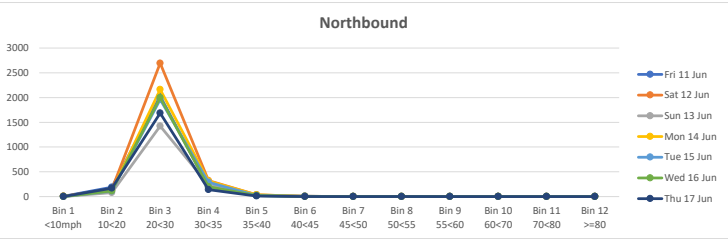
APPENDIX G: ATC Survey Results

Havant ATC, B & Q (20m)

Direction: Northbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Fri 11 Jun	2452	29.1	25.0	4.0	5	189	2030	193	25	7	2	1	0	0	0	0
Sat 12 Jun	3210	29.3	25.5	3.6	4	144	2695	323	34	6	2	2	0	0	0	0
Sun 13 Jun	1781	29.9	25.8	4.0	3	79	1424	236	32	7	0	0	0	0	0	0
Mon 14 Jun	2636	29.6	25.7	3.8	4	113	2162	314	34	5	3	1	0	0	0	0
Tue 15 Jun	2384	29.4	25.6	3.7	2	109	1961	286	20	4	0	2	0	0	0	0
Wed 16 Jun	2336	28.8	25.3	3.4	2	115	1998	197	20	3	1	0	0	0	0	0
Thu 17 Jun	2012	28.7	24.7	3.8	3	170	1686	138	13	1	0	1	0	0	0	0
5 Day Ave.	2364	29.1	25.3	3.7	3	139	1967	226	22	4	1	1	0	0	0	0
7 Day Ave.	2402	29.3	25.4	3.8	3	131	1994	241	25	5	1	1	0	0	0	0

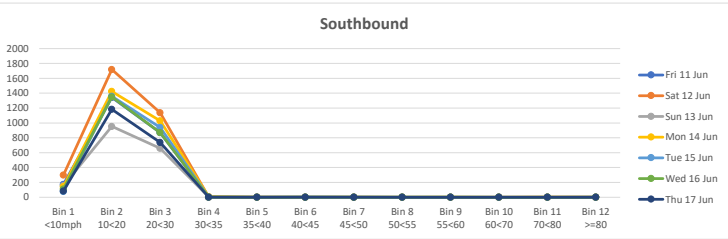
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Direction: Southbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Fri 11 Jun	2394	24.0	18.2	5.6	174	1343	870	4	2	1	0	0	0	0	0	0
Sat 12 Jun	3165	24.4	18.1	6.1	298	1719	1138	3	3	0	0	0	0	0	1	3
Sun 13 Jun	1776	24.3	18.2	5.9	157	954	658	5	1	0	0	0	0	0	0	1
Mon 14 Jun	2610	24.8	18.7	5.9	143	1423	1027	9	1	3	1	0	1	0	1	1
Tue 15 Jun	2381	24.4	18.8	5.4	79	1358	939	2	1	1	0	0	0	0	0	1
Wed 16 Jun	2342	24.3	18.5	5.6	111	1350	871	2	0	3	3	1	1	0	0	0
Thu 17 Jun	2008	23.9	18.4	5.3	83	1183	738	2	0	1	1	0	0	0	0	0
5 Day Ave.	2347	24.3	18.5	5.6	118	1331	889	4	1	2	1	0	0	0	0	0
7 Day Ave.	2382	24.3	18.4	5.7	149	1333	892	4	1	1	1	0	0	0	0	1

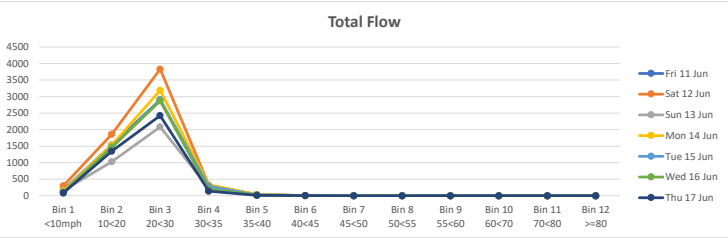
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Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<30	Bin 4 30<35	Bin 5 35<40	Bin 6 40<45	Bin 7 45<50	Bin 8 50<55	Bin 9 55<60	Bin 10 60<70	Bin 11 70<80	Bin 12 >=80
Fri 11 Jun	4846	27.8	21.6	5.9	179	1532	2900	197	27	8	2	1	0	0	0	0
Sat 12 Jun	6375	28.3	21.8	6.3	302	1863	3833	326	37	6	2	2	0	0	1	3
Sun 13 Jun	3557	28.6	22.0	6.3	160	1033	2082	241	33	7	0	0	0	0	0	1
Mon 14 Jun	5246	28.5	22.2	6.0	147	1536	3189	323	35	8	4	1	1	0	1	1
Tue 15 Jun	4765	28.2	22.2	5.8	81	1467	2900	288	21	5	0	2	0	0	0	1
Wed 16 Jun	4678	27.8	21.9	5.7	113	1465	2869	199	20	6	4	1	1	0	0	0
Thu 17 Jun	4020	27.4	21.6	5.6	86	1353	2424	140	13	2	1	1	0	0	0	0
5 Day Ave.	4711	27.9	21.9	5.8	121	1471	2856	229	23	6	2	1	0	0	0	0
7 Day Ave.	4784	28.1	21.9	5.9	153	1464	2885	245	27	6	2	1	0	0	0	1

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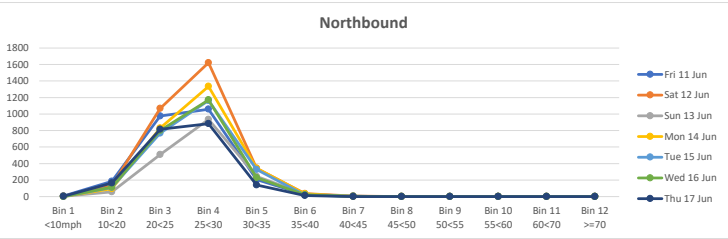


Havant ATC, B & Q (40m)

Direction: Northbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<25	Bin 4 25<30	Bin 5 30<35	Bin 6 35<40	Bin 7 40<45	Bin 8 45<50	Bin 9 50<55	Bin 10 55<60	Bin 11 60<70	Bin 12 >=70
Fri 11 Jun	2456	29.7	25.1	4.5	5	184	976	1058	205	24	4	0	0	0	0	0
Sat 12 Jun	3206	30.2	26.0	4.1	4	130	1067	1622	342	35	6	0	0	0	0	0
Sun 13 Jun	1781	30.9	26.5	4.2	4	57	508	935	244	29	4	0	0	0	0	0
Mon 14 Jun	2639	30.5	26.2	4.1	1	97	829	1335	344	32	1	0	0	0	0	0
Tue 15 Jun	2392	30.5	26.1	4.2	0	112	767	1164	327	18	3	1	0	0	0	0
Wed 16 Jun	2342	30.1	25.8	4.1	1	115	801	1171	229	22	3	0	0	0	0	0
Thu 17 Jun	2016	29.3	24.8	4.3	2	164	816	883	139	12	0	0	0	0	0	0
5 Day Ave.	2369	30.0	25.6	4.2	2	134	838	1122	249	22	2	0	0	0	0	0
7 Day Ave.	2405	30.2	25.8	4.2	2	123	823	1167	261	25	3	0	0	0	0	0

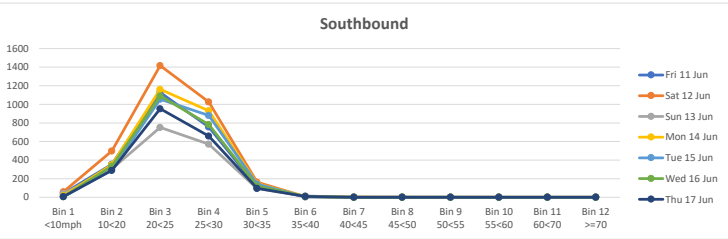
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Direction: Southbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<25	Bin 4 25<30	Bin 5 30<35	Bin 6 35<40	Bin 7 40<45	Bin 8 45<50	Bin 9 50<55	Bin 10 55<60	Bin 11 60<70	Bin 12 >=70
Fri 11 Jun	2397	28.4	23.2	5.0	40	354	1128	757	109	7	1	1	0	0	0	0
Sat 12 Jun	3171	28.5	23.2	5.1	59	498	1417	1027	162	7	1	0	0	0	0	0
Sun 13 Jun	1777	28.8	23.1	5.5	42	304	752	571	93	14	0	0	1	0	0	0
Mon 14 Jun	2615	28.7	23.8	4.7	17	349	1162	932	147	7	1	0	0	0	0	0
Tue 15 Jun	2382	28.7	24.0	4.6	7	295	1055	880	140	5	0	0	0	0	0	0
Wed 16 Jun	2344	28.5	23.6	4.7	6	333	1090	784	121	10	0	0	0	0	0	0
Thu 17 Jun	2011	28.4	23.6	4.6	6	288	953	659	96	9	0	0	0	0	0	0
5 Day Ave.	2350	28.5	23.7	4.7	15	324	1078	802	123	8	0	0	0	0	0	0
7 Day Ave.	2385	28.6	23.5	4.9	25	346	1080	801	124	8	0	0	0	0	0	0

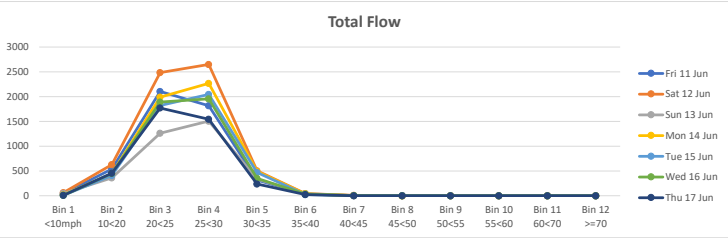
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Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<25	Bin 4 25<30	Bin 5 30<35	Bin 6 35<40	Bin 7 40<45	Bin 8 45<50	Bin 9 50<55	Bin 10 55<60	Bin 11 60<70	Bin 12 >=70
Fri 11 Jun	4853	29.2	24.2	4.8	45	538	2104	1815	314	31	5	1	0	0	0	0
Sat 12 Jun	6377	29.6	24.6	4.8	63	628	2484	2649	504	42	7	0	0	0	0	0
Sun 13 Jun	3558	30.2	24.8	5.1	46	361	1260	1506	337	43	4	0	1	0	0	0
Mon 14 Jun	5254	29.8	25.0	4.6	18	446	1991	2267	491	39	2	0	0	0	0	0
Tue 15 Jun	4774	29.7	25.0	4.5	7	407	1822	2044	467	23	3	1	0	0	0	0
Wed 16 Jun	4686	29.4	24.7	4.5	7	448	1891	1955	350	32	3	0	0	0	0	0
Thu 17 Jun	4027	28.9	24.2	4.5	8	452	1769	1542	235	21	0	0	0	0	0	0
5 Day Ave.	4719	29.4	24.6	4.6	17	458	1915	1925	371	29	3	0	0	0	0	0
7 Day Ave.	4790	29.5	24.7	4.7	28	469	1903	1968	385	33	3	0	0	0	0	0

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APPENDIX H: 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 (v4 May2021).j9

Path: H:\LIDL PurbrookWay.1 & 2.1\05 Calculations\Junction modelling\Picady - Site access

Report generation date: 28/05/2021 10:42:10

»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	5.47	0.06	A	437 %	D11	0.2	6.13	0.14	A	233 %	D16	0.3	7.32	0.20	A	84 %
Stream C-AB		0.1	5.99	0.09	A	[Stream C-AB]		0.3	6.54	0.18	A	[Stream C-AB]		0.7	6.67	0.31	A	[Stream C-AB]
	2025 + devt																	
Stream B-AC	D7	0.1	5.48	0.06	A	423 %	D12	0.2	6.16	0.14	A	225 %	D17	0.3	7.43	0.21	A	78 %
Stream C-AB		0.1	5.97	0.09	A	[Stream C-AB]		0.3	6.52	0.18	A	[Stream C-AB]		0.8	6.66	0.32	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	16/03/2021
Version	
Status	v3
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	16:15	17:45	15
D12	2025 + devt	PM	2025 flows + development	ONE HOUR	16:15	17:45	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		1.83	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	437	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	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
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)		✓	88	100.000
B - Lidl		✓	38	100.000
C - B&Q access road (S)		✓	150	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	88
	B - Lidl	0	0	38
	C - B&Q access road (S)	105	45	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	7
	B - Lidl	0	0	0
	C - B&Q access road (S)	7	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.06	5.47	0.1	A
C-AB	0.09	5.99	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	709	0.040	28	0.0	5.291	A
C-AB	39	644	0.060	38	0.1	5.936	A
C-A	74			74			
A-B	0			0			
A-C	66			66			

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	705	0.048	34	0.1	5.365	A
C-AB	47	652	0.073	47	0.1	5.952	A
C-A	87			87			
A-B	0			0			
A-C	79			79			

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	700	0.060	42	0.1	5.468	A
C-AB	60	662	0.091	60	0.1	5.979	A
C-A	105			105			
A-B	0			0			
A-C	97			97			

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	700	0.060	42	0.1	5.468	A
C-AB	60	662	0.091	60	0.1	5.989	A
C-A	105			105			
A-B	0			0			
A-C	97			97			

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	705	0.048	34	0.1	5.368	A
C-AB	47	652	0.073	47	0.1	5.971	A
C-A	87			87			
A-B	0			0			
A-C	79			79			

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	709	0.040	29	0.0	5.293	A
C-AB	39	644	0.060	39	0.1	5.949	A
C-A	74			74			
A-B	0			0			
A-C	66			66			

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		1.76	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	423	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)		✓	93	100.000
B - Lidl		✓	38	100.000
C - B&Q access road (S)		✓	156	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	93
	B - Lidl	0	0	38
	C - B&Q access road (S)	111	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	8
	B - Lidl	0	0	0
	C - B&Q access road (S)	7	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.06	5.48	0.1	A
C-AB	0.09	5.97	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	707	0.040	28	0.0	5.300	A
C-AB	39	646	0.060	39	0.1	5.920	A
C-A	79			79			
A-B	0			0			
A-C	70			70			

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	704	0.049	34	0.1	5.377	A
C-AB	48	654	0.073	48	0.1	5.933	A
C-A	92			92			
A-B	0			0			
A-C	84			84			

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	698	0.060	42	0.1	5.483	A
C-AB	61	664	0.091	61	0.1	5.957	A
C-A	111			111			
A-B	0			0			
A-C	102			102			

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	698	0.060	42	0.1	5.483	A
C-AB	61	664	0.092	61	0.1	5.965	A
C-A	111			111			
A-B	0			0			
A-C	102			102			

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	704	0.049	34	0.1	5.379	A
C-AB	48	654	0.073	48	0.1	5.952	A
C-A	92			92			
A-B	0			0			
A-C	84			84			

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	707	0.040	29	0.0	5.305	A
C-AB	39	646	0.060	39	0.1	5.936	A
C-A	78			78			
A-B	0			0			
A-C	70			70			

2020 + devt, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.71	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	233	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	16:15	17:45	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)		✓	149	100.000
B - Lidl		✓	88	100.000
C - B&Q access road (S)		✓	214	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	149
	B - Lidl	0	0	88
	C - B&Q access road (S)	129	85	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	0.14	6.13	0.2	A
C-AB	0.18	6.54	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

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	66	698	0.095	66	0.1	5.691	A
C-AB	75	650	0.116	75	0.2	6.253	A
C-A	86			86			
A-B	0			0			
A-C	112			112			

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	79	692	0.114	79	0.1	5.870	A
C-AB	93	658	0.141	93	0.2	6.366	A
C-A	100			100			
A-B	0			0			
A-C	134			134			

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	97	684	0.142	97	0.2	6.123	A
C-AB	119	670	0.178	119	0.3	6.532	A
C-A	117			117			
A-B	0			0			
A-C	164			164			

17:00 - 17:15

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	97	684	0.142	97	0.2	6.126	A
C-AB	119	670	0.178	119	0.3	6.539	A
C-A	117			117			
A-B	0			0			
A-C	164			164			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	79	692	0.114	79	0.1	5.875	A
C-AB	93	658	0.141	93	0.2	6.375	A
C-A	99			99			
A-B	0			0			
A-C	134			134			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	66	698	0.095	66	0.1	5.700	A
C-AB	75	650	0.116	76	0.2	6.272	A
C-A	86			86			
A-B	0			0			
A-C	112			112			

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		2.62	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	225	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	16:15	17:45	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 (%)
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A - B&Q access road (N)		✓	158	100.000
B - Lidl		✓	88	100.000
C - B&Q access road (S)		✓	222	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	158
	B - Lidl	0	0	88
	C - B&Q access road (S)	137	85	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)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.14	6.16	0.2	A
C-AB	0.18	6.52	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

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	66	696	0.095	66	0.1	5.710	A
C-AB	76	652	0.117	75	0.2	6.235	A
C-A	91			91			
A-B	0			0			
A-C	119			119			

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
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B-AC	79	690	0.115	79	0.1	5.894	A
C-AB	94	661	0.142	94	0.2	6.346	A
C-A	106			106			
A-B	0			0			
A-C	142			142			

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	97	681	0.142	97	0.2	6.155	A
C-AB	121	674	0.179	121	0.3	6.510	A
C-A	124			124			
A-B	0			0			
A-C	174			174			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	97	681	0.142	97	0.2	6.157	A
C-AB	121	674	0.179	121	0.3	6.515	A
C-A	124			124			
A-B	0			0			
A-C	174			174			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	79	690	0.115	79	0.1	5.897	A
C-AB	94	661	0.142	94	0.2	6.357	A
C-A	105			105			
A-B	0			0			
A-C	142			142			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	66	696	0.095	66	0.1	5.719	A
C-AB	76	652	0.117	76	0.2	6.254	A
C-A	91			91			
A-B	0			0			
A-C	119			119			

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
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1	untitled	T-Junction	Two-way		2.28	A
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Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	84	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	0.31	6.67	0.7	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	134	726	0.185	133	0.3	6.071	A
C-A	210			210			
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	176	751	0.235	176	0.5	6.268	A
C-A	236			236			
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	245	786	0.311	244	0.7	6.647	A
C-A	259			259			
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	245	787	0.312	245	0.7	6.674	A
C-A	259			259			
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	177	751	0.235	178	0.5	6.297	A
C-A	235			235			
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
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B-AC	86	652	0.132	86	0.2	6.366	A
C-AB	135	726	0.186	136	0.3	6.112	A
C-A	210			210			
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		2.24	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	78	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)

	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

From	To			
		A - B&Q access road (N)	B - Lidl	C - B&Q access road (S)
	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	0.32	6.66	0.8	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	138	734	0.189	137	0.3	6.030	A
C-A	223			223			
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	183	761	0.240	182	0.5	6.230	A
C-A	249			249			
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	256	799	0.321	255	0.8	6.631	A
C-A	272			272			
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
B-AC	126	610	0.206	126	0.3	7.432	A
C-AB	257	800	0.321	257	0.8	6.657	A
C-A	272			272			
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	183	761	0.240	184	0.5	6.265	A
C-A	248			248			
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	139	734	0.189	140	0.4	6.071	A
C-A	222			222			
A-B	0			0			
A-C	309			309			

APPENDIX I: ARCADY Output – A3(M) Roundabouts - Existing Arrangement

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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Filename: Arcady - Purbrook Way - Site access - A3(M) (v4 June2021) Existing geometry.j9
Path: H:\LIDL\PurbrookWay.1 & 2.1\05 Calculations\Junction modelling\Arcady - Purbrook Way dumbbell roundabouts
Report generation date: 10/06/2021 17:24:27

»Existing layout - 2020 base, AM
 »Existing layout - 2025 base, AM
 »Existing layout - 2025 base (no committed), AM
 »Existing layout - 2020 + devt, AM
 »Existing layout - 2025 + devt, AM
 »Existing layout - 2025 + devt (no committed), AM
 »Existing layout - 2020 base, PM
 »Existing layout - 2025 base, PM
 »Existing layout - 2025 base (no committed), PM
 »Existing layout - 2020 + devt, PM
 »Existing layout - 2025 + devt, PM
 »Existing layout - 2025 + devt (no committed), PM
 »Existing layout - 2020 base, SAT
 »Existing layout - 2025 base, SAT
 »Existing layout - 2025 base (no committed), SAT
 »Existing layout - 2025 + devt, SAT
 »Existing layout - 2020 + devt, SAT
 »Existing layout - 2025 + devt (no committed), SAT

Summary of junction performance

	AM						PM						SAT					
	Set ID	Queue (Veh)	Delay (s)	RF	LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RF	LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RF	LOS	Network Residual Capacity
Existing layout - 2020 base																		
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D1	0.7	28.40	0.43	D	1 %	D7	2.0	47.31	0.69	E	-2 %	D13	3.2	28.25	0.77	D	1 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		2.2	6.49	0.69	A	[1 - Eastern (B&Q) roundabout - 1 -		1.2	4.01	0.55	A	[1 - Eastern (B&Q) roundabout - 1 -		1.1	4.01	0.53	A	[1 - Eastern (B&Q) roundabout - 1 -
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		4.4	9.34	0.82	A			4.6	9.55	0.83	A			1.9	5.05	0.66	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.8	3.62	0.44	A			0.6	3.12	0.36	A			0.4	2.79	0.29	A	

2 - Western roundabout - 2 - A3(M) off-slip		1.1	4.78	0.53	A	B&Q / site]		3.5	9.45	0.78	A	B&Q / site]		0.9	3.73	0.48	A	B&Q / site]
2 - Western roundabout - 3 - Purbrook Way (W)		4.8	13.00	0.83	B			2.8	9.76	0.74	A			1.1	4.86	0.52	A	
	Existing layout - 2025 base																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D2	9.2	306.64	1.20	F	-7 %	D8	9.7	191.20	1.05	F	-5 %	D14	6.6	56.46	0.90	F	-3 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		3.9	11.09	0.80	B	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.7	5.09	0.63	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.4	4.47	0.58	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		13.0	24.55	0.94	C			7.2	14.29	0.89	B			2.4	5.87	0.71	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.9	3.90	0.48	A			0.7	3.37	0.40	A			0.4	2.86	0.31	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.7	6.24	0.63	A			8.7	21.72	0.91	C			1.1	4.08	0.52	A	
2 - Western roundabout - 3 - Purbrook Way (W)		42.3	85.61	1.03	F			4.7	14.72	0.83	B			1.3	5.45	0.56	A	
	Existing layout - 2025 base (no committed)																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D3	1.5	55.92	0.63	F	-2 %	D9	2.4	53.46	0.73	F	-2 %	D15	6.6	56.46	0.90	F	-3 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		2.9	8.14	0.75	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.4	4.35	0.58	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.4	4.47	0.58	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		6.5	13.09	0.87	B			4.6	9.67	0.83	A			2.4	5.87	0.71	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.9	3.82	0.47	A			0.6	3.23	0.38	A			0.4	2.86	0.31	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.4	5.49	0.58	A			3.8	10.28	0.80	B			1.1	4.08	0.52	A	
2 - Western roundabout - 3 - Purbrook Way (W)		8.1	20.94	0.90	C			2.8	9.76	0.74	A			1.3	5.45	0.56	A	
	Existing layout - 2020 + devt																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D4	1.3	36.25	0.59	E	-1 %	D10	4.3	64.50	0.85	F	-3 %	D17	11.4	78.02	0.96	F	-4 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		2.3	6.81	0.70	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.3	4.20	0.56	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.3	4.35	0.56	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		4.8	10.13	0.83	B			4.0	8.56	0.80	A			2.2	5.64	0.69	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.8	3.66	0.45	A			0.6	3.20	0.37	A			0.4	2.87	0.31	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.1	4.84	0.53	A			2.9	8.28	0.75	A			1.0	3.86	0.49	A	
2 - Western roundabout - 3 - Purbrook Way (W)		5.1	13.79	0.84	B			2.4	8.36	0.71	A			1.2	5.06	0.54	A	
	Existing layout - 2025 + devt																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D5	19.4	473.36	1.42	F	-9 %	D11	42.7	521.48	1.49	F	-9 %	D16	32.2	186.76	1.09	F	-8 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		4.1	11.57	0.81	B	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.8	5.30	0.64	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.5	4.78	0.60	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		14.5	27.23	0.95	D			9.1	17.94	0.91	C			2.7	6.66	0.74	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.9	3.90	0.48	A			0.7	3.38	0.41	A			0.5	2.92	0.32	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.7	6.27	0.63	A			9.0	22.27	0.91	C			1.1	4.20	0.53	A	
2 - Western roundabout - 3 - Purbrook Way (W)		48.3	95.23	1.04	F			5.4	16.54	0.85	C			1.4	5.70	0.59	A	
	Existing layout - 2025 + devt (no committed)																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D6	3.4	91.07	0.82	F	-4 %	D12	15.0	188.68	1.07	F	-6 %	D18	32.2	186.76	1.09	F	-8 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		3.1	8.63	0.76	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.5	4.62	0.60	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]		1.5	4.78	0.60	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		7.2	14.58	0.89	B			5.5	11.35	0.85	B			2.7	6.66	0.74	A	

2 - Western roundabout - 1 - Purbrook Way (E)	0.9	3.86	0.48	A	round about - 1 - B&Q / site]	0.6	3.29	0.39	A	round about - 1 - B&Q / site]	0.5	2.92	0.32	A	round about - 1 - B&Q / site]
2 - Western roundabout - 2 - A3(M) off-slip	1.4	5.56	0.58	A		4.0	10.84	0.81	B		1.1	4.20	0.53	A	
2 - Western roundabout - 3 - Purbrook Way (W)	8.9	22.86	0.91	C		3.1	10.56	0.76	B		1.4	5.70	0.59	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	16/03/2021
Version	
Status	v2
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

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 base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2025 base	AM	ONE HOUR	07:45	09:15	15	✓
D3	2025 base (no committed)	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	2025 + devt (no committed)	AM	ONE HOUR	07:45	09:15	15	✓
D7	2020 base	PM	ONE HOUR	16:15	17:45	15	✓
D8	2025 base	PM	ONE HOUR	16:15	17:45	15	✓
D9	2025 base (no committed)	PM	ONE HOUR	16:15	17:45	15	✓
D10	2020 + devt	PM	ONE HOUR	16:15	17:45	15	✓
D11	2025 + devt	PM	ONE HOUR	16:15	17:45	15	✓
D12	2025 + devt (no committed)	PM	ONE HOUR	16:15	17:45	15	✓
D13	2020 base	SAT	ONE HOUR	11:30	13:00	15	✓

D14	2025 base	SAT	ONE HOUR	11:30	13:00	15	✓
D15	2025 base (no committed)	SAT	ONE HOUR	11:30	13:00	15	✓
D16	2025 + devt	SAT	ONE HOUR	11:30	13:00	15	✓
D17	2020 + devt	SAT	ONE HOUR	11:30	13:00	15	✓
D18	2025 + devt (no committed)	SAT	ONE HOUR	11:30	13:00	15	✓

Analysis Set Details

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

Existing layout - 2020 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.

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	8.86	A
2	Western roundabout	Standard Roundabout		1, 2, 3	8.24	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	1 - Eastern (B&Q) roundabout - 1 - B&Q / site

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	E - Entry	I' - Effective	R - Entry	D - Inscribed	PHI - Conflict	Exit only
----------	-----	--------------	-----------	----------------	-----------	---------------	----------------	-----------

		road half-width (m)	width (m)	flare length (m)	radius (m)	circle diameter (m)	(entry) angle (deg)	
1 - Eastern (B&Q) roundabout	1 - B&Q / site	3.60	3.90	1.0	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	7.10	0.0	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	0.572	1236
	2 - Purbrook Way (E)	0.807	2357
	3 - A3(M) on-slip		
	4 - Purbrook Way (W)	0.761	2250
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

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 base	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	88	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1101	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	774	100.000

	3 - Purbrook Way (W)		ONE HOUR	✓	1248	100.000
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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	57	13	18
	2 - Purbrook Way (E)	37	0	385	679
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	68	940	541	15

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)	3	0	697
	2 - A3(M) off-slip	356	0	418
	3 - Purbrook Way (W)	1243	0	5

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	11	0	6
	2 - Purbrook Way (E)	3	0	1	3
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	7	4	4	7

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	3
	2 - A3(M) off-slip	4	0	1
	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.43	28.40	0.7	D	81	121
	2 - Purbrook Way (E)	0.69	6.49	2.2	A	1010	1515

	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.82	9.34	4.4	A	1456	2184
2 - Western roundabout	1 - Purbrook Way (E)	0.44	3.62	0.8	A	654	981
	2 - A3(M) off-slip	0.53	4.78	1.1	A	710	1065
	3 - Purbrook Way (W)	0.83	13.00	4.8	B	1145	1718

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	66	17	1133	518	0.128	66	79	0.0	0.1	7.948	A
	2 - Purbrook Way (E)	829	207	444	1940	0.427	826	755	0.0	0.7	3.225	A
	3 - A3(M) on-slip			562				708				
	4 - Purbrook Way (W)	1190	297	28	2140	0.556	1185	534	0.0	1.2	3.750	A
2 - Western roundabout	1 - Purbrook Way (E)	535	134	4	1779	0.301	533	1201	0.0	0.4	2.885	A
	2 - A3(M) off-slip	583	146	537	1806	0.323	581	0	0.0	0.5	2.934	A
	3 - Purbrook Way (W)	940	235	269	1744	0.539	935	848	0.0	1.2	4.425	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	79	20	1359	394	0.201	79	95	0.1	0.2	11.403	B
	2 - Purbrook Way (E)	990	247	533	1867	0.530	988	905	0.7	1.1	4.091	A
	3 - A3(M) on-slip			672				849				
	4 - Purbrook Way (W)	1424	356	33	2135	0.667	1421	639	1.2	2.0	5.019	A
2 - Western roundabout	1 - Purbrook Way (E)	640	160	4	1779	0.360	640	1437	0.4	0.6	3.158	A
	2 - A3(M) off-slip	696	174	644	1721	0.404	695	0	0.5	0.7	3.502	A
	3 - Purbrook Way (W)	1122	280	322	1704	0.659	1119	1017	1.2	1.9	6.126	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	97	24	1652	233	0.416	95	116	0.2	0.7	25.816	D

	2 - Purbrook Way (E)	1212	303	648	1773	0.684	1208	1100	1.1	2.1	6.332	A
	3 - A3(M) on-slip			822				1034				
	4 - Purbrook Way (W)	1736	434	41	2130	0.815	1727	781	2.0	4.2	8.753	A
2 - Western roundabout	1 - Purbrook Way (E)	782	196	5	1778	0.440	782	1752	0.6	0.8	3.609	A
	2 - A3(M) off-slip	852	213	787	1608	0.530	850	0	0.7	1.1	4.739	A
	3 - Purbrook Way (W)	1374	344	395	1649	0.833	1363	1243	1.9	4.6	12.153	B

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	97	24	1670	223	0.434	97	117	0.7	0.7	28.402	D
	2 - Purbrook Way (E)	1212	303	655	1767	0.686	1212	1112	2.1	2.2	6.486	A
	3 - A3(M) on-slip			825				1042				
	4 - Purbrook Way (W)	1747	437	41	2130	0.820	1746	784	4.2	4.4	9.345	A
2 - Western roundabout	1 - Purbrook Way (E)	785	196	6	1778	0.442	785	1763	0.8	0.8	3.625	A
	2 - A3(M) off-slip	852	213	791	1606	0.531	852	0	1.1	1.1	4.778	A
	3 - Purbrook Way (W)	1374	344	395	1648	0.834	1373	1248	4.6	4.8	13.003	B

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	79	20	1385	380	0.208	81	96	0.7	0.3	12.129	B
	2 - Purbrook Way (E)	990	247	543	1858	0.533	994	923	2.2	1.2	4.183	A
	3 - A3(M) on-slip			677				860				
	4 - Purbrook Way (W)	1439	360	33	2135	0.674	1448	643	4.4	2.1	5.308	A
2 - Western roundabout	1 - Purbrook Way (E)	644	161	5	1779	0.362	645	1452	0.8	0.6	3.177	A
	2 - A3(M) off-slip	696	174	650	1717	0.405	698	0	1.1	0.7	3.539	A
	3 - Purbrook Way (W)	1122	280	324	1703	0.659	1133	1024	4.8	2.0	6.441	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	66	17	1150	509	0.130	67	80	0.3	0.2	8.146	A

	2 - Purbrook Way (E)	829	207	451	1934	0.4 29	830	766	1.2	0.8	3.26 5	A
	3 - A3(M) on-slip			565				716				
	4 - Purbrook Way (W)	1199	300	28	2139	0.5 60	1202	537	2.1	1.3	3.85 3	A
2 - Western roundabout	1 - Purbrook Way (E)	538	135	4	1779	0.3 03	539	1210	0.6	0.4	2.90 2	A
	2 - A3(M) off-slip	583	146	543	1802	0.3 23	584	0	0.7	0.5	2.95 8	A
	3 - Purbrook Way (W)	940	235	271	1743	0.5 39	943	855	2.0	1.2	4.51 7	A

Existing layout - 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.

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	28.28	D
2	Western roundabout	Standard Roundabout		1, 2, 3	43.62	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-7	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)	Run automatically
D2	2025 base	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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
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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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	94	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1194	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	886	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1521	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	61	14	19
	2 - Purbrook Way (E)	39	0	411	744
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	72	1050	717	16

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)	3	0	763
	2 - A3(M) off-slip	379	0	507
	3 - Purbrook Way (W)	1515	0	6

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	11	0	5
	2 - Purbrook Way (E)	3	0	1	3
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	8	4	3	6

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	3
	2 - A3(M) off-slip	4	0	1
	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	1.20	306.64	9.2	F	86	129
	2 - Purbrook Way (E)	0.80	11.09	3.9	B	1096	1643
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.94	24.55	13.0	C	1729	2594
2 - Western roundabout	1 - Purbrook Way (E)	0.48	3.90	0.9	A	715	1073
	2 - A3(M) off-slip	0.63	6.24	1.7	A	813	1220
	3 - Purbrook Way (W)	1.03	85.61	42.3	F	1396	2094

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	71	18	1349	403	0.176	70	84	0.0	0.2	10.779	B
	2 - Purbrook Way (E)	899	225	579	1833	0.490	895	840	0.0	1.0	3.823	A
	3 - A3(M) on-slip			613				861				
	4 - Purbrook Way (W)	1411	353	29	2146	0.658	1404	584	0.0	1.9	4.803	A
2 - Western roundabout	1 - Purbrook Way (E)	585	146	4	1779	0.329	583	1420	0.0	0.5	3.004	A
	2 - A3(M) off-slip	667	167	587	1768	0.377	665	0	0.0	0.6	3.255	A
	3 - Purbrook Way (W)	1145	286	287	1731	0.662	1137	965	0.0	1.9	5.990	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	85	21	1615	257	0.328	83	100	0.2	0.5	20.560	C
	2 - Purbrook Way (E)	1073	268	693	1740	0.617	1071	1005	1.0	1.6	5.355	A
	3 - A3(M) on-slip			734				1030				
	4 - Purbrook Way (W)	1687	422	35	2142	0.788	1680	699	1.9	3.6	7.685	A
2 - Western roundabout	1 - Purbrook Way (E)	699	175	5	1778	0.393	699	1697	0.5	0.6	3.333	A
	2 - A3(M) off-slip	796	199	704	1676	0.475	795	0	0.6	0.9	4.085	A
	3 - Purbrook Way (W)	1367	342	343	1688	0.810	1359	1157	1.9	4.0	10.668	B

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	103	26	1882	111	0.933	90	119	0.5	3.9	130.099	F
	2 - Purbrook Way (E)	1315	329	805	1649	0.797	1306	1167	1.6	3.7	10.240	B
	3 - A3(M) on-slip			892				1220				
	4 - Purbrook Way (W)	1985	496	43	2136	0.929	1958	849	3.6	10.2	18.010	C
2 - Western roundabout	1 - Purbrook Way (E)	850	212	6	1778	0.478	849	1996	0.6	0.9	3.872	A
	2 - A3(M) off-slip	976	244	855	1556	0.627	972	0	0.9	1.7	6.135	A
	3 - Purbrook Way (W)	1675	419	419	1630	1.027	1583	1408	4.0	26.9	45.328	E

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	103	26	1927	86	1.197	82	121	3.9	9.2	306.639	F
	2 - Purbrook Way (E)	1315	329	821	1637	0.803	1314	1188	3.7	3.9	11.092	B
	3 - A3(M) on-slip			895				1239				
	4 - Purbrook Way (W)	2016	504	43	2136	0.944	2005	853	10.2	13.0	24.546	C
2 - Western roundabout	1 - Purbrook Way (E)	853	213	6	1778	0.480	853	2027	0.9	0.9	3.895	A
	2 - A3(M) off-slip	976	244	860	1552	0.628	975	0	1.7	1.7	6.236	A
	3 - Purbrook Way (W)	1675	419	421	1629	1.028	1613	1415	26.9	42.3	85.614	F

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	85	21	1798	157	0.538	116	108	9.2	1.4	115.651	F
	2 - Purbrook Way (E)	1073	268	780	1670	0.643	1082	1134	3.9	1.8	6.205	A
	3 - A3(M) on-slip			749				1113				
	4 - Purbrook Way (W)	1846	461	35	2142	0.862	1870	714	13.0	6.8	14.281	B
2 - Western roundabout	1 - Purbrook Way (E)	715	179	6	1778	0.402	716	1856	0.9	0.7	3.394	A
	2 - A3(M) off-slip	796	199	722	1662	0.479	799	0	1.7	0.9	4.188	A
	3 - Purbrook Way (W)	1367	342	345	1687	0.811	1518	1176	42.3	4.7	34.819	D

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	71	18	1394	379	0.187	75	86	1.4	0.2	12.036	B
	2 - Purbrook Way (E)	899	225	600	1817	0.495	902	870	1.8	1.0	3.951	A
	3 - A3(M) on-slip			619				882				
	4 - Purbrook Way (W)	1431	358	29	2146	0.667	1450	590	6.8	2.0	5.313	A
2 - Western roundabout	1 - Purbrook Way (E)	591	148	5	1779	0.332	591	1440	0.7	0.5	3.033	A
	2 - A3(M) off-slip	667	167	596	1761	0.379	668	0	0.9	0.6	3.296	A
	3 - Purbrook Way (W)	1145	286	288	1730	0.662	1156	976	4.7	2.0	6.389	A

Existing layout - 2025 base (no committed), 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	12.57	B

2	Western roundabout	Standard Roundabout		1, 2, 3	12.12	B
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Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-2	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)	Run automatically
D3	2025 base (no committed)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	94	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1174	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	825	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1331	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
From		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip	4 - Purbrook Way (W)
	1 - B&Q / site	0	61	14	19
	2 - Purbrook Way (E)	39	0	411	724
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	72	1002	576	16

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)	3	0	743
	2 - A3(M) off-slip	379	0	446
	3 - Purbrook Way (W)	1325	0	6

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	11	0	5
	2 - Purbrook Way (E)	3	0	1	3
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	8	4	4	6

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	3
	2 - A3(M) off-slip	4	0	1
	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.63	55.92	1.5	F	86	129
	2 - Purbrook Way (E)	0.75	8.14	2.9	A	1077	1616
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.87	13.09	6.5	B	1551	2326
2 - Western roundabout	1 - Purbrook Way (E)	0.47	3.82	0.9	A	697	1046
	2 - A3(M) off-slip	0.58	5.49	1.4	A	757	1136
	3 - Purbrook Way (W)	0.90	20.94	8.1	C	1221	1832

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand	Junction Arrivals	Circulating flow (Veh/hr)	Capacity	RFC	Throughput (Veh/hr)	Throughput (exit)	Start queue	End queue	Delay (s)	Unsignalised level
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		(Veh/ hr)	Is (Veh)		(Veh/h r)			side) (Veh/hr)	ue (Veh h)	(Veh h)		of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	71	18	1207	479	0.1 48	70	84	0.0	0.2	8.79 4	A
	2 - Purbrook Way (E)	884	221	473	1916	0.4 61	880	804	0.0	0.8	3.46 3	A
	3 - A3(M) on- slip			598				755				
	4 - Purbrook Way (W)	1267	317	29	2138	0.5 93	1261	569	0.0	1.4	4.07 9	A
2 - Western roundabout	1 - Purbrook Way (E)	570	142	4	1779	0.3 20	568	1279	0.0	0.5	2.97 0	A
	2 - A3(M) off- slip	621	155	573	1778	0.3 49	619	0	0.0	0.5	3.10 0	A
	3 - Purbrook Way (W)	1002	251	287	1731	0.5 79	997	905	0.0	1.4	4.86 7	A

08:00 - 08:15

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh h)	End que ue (Veh h)	Dela y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	85	21	1447	347	0.2 44	84	100	0.2	0.3	13.6 70	B
	2 - Purbrook Way (E)	1055	264	567	1839	0.5 74	1053	964	0.8	1.3	4.57 0	A
	3 - A3(M) on- slip			716				904				
	4 - Purbrook Way (W)	1516	379	35	2133	0.7 11	1512	681	1.4	2.4	5.75 7	A
2 - Western roundabout	1 - Purbrook Way (E)	682	170	5	1778	0.3 84	681	1530	0.5	0.6	3.28 0	A
	2 - A3(M) off- slip	742	185	687	1688	0.4 39	741	0	0.5	0.8	3.79 7	A
	3 - Purbrook Way (W)	1197	299	343	1688	0.7 09	1192	1084	1.4	2.4	7.20 5	A

08:15 - 08:30

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh h)	End que ue (Veh h)	Dela y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	103	26	1748	181	0.5 72	100	122	0.3	1.2	42.8 66	E
	2 - Purbrook Way (E)	1293	323	684	1743	0.7 42	1287	1164	1.3	2.8	7.89 5	A
	3 - A3(M) on- slip			874				1097				
	4 - Purbrook Way (W)	1841	460	43	2128	0.8 65	1827	831	2.4	5.9	11.4 74	B
2 - Western roundabout	1 - Purbrook Way (E)	832	208	7	1777	0.4 68	831	1858	0.6	0.9	3.80 2	A
	2 - A3(M) off- slip	908	227	838	1568	0.5 79	906	0	0.8	1.4	5.41 7	A
	3 - Purbrook Way (W)	1465	366	420	1630	0.8 99	1445	1324	2.4	7.4	17.8 20	C

08:30 - 08:45

Junction	Arm	Total Dema nd	Juncti on Arriva	Circulat ing flow (Veh/hr)	Capac ity	RF C	Through put (Veh/hr)	Through put (exit	Star t que	End que ue	Dela y (s)	Unsignali sed level
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		(Veh/ hr)	Is (Veh)		(Veh/ hr)			side) (Veh/hr)	ue (Veh)	(Veh)		of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	103	26	1777	165	0.6 27	102	123	1.2	1.5	55.9 19	F
	2 - Purbrook Way (E)	1293	323	696	1733	0.7 46	1292	1183	2.8	2.9	8.14 4	A
	3 - A3(M) on-slip			878				1110				
	4 - Purbrook Way (W)	1859	465	43	2127	0.8 74	1857	835	5.9	6.5	13.0 92	B
2 - Western roundabout	1 - Purbrook Way (E)	836	209	7	1777	0.4 71	836	1877	0.9	0.9	3.82 5	A
	2 - A3(M) off-slip	908	227	843	1564	0.5 81	908	0	1.4	1.4	5.48 7	A
	3 - Purbrook Way (W)	1465	366	421	1629	0.9 00	1463	1331	7.4	8.1	20.9 35	C

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	85	21	1491	322	0.2 62	89	103	1.5	0.4	15.7 23	C
	2 - Purbrook Way (E)	1055	264	585	1824	0.5 79	1061	995	2.9	1.4	4.75 3	A
	3 - A3(M) on-slip			723				924				
	4 - Purbrook Way (W)	1543	386	35	2133	0.7 23	1558	687	6.5	2.7	6.42 2	A
2 - Western roundabout	1 - Purbrook Way (E)	688	172	5	1778	0.3 87	689	1558	0.9	0.6	3.31 1	A
	2 - A3(M) off-slip	742	185	695	1681	0.4 41	744	0	1.4	0.8	3.84 9	A
	3 - Purbrook Way (W)	1197	299	345	1687	0.7 09	1219	1094	8.1	2.5	8.03 7	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	71	18	1227	467	0.1 51	72	85	0.4	0.2	9.11 0	A
	2 - Purbrook Way (E)	884	221	481	1910	0.4 63	886	818	1.4	0.9	3.52 2	A
	3 - A3(M) on-slip			603				764				
	4 - Purbrook Way (W)	1278	319	29	2138	0.5 98	1283	573	2.7	1.5	4.23 5	A
2 - Western roundabout	1 - Purbrook Way (E)	574	143	5	1779	0.3 23	574	1290	0.6	0.5	2.99 0	A
	2 - A3(M) off-slip	621	155	579	1773	0.3 50	622	0	0.8	0.5	3.13 2	A
	3 - Purbrook Way (W)	1002	251	288	1730	0.5 79	1007	913	2.5	1.4	5.00 8	A

Existing layout - 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	10.03	B
2	Western roundabout	Standard Roundabout		1, 2, 3	8.63	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-1	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)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	126	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1109	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				

	2 - A3(M) off-slip		ONE HOUR	✓	775	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1262	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	72	17	37
	2 - Purbrook Way (E)	55	0	384	670
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	95	930	539	15

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)	3	0	708
	2 - A3(M) off-slip	357	0	418
	3 - Purbrook Way (W)	1257	0	5

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	8	0	3
	2 - Purbrook Way (E)	2	0	1	3
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	5	4	4	7

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	3
	2 - A3(M) off-slip	4	0	1
	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.59	36.25	1.3	E	116	173
	2 - Purbrook Way (E)	0.70	6.81	2.3	A	1018	1526
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.83	10.13	4.8	B	1470	2206
2 - Western roundabout	1 - Purbrook Way (E)	0.45	3.66	0.8	A	663	994
	2 - A3(M) off-slip	0.53	4.84	1.1	A	711	1067
	3 - Purbrook Way (W)	0.84	13.79	5.1	B	1158	1737

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	95	24	1125	537	0.177	94	113	0.0	0.2	8.106	A
	2 - Purbrook Way (E)	835	209	460	1928	0.433	832	758	0.0	0.8	3.274	A
	3 - A3(M) on-slip			583				709				
	4 - Purbrook Way (W)	1202	300	41	2131	0.564	1196	542	0.0	1.3	3.831	A
2 - Western roundabout	1 - Purbrook Way (E)	542	136	4	1779	0.305	540	1212	0.0	0.4	2.902	A
	2 - A3(M) off-slip	583	146	544	1801	0.324	582	0	0.0	0.5	2.953	A
	3 - Purbrook Way (W)	950	238	270	1743	0.545	945	855	0.0	1.2	4.486	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	113	28	1349	411	0.276	113	136	0.2	0.4	12.047	B
	2 - Purbrook Way (E)	997	249	552	1853	0.538	995	910	0.8	1.2	4.191	A
	3 - A3(M) on-slip			697				850				
	4 - Purbrook Way (W)	1438	360	49	2125	0.677	1435	648	1.3	2.1	5.192	A
2 - Western roundabout	1 - Purbrook Way (E)	649	162	4	1779	0.365	648	1450	0.4	0.6	3.182	A
	2 - A3(M) off-slip	697	174	653	1715	0.406	696	0	0.5	0.7	3.529	A
	3 - Purbrook Way (W)	1135	284	323	1703	0.666	1131	1025	1.2	2.0	6.264	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue	End queue (Veh)	Delay (s)	Unsignalled level of service
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									(Veh)			
1 - Eastern (B&Q) roundabout	1 - B&Q / site	139	35	1638	247	0.561	135	165	0.4	1.2	31.330	D
	2 - Purbrook Way (E)	1221	305	670	1756	0.695	1217	1104	1.2	2.2	6.621	A
	3 - A3(M) on-slip			852				1035				
	4 - Purbrook Way (W)	1753	438	60	2117	0.828	1743	791	2.1	4.5	9.383	A
2 - Western roundabout	1 - Purbrook Way (E)	792	198	5	1778	0.446	791	1768	0.6	0.8	3.644	A
	2 - A3(M) off-slip	853	213	797	1601	0.533	851	0	0.7	1.1	4.792	A
	3 - Purbrook Way (W)	1389	347	396	1648	0.843	1378	1253	2.0	4.9	12.777	B

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	139	35	1657	236	0.587	138	167	1.2	1.3	36.249	E
	2 - Purbrook Way (E)	1221	305	678	1749	0.698	1221	1118	2.2	2.3	6.805	A
	3 - A3(M) on-slip			855				1043				
	4 - Purbrook Way (W)	1765	441	61	2117	0.834	1764	795	4.5	4.8	10.129	B
2 - Western roundabout	1 - Purbrook Way (E)	796	199	6	1778	0.447	796	1780	0.8	0.8	3.663	A
	2 - A3(M) off-slip	853	213	801	1597	0.534	853	0	1.1	1.1	4.837	A
	3 - Purbrook Way (W)	1389	347	396	1647	0.843	1389	1258	4.9	5.1	13.792	B

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	113	28	1377	395	0.287	117	138	1.3	0.4	13.119	B
	2 - Purbrook Way (E)	997	249	564	1843	0.541	1001	930	2.3	1.2	4.300	A
	3 - A3(M) on-slip			703				863				
	4 - Purbrook Way (W)	1455	364	50	2125	0.685	1465	653	4.8	2.2	5.540	A
2 - Western roundabout	1 - Purbrook Way (E)	654	163	5	1779	0.368	655	1467	0.8	0.6	3.207	A
	2 - A3(M) off-slip	697	174	659	1710	0.408	698	0	1.1	0.7	3.566	A
	3 - Purbrook Way (W)	1135	284	325	1702	0.667	1147	1033	5.1	2.0	6.622	A

09:00 - 09:15

Junction	Arm	Total Demand	Junction Arrivals	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue	End queue	Delay (s)	Unsignalled level of service
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		(Veh/ hr)	Is (Veh)						(Veh h)	(Veh h)		
1 - Eastern (B&Q) roundabout	1 - B&Q / site	95	24	1141	528	0.1 80	96	115	0.4	0.2	8.34 3	A
	2 - Purbrook Way (E)	835	209	467	1922	0.4 34	837	770	1.2	0.8	3.32 0	A
	3 - A3(M) on-slip			587				717				
	4 - Purbrook Way (W)	1211	303	41	2131	0.5 68	1214	545	2.2	1.3	3.94 3	A
2 - Western roundabout	1 - Purbrook Way (E)	546	136	4	1779	0.3 07	546	1221	0.6	0.4	2.92 2	A
	2 - A3(M) off-slip	583	146	550	1796	0.3 25	584	0	0.7	0.5	2.97 4	A
	3 - Purbrook Way (W)	950	238	271	1742	0.5 45	953	863	2.0	1.2	4.58 2	A

Existing layout - 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	40.16	E
2	Western roundabout	Standard Roundabout		1, 2, 3	48.29	E

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)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	132	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1202	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	887	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1535	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	76	18	38
	2 - Purbrook Way (E)	57	0	410	735
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	99	1040	715	16

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)	3	0	774
	2 - A3(M) off-slip	380	0	507
	3 - Purbrook Way (W)	1529	0	6

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	9	0	3
	2 - Purbrook Way (E)	2	0	1	3
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	6	4	3	6

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	3
	2 - A3(M) off-slip	4	0	1
	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	1.42	473.36	19.4	F	121	182
	2 - Purbrook Way (E)	0.81	11.57	4.1	B	1103	1654
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.95	27.23	14.5	D	1744	2616
2 - Western roundabout	1 - Purbrook Way (E)	0.48	3.90	0.9	A	724	1086
	2 - A3(M) off-slip	0.63	6.27	1.7	A	814	1221
	3 - Purbrook Way (W)	1.04	95.23	48.3	F	1409	2113

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	99	25	1340	416	0.239	98	118	0.0	0.3	11.278	B
	2 - Purbrook Way (E)	905	226	595	1821	0.497	901	844	0.0	1.0	3.895	A
	3 - A3(M) on-slip			634				862				
	4 - Purbrook Way (W)	1423	356	43	2137	0.666	1415	591	0.0	2.0	4.934	A
2 - Western roundabout	1 - Purbrook Way (E)	592	148	4	1779	0.333	590	1431	0.0	0.5	3.022	A

	2 - A3(M) off-slip	668	167	594	1763	0.379	665	0	0.0	0.6	3.274	A
	3 - Purbrook Way (W)	1156	289	287	1730	0.668	1148	972	0.0	2.0	6.099	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1604	269	0.441	117	141	0.3	0.8	23.396	C
	2 - Purbrook Way (E)	1081	270	711	1727	0.626	1078	1009	1.0	1.6	5.525	A
	3 - A3(M) on-slip			758				1031				
	4 - Purbrook Way (W)	1700	425	51	2131	0.798	1693	707	2.0	3.8	8.088	A
2 - Western roundabout	1 - Purbrook Way (E)	708	177	5	1778	0.398	707	1709	0.5	0.7	3.359	A
	2 - A3(M) off-slip	797	199	712	1669	0.478	796	0	0.6	0.9	4.118	A
	3 - Purbrook Way (W)	1380	345	344	1687	0.818	1371	1165	2.0	4.2	11.069	B

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	145	36	1858	127	1.147	115	166	0.8	8.3	192.686	F
	2 - Purbrook Way (E)	1323	331	816	1642	0.806	1314	1157	1.6	3.9	10.703	B
	3 - A3(M) on-slip			916				1214				
	4 - Purbrook Way (W)	1992	498	62	2123	0.938	1962	854	3.8	11.2	19.511	C
2 - Western roundabout	1 - Purbrook Way (E)	854	214	6	1778	0.481	853	2002	0.7	0.9	3.890	A
	2 - A3(M) off-slip	977	244	859	1553	0.629	974	0	0.9	1.7	6.184	A
	3 - Purbrook Way (W)	1690	423	420	1629	1.037	1588	1413	4.2	29.7	48.726	E

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	145	36	1901	102	1.418	101	169	8.3	19.4	473.363	F
	2 - Purbrook Way (E)	1323	331	828	1632	0.811	1323	1175	3.9	4.1	11.566	B
	3 - A3(M) on-slip			918				1233				
	4 - Purbrook Way (W)	2021	505	63	2122	0.952	2008	855	11.2	14.5	27.234	D
2 - Western roundabout	1 - Purbrook Way (E)	856	214	6	1778	0.481	856	2031	0.9	0.9	3.904	A

	2 - A3(M) off-slip	977	244	862	1551	0.630	977	0	1.7	1.7	6.267	A
	3 - Purbrook Way (W)	1690	423	422	1628	1.038	1616	1417	29.7	48.3	95.227	F

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1805	156	0.760	149	153	19.4	11.9	351.959	F
	2 - Purbrook Way (E)	1081	270	808	1648	0.656	1089	1146	4.1	1.9	6.540	A
	3 - A3(M) on-slip			777				1121				
	4 - Purbrook Way (W)	1882	471	52	2130	0.883	1906	725	14.5	8.4	17.385	C
2 - Western roundabout	1 - Purbrook Way (E)	726	181	6	1778	0.408	727	1892	0.9	0.7	3.429	A
	2 - A3(M) off-slip	797	199	733	1653	0.482	800	0	1.7	0.9	4.236	A
	3 - Purbrook Way (W)	1380	345	346	1686	0.818	1553	1187	48.3	5.1	44.933	E

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	99	25	1392	387	0.257	146	121	11.9	0.4	17.994	C
	2 - Purbrook Way (E)	905	226	636	1788	0.506	909	901	1.9	1.0	4.110	A
	3 - A3(M) on-slip			653				892				
	4 - Purbrook Way (W)	1445	361	43	2137	0.676	1470	610	8.4	2.1	5.594	A
2 - Western roundabout	1 - Purbrook Way (E)	611	153	5	1779	0.343	611	1452	0.7	0.5	3.086	A
	2 - A3(M) off-slip	668	167	616	1746	0.383	669	0	0.9	0.6	3.347	A
	3 - Purbrook Way (W)	1156	289	289	1729	0.668	1168	996	5.1	2.1	6.546	A

Existing layout - 2025 + devt (no committed), 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	15.71	C
2	Western roundabout	Standard Roundabout		1, 2, 3	13.04	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-4	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)	Run automatically
D6	2025 + devt (no committed)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	132	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1182	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	826	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1345	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	76	18	38
	2 - Purbrook Way (E)	57	0	410	715
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	99	992	574	16

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)	3	0	754
	2 - A3(M) off-slip	380	0	446
	3 - Purbrook Way (W)	1339	0	6

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	9	0	3
	2 - Purbrook Way (E)	2	0	1	3
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	6	4	4	6

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	3
	2 - A3(M) off-slip	4	0	1
	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.82	91.07	3.4	F	121	182
	2 - Purbrook Way (E)	0.76	8.63	3.1	A	1085	1627
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.89	14.58	7.2	B	1565	2348
2 - Western roundabout	1 - Purbrook Way (E)	0.48	3.86	0.9	A	706	1059
	2 - A3(M) off-slip	0.58	5.56	1.4	A	758	1137
	3 - Purbrook Way (W)	0.91	22.86	8.9	C	1234	1851

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	99	25	1198	493	0.201	98	118	0.0	0.2	9.093	A
	2 - Purbrook Way (E)	890	222	488	1905	0.467	886	808	0.0	0.9	3.523	A
	3 - A3(M) on-slip			619				755				
	4 - Purbrook Way (W)	1278	320	43	2129	0.601	1273	577	0.0	1.5	4.176	A
2 - Western roundabout	1 - Purbrook Way (E)	577	144	4	1779	0.324	575	1290	0.0	0.5	2.985	A
	2 - A3(M) off-slip	622	155	580	1773	0.351	620	0	0.0	0.5	3.118	A
	3 - Purbrook Way (W)	1013	253	287	1730	0.585	1007	912	0.0	1.4	4.940	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1436	360	0.330	118	141	0.2	0.5	14.822	B
	2 - Purbrook Way (E)	1063	266	585	1825	0.582	1061	968	0.9	1.4	4.695	A
	3 - A3(M) on-slip			741				905				
	4 - Purbrook Way (W)	1530	382	51	2123	0.721	1526	690	1.5	2.5	5.986	A
2 - Western roundabout	1 - Purbrook Way (E)	690	173	5	1778	0.388	690	1543	0.5	0.6	3.306	A
	2 - A3(M) off-slip	743	186	695	1681	0.442	742	0	0.5	0.8	3.828	A
	3 - Purbrook Way (W)	1209	302	344	1687	0.717	1205	1093	1.4	2.5	7.393	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	145	36	1732	193	0.751	138	171	0.5	2.4	58.580	F
	2 - Purbrook Way (E)	1301	325	704	1728	0.753	1295	1165	1.4	2.9	8.204	A
	3 - A3(M) on-slip			903				1096				
	4 - Purbrook Way (W)	1856	464	62	2114	0.878	1840	841	2.5	6.5	12.467	B

2 - Western roundabout	1 - Purbrook Way (E)	841	210	7	1777	0.473	840	1873	0.6	0.9	3.837	A
	2 - A3(M) off-slip	909	227	847	1561	0.582	907	0	0.8	1.4	5.482	A
	3 - Purbrook Way (W)	1481	370	421	1629	0.909	1458	1333	2.5	8.1	19.013	C

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	145	36	1763	176	0.825	141	173	2.4	3.4	91.066	F
	2 - Purbrook Way (E)	1301	325	717	1717	0.758	1301	1187	2.9	3.1	8.632	A
	3 - A3(M) on-slip			908				1110				
	4 - Purbrook Way (W)	1876	469	63	2114	0.887	1873	845	6.5	7.2	14.580	B
2 - Western roundabout	1 - Purbrook Way (E)	846	212	7	1777	0.476	846	1893	0.9	0.9	3.865	A
	2 - A3(M) off-slip	909	227	853	1557	0.584	909	0	1.4	1.4	5.561	A
	3 - Purbrook Way (W)	1481	370	422	1628	0.909	1478	1340	8.1	8.9	22.859	C

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1485	332	0.357	130	144	3.4	0.6	18.728	C
	2 - Purbrook Way (E)	1063	266	609	1806	0.588	1069	1006	3.1	1.4	4.927	A
	3 - A3(M) on-slip			751				927				
	4 - Purbrook Way (W)	1560	390	52	2122	0.735	1578	699	7.2	2.8	6.813	A
2 - Western roundabout	1 - Purbrook Way (E)	700	175	6	1778	0.393	701	1574	0.9	0.7	3.346	A
	2 - A3(M) off-slip	743	186	706	1673	0.444	745	0	1.4	0.8	3.890	A
	3 - Purbrook Way (W)	1209	302	345	1686	0.717	1234	1106	8.9	2.6	8.382	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	99	25	1219	481	0.206	101	119	0.6	0.3	9.485	A
	2 - Purbrook Way (E)	890	222	497	1898	0.469	892	822	1.4	0.9	3.590	A
	3 - A3(M) on-slip			624				765				
	4 - Purbrook Way (W)	1290	323	43	2129	0.606	1295	581	2.8	1.6	4.346	A

2 - Western roundabout	1 - Purbrook Way (E)	581	145	5	1779	0.3 27	582	1302	0.7	0.5	3.01 1	A
	2 - A3(M) off-slip	622	155	587	1767	0.3 52	623	0	0.8	0.5	3.15 1	A
	3 - Purbrook Way (W)	1013	253	289	1729	0.5 86	1017	921	2.6	1.4	5.09 1	A

Existing layout - 2020 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	9.61	A
2	Western roundabout	Standard Roundabout		1, 2, 3	8.24	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-2	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)	Run automatically
D7	2020 base	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	150	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	977	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1252	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	970	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	75	33	42
	2 - Purbrook Way (E)	73	6	368	530
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	56	1160	294	10

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)	2	0	609
	2 - A3(M) off-slip	650	0	602
	3 - Purbrook Way (W)	966	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	0	0	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)	0	2	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)	50	0	2
	2 - A3(M) off-slip	0	0	1
	3 - Purbrook Way (W)	2	0	25

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.69	47.31	2.0	E	138	206
	2 - Purbrook Way (E)	0.55	4.01	1.2	A	897	1345
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.83	9.55	4.6	A	1477	2215
2 - Western roundabout	1 - Purbrook Way (E)	0.36	3.12	0.6	A	533	799
	2 - A3(M) off-slip	0.78	9.45	3.5	A	1149	1723
	3 - Purbrook Way (W)	0.74	9.76	2.8	A	890	1335

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	113	28	1162	559	0.202	112	99	0.0	0.3	8.035	A
	2 - Purbrook Way (E)	736	184	296	2086	0.353	733	978	0.0	0.5	2.657	A
	3 - A3(M) on-slip			496				533				
	4 - Purbrook Way (W)	1207	302	59	2168	0.557	1202	437	0.0	1.2	3.708	A
2 - Western roundabout	1 - Purbrook Way (E)	436	109	3	1794	0.243	434	1213	0.0	0.3	2.646	A
	2 - A3(M) off-slip	943	236	437	1923	0.490	939	0	0.0	1.0	3.645	A
	3 - Purbrook Way (W)	730	183	489	1605	0.455	727	887	0.0	0.8	4.085	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	135	34	1394	424	0.318	134	119	0.3	0.5	12.373	B
	2 - Purbrook Way (E)	878	220	355	2038	0.431	877	1173	0.5	0.8	3.099	A
	3 - A3(M) on-slip			594				639				
	4 - Purbrook Way (W)	1445	361	71	2159	0.669	1442	523	1.2	2.0	4.997	A
2 - Western roundabout	1 - Purbrook Way (E)	521	130	4	1793	0.291	521	1451	0.3	0.4	2.829	A
	2 - A3(M) off-slip	1126	281	525	1853	0.607	1123	0	1.0	1.5	4.916	A
	3 - Purbrook Way (W)	872	218	585	1534	0.569	870	1063	0.8	1.3	5.408	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	165	41	1696	248	0.665	160	145	0.5	1.8	38.747	E
	2 - Purbrook Way (E)	1076	269	431	1978	0.544	1074	1425	0.8	1.2	3.975	A
	3 - A3(M) on-slip			726				779				
	4 - Purbrook Way (W)	1763	441	87	2147	0.821	1754	639	2.0	4.4	8.940	A
2 - Western roundabout	1 - Purbrook Way (E)	637	159	4	1793	0.355	636	1771	0.4	0.5	3.111	A
	2 - A3(M) off-slip	1378	345	641	1760	0.783	1371	0	1.5	3.5	9.071	A
	3 - Purbrook Way (W)	1068	267	714	1439	0.742	1062	1298	1.3	2.8	9.415	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	165	41	1713	238	0.693	164	146	1.8	2.0	47.312	E
	2 - Purbrook Way (E)	1076	269	436	1973	0.545	1076	1441	1.2	1.2	4.009	A
	3 - A3(M) on-slip			728				784				
	4 - Purbrook Way (W)	1773	443	87	2147	0.826	1772	641	4.4	4.6	9.545	A
2 - Western roundabout	1 - Purbrook Way (E)	639	160	4	1793	0.356	639	1781	0.5	0.6	3.120	A
	2 - A3(M) off-slip	1378	345	643	1758	0.784	1378	0	3.5	3.5	9.455	A
	3 - Purbrook Way (W)	1068	267	718	1436	0.744	1068	1304	2.8	2.8	9.761	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	135	34	1419	410	0.329	141	120	2.0	0.5	13.691	B
	2 - Purbrook Way (E)	878	220	364	2032	0.432	880	1196	1.2	0.8	3.132	A
	3 - A3(M) on-slip			598				646				
	4 - Purbrook Way (W)	1458	364	71	2159	0.675	1468	527	4.6	2.1	5.280	A
2 - Western roundabout	1 - Purbrook Way (E)	525	131	4	1793	0.293	525	1465	0.6	0.4	2.839	A
	2 - A3(M) off-slip	1126	281	529	1850	0.609	1133	0	3.5	1.6	5.079	A
	3 - Purbrook Way (W)	872	218	590	1530	0.570	878	1072	2.8	1.3	5.572	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	113	28	1179	550	0.205	114	100	0.5	0.3	8.281	A
	2 - Purbrook Way (E)	736	184	301	2082	0.353	736	992	0.8	0.5	2.676	A
	3 - A3(M) on-slip			499				538				
	4 - Purbrook Way (W)	1216	304	60	2168	0.561	1219	439	2.1	1.3	3.809	A
2 - Western roundabout	1 - Purbrook Way (E)	438	109	3	1794	0.244	438	1221	0.4	0.3	2.658	A
	2 - A3(M) off-slip	943	236	441	1920	0.491	945	0	1.6	1.0	3.701	A
	3 - Purbrook Way (W)	730	183	492	1602	0.456	732	894	1.3	0.8	4.148	A

Existing layout - 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	20.21	C
2	Western roundabout	Standard Roundabout		1, 2, 3	15.38	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-5	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)	Run automatically
D8	2025 base	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	158	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1084	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1392	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1086	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	79	34	45
		2 - Purbrook Way (E)	78	7	390	609
		3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
		4 - Purbrook Way (W)	59	1259	398	11

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)	2	0	657
	2 - A3(M) off-slip	650	0	742
	3 - Purbrook Way (W)	1082	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	0	0	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)	0	2	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)	50	0	2
	2 - A3(M) off-slip	0	0	1
	3 - Purbrook Way (W)	2	0	25

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	1.05	191.20	9.7	F	145	217
	2 - Purbrook Way (E)	0.63	5.09	1.7	A	995	1492
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.89	14.29	7.2	B	1584	2376
2 - Western roundabout	1 - Purbrook Way (E)	0.40	3.37	0.7	A	608	912
	2 - A3(M) off-slip	0.91	21.72	8.7	C	1277	1916
	3 - Purbrook Way (W)	0.83	14.72	4.7	B	997	1495

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand	Junction Arrivals	Circulating flow (Veh/hr)	Capacity	RFC	Throughput (Veh/hr)	Throughput (exit)	Start queue	End queue	Delay (s)	Unsignalised level
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		(Veh/ hr)	Is (Veh)		(Veh/h r)			side) (Veh/hr)	ue (Veh h)	(Veh h)		of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1249	509	0.2 34	118	103	0.0	0.3	9.18 3	A
	2 - Purbrook Way (E)	816	204	364	2031	0.4 02	813	1003	0.0	0.7	2.95 0	A
	3 - A3(M) on- slip			563				615				
	4 - Purbrook Way (W)	1294	324	64	2165	0.5 98	1288	499	0.0	1.5	4.07 9	A
2 - Western roundabout	1 - Purbrook Way (E)	497	124	3	1794	0.2 77	496	1299	0.0	0.4	2.77 1	A
	2 - A3(M) off- slip	1048	262	499	1873	0.5 60	1043	0	0.0	1.3	4.31 2	A
	3 - Purbrook Way (W)	818	204	489	1605	0.5 09	813	1053	0.0	1.0	4.52 4	A

16:30 - 16:45

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh h)	End que ue (Veh h)	Dela y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	142	36	1498	364	0.3 90	141	123	0.3	0.6	16.0 35	C
	2 - Purbrook Way (E)	974	244	436	1973	0.4 94	973	1202	0.7	1.0	3.59 5	A
	3 - A3(M) on- slip			673				736				
	4 - Purbrook Way (W)	1548	387	76	2156	0.7 18	1544	597	1.5	2.5	5.84 7	A
2 - Western roundabout	1 - Purbrook Way (E)	595	149	4	1793	0.3 32	594	1554	0.4	0.5	3.00 2	A
	2 - A3(M) off- slip	1251	313	598	1793	0.6 98	1247	0	1.3	2.3	6.54 4	A
	3 - Purbrook Way (W)	976	244	584	1534	0.6 36	974	1261	1.0	1.7	6.38 6	A

16:45 - 17:00

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh h)	End que ue (Veh h)	Dela y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	174	43	1809	183	0.9 51	156	149	0.6	5.2	99.0 86	F
	2 - Purbrook Way (E)	1194	298	519	1906	0.6 26	1191	1445	1.0	1.7	5.01 2	A
	3 - A3(M) on- slip			819				892				
	4 - Purbrook Way (W)	1881	470	93	2143	0.8 78	1865	725	2.5	6.5	12.2 86	B
2 - Western roundabout	1 - Purbrook Way (E)	723	181	4	1793	0.4 03	722	1888	0.5	0.7	3.36 1	A
	2 - A3(M) off- slip	1533	383	727	1691	0.9 07	1510	0	2.3	7.9	18.0 34	C
	3 - Purbrook Way (W)	1196	299	707	1444	0.8 28	1185	1529	1.7	4.4	13.3 79	B

17:00 - 17:15

Junction	Arm	Total Dema nd	Juncti on Arriva	Circulat ing flow (Veh/hr)	Capac ity	RF C	Through put (Veh/hr)	Through put (exit	Star t que	End que ue	Dela y (s)	Unsignal ised
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		(Veh/ hr)	Is (Veh)		(Veh/ hr)			side) (Veh/hr)	ue (Veh)	(Veh)		level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	174	43	1839	165	1.0 54	156	151	5.2	9.7	191.2 00	F
	2 - Purbrook Way (E)	1194	298	527	1900	0.6 28	1193	1468	1.7	1.7	5.092	A
	3 - A3(M) on- slip			821				900				
	4 - Purbrook Way (W)	1899	475	94	2143	0.8 86	1897	727	6.5	7.2	14.29 5	B
2 - Western roundabout	1 - Purbrook Way (E)	725	181	4	1793	0.4 04	725	1907	0.7	0.7	3.370	A
	2 - A3(M) off- slip	1533	383	729	1688	0.9 08	1530	0	7.9	8.7	21.71 7	C
	3 - Purbrook Way (W)	1196	299	716	1437	0.8 32	1195	1542	4.4	4.7	14.72 0	B

17:15 - 17:30

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Del ay (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	142	36	1546	336	0.4 23	178	125	9.7	0.8	27.7 98	D
	2 - Purbrook Way (E)	974	244	466	1949	0.5 00	977	1257	1.7	1.0	3.71 3	A
	3 - A3(M) on- slip			686				757				
	4 - Purbrook Way (W)	1576	394	77	2156	0.7 31	1594	610	7.2	2.8	6.59 9	A
2 - Western roundabout	1 - Purbrook Way (E)	608	152	4	1793	0.3 39	608	1582	0.7	0.5	3.03 8	A
	2 - A3(M) off- slip	1251	313	612	1782	0.7 02	1277	0	8.7	2.4	7.46 0	A
	3 - Purbrook Way (W)	976	244	598	1524	0.6 40	988	1291	4.7	1.8	6.85 1	A

17:30 - 17:45

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Del ay (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1271	496	0.2 40	121	104	0.8	0.3	9.63 9	A
	2 - Purbrook Way (E)	816	204	371	2026	0.4 03	817	1021	1.0	0.7	2.98 4	A
	3 - A3(M) on- slip			566				622				
	4 - Purbrook Way (W)	1306	326	64	2165	0.6 03	1311	502	2.8	1.5	4.23 9	A
2 - Western roundabout	1 - Purbrook Way (E)	500	125	3	1794	0.2 79	501	1311	0.5	0.4	2.78 4	A
	2 - A3(M) off- slip	1048	262	504	1869	0.5 61	1052	0	2.4	1.3	4.43 3	A
	3 - Purbrook Way (W)	818	204	493	1602	0.5 10	821	1063	1.8	1.1	4.62 7	A

Existing layout - 2025 base (no committed), 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	10.14	B
2	Western roundabout	Standard Roundabout		1, 2, 3	8.56	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-2	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)	Run automatically
D9	2025 base (no committed)	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	158	100.000

	2 - Purbrook Way (E)		ONE HOUR	✓	1037	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1252	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	970	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	79	34	45
	2 - Purbrook Way (E)	78	7	390	562
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	59	1229	312	11

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)	2	0	609
	2 - A3(M) off-slip	650	0	602
	3 - Purbrook Way (W)	966	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	0	0	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)	0	2	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)	50	0	2
	2 - A3(M) off-slip	0	0	1
	3 - Purbrook Way (W)	2	0	25

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.73	53.46	2.4	F	145	217
	2 - Purbrook Way (E)	0.58	4.35	1.4	A	952	1427
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.83	9.67	4.6	A	1477	2216
2 - Western roundabout	1 - Purbrook Way (E)	0.38	3.23	0.6	A	565	847
	2 - A3(M) off-slip	0.80	10.28	3.8	B	1149	1723
	3 - Purbrook Way (W)	0.74	9.76	2.8	A	890	1335

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1163	558	0.213	118	103	0.0	0.3	8.153	A
	2 - Purbrook Way (E)	781	195	300	2083	0.375	778	981	0.0	0.6	2.755	A
	3 - A3(M) on-slip			527				551				
	4 - Purbrook Way (W)	1207	302	64	2165	0.558	1202	464	0.0	1.2	3.721	A
2 - Western roundabout	1 - Purbrook Way (E)	462	116	3	1794	0.258	461	1213	0.0	0.3	2.698	A
	2 - A3(M) off-slip	943	236	464	1902	0.496	939	0	0.0	1.0	3.722	A
	3 - Purbrook Way (W)	730	183	489	1605	0.455	727	914	0.0	0.8	4.085	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	142	36	1395	423	0.335	141	123	0.3	0.5	12.714	B
	2 - Purbrook Way (E)	932	233	360	2035	0.458	931	1177	0.6	0.8	3.258	A
	3 - A3(M) on-slip			631				660				
	4 - Purbrook Way (W)	1445	361	76	2155	0.670	1442	555	1.2	2.0	5.026	A
2 - Western roundabout	1 - Purbrook Way (E)	553	138	4	1793	0.308	553	1451	0.3	0.4	2.901	A
	2 - A3(M) off-slip	1126	281	556	1828	0.616	1123	0	1.0	1.6	5.091	A
	3 - Purbrook Way (W)	872	218	585	1534	0.569	870	1094	0.8	1.3	5.409	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	174	43	1697	248	0.702	168	150	0.5	2.0	42.307	E
	2 - Purbrook Way (E)	1142	285	435	1974	0.578	1140	1429	0.8	1.4	4.303	A
	3 - A3(M) on-slip			771				804				
	4 - Purbrook Way (W)	1763	441	93	2142	0.823	1753	677	2.0	4.4	9.039	A
2 - Western roundabout	1 - Purbrook Way (E)	675	169	4	1793	0.377	675	1771	0.4	0.6	3.218	A
	2 - A3(M) off-slip	1378	345	679	1729	0.797	1370	0	1.6	3.7	9.787	A
	3 - Purbrook Way (W)	1068	267	713	1439	0.742	1062	1335	1.3	2.8	9.410	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	174	43	1715	237	0.733	172	151	2.0	2.4	53.464	F
	2 - Purbrook Way (E)	1142	285	441	1969	0.580	1142	1446	1.4	1.4	4.349	A
	3 - A3(M) on-slip			774				810				
	4 - Purbrook Way (W)	1773	443	94	2142	0.828	1772	680	4.4	4.6	9.673	A
2 - Western roundabout	1 - Purbrook Way (E)	678	169	4	1793	0.378	678	1781	0.6	0.6	3.228	A
	2 - A3(M) off-slip	1378	345	682	1727	0.798	1378	0	3.7	3.8	10.282	B
	3 - Purbrook Way (W)	1068	267	718	1436	0.744	1068	1342	2.8	2.8	9.763	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	142	36	1421	408	0.348	149	124	2.4	0.5	14.281	B
	2 - Purbrook Way (E)	932	233	369	2027	0.460	934	1201	1.4	0.9	3.298	A
	3 - A3(M) on-slip			636				668				
	4 - Purbrook Way (W)	1458	365	77	2155	0.677	1468	559	4.6	2.1	5.319	A
2 - Western roundabout	1 - Purbrook Way (E)	557	139	4	1793	0.311	558	1465	0.6	0.5	2.914	A
	2 - A3(M) off-slip	1126	281	561	1824	0.617	1134	0	3.8	1.6	5.288	A
	3 - Purbrook Way (W)	872	218	591	1529	0.570	878	1105	2.8	1.3	5.574	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1180	549	0.217	120	103	0.5	0.3	8.414	A
	2 - Purbrook Way (E)	781	195	304	2079	0.375	782	995	0.9	0.6	2.778	A
	3 - A3(M) on-slip			530				556				
	4 - Purbrook Way (W)	1216	304	64	2164	0.562	1219	466	2.1	1.3	3.824	A
2 - Western roundabout	1 - Purbrook Way (E)	465	116	3	1794	0.259	465	1221	0.5	0.4	2.709	A
	2 - A3(M) off-slip	943	236	468	1898	0.497	945	0	1.6	1.0	3.785	A
	3 - Purbrook Way (W)	730	183	492	1602	0.456	732	921	1.3	0.8	4.148	A

Existing layout - 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	11.74	B
2	Western roundabout	Standard Roundabout		1, 2, 3	7.17	A

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)	Run automatically
D10	2020 + devt	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
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✓	✓	HV Percentages	2.00
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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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	238	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	991	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1183	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	939	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	111	41	86
	2 - Purbrook Way (E)	107	6	365	513
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	107	1137	292	10

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)	2	0	601
	2 - A3(M) off-slip	615	0	568
	3 - Purbrook Way (W)	935	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
	1 - B&Q / site	0	0	0
	2 - Purbrook Way (E)	0	0	1
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only

4 - Purbrook Way (W)	0	2	1	0
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Heavy Vehicle Percentages

2 - Western roundabout

From	To		
		1 - Purbrook Way (E)	2 - A3(M) off-slip
	1 - Purbrook Way (E)	50	0
	2 - A3(M) off-slip	0	0
	3 - Purbrook Way (W)	2	0

3 - Purbrook Way (W)	25
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Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.85	64.50	4.3	F	218	328
	2 - Purbrook Way (E)	0.56	4.20	1.3	A	909	1364
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.80	8.56	4.0	A	1418	2127
2 - Western roundabout	1 - Purbrook Way (E)	0.37	3.20	0.6	A	556	834
	2 - A3(M) off-slip	0.75	8.28	2.9	A	1086	1628
	3 - Purbrook Way (W)	0.71	8.36	2.4	A	862	1292

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	179	45	1079	608	0.295	178	160	0.0	0.4	8.340	A
	2 - Purbrook Way (E)	746	187	320	2068	0.361	744	936	0.0	0.6	2.714	A
	3 - A3(M) on-slip			541				523				
	4 - Purbrook Way (W)	1159	290	85	2150	0.539	1154	457	0.0	1.2	3.600	A
2 - Western roundabout	1 - Purbrook Way (E)	455	114	3	1794	0.253	453	1164	0.0	0.3	2.683	A

	2 - A3(M) off-slip	891	223	456	1908	0.467	887	0	0.0	0.9	3.516	A
	3 - Purbrook Way (W)	707	177	463	1624	0.435	704	881	0.0	0.8	3.900	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	214	53	1294	482	0.444	212	192	0.4	0.8	13.270	B
	2 - Purbrook Way (E)	891	223	384	2017	0.442	890	1123	0.6	0.8	3.190	A
	3 - A3(M) on-slip			648				626				
	4 - Purbrook Way (W)	1387	347	101	2138	0.649	1385	546	1.2	1.8	4.763	A
2 - Western roundabout	1 - Purbrook Way (E)	544	136	4	1793	0.303	544	1393	0.3	0.4	2.881	A
	2 - A3(M) off-slip	1063	266	547	1835	0.580	1062	0	0.9	1.4	4.641	A
	3 - Purbrook Way (W)	844	211	554	1557	0.542	843	1055	0.8	1.2	5.029	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	262	66	1576	318	0.824	251	234	0.8	3.6	47.751	E
	2 - Purbrook Way (E)	1091	273	463	1953	0.559	1089	1364	0.8	1.3	4.156	A
	3 - A3(M) on-slip			790				763				
	4 - Purbrook Way (W)	1695	424	124	2121	0.799	1687	665	1.8	3.8	8.147	A
2 - Western roundabout	1 - Purbrook Way (E)	662	166	4	1793	0.370	662	1701	0.4	0.6	3.182	A
	2 - A3(M) off-slip	1303	326	666	1740	0.749	1296	0	1.4	2.9	8.013	A
	3 - Purbrook Way (W)	1034	258	676	1466	0.705	1029	1286	1.2	2.3	8.152	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	262	66	1590	310	0.846	259	236	3.6	4.3	64.500	F
	2 - Purbrook Way (E)	1091	273	471	1948	0.560	1091	1379	1.3	1.3	4.202	A
	3 - A3(M) on-slip			794				768				
	4 - Purbrook Way (W)	1702	425	124	2120	0.803	1701	669	3.8	4.0	8.565	A
2 - Western roundabout	1 - Purbrook Way (E)	666	167	4	1793	0.372	666	1708	0.6	0.6	3.195	A

	2 - A3(M) off-slip	1303	326	671	1736	0.750	1302	0	2.9	2.9	8.285	A
	3 - Purbrook Way (W)	1034	258	679	1464	0.706	1034	1294	2.3	2.4	8.356	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	214	53	1314	471	0.454	228	194	4.3	0.9	15.623	C
	2 - Purbrook Way (E)	891	223	396	2007	0.444	893	1146	1.3	0.8	3.234	A
	3 - A3(M) on-slip			655				634				
	4 - Purbrook Way (W)	1398	349	102	2137	0.654	1406	554	4.0	1.9	4.976	A
2 - Western roundabout	1 - Purbrook Way (E)	551	138	4	1793	0.307	551	1403	0.6	0.4	2.899	A
	2 - A3(M) off-slip	1063	266	555	1829	0.582	1070	0	2.9	1.4	4.780	A
	3 - Purbrook Way (W)	844	211	558	1554	0.543	849	1067	2.4	1.2	5.139	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	179	45	1093	599	0.299	181	162	0.9	0.4	8.636	A
	2 - Purbrook Way (E)	746	187	325	2064	0.361	747	949	0.8	0.6	2.734	A
	3 - A3(M) on-slip			545				527				
	4 - Purbrook Way (W)	1167	292	85	2150	0.543	1170	460	1.9	1.2	3.682	A
2 - Western roundabout	1 - Purbrook Way (E)	457	114	3	1794	0.255	458	1171	0.4	0.3	2.697	A
	2 - A3(M) off-slip	891	223	461	1904	0.468	893	0	1.4	0.9	3.568	A
	3 - Purbrook Way (W)	707	177	466	1622	0.436	709	888	1.2	0.8	3.950	A

Existing layout - 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	52.89	F
2	Western roundabout	Standard Roundabout		1, 2, 3	16.16	C

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)	Run automatically
D11	2025 + devt	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	246	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1098	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1394	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1110	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	115	42	89
	2 - Purbrook Way (E)	112	7	387	592
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	110	1236	396	11

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)	2	0	684
	2 - A3(M) off-slip	652	0	742
	3 - Purbrook Way (W)	1106	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	0	0	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)	0	2	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)	50	0	2
	2 - A3(M) off-slip	0	0	1
	3 - Purbrook Way (W)	2	0	25

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	1.49	521.48	42.7	F	226	339
	2 - Purbrook Way (E)	0.64	5.30	1.8	A	1008	1511
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.91	17.94	9.1	C	1609	2413
2 - Western roundabout	1 - Purbrook Way (E)	0.41	3.38	0.7	A	632	948
	2 - A3(M) off-slip	0.91	22.27	9.0	C	1279	1919
	3 - Purbrook Way (W)	0.85	16.54	5.4	C	1019	1528

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	185	46	1231	519	0.357	183	166	0.0	0.5	10.640	B
	2 - Purbrook Way (E)	827	207	401	2003	0.413	824	1013	0.0	0.7	3.046	A
	3 - A3(M) on-slip			608				617				
	4 - Purbrook Way (W)	1314	329	89	2147	0.612	1308	519	0.0	1.6	4.258	A
2 - Western roundabout	1 - Purbrook Way (E)	516	129	3	1794	0.288	515	1318	0.0	0.4	2.810	A
	2 - A3(M) off-slip	1049	262	518	1858	0.565	1044	0	0.0	1.3	4.399	A
	3 - Purbrook Way (W)	836	209	490	1604	0.521	831	1072	0.0	1.1	4.633	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	221	55	1475	377	0.587	218	199	0.5	1.3	22.206	C
	2 - Purbrook Way (E)	987	247	480	1939	0.509	986	1213	0.7	1.0	3.770	A
	3 - A3(M) on-slip			727				739				
	4 - Purbrook Way (W)	1572	393	107	2134	0.737	1568	620	1.6	2.7	6.301	A
2 - Western roundabout	1 - Purbrook Way (E)	618	154	4	1794	0.344	617	1577	0.4	0.5	3.058	A
	2 - A3(M) off-slip	1253	313	621	1775	0.706	1249	0	1.3	2.3	6.785	A
	3 - Purbrook Way (W)	998	249	586	1533	0.651	995	1284	1.1	1.8	6.650	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	271	68	1777	202	1.343	195	241	1.3	20.3	237.362	F
	2 - Purbrook Way (E)	1209	302	542	1889	0.640	1206	1430	1.0	1.7	5.246	A
	3 - A3(M) on-slip			863				885				
	4 - Purbrook Way (W)	1908	477	131	2116	0.902	1887	733	2.7	7.9	14.575	B

2 - Western roundabout	1 - Purbrook Way (E)	730	182	4	1793	0.407	729	1914	0.5	0.7	3.383	A
	2 - A3(M) off-slip	1535	384	734	1685	0.911	1511	0	2.3	8.2	18.634	C
	3 - Purbrook Way (W)	1222	306	709	1442	0.847	1209	1536	1.8	5.0	14.708	B

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	271	68	1811	182	1.490	181	244	20.3	42.7	521.476	F
	2 - Purbrook Way (E)	1209	302	543	1888	0.640	1209	1449	1.7	1.8	5.297	A
	3 - A3(M) on-slip			860				892				
	4 - Purbrook Way (W)	1929	482	131	2116	0.912	1924	729	7.9	9.1	17.940	C
2 - Western roundabout	1 - Purbrook Way (E)	727	182	4	1793	0.405	727	1935	0.7	0.7	3.376	A
	2 - A3(M) off-slip	1535	384	731	1687	0.910	1532	0	8.2	9.0	22.274	C
	3 - Purbrook Way (W)	1222	306	719	1435	0.852	1221	1545	5.0	5.4	16.536	C

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	221	55	1531	345	0.641	337	203	42.7	13.8	303.573	F
	2 - Purbrook Way (E)	987	247	557	1878	0.526	990	1311	1.8	1.1	4.064	A
	3 - A3(M) on-slip			773				774				
	4 - Purbrook Way (W)	1603	401	107	2134	0.751	1627	666	9.1	3.1	7.414	A
2 - Western roundabout	1 - Purbrook Way (E)	662	166	4	1793	0.369	663	1608	0.7	0.6	3.186	A
	2 - A3(M) off-slip	1253	313	666	1739	0.721	1278	0	9.0	2.7	8.222	A
	3 - Purbrook Way (W)	998	249	600	1523	0.655	1012	1345	5.4	1.9	7.224	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	185	46	1254	506	0.366	238	168	13.8	0.6	16.316	C
	2 - Purbrook Way (E)	827	207	436	1975	0.419	828	1056	1.1	0.7	3.143	A
	3 - A3(M) on-slip			631				634				
	4 - Purbrook Way (W)	1327	332	90	2147	0.618	1333	541	3.1	1.6	4.453	A

2 - Western roundabout	1 - Purbrook Way (E)	538	135	3	1794	0.300	539	1331	0.6	0.4	2.869	A
	2 - A3(M) off-slip	1049	262	542	1838	0.571	1055	0	2.7	1.3	4.625	A
	3 - Purbrook Way (W)	836	209	495	1600	0.522	839	1102	1.9	1.1	4.749	A

Existing layout - 2025 + devt (no committed), 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	23.60	C
2	Western roundabout	Standard Roundabout		1, 2, 3	9.05	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)	Run automatically
D12	2025 + devt (no committed)	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	246	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1051	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1254	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	994	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	115	42	89
	2 - Purbrook Way (E)	112	7	387	545
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	110	1206	310	11

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)	2	0	636
	2 - A3(M) off-slip	652	0	602
	3 - Purbrook Way (W)	990	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	0	0	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)	0	2	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)	50	0	2
	2 - A3(M) off-slip	0	0	1
	3 - Purbrook Way (W)	2	0	25

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	1.07	188.68	15.0	F	226	339
	2 - Purbrook Way (E)	0.60	4.62	1.5	A	964	1447
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.85	11.35	5.5	B	1502	2253
2 - Western roundabout	1 - Purbrook Way (E)	0.39	3.29	0.6	A	589	883
	2 - A3(M) off-slip	0.81	10.84	4.0	B	1151	1726
	3 - Purbrook Way (W)	0.76	10.56	3.1	B	912	1368

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	185	46	1145	569	0.325	183	166	0.0	0.5	9.288	A
	2 - Purbrook Way (E)	791	198	337	2054	0.385	789	991	0.0	0.6	2.838	A
	3 - A3(M) on-slip			573				553				
	4 - Purbrook Way (W)	1227	307	89	2147	0.572	1222	484	0.0	1.3	3.873	A
2 - Western roundabout	1 - Purbrook Way (E)	481	120	3	1794	0.268	480	1232	0.0	0.4	2.738	A
	2 - A3(M) off-slip	944	236	483	1887	0.500	940	0	0.0	1.0	3.789	A
	3 - Purbrook Way (W)	748	187	490	1604	0.467	745	933	0.0	0.9	4.175	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	221	55	1373	436	0.507	219	199	0.5	1.0	16.421	C
	2 - Purbrook Way (E)	945	236	404	2001	0.472	944	1188	0.6	0.9	3.402	A
	3 - A3(M) on-slip			685				662				
	4 - Purbrook Way (W)	1469	367	107	2133	0.688	1465	579	1.3	2.2	5.360	A
2 - Western roundabout	1 - Purbrook Way (E)	576	144	4	1793	0.321	575	1475	0.4	0.5	2.956	A
	2 - A3(M) off-slip	1127	282	579	1810	0.623	1125	0	1.0	1.6	5.237	A
	3 - Purbrook Way (W)	894	223	587	1533	0.583	892	1117	0.9	1.4	5.598	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	271	68	1668	265	1.023	240	243	1.0	8.6	99.591	F
	2 - Purbrook Way (E)	1157	289	477	1942	0.596	1155	1431	0.9	1.5	4.559	A
	3 - A3(M) on-slip			829				803				
	4 - Purbrook Way (W)	1792	448	131	2116	0.847	1780	698	2.2	5.1	10.364	B
2 - Western roundabout	1 - Purbrook Way (E)	695	174	4	1793	0.388	694	1799	0.5	0.6	3.275	A
	2 - A3(M) off-slip	1381	345	699	1714	0.806	1372	0	1.6	3.9	10.250	B
	3 - Purbrook Way (W)	1094	274	715	1438	0.761	1088	1355	1.4	3.0	10.102	B

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	271	68	1688	253	1.070	245	244	8.6	15.0	188.684	F
	2 - Purbrook Way (E)	1157	289	484	1937	0.597	1157	1449	1.5	1.5	4.617	A
	3 - A3(M) on-slip			832				809				
	4 - Purbrook Way (W)	1802	451	131	2115	0.852	1801	701	5.1	5.5	11.348	B
2 - Western roundabout	1 - Purbrook Way (E)	698	174	4	1793	0.389	698	1809	0.6	0.6	3.287	A
	2 - A3(M) off-slip	1381	345	702	1711	0.807	1380	0	3.9	4.0	10.842	B
	3 - Purbrook Way (W)	1094	274	720	1434	0.763	1094	1363	3.0	3.1	10.556	B

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	221	55	1402	419	0.5 27	276	201	15.0	1.2	34.9 58	D
	2 - Purbrook Way (E)	945	236	441	1972	0.4 79	947	1238	1.5	0.9	3.51 9	A
	3 - A3(M) on-slip			708				679				
	4 - Purbrook Way (W)	1484	371	107	2133	0.6 96	1496	601	5.5	2.3	5.76 3	A
2 - Western roundabout	1 - Purbrook Way (E)	598	150	4	1793	0.3 34	599	1490	0.6	0.5	3.01 3	A
	2 - A3(M) off-slip	1127	282	602	1791	0.6 29	1137	0	4.0	1.7	5.57 8	A
	3 - Purbrook Way (W)	894	223	593	1528	0.5 85	900	1146	3.1	1.4	5.79 9	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	185	46	1162	559	0.3 31	188	168	1.2	0.5	9.76 5	A
	2 - Purbrook Way (E)	791	198	343	2050	0.3 86	792	1007	0.9	0.6	2.86 8	A
	3 - A3(M) on-slip			577				559				
	4 - Purbrook Way (W)	1237	309	90	2146	0.5 76	1240	487	2.3	1.4	3.98 9	A
2 - Western roundabout	1 - Purbrook Way (E)	485	121	3	1794	0.2 70	486	1241	0.5	0.4	2.75 2	A
	2 - A3(M) off-slip	944	236	489	1882	0.5 02	947	0	1.7	1.0	3.86 2	A
	3 - Purbrook Way (W)	748	187	494	1601	0.4 67	751	942	1.4	0.9	4.24 4	A

Existing layout - 2020 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	8.14	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	1	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)	Run automatically
D13	2020 base	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	385	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	935	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	817	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	727	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	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.77	28.25	3.2	D	353	530
	2 - Purbrook Way (E)	0.53	4.01	1.1	A	858	1287
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.66	5.05	1.9	A	1149	1724
2 - Western roundabout	1 - Purbrook Way (E)	0.29	2.79	0.4	A	436	654
	2 - A3(M) off-slip	0.48	3.73	0.9	A	750	1125
	3 - Purbrook Way (W)	0.52	4.86	1.1	A	667	1001

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand	Junction Arrivals	Circulating flow (Veh/hr)	Capacity	RFC	Throughput (Veh/hr)	Throughput (exit)	Start queue	End queue	Delay (s)	Unsignalled level
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		(Veh/ hr)	Is (Veh)		(Veh/h r)			side) (Veh/hr)	ue (Veh h)	(Veh h)		of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	290	72	805	767	0.3 78	287	257	0.0	0.6	7.46 8	A
	2 - Purbrook Way (E)	704	176	345	2057	0.3 42	702	747	0.0	0.5	2.65 3	A
	3 - A3(M) on- slip			480				567				
	4 - Purbrook Way (W)	940	235	125	2136	0.4 40	937	355	0.0	0.8	2.99 6	A
2 - Western roundabout	1 - Purbrook Way (E)	357	89	3	1815	0.1 97	356	937	0.0	0.2	2.46 6	A
	2 - A3(M) off- slip	615	154	359	1999	0.3 08	613	0	0.0	0.4	2.59 4	A
	3 - Purbrook Way (W)	547	137	395	1676	0.3 27	545	577	0.0	0.5	3.17 7	A

11:45 - 12:00

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh h)	End que ue (Veh h)	Dela y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	346	87	965	675	0.5 13	344	308	0.6	1.0	10.8 35	B
	2 - Purbrook Way (E)	841	210	414	2002	0.4 20	840	896	0.5	0.7	3.09 6	A
	3 - A3(M) on- slip			574				679				
	4 - Purbrook Way (W)	1125	281	150	2117	0.5 31	1124	424	0.8	1.1	3.62 0	A
2 - Western roundabout	1 - Purbrook Way (E)	427	107	4	1814	0.2 35	427	1122	0.2	0.3	2.59 4	A
	2 - A3(M) off- slip	734	184	430	1942	0.3 78	734	0	0.4	0.6	2.97 7	A
	3 - Purbrook Way (W)	654	163	472	1619	0.4 04	653	692	0.5	0.7	3.72 1	A

12:00 - 12:15

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh h)	End que ue (Veh h)	Dela y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	424	106	1180	551	0.7 69	416	377	1.0	3.0	25.3 20	D
	2 - Purbrook Way (E)	1029	257	503	1930	0.5 33	1028	1093	0.7	1.1	3.98 3	A
	3 - A3(M) on- slip			702				829				
	4 - Purbrook Way (W)	1377	344	184	2091	0.6 58	1374	518	1.1	1.9	4.99 5	A
2 - Western roundabout	1 - Purbrook Way (E)	521	130	4	1814	0.2 87	521	1373	0.3	0.4	2.78 4	A
	2 - A3(M) off- slip	900	225	525	1867	0.4 82	898	0	0.6	0.9	3.71 1	A
	3 - Purbrook Way (W)	800	200	578	1541	0.5 19	799	845	0.7	1.1	4.84 0	A

12:15 - 12:30

Junction	Arm	Total Dema nd	Juncti on Arriva	Circulat ing flow (Veh/hr)	Capac ity	RF C	Through put (Veh/hr)	Through put (exit	Star t que	End que ue	Dela y (s)	Unsignali sed level
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		(Veh/ hr)	Is (Veh)		(Veh/ hr)			side) (Veh/hr)	ue (Veh)	(Veh)		of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	424	106	1185	549	0.7 73	423	378	3.0	3.2	28.2 51	D
	2 - Purbrook Way (E)	1029	257	508	1926	0.5 34	1029	1100	1.1	1.1	4.01 4	A
	3 - A3(M) on- slip			704				833				
	4 - Purbrook Way (W)	1379	345	184	2091	0.6 60	1379	521	1.9	1.9	5.05 5	A
2 - Western roundabout	1 - Purbrook Way (E)	524	131	4	1814	0.2 89	524	1375	0.4	0.4	2.78 9	A
	2 - A3(M) off- slip	900	225	528	1865	0.4 82	900	0	0.9	0.9	3.72 8	A
	3 - Purbrook Way (W)	800	200	579	1540	0.5 20	800	848	1.1	1.1	4.86 5	A

12:30 - 12:45

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/h r)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Del ay (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	346	87	972	671	0.5 16	354	310	3.2	1.1	11.6 58	B
	2 - Purbrook Way (E)	841	210	421	1996	0.4 21	842	906	1.1	0.7	3.12 2	A
	3 - A3(M) on- slip			578				684				
	4 - Purbrook Way (W)	1129	282	150	2117	0.5 33	1132	428	1.9	1.2	3.66 8	A
2 - Western roundabout	1 - Purbrook Way (E)	430	108	4	1814	0.2 37	431	1125	0.4	0.3	2.60 4	A
	2 - A3(M) off- slip	734	184	434	1939	0.3 79	736	0	0.9	0.6	2.99 4	A
	3 - Purbrook Way (W)	654	163	474	1618	0.4 04	655	696	1.1	0.7	3.74 6	A

12:45 - 13:00

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/h r)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Del ay (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	290	72	812	763	0.3 80	292	259	1.1	0.6	7.67 4	A
	2 - Purbrook Way (E)	704	176	349	2054	0.3 43	705	755	0.7	0.5	2.67 1	A
	3 - A3(M) on- slip			483				571				
	4 - Purbrook Way (W)	944	236	126	2135	0.4 42	946	357	1.2	0.8	3.03 1	A
2 - Western roundabout	1 - Purbrook Way (E)	359	90	3	1815	0.1 98	359	942	0.3	0.2	2.47 3	A
	2 - A3(M) off- slip	615	154	362	1996	0.3 08	616	0	0.6	0.4	2.61 0	A
	3 - Purbrook Way (W)	547	137	396	1675	0.3 27	548	582	0.7	0.5	3.19 8	A

Existing layout - 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	12.91	B
2	Western roundabout	Standard Roundabout		1, 2, 3	4.29	A

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)	Run automatically
D14	2025 base	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	410	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	995	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				

	2 - A3(M) off-slip		ONE HOUR	✓	870	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	774	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	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			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	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				
		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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.90	56.46	6.6	F	376	564
	2 - Purbrook Way (E)	0.58	4.47	1.4	A	913	1370
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.71	5.87	2.4	A	1223	1835
2 - Western roundabout	1 - Purbrook Way (E)	0.31	2.86	0.4	A	464	696
	2 - A3(M) off-slip	0.52	4.08	1.1	A	798	1197
	3 - Purbrook Way (W)	0.56	5.45	1.3	A	710	1065

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	309	77	857	737	0.419	306	274	0.0	0.7	8.295	A
	2 - Purbrook Way (E)	749	187	367	2039	0.367	747	796	0.0	0.6	2.781	A
	3 - A3(M) on-slip			511				603				
	4 - Purbrook Way (W)	1001	250	134	2129	0.470	997	377	0.0	0.9	3.171	A
2 - Western roundabout	1 - Purbrook Way (E)	379	95	3	1815	0.209	378	998	0.0	0.3	2.505	A
	2 - A3(M) off-slip	655	164	381	1981	0.331	653	0	0.0	0.5	2.707	A
	3 - Purbrook Way (W)	583	146	420	1658	0.352	581	614	0.0	0.5	3.335	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	369	92	1028	639	0.577	366	328	0.7	1.3	13.082	B
	2 - Purbrook Way (E)	894	224	440	1981	0.452	894	954	0.6	0.8	3.308	A
	3 - A3(M) on-slip			611				723				
	4 - Purbrook Way (W)	1198	299	160	2109	0.568	1196	451	0.9	1.3	3.935	A
2 - Western roundabout	1 - Purbrook Way (E)	454	113	4	1814	0.250	454	1194	0.3	0.3	2.645	A
	2 - A3(M) off-slip	782	196	457	1921	0.407	781	0	0.5	0.7	3.157	A
	3 - Purbrook Way (W)	696	174	503	1597	0.436	695	736	0.5	0.8	3.988	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue	End queue (Veh)	Delay (s)	Unsignalled level of service
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									(Veh)			
1 - Eastern (B&Q) roundabout	1 - B&Q / site	451	113	1256	508	0.889	435	401	1.3	5.5	42.214	E
	2 - Purbrook Way (E)	1096	274	531	1907	0.574	1093	1159	0.8	1.3	4.411	A
	3 - A3(M) on-slip			744				880				
	4 - Purbrook Way (W)	1466	366	196	2082	0.704	1462	549	1.3	2.3	5.764	A
2 - Western roundabout	1 - Purbrook Way (E)	552	138	4	1814	0.304	552	1461	0.3	0.4	2.852	A
	2 - A3(M) off-slip	958	239	556	1842	0.520	956	0	0.7	1.1	4.055	A
	3 - Purbrook Way (W)	852	213	616	1513	0.563	850	897	0.8	1.3	5.412	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	451	113	1262	504	0.895	447	402	5.5	6.6	56.461	F
	2 - Purbrook Way (E)	1096	274	539	1901	0.576	1095	1170	1.3	1.4	4.469	A
	3 - A3(M) on-slip			749				886				
	4 - Purbrook Way (W)	1469	367	196	2082	0.705	1469	553	2.3	2.4	5.866	A
2 - Western roundabout	1 - Purbrook Way (E)	556	139	4	1814	0.307	556	1464	0.4	0.4	2.861	A
	2 - A3(M) off-slip	958	239	560	1839	0.521	958	0	1.1	1.1	4.085	A
	3 - Purbrook Way (W)	852	213	617	1513	0.563	852	902	1.3	1.3	5.449	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	369	92	1037	634	0.582	389	330	6.6	1.4	15.862	C
	2 - Purbrook Way (E)	894	224	454	1969	0.454	897	972	1.4	0.8	3.361	A
	3 - A3(M) on-slip			619				732				
	4 - Purbrook Way (W)	1202	301	160	2109	0.570	1206	458	2.4	1.3	4.006	A
2 - Western roundabout	1 - Purbrook Way (E)	461	115	4	1814	0.254	461	1199	0.4	0.3	2.660	A
	2 - A3(M) off-slip	782	196	465	1915	0.408	784	0	1.1	0.7	3.188	A
	3 - Purbrook Way (W)	696	174	504	1595	0.436	698	744	1.3	0.8	4.019	A

12:45 - 13:00

Junction	Arm	Total Demand	Junction Arrivals	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue	End queue	Delay (s)	Unsignalled level of service
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		(Veh/ hr)	Is (Veh)						(Veh h)	(Veh h)		
1 - Eastern (B&Q) roundabout	1 - B&Q / site	309	77	866	732	0.4 22	311	276	1.4	0.7	8.61 4	A
	2 - Purbrook Way (E)	749	187	372	2035	0.3 68	750	805	0.8	0.6	2.80 3	A
	3 - A3(M) on-slip			514				609				
	4 - Purbrook Way (W)	1006	251	134	2129	0.4 72	1007	380	1.3	0.9	3.21 4	A
2 - Western roundabout	1 - Purbrook Way (E)	382	95	3	1815	0.2 10	382	1003	0.3	0.3	2.51 3	A
	2 - A3(M) off-slip	655	164	385	1978	0.3 31	656	0	0.7	0.5	2.72 3	A
	3 - Purbrook Way (W)	583	146	422	1656	0.3 52	584	619	0.8	0.5	3.36 1	A

Existing layout - 2025 base (no committed), 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	12.91	B
2	Western roundabout	Standard Roundabout		1, 2, 3	4.29	A

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)	Run automatically
D15	2025 base (no committed)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	410	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	995	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	870	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	774	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	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			
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)	2	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.90	56.46	6.6	F	376	564
	2 - Purbrook Way (E)	0.58	4.47	1.4	A	913	1370
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.71	5.87	2.4	A	1223	1835
2 - Western roundabout	1 - Purbrook Way (E)	0.31	2.86	0.4	A	464	696
	2 - A3(M) off-slip	0.52	4.08	1.1	A	798	1197
	3 - Purbrook Way (W)	0.56	5.45	1.3	A	710	1065

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	309	77	857	737	0.419	306	274	0.0	0.7	8.295	A
	2 - Purbrook Way (E)	749	187	367	2039	0.367	747	796	0.0	0.6	2.781	A
	3 - A3(M) on-slip			511				603				
	4 - Purbrook Way (W)	1001	250	134	2129	0.470	997	377	0.0	0.9	3.171	A
2 - Western roundabout	1 - Purbrook Way (E)	379	95	3	1815	0.209	378	998	0.0	0.3	2.505	A

	2 - A3(M) off-slip	655	164	381	1981	0.331	653	0	0.0	0.5	2.707	A
	3 - Purbrook Way (W)	583	146	420	1658	0.352	581	614	0.0	0.5	3.335	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	369	92	1028	639	0.577	366	328	0.7	1.3	13.082	B
	2 - Purbrook Way (E)	894	224	440	1981	0.452	894	954	0.6	0.8	3.308	A
	3 - A3(M) on-slip			611				723				
	4 - Purbrook Way (W)	1198	299	160	2109	0.568	1196	451	0.9	1.3	3.935	A
2 - Western roundabout	1 - Purbrook Way (E)	454	113	4	1814	0.250	454	1194	0.3	0.3	2.645	A
	2 - A3(M) off-slip	782	196	457	1921	0.407	781	0	0.5	0.7	3.157	A
	3 - Purbrook Way (W)	696	174	503	1597	0.436	695	736	0.5	0.8	3.988	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	451	113	1256	508	0.889	435	401	1.3	5.5	42.214	E
	2 - Purbrook Way (E)	1096	274	531	1907	0.574	1093	1159	0.8	1.3	4.411	A
	3 - A3(M) on-slip			744				880				
	4 - Purbrook Way (W)	1466	366	196	2082	0.704	1462	549	1.3	2.3	5.764	A
2 - Western roundabout	1 - Purbrook Way (E)	552	138	4	1814	0.304	552	1461	0.3	0.4	2.852	A
	2 - A3(M) off-slip	958	239	556	1842	0.520	956	0	0.7	1.1	4.055	A
	3 - Purbrook Way (W)	852	213	616	1513	0.563	850	897	0.8	1.3	5.412	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	451	113	1262	504	0.895	447	402	5.5	6.6	56.461	F
	2 - Purbrook Way (E)	1096	274	539	1901	0.576	1095	1170	1.3	1.4	4.469	A
	3 - A3(M) on-slip			749				886				
	4 - Purbrook Way (W)	1469	367	196	2082	0.705	1469	553	2.3	2.4	5.866	A
2 - Western roundabout	1 - Purbrook Way (E)	556	139	4	1814	0.307	556	1464	0.4	0.4	2.861	A

	2 - A3(M) off-slip	958	239	560	1839	0.521	958	0	1.1	1.1	4.085	A
	3 - Purbrook Way (W)	852	213	617	1513	0.563	852	902	1.3	1.3	5.449	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	369	92	1037	634	0.582	389	330	6.6	1.4	15.862	C
	2 - Purbrook Way (E)	894	224	454	1969	0.454	897	972	1.4	0.8	3.361	A
	3 - A3(M) on-slip			619				732				
	4 - Purbrook Way (W)	1202	301	160	2109	0.570	1206	458	2.4	1.3	4.006	A
2 - Western roundabout	1 - Purbrook Way (E)	461	115	4	1814	0.254	461	1199	0.4	0.3	2.660	A
	2 - A3(M) off-slip	782	196	465	1915	0.408	784	0	1.1	0.7	3.188	A
	3 - Purbrook Way (W)	696	174	504	1595	0.436	698	744	1.3	0.8	4.019	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	309	77	866	732	0.422	311	276	1.4	0.7	8.614	A
	2 - Purbrook Way (E)	749	187	372	2035	0.368	750	805	0.8	0.6	2.803	A
	3 - A3(M) on-slip			514				609				
	4 - Purbrook Way (W)	1006	251	134	2129	0.472	1007	380	1.3	0.9	3.214	A
2 - Western roundabout	1 - Purbrook Way (E)	382	95	3	1815	0.210	382	1003	0.3	0.3	2.513	A
	2 - A3(M) off-slip	655	164	385	1978	0.331	656	0	0.7	0.5	2.723	A
	3 - Purbrook Way (W)	583	146	422	1656	0.352	584	619	0.8	0.5	3.361	A

Existing layout - 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.
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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	38.27	E
2	Western roundabout	Standard Roundabout		1, 2, 3	4.44	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-8	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)	Run automatically
D16	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	524	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1015	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	873	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	812	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			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	541
	2 - A3(M) off-slip	562	0	311
	3 - Purbrook Way (W)	808	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	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			
		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)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	1.09	186.76	32.2	F	481	721
	2 - Purbrook Way (E)	0.60	4.78	1.5	A	931	1397
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.74	6.66	2.7	A	1255	1882
2 - Western roundabout	1 - Purbrook Way (E)	0.32	2.92	0.5	A	498	747
	2 - A3(M) off-slip	0.53	4.20	1.1	A	801	1202
	3 - Purbrook Way (W)	0.59	5.70	1.4	A	745	1118

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	99	832	755	0.522	390	359	0.0	1.1	9.753	A
	2 - Purbrook Way (E)	764	191	415	2006	0.381	762	807	0.0	0.6	2.887	A
	3 - A3(M) on-slip			573				604				
	4 - Purbrook Way (W)	1026	257	168	2105	0.488	1023	405	0.0	0.9	3.314	A
2 - Western roundabout	1 - Purbrook Way (E)	407	102	3	1815	0.224	405	1029	0.0	0.3	2.551	A
	2 - A3(M) off-slip	657	164	408	1960	0.335	655	0	0.0	0.5	2.757	A
	3 - Purbrook Way (W)	611	153	423	1672	0.366	609	641	0.0	0.6	3.379	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	118	997	660	0.714	466	430	1.1	2.3	18.131	C
	2 - Purbrook Way (E)	912	228	497	1940	0.470	911	967	0.6	0.9	3.497	A
	3 - A3(M) on-slip			685				723				
	4 - Purbrook Way (W)	1228	307	201	2080	0.590	1226	484	0.9	1.4	4.206	A
2 - Western roundabout	1 - Purbrook Way (E)	486	122	4	1814	0.268	486	1231	0.3	0.4	2.709	A
	2 - A3(M) off-slip	785	196	490	1895	0.414	784	0	0.5	0.7	3.238	A
	3 - Purbrook Way (W)	730	182	506	1610	0.453	729	768	0.6	0.8	4.081	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	144	1218	532	1.084	511	526	2.3	18.8	93.305	F
	2 - Purbrook Way (E)	1118	279	576	1876	0.596	1115	1154	0.9	1.5	4.715	A
	3 - A3(M) on-slip			821				870				
	4 - Purbrook Way (W)	1503	376	246	2046	0.734	1498	574	1.4	2.7	6.503	A

2 - Western roundabout	1 - Purbrook Way (E)	577	144	4	1814	0.318	577	1506	0.4	0.5	2.909	A
	2 - A3(M) off-slip	961	240	581	1823	0.527	960	0	0.7	1.1	4.163	A
	3 - Purbrook Way (W)	894	224	619	1526	0.586	892	922	0.8	1.4	5.656	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	144	1225	528	1.092	523	528	18.8	32.2	186.759	F
	2 - Purbrook Way (E)	1118	279	584	1870	0.598	1117	1164	1.5	1.5	4.784	A
	3 - A3(M) on-slip			826				876				
	4 - Purbrook Way (W)	1506	377	247	2046	0.736	1506	579	2.7	2.7	6.659	A
2 - Western roundabout	1 - Purbrook Way (E)	581	145	4	1814	0.321	581	1509	0.5	0.5	2.920	A
	2 - A3(M) off-slip	961	240	586	1819	0.528	961	0	1.1	1.1	4.197	A
	3 - Purbrook Way (W)	894	224	620	1525	0.586	894	927	1.4	1.4	5.703	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	118	1007	654	0.720	588	433	32.2	3.0	85.895	F
	2 - Purbrook Way (E)	912	228	565	1886	0.484	915	1030	1.5	0.9	3.714	A
	3 - A3(M) on-slip			725				754				
	4 - Purbrook Way (W)	1233	308	202	2080	0.593	1238	523	2.7	1.5	4.304	A
2 - Western roundabout	1 - Purbrook Way (E)	525	131	4	1814	0.289	525	1236	0.5	0.4	2.794	A
	2 - A3(M) off-slip	785	196	529	1864	0.421	786	0	1.1	0.7	3.346	A
	3 - Purbrook Way (W)	730	182	507	1609	0.454	732	808	1.4	0.8	4.115	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	99	841	750	0.526	402	362	3.0	1.1	10.549	B
	2 - Purbrook Way (E)	764	191	424	1999	0.382	765	819	0.9	0.6	2.923	A
	3 - A3(M) on-slip			579				610				
	4 - Purbrook Way (W)	1031	258	169	2105	0.490	1034	410	1.5	1.0	3.369	A

2 - Western roundabout	1 - Purbrook Way (E)	412	103	3	1815	0.2 27	412	1034	0.4	0.3	2.56 6	A
	2 - A3(M) off-slip	657	164	415	1954	0.3 36	658	0	0.7	0.5	2.78 0	A
	3 - Purbrook Way (W)	611	153	424	1671	0.3 66	612	649	0.8	0.6	3.40 3	A

Existing layout - 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	18.29	C
2	Western roundabout	Standard Roundabout		1, 2, 3	4.06	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-4	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)	Run automatically
D17	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	499	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	955	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	820	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	765	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	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			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	510
	2 - A3(M) off-slip	528	0	292
	3 - Purbrook Way (W)	761	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	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			
		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)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.96	78.02	11.4	F	458	687
	2 - Purbrook Way (E)	0.56	4.35	1.3	A	876	1314
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.69	5.64	2.2	A	1181	1771
2 - Western roundabout	1 - Purbrook Way (E)	0.31	2.87	0.4	A	470	706
	2 - A3(M) off-slip	0.49	3.86	1.0	A	752	1129
	3 - Purbrook Way (W)	0.54	5.06	1.2	A	702	1053

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	376	94	780	785	0.478	372	343	0.0	0.9	8.639	A
	2 - Purbrook Way (E)	719	180	393	2024	0.355	717	759	0.0	0.5	2.750	A
	3 - A3(M) on-slip			543				567				
	4 - Purbrook Way (W)	966	241	160	2112	0.457	963	383	0.0	0.8	3.124	A
2 - Western roundabout	1 - Purbrook Way (E)	384	96	3	1815	0.212	383	968	0.0	0.3	2.513	A
	2 - A3(M) off-slip	617	154	386	1977	0.312	616	0	0.0	0.5	2.640	A
	3 - Purbrook Way (W)	576	144	397	1691	0.341	574	605	0.0	0.5	3.217	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	449	112	935	696	0.645	445	411	0.9	1.7	14.191	B
	2 - Purbrook Way (E)	859	215	471	1961	0.438	858	909	0.5	0.8	3.259	A
	3 - A3(M) on-slip			649				679				
	4 - Purbrook Way (W)	1156	289	191	2088	0.554	1154	458	0.8	1.2	3.850	A
2 - Western roundabout	1 - Purbrook Way (E)	460	115	4	1814	0.253	459	1158	0.3	0.3	2.656	A
	2 - A3(M) off-slip	737	184	463	1916	0.385	736	0	0.5	0.6	3.050	A
	3 - Purbrook Way (W)	688	172	475	1633	0.421	687	724	0.5	0.7	3.801	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	549	137	1143	575	0.955	522	502	1.7	8.7	51.462	F
	2 - Purbrook Way (E)	1051	263	563	1886	0.557	1050	1101	0.8	1.2	4.293	A
	3 - A3(M) on-slip			787				826				
	4 - Purbrook Way (W)	1415	354	234	2055	0.688	1411	553	1.2	2.2	5.552	A
2 - Western roundabout	1 - Purbrook Way (E)	555	139	4	1814	0.306	555	1418	0.3	0.4	2.860	A
	2 - A3(M) off-slip	903	226	559	1840	0.491	902	0	0.6	1.0	3.831	A
	3 - Purbrook Way (W)	842	211	582	1554	0.542	840	879	0.7	1.2	5.036	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	549	137	1148	573	0.960	539	504	8.7	11.4	78.015	F
	2 - Purbrook Way (E)	1051	263	574	1878	0.560	1051	1113	1.2	1.3	4.355	A
	3 - A3(M) on-slip			794				831				
	4 - Purbrook Way (W)	1417	354	235	2055	0.690	1417	559	2.2	2.2	5.639	A
2 - Western roundabout	1 - Purbrook Way (E)	561	140	4	1814	0.310	561	1420	0.4	0.4	2.873	A
	2 - A3(M) off-slip	903	226	566	1835	0.492	903	0	1.0	1.0	3.862	A
	3 - Purbrook Way (W)	842	211	582	1553	0.542	842	886	1.2	1.2	5.064	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	449	112	943	691	0.649	486	413	11.4	1.9	20.533	C
	2 - Purbrook Way (E)	859	215	495	1942	0.442	860	934	1.3	0.8	3.334	A
	3 - A3(M) on-slip			664				691				
	4 - Purbrook Way (W)	1160	290	192	2087	0.556	1164	472	2.2	1.3	3.913	A
2 - Western roundabout	1 - Purbrook Way (E)	473	118	4	1814	0.261	474	1162	0.4	0.4	2.687	A
	2 - A3(M) off-slip	737	184	477	1905	0.387	738	0	1.0	0.6	3.091	A
	3 - Purbrook Way (W)	688	172	476	1632	0.421	689	739	1.2	0.7	3.825	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	376	94	787	781	0.481	380	345	1.9	0.9	9.059	A
	2 - Purbrook Way (E)	719	180	399	2019	0.356	720	768	0.8	0.6	2.773	A
	3 - A3(M) on-slip			547				572				
	4 - Purbrook Way (W)	970	243	161	2111	0.460	972	386	1.3	0.9	3.166	A
2 - Western roundabout	1 - Purbrook Way (E)	388	97	3	1815	0.214	388	972	0.4	0.3	2.523	A
	2 - A3(M) off-slip	617	154	391	1973	0.313	618	0	0.6	0.5	2.659	A
	3 - Purbrook Way (W)	576	144	399	1690	0.341	577	610	0.7	0.5	3.235	A

Existing layout - 2025 + devt (no committed), 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	38.27	E

2	Western roundabout	Standard Roundabout		1, 2, 3	4.44	A
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Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-8	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)	Run automatically
D18	2025 + devt (no committed)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	524	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1015	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	873	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	812	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			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	541
	2 - A3(M) off-slip	562	0	311
	3 - Purbrook Way (W)	808	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	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			
		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)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	1.09	186.76	32.2	F	481	721
	2 - Purbrook Way (E)	0.60	4.78	1.5	A	931	1397
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.74	6.66	2.7	A	1255	1882
2 - Western roundabout	1 - Purbrook Way (E)	0.32	2.92	0.5	A	498	747
	2 - A3(M) off-slip	0.53	4.20	1.1	A	801	1202
	3 - Purbrook Way (W)	0.59	5.70	1.4	A	745	1118

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand	Junction Arrivals	Circulating flow (Veh/hr)	Capacity	RFC	Throughput (Veh/hr)	Throughput (exit)	Start queue	End queue	Delay (s)	Unsignalised level
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		(Veh/ hr)	Is (Veh)		(Veh/h r)			side) (Veh/hr)	ue (Veh)	(Veh)		of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	99	832	755	0.5 22	390	359	0.0	1.1	9.75 3	A
	2 - Purbrook Way (E)	764	191	415	2006	0.3 81	762	807	0.0	0.6	2.88 7	A
	3 - A3(M) on- slip			573				604				
	4 - Purbrook Way (W)	1026	257	168	2105	0.4 88	1023	405	0.0	0.9	3.31 4	A
2 - Western roundabout	1 - Purbrook Way (E)	407	102	3	1815	0.2 24	405	1029	0.0	0.3	2.55 1	A
	2 - A3(M) off- slip	657	164	408	1960	0.3 35	655	0	0.0	0.5	2.75 7	A
	3 - Purbrook Way (W)	611	153	423	1672	0.3 66	609	641	0.0	0.6	3.37 9	A

11:45 - 12:00

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Dela y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	118	997	660	0.7 14	466	430	1.1	2.3	18.1 31	C
	2 - Purbrook Way (E)	912	228	497	1940	0.4 70	911	967	0.6	0.9	3.49 7	A
	3 - A3(M) on- slip			685				723				
	4 - Purbrook Way (W)	1228	307	201	2080	0.5 90	1226	484	0.9	1.4	4.20 6	A
2 - Western roundabout	1 - Purbrook Way (E)	486	122	4	1814	0.2 68	486	1231	0.3	0.4	2.70 9	A
	2 - A3(M) off- slip	785	196	490	1895	0.4 14	784	0	0.5	0.7	3.23 8	A
	3 - Purbrook Way (W)	730	182	506	1610	0.4 53	729	768	0.6	0.8	4.08 1	A

12:00 - 12:15

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Dela y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	144	1218	532	1.0 84	511	526	2.3	18.8	93.3 05	F
	2 - Purbrook Way (E)	1118	279	576	1876	0.5 96	1115	1154	0.9	1.5	4.71 5	A
	3 - A3(M) on- slip			821				870				
	4 - Purbrook Way (W)	1503	376	246	2046	0.7 34	1498	574	1.4	2.7	6.50 3	A
2 - Western roundabout	1 - Purbrook Way (E)	577	144	4	1814	0.3 18	577	1506	0.4	0.5	2.90 9	A
	2 - A3(M) off- slip	961	240	581	1823	0.5 27	960	0	0.7	1.1	4.16 3	A
	3 - Purbrook Way (W)	894	224	619	1526	0.5 86	892	922	0.8	1.4	5.65 6	A

12:15 - 12:30

Junction	Arm	Total Dema nd	Juncti on Arriva	Circulat ing flow (Veh/hr)	Capac ity	RF C	Through put (Veh/hr)	Through put (exit	Star t que	End que ue	Dela y (s)	Unsignal ised
----------	-----	---------------------	------------------------	----------------------------------	--------------	---------	----------------------------	----------------------	------------------	------------------	---------------	------------------

		(Veh/ hr)	Is (Veh)		(Veh/ hr)			side) (Veh/hr)	ue (Veh)	(Veh)		level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	144	1225	528	1.0 92	523	528	18.8	32.2	186.7 59	F
	2 - Purbrook Way (E)	1118	279	584	1870	0.5 98	1117	1164	1.5	1.5	4.784	A
	3 - A3(M) on- slip			826				876				
	4 - Purbrook Way (W)	1506	377	247	2046	0.7 36	1506	579	2.7	2.7	6.659	A
2 - Western roundabout	1 - Purbrook Way (E)	581	145	4	1814	0.3 21	581	1509	0.5	0.5	2.920	A
	2 - A3(M) off- slip	961	240	586	1819	0.5 28	961	0	1.1	1.1	4.197	A
	3 - Purbrook Way (W)	894	224	620	1525	0.5 86	894	927	1.4	1.4	5.703	A

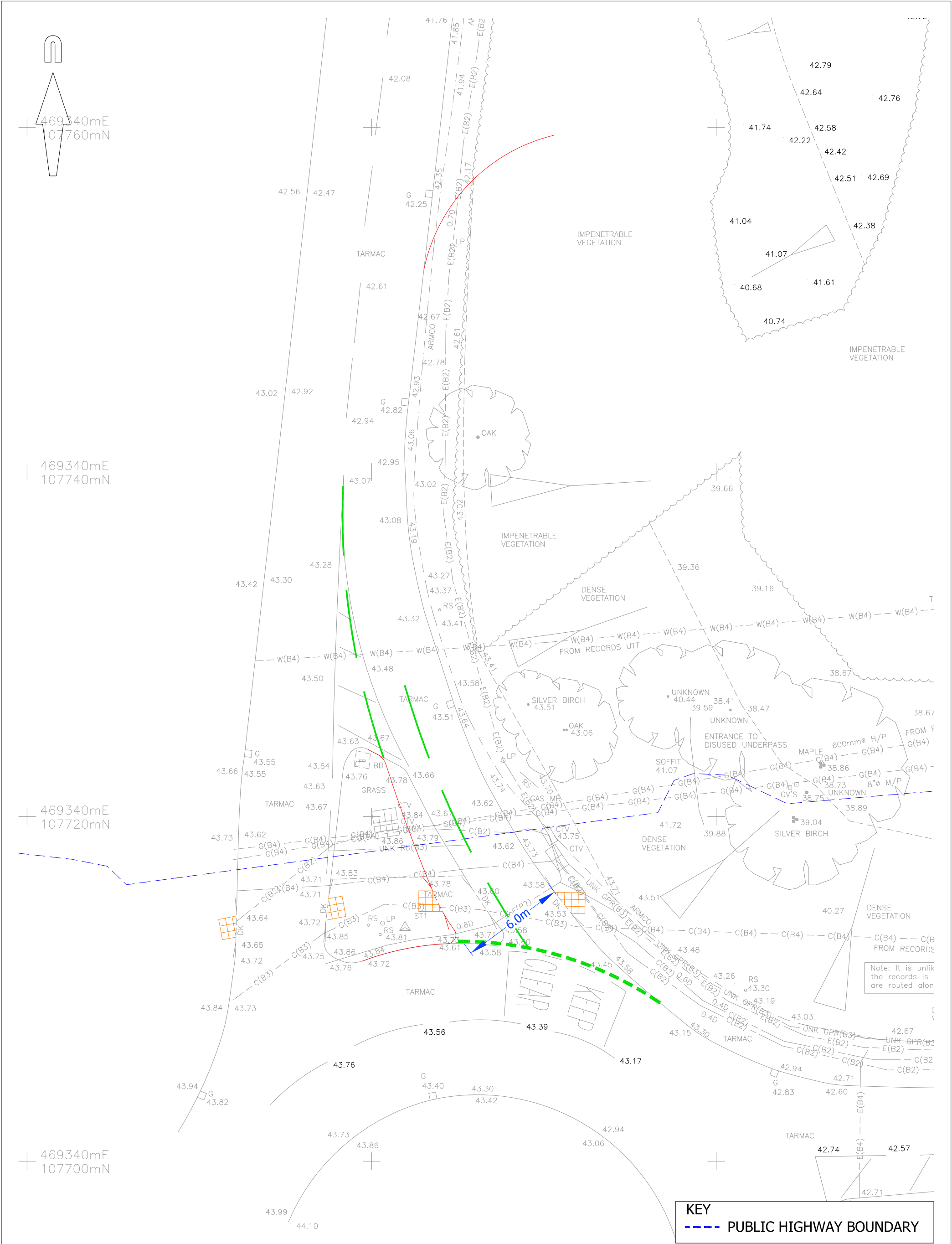
12:30 - 12:45

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Delat y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	118	1007	654	0.7 20	588	433	32.2	3.0	85.8 95	F
	2 - Purbrook Way (E)	912	228	565	1886	0.4 84	915	1030	1.5	0.9	3.71 4	A
	3 - A3(M) on- slip			725				754				
	4 - Purbrook Way (W)	1233	308	202	2080	0.5 93	1238	523	2.7	1.5	4.30 4	A
2 - Western roundabout	1 - Purbrook Way (E)	525	131	4	1814	0.2 89	525	1236	0.5	0.4	2.79 4	A
	2 - A3(M) off- slip	785	196	529	1864	0.4 21	786	0	1.1	0.7	3.34 6	A
	3 - Purbrook Way (W)	730	182	507	1609	0.4 54	732	808	1.4	0.8	4.11 5	A

12:45 - 13:00

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/ hr)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Delat y (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	99	841	750	0.5 26	402	362	3.0	1.1	10.5 49	B
	2 - Purbrook Way (E)	764	191	424	1999	0.3 82	765	819	0.9	0.6	2.92 3	A
	3 - A3(M) on- slip			579				610				
	4 - Purbrook Way (W)	1031	258	169	2105	0.4 90	1034	410	1.5	1.0	3.36 9	A
2 - Western roundabout	1 - Purbrook Way (E)	412	103	3	1815	0.2 27	412	1034	0.4	0.3	2.56 6	A
	2 - A3(M) off- slip	657	164	415	1954	0.3 36	658	0	0.7	0.5	2.78 0	A
	3 - Purbrook Way (W)	611	153	424	1671	0.3 66	612	649	0.8	0.6	3.40 3	A

APPENDIX J: B&Q Arm Improvements



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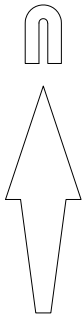


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client	LIDL GREAT BRITAIN LIMITED
title	PROPOSED LIDL FOODSTORE PURBROOK WAY, HAVANT
	PROPOSED B&Q ARM IMPROVEMENTS

scale	1:200 @ A3	drawn by	RB	checked by	-
date	JUNE 2021	cad file	210708 - B&Q ARM		
drawing number	B/LIDLPURBROOKWAY2.1/06	rev.	A		



+ 469340mE
107840mN

+ 469340mE
107820mN

+ 469340mE
107800mN

+ 469340mE
107780mN

+ 469340mE
107760mN

+ 469340mE
107740mN

+ 469340mE
107720mN

+ 469340mE
107700mN

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107680mN

+ 469360mE
107680mN

+ 469380mE
107680mN

+ 469400mE
107680mN

+ 469420mE
107680mN

KEY

--- PUBLIC HIGHWAY BOUNDARY

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client

LIDL GREAT BRITAIN LIMITED

title

PROPOSED LIDL FOODSTORE
PURBROOK WAY, HAVANT

PROPOSED B&Q ARM TRAFFIC CALMING

scale

1:500 @ A3

drawn by

RB

checked by

-

date

JUNE 2021

cad file

210708 - TRAFFIC CALMING

drawing number

B/LIDLPURBROOKWAY2.1/08

rev.

A

APPENDIX K: ARCADY Output – A3(M) Roundabouts – Proposed Arrangement

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.1.7462
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+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 - Purbrook Way - Site access - A3(M) (v4 June2021) Revised geometry.j9
Path: H:\LIDL\PurbrookWay.1 & 2.1\05 Calculations\Junction modelling\Arcady - Purbrook Way dumbbell roundabouts
Report generation date: 11/06/2021 09:55:29

- »Revised layout - 2020 + devt, AM
- »Revised layout - 2025 + devt, AM
- »Revised layout - 2025 + devt (excl committed), AM
- »Revised layout - 2020 + devt, PM
- »Revised layout - 2025 + devt, PM
- »Revised layout - 2025 + devt (excl committed), PM
- »Revised layout - 2020 + devt, SAT
- »Revised layout - 2025 + devt, SAT
- »Revised layout - 2025 + devt (excl committed), 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
	Revised layout - 2020 + devt																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D 4	0.4	9.3 6	0.27	A	8 %	D9	0.7	9.9 9	0.42	A	9 %	D1 4	1.4	9.5 3	0.59	A	13 % [1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		2.3	6.8 1	0.70	A	[1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)]		1.3	4.2 1	0.56	A	[1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)]		1.3	4.3 8	0.56	A	
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		4.8	10.13	0.83	B			4.0	8.5 7	0.80	A			2.2	5.6 4	0.69	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.8	3.6 6	0.45	A			0.6	3.2 0	0.37	A			0.5	2.8 8	0.31	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.1	4.8 4	0.53	A			3.0	8.3 0	0.75	A			1.0	3.8 7	0.49	A	
2 - Western roundabout - 3 - Purbrook Way (W)		5.1	13.79	0.84	B			2.4	8.3 6	0.71	A			1.2	5.0 6	0.54	A	
	Revised layout - 2025 + devt																	
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D 5	0.6	16.22	0.40	C	-7 %	D1 0	1.3	17.60	0.57	C	1 %	D1 5	1.9	12.04	0.66	B	9 %
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		4.3	12.12	0.82	B	[2 - Western roundabout - 1 - B&Q / site]		1.9	5.6 1	0.65	A	[2 - Western roundabout - 1 - B&Q / site]		1.5	4.9 3	0.61	A	[1 - Eastern (B&Q) roundabout - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		14.5	27.23	0.95	D			9.1	17.87	0.91	C			2.7	6.6 6	0.74	A	

2 - Western roundabout - 1 - Purbrook Way (E)		0.9	3.96	0.49	A	about - 3 - Purbrook Way (W)]		0.7	3.48	0.42	A	about - 2 - A3(M) off-slip]		0.5	2.96	0.33	A	round about - 1 - B&Q / site]
2 - Western roundabout - 2 - A3(M) off-slip		1.7	6.38	0.63	A			10.2	25.58	0.92	D			1.1	4.26	0.53	A	
2 - Western roundabout - 3 - Purbrook Way (W)		48.3	95.23	1.04	F			5.4	16.50	0.85	C			1.4	5.70	0.59	A	
Revised layout - 2025 + devt (excl committed)																		
1 - Eastern (B&Q) roundabout - 1 - B&Q / site	D6	0.5	11.73	0.32	B	3 %	D1	0.9	12.59	0.49	B	6 %	D1	1.9	12.05	0.66	B	9 % [1 - Eastern (B&Q) round about - 1 - B&Q / site]
1 - Eastern (B&Q) roundabout - 2 - Purbrook Way (E)		3.1	8.66	0.76	A	[2 - Western round about - 3 - Purbrook Way (W)]		1.5	4.68	0.60	A	[1 - Eastern (B&Q) round about - 4 - Purbrook Way (W)]		4.5	14.88	0.82	B	
1 - Eastern (B&Q) roundabout - 4 - Purbrook Way (W)		7.2	14.58	0.89	B			5.5	11.35	0.85	B			2.7	6.67	0.74	A	
2 - Western roundabout - 1 - Purbrook Way (E)		0.9	3.87	0.48	A			0.6	3.31	0.39	A			1.2	4.42	0.55	A	
2 - Western roundabout - 2 - A3(M) off-slip		1.4	5.57	0.58	A			4.1	11.08	0.81	B			1.8	6.85	0.65	A	
2 - Western roundabout - 3 - Purbrook Way (W)		8.9	22.86	0.91	C			3.1	10.56	0.76	B			1.4	5.71	0.59	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	16/03/2021
Version	
Status	v2
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

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
D4	2020 + devt	AM	ONE HOUR	07:45	09:15	15	✓
D5	2025 + devt	AM	ONE HOUR	07:45	09:15	15	✓
D6	2025 + devt (excl committed)	AM	ONE HOUR	07:45	09:15	15	✓

D9	2020 + devt	PM	ONE HOUR	16:15	17:45	15	✓
D10	2025 + devt	PM	ONE HOUR	16:15	17:45	15	✓
D11	2025 + devt (excl committed)	PM	ONE HOUR	16:15	17:45	15	✓
D14	2020 + devt	SAT	ONE HOUR	11:30	13:00	15	✓
D15	2025 + devt	SAT	ONE HOUR	11:30	13:00	15	✓
D16	2025 + devt (excl committed)	SAT	ONE HOUR	11:30	13:00	15	✓

Analysis Set Details

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

Revised layout - 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	8.81	A
2	Western roundabout	Standard Roundabout		1, 2, 3	8.63	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	8	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	6.00	14.0	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	7.10	0.0	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	0.664	1696
	2 - Purbrook Way (E)	0.807	2357
	3 - A3(M) on-slip		
	4 - Purbrook Way (W)	0.761	2250
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

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
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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	126	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1109	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				

	2 - A3(M) off-slip		ONE HOUR	✓	775	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1262	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	72	17	37
	2 - Purbrook Way (E)	55	0	384	670
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	95	930	539	15

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)	3	0	708
	2 - A3(M) off-slip	357	0	418
	3 - Purbrook Way (W)	1257	0	5

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	8	0	3
	2 - Purbrook Way (E)	2	0	1	3
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	5	4	4	7

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	3
	2 - A3(M) off-slip	4	0	1
	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
----------	-----	---------	---------------	-----------------	---------	-------------------------	-------------------------------

1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.27	9.36	0.4	A	116	173
	2 - Purbrook Way (E)	0.70	6.81	2.3	A	1018	1526
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.83	10.13	4.8	B	1470	2206
2 - Western roundabout	1 - Purbrook Way (E)	0.45	3.66	0.8	A	663	995
	2 - A3(M) off-slip	0.53	4.84	1.1	A	711	1067
	3 - Purbrook Way (W)	0.84	13.79	5.1	B	1158	1737

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	95	24	1125	872	0.109	94	113	0.0	0.1	4.625	A
	2 - Purbrook Way (E)	835	209	460	1928	0.433	832	759	0.0	0.8	3.275	A
	3 - A3(M) on-slip			583				709				
	4 - Purbrook Way (W)	1202	300	41	2131	0.564	1196	542	0.0	1.3	3.831	A
2 - Western roundabout	1 - Purbrook Way (E)	542	136	4	1779	0.305	540	1212	0.0	0.4	2.902	A
	2 - A3(M) off-slip	583	146	544	1801	0.324	582	0	0.0	0.5	2.953	A
	3 - Purbrook Way (W)	950	238	270	1743	0.545	945	856	0.0	1.2	4.486	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	113	28	1349	726	0.156	113	136	0.1	0.2	5.874	A
	2 - Purbrook Way (E)	997	249	552	1853	0.538	995	910	0.8	1.2	4.192	A
	3 - A3(M) on-slip			698				850				
	4 - Purbrook Way (W)	1438	360	49	2125	0.677	1435	648	1.3	2.1	5.192	A
2 - Western roundabout	1 - Purbrook Way (E)	649	162	4	1779	0.365	648	1450	0.4	0.6	3.182	A
	2 - A3(M) off-slip	697	174	653	1715	0.406	696	0	0.5	0.7	3.530	A
	3 - Purbrook Way (W)	1135	284	323	1703	0.666	1131	1025	1.2	2.0	6.264	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue	End queue (Veh)	Delay (s)	Unsignalled level of service
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									(Veh)			
1 - Eastern (B&Q) roundabout	1 - B&Q / site	139	35	1638	536	0.259	138	165	0.2	0.3	9.032	A
	2 - Purbrook Way (E)	1221	305	671	1755	0.696	1217	1105	1.2	2.2	6.632	A
	3 - A3(M) on-slip			853				1035				
	4 - Purbrook Way (W)	1753	438	60	2117	0.828	1743	792	2.1	4.5	9.383	A
2 - Western roundabout	1 - Purbrook Way (E)	793	198	5	1778	0.446	792	1768	0.6	0.8	3.647	A
	2 - A3(M) off-slip	853	213	797	1600	0.533	851	0	0.7	1.1	4.796	A
	3 - Purbrook Way (W)	1389	347	396	1648	0.843	1378	1253	2.0	4.9	12.777	B

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	139	35	1657	523	0.265	139	167	0.3	0.4	9.357	A
	2 - Purbrook Way (E)	1221	305	678	1749	0.698	1221	1118	2.2	2.3	6.810	A
	3 - A3(M) on-slip			856				1043				
	4 - Purbrook Way (W)	1765	441	61	2117	0.834	1764	795	4.5	4.8	10.129	B
2 - Western roundabout	1 - Purbrook Way (E)	796	199	6	1778	0.448	796	1780	0.8	0.8	3.663	A
	2 - A3(M) off-slip	853	213	801	1597	0.534	853	0	1.1	1.1	4.838	A
	3 - Purbrook Way (W)	1389	347	396	1647	0.843	1389	1258	4.9	5.1	13.792	B

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	113	28	1377	707	0.160	114	138	0.4	0.2	6.078	A
	2 - Purbrook Way (E)	997	249	563	1844	0.541	1001	928	2.3	1.2	4.295	A
	3 - A3(M) on-slip			702				862				
	4 - Purbrook Way (W)	1455	364	50	2125	0.685	1465	652	4.8	2.2	5.538	A
2 - Western roundabout	1 - Purbrook Way (E)	653	163	5	1779	0.367	654	1467	0.8	0.6	3.202	A
	2 - A3(M) off-slip	697	174	658	1710	0.407	698	0	1.1	0.7	3.563	A
	3 - Purbrook Way (W)	1135	284	325	1702	0.667	1147	1032	5.1	2.0	6.622	A

09:00 - 09:15

Junction	Arm	Total Demand	Junction Arrivals	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue	End queue	Delay (s)	Unsignaled level of service
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		(Veh/ hr)	Is (Veh)						(Veh h)	(Veh h)		
1 - Eastern (B&Q) roundabout	1 - B&Q / site	95	24	1141	861	0.1 10	95	115	0.2	0.1	4.70 2	A
	2 - Purbrook Way (E)	835	209	467	1922	0.4 34	837	770	1.2	0.8	3.31 9	A
	3 - A3(M) on-slip			586				717				
	4 - Purbrook Way (W)	1211	303	41	2131	0.5 68	1214	545	2.2	1.3	3.94 3	A
2 - Western roundabout	1 - Purbrook Way (E)	545	136	4	1779	0.3 07	546	1221	0.6	0.4	2.92 1	A
	2 - A3(M) off-slip	583	146	550	1796	0.3 25	584	0	0.7	0.5	2.97 2	A
	3 - Purbrook Way (W)	950	238	271	1742	0.5 45	953	863	2.0	1.2	4.58 2	A

Revised layout - 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	21.21	C
2	Western roundabout	Standard Roundabout		1, 2, 3	48.33	E

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-7	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)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	132	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1202	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	887	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1535	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	76	18	38
	2 - Purbrook Way (E)	57	0	410	735
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	99	1040	715	16

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)	3	0	774
	2 - A3(M) off-slip	380	0	507
	3 - Purbrook Way (W)	1529	0	6

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
	1 - B&Q / site	0	9	0
	2 - Purbrook Way (E)	2	0	1
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only

From	To			
		4 - Purbrook Way (W)	3 - A3(M) on-slip	2 - Purbrook Way (E)
	4 - Purbrook Way (W)	6	3	0
	3 - A3(M) on-slip	6	3	0
	2 - Purbrook Way (E)	3	0	0

Heavy Vehicle Percentages

2 - Western roundabout

From	To		
		1 - Purbrook Way (E)	2 - A3(M) off-slip
	1 - Purbrook Way (E)	0	0
	2 - A3(M) off-slip	4	0
	3 - Purbrook Way (W)	3	0

From	To		
		3 - Purbrook Way (W)	2 - A3(M) off-slip
	3 - Purbrook Way (W)	0	0
	2 - A3(M) off-slip	1	0
	1 - Purbrook Way (E)	3	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.40	16.22	0.6	C	121	182
	2 - Purbrook Way (E)	0.82	12.12	4.3	B	1103	1654
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.95	27.23	14.5	D	1744	2616
2 - Western roundabout	1 - Purbrook Way (E)	0.49	3.96	0.9	A	724	1086
	2 - A3(M) off-slip	0.63	6.38	1.7	A	814	1221
	3 - Purbrook Way (W)	1.04	95.23	48.3	F	1409	2113

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	99	25	1340	730	0.136	99	118	0.0	0.2	5.693	A
	2 - Purbrook Way (E)	905	226	595	1821	0.497	901	844	0.0	1.0	3.896	A
	3 - A3(M) on-slip			634				862				
	4 - Purbrook Way (W)	1423	356	43	2137	0.666	1415	591	0.0	2.0	4.934	A
2 - Western roundabout	1 - Purbrook Way (E)	592	148	4	1779	0.333	590	1431	0.0	0.5	3.023	A

	2 - A3(M) off-slip	668	167	594	1762	0.379	665	0	0.0	0.6	3.274	A
	3 - Purbrook Way (W)	1156	289	287	1730	0.668	1148	972	0.0	2.0	6.099	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1604	560	0.212	118	141	0.2	0.3	8.145	A
	2 - Purbrook Way (E)	1081	270	712	1726	0.626	1078	1010	1.0	1.6	5.529	A
	3 - A3(M) on-slip			759				1031				
	4 - Purbrook Way (W)	1700	425	51	2131	0.798	1693	708	2.0	3.8	8.088	A
2 - Western roundabout	1 - Purbrook Way (E)	708	177	5	1778	0.398	707	1709	0.5	0.7	3.360	A
	2 - A3(M) off-slip	797	199	713	1669	0.478	796	0	0.6	0.9	4.120	A
	3 - Purbrook Way (W)	1380	345	344	1687	0.818	1371	1165	2.0	4.2	11.069	B

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	145	36	1858	395	0.368	144	166	0.3	0.6	14.300	B
	2 - Purbrook Way (E)	1323	331	828	1632	0.811	1314	1174	1.6	4.0	11.002	B
	3 - A3(M) on-slip			924				1218				
	4 - Purbrook Way (W)	1992	498	62	2123	0.938	1962	862	3.8	11.2	19.509	C
2 - Western roundabout	1 - Purbrook Way (E)	862	216	6	1778	0.485	861	2002	0.7	0.9	3.923	A
	2 - A3(M) off-slip	977	244	867	1546	0.632	974	0	0.9	1.7	6.250	A
	3 - Purbrook Way (W)	1690	423	420	1629	1.037	1588	1421	4.2	29.7	48.725	E

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	145	36	1901	367	0.396	145	169	0.6	0.6	16.223	C
	2 - Purbrook Way (E)	1323	331	846	1617	0.818	1322	1200	4.0	4.3	12.123	B
	3 - A3(M) on-slip			930				1238				
	4 - Purbrook Way (W)	2021	505	63	2122	0.952	2008	868	11.2	14.5	27.233	D
2 - Western roundabout	1 - Purbrook Way (E)	868	217	6	1778	0.488	868	2031	0.9	0.9	3.958	A

	2 - A3(M) off-slip	977	244	874	1541	0.634	976	0	1.7	1.7	6.376	A
	3 - Purbrook Way (W)	1690	423	422	1628	1.038	1616	1429	29.7	48.3	95.234	F

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1805	429	0.277	120	153	0.6	0.4	11.682	B
	2 - Purbrook Way (E)	1081	270	796	1658	0.652	1090	1129	4.3	1.9	6.445	A
	3 - A3(M) on-slip			769				1117				
	4 - Purbrook Way (W)	1882	471	52	2130	0.883	1906	717	14.5	8.4	17.389	C
2 - Western roundabout	1 - Purbrook Way (E)	718	179	6	1778	0.404	719	1892	0.9	0.7	3.403	A
	2 - A3(M) off-slip	797	199	725	1659	0.481	801	0	1.7	0.9	4.209	A
	3 - Purbrook Way (W)	1380	345	346	1686	0.818	1553	1180	48.3	5.1	44.945	E

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	99	25	1392	697	0.143	100	121	0.4	0.2	6.044	A
	2 - Purbrook Way (E)	905	226	617	1803	0.502	908	875	1.9	1.0	4.039	A
	3 - A3(M) on-slip			640				885				
	4 - Purbrook Way (W)	1445	361	43	2137	0.676	1470	597	8.4	2.1	5.592	A
2 - Western roundabout	1 - Purbrook Way (E)	597	149	5	1779	0.336	598	1452	0.7	0.5	3.052	A
	2 - A3(M) off-slip	668	167	603	1756	0.380	669	0	0.9	0.6	3.315	A
	3 - Purbrook Way (W)	1156	289	289	1729	0.668	1168	983	5.1	2.1	6.549	A

Revised layout - 2025 + devt (excl committed), 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	12.16	B
2	Western roundabout	Standard Roundabout		1, 2, 3	13.05	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	3	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)	Run automatically
D6	2025 + devt (excl committed)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	132	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1182	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	826	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1345	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	76	18	38
	2 - Purbrook Way (E)	57	0	410	715
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	99	992	574	16

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)	3	0	754
	2 - A3(M) off-slip	380	0	446
	3 - Purbrook Way (W)	1339	0	6

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	9	0	3
	2 - Purbrook Way (E)	2	0	1	3
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	6	4	4	6

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	3
	2 - A3(M) off-slip	4	0	1
	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.32	11.73	0.5	B	121	182
	2 - Purbrook Way (E)	0.76	8.66	3.1	A	1085	1627
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.89	14.58	7.2	B	1565	2348
2 - Western roundabout	1 - Purbrook Way (E)	0.48	3.87	0.9	A	706	1059
	2 - A3(M) off-slip	0.58	5.57	1.4	A	758	1137
	3 - Purbrook Way (W)	0.91	22.86	8.9	C	1234	1851

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	99	25	1198	820	0.121	99	118	0.0	0.1	4.990	A
	2 - Purbrook Way (E)	890	222	489	1905	0.467	886	808	0.0	0.9	3.524	A
	3 - A3(M) on-slip			619				755				
	4 - Purbrook Way (W)	1278	320	43	2129	0.601	1273	577	0.0	1.5	4.176	A
2 - Western roundabout	1 - Purbrook Way (E)	577	144	4	1779	0.324	575	1290	0.0	0.5	2.985	A
	2 - A3(M) off-slip	622	155	580	1772	0.351	620	0	0.0	0.5	3.118	A
	3 - Purbrook Way (W)	1013	253	287	1730	0.585	1007	912	0.0	1.4	4.940	A

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1436	665	0.178	118	141	0.1	0.2	6.585	A
	2 - Purbrook Way (E)	1063	266	586	1825	0.582	1061	968	0.9	1.4	4.697	A
	3 - A3(M) on-slip			741				905				
	4 - Purbrook Way (W)	1530	382	51	2123	0.721	1526	690	1.5	2.5	5.986	A
2 - Western roundabout	1 - Purbrook Way (E)	691	173	5	1778	0.388	690	1543	0.5	0.6	3.306	A
	2 - A3(M) off-slip	743	186	695	1681	0.442	742	0	0.5	0.8	3.829	A
	3 - Purbrook Way (W)	1209	302	344	1687	0.717	1205	1093	1.4	2.5	7.393	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	145	36	1732	472	0.308	144	171	0.2	0.4	10.958	B
	2 - Purbrook Way (E)	1301	325	707	1725	0.754	1295	1169	1.4	3.0	8.245	A
	3 - A3(M) on-slip			905				1097				
	4 - Purbrook Way (W)	1856	464	62	2114	0.878	1840	843	2.5	6.5	12.467	B

2 - Western roundabout	1 - Purbrook Way (E)	843	211	7	1777	0.474	842	1873	0.6	0.9	3.845	A
	2 - A3(M) off-slip	909	227	849	1560	0.583	907	0	0.8	1.4	5.495	A
	3 - Purbrook Way (W)	1481	370	421	1629	0.909	1458	1335	2.5	8.1	19.013	C

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	145	36	1763	452	0.321	145	173	0.4	0.5	11.726	B
	2 - Purbrook Way (E)	1301	325	719	1716	0.758	1301	1189	3.0	3.1	8.660	A
	3 - A3(M) on-slip			909				1111				
	4 - Purbrook Way (W)	1876	469	63	2114	0.887	1873	847	6.5	7.2	14.581	B
2 - Western roundabout	1 - Purbrook Way (E)	847	212	7	1777	0.477	847	1893	0.9	0.9	3.870	A
	2 - A3(M) off-slip	909	227	854	1556	0.585	909	0	1.4	1.4	5.569	A
	3 - Purbrook Way (W)	1481	370	422	1628	0.909	1478	1341	8.1	8.9	22.859	C

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	119	30	1485	633	0.187	120	144	0.5	0.2	7.027	A
	2 - Purbrook Way (E)	1063	266	604	1810	0.587	1069	1000	3.1	1.4	4.904	A
	3 - A3(M) on-slip			748				926				
	4 - Purbrook Way (W)	1560	390	52	2122	0.735	1578	696	7.2	2.8	6.813	A
2 - Western roundabout	1 - Purbrook Way (E)	697	174	6	1778	0.392	698	1574	0.9	0.6	3.337	A
	2 - A3(M) off-slip	743	186	703	1675	0.443	745	0	1.4	0.8	3.882	A
	3 - Purbrook Way (W)	1209	302	345	1686	0.717	1234	1103	8.9	2.6	8.380	A

09:00 - 09:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	99	25	1219	806	0.123	100	119	0.2	0.1	5.100	A
	2 - Purbrook Way (E)	890	222	497	1898	0.469	892	822	1.4	0.9	3.586	A
	3 - A3(M) on-slip			624				765				
	4 - Purbrook Way (W)	1290	323	43	2129	0.606	1295	581	2.8	1.6	4.344	A

2 - Western roundabout	1 - Purbrook Way (E)	581	145	5	1779	0.3 27	582	1302	0.6	0.5	3.00 8	A
	2 - A3(M) off-slip	622	155	586	1767	0.3 52	623	0	0.8	0.5	3.15 0	A
	3 - Purbrook Way (W)	1013	253	289	1729	0.5 86	1017	920	2.6	1.4	5.08 9	A

Revised layout - 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	7.13	A
2	Western roundabout	Standard Roundabout		1, 2, 3	7.18	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	9	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)	Run automatically
D9	2020 + devt	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	238	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	991	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1183	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	939	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	111	41	86
	2 - Purbrook Way (E)	107	6	365	513
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	107	1137	292	10

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)	2	0	601
	2 - A3(M) off-slip	615	0	568
	3 - Purbrook Way (W)	935	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	0	0	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)	0	2	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)	50	0	2
	2 - A3(M) off-slip	0	0	1
	3 - Purbrook Way (W)	2	0	25

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.42	9.99	0.7	A	218	328
	2 - Purbrook Way (E)	0.56	4.21	1.3	A	909	1364
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.80	8.57	4.0	A	1418	2127
2 - Western roundabout	1 - Purbrook Way (E)	0.37	3.20	0.6	A	556	834
	2 - A3(M) off-slip	0.75	8.30	3.0	A	1086	1628
	3 - Purbrook Way (W)	0.71	8.36	2.4	A	862	1292

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	179	45	1079	967	0.185	178	160	0.0	0.2	4.558	A
	2 - Purbrook Way (E)	746	187	321	2068	0.361	744	937	0.0	0.6	2.714	A
	3 - A3(M) on-slip			542				523				
	4 - Purbrook Way (W)	1159	290	85	2150	0.539	1154	457	0.0	1.2	3.600	A
2 - Western roundabout	1 - Purbrook Way (E)	455	114	3	1794	0.254	453	1164	0.0	0.3	2.684	A
	2 - A3(M) off-slip	891	223	456	1908	0.467	887	0	0.0	0.9	3.516	A
	3 - Purbrook Way (W)	707	177	463	1624	0.435	704	881	0.0	0.8	3.900	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	214	53	1294	822	0.260	213	192	0.2	0.3	5.910	A
	2 - Purbrook Way (E)	891	223	384	2017	0.442	890	1123	0.6	0.8	3.192	A
	3 - A3(M) on-slip			648				626				
	4 - Purbrook Way (W)	1387	347	101	2138	0.649	1385	547	1.2	1.8	4.763	A
2 - Western roundabout	1 - Purbrook Way (E)	544	136	4	1793	0.304	544	1393	0.3	0.4	2.881	A
	2 - A3(M) off-slip	1063	266	547	1835	0.580	1062	0	0.9	1.4	4.643	A
	3 - Purbrook Way (W)	844	211	554	1557	0.542	843	1055	0.8	1.2	5.029	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	262	66	1576	631	0.415	261	234	0.3	0.7	9.673	A
	2 - Purbrook Way (E)	1091	273	469	1949	0.560	1089	1369	0.8	1.3	4.176	A
	3 - A3(M) on-slip			793				765				
	4 - Purbrook Way (W)	1694	424	124	2121	0.799	1687	669	1.8	3.8	8.147	A
2 - Western roundabout	1 - Purbrook Way (E)	666	166	4	1793	0.371	665	1701	0.4	0.6	3.191	A
	2 - A3(M) off-slip	1303	326	670	1737	0.750	1296	0	1.4	2.9	8.060	A
	3 - Purbrook Way (W)	1034	258	676	1466	0.705	1029	1290	1.2	2.3	8.152	A

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	262	66	1590	622	0.421	262	236	0.7	0.7	9.992	A
	2 - Purbrook Way (E)	1091	273	472	1946	0.561	1091	1380	1.3	1.3	4.209	A
	3 - A3(M) on-slip			795				768				
	4 - Purbrook Way (W)	1702	425	124	2120	0.803	1701	670	3.8	4.0	8.565	A
2 - Western roundabout	1 - Purbrook Way (E)	667	167	4	1793	0.372	667	1708	0.6	0.6	3.198	A
	2 - A3(M) off-slip	1303	326	672	1735	0.751	1302	0	2.9	3.0	8.301	A
	3 - Purbrook Way (W)	1034	258	679	1464	0.706	1034	1295	2.3	2.4	8.356	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	214	53	1314	809	0.265	215	194	0.7	0.4	6.081	A
	2 - Purbrook Way (E)	891	223	390	2012	0.443	893	1140	1.3	0.8	3.219	A
	3 - A3(M) on-slip			651				631				
	4 - Purbrook Way (W)	1398	349	102	2137	0.654	1406	549	4.0	1.9	4.974	A
2 - Western roundabout	1 - Purbrook Way (E)	547	137	4	1793	0.305	547	1403	0.6	0.4	2.892	A
	2 - A3(M) off-slip	1063	266	551	1832	0.580	1070	0	3.0	1.4	4.758	A
	3 - Purbrook Way (W)	844	211	558	1554	0.543	849	1063	2.4	1.2	5.139	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	179	45	1093	958	0.187	180	162	0.4	0.2	4.631	A
	2 - Purbrook Way (E)	746	187	324	2065	0.361	747	949	0.8	0.6	2.735	A
	3 - A3(M) on-slip			544				527				
	4 - Purbrook Way (W)	1167	292	85	2150	0.543	1170	459	1.9	1.2	3.682	A
2 - Western roundabout	1 - Purbrook Way (E)	457	114	3	1794	0.255	457	1171	0.4	0.3	2.696	A
	2 - A3(M) off-slip	891	223	460	1904	0.468	893	0	1.4	0.9	3.564	A
	3 - Purbrook Way (W)	707	177	466	1622	0.436	709	888	1.2	0.8	3.949	A

Revised layout - 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.

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	13.50	B
2	Western roundabout	Standard Roundabout		1, 2, 3	17.60	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	2 - Western roundabout - 2 - A3(M) off-slip

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	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	246	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1098	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1394	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	1110	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
1 - Eastern (B&Q) roundabout	From		1 - B&Q / site	2 - Purbrook Way (E)	3 - A3(M) on-slip
				4 - Purbrook Way (W)	
		1 - B&Q / site	0	115	42
		2 - Purbrook Way (E)	112	7	387
		3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only
		4 - Purbrook Way (W)	110	1236	396
					11

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)	2	0	684
	2 - A3(M) off-slip	652	0	742
	3 - Purbrook Way (W)	1106	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	0	0	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)	0	2	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)	50	0	2
	2 - A3(M) off-slip	0	0	1
	3 - Purbrook Way (W)	2	0	25

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.57	17.60	1.3	C	226	339
	2 - Purbrook Way (E)	0.65	5.61	1.9	A	1008	1511
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.91	17.87	9.1	C	1609	2413
2 - Western roundabout	1 - Purbrook Way (E)	0.42	3.48	0.7	A	632	948
	2 - A3(M) off-slip	0.92	25.58	10.2	D	1279	1919
	3 - Purbrook Way (W)	0.85	16.50	5.4	C	1019	1528

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand	Junction Arrivals	Circulating flow (Veh/hr)	Capacity	RFC	Throughput (Veh/hr)	Throughput (exit)	Start queue	End queue	Delay (s)	Unsignalised level
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		(Veh/hr)	Is (Veh)		(Veh/hr)			side) (Veh/hr)	ue (Veh)	(Veh)		of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	185	46	1231	865	0.214	184	166	0.0	0.3	5.279	A
	2 - Purbrook Way (E)	827	207	402	2002	0.413	824	1014	0.0	0.7	3.047	A
	3 - A3(M) on-slip			608				617				
	4 - Purbrook Way (W)	1314	329	89	2147	0.612	1308	519	0.0	1.6	4.258	A
2 - Western roundabout	1 - Purbrook Way (E)	517	129	3	1794	0.288	515	1318	0.0	0.4	2.811	A
	2 - A3(M) off-slip	1049	262	518	1857	0.565	1044	0	0.0	1.3	4.401	A
	3 - Purbrook Way (W)	836	209	490	1604	0.521	831	1073	0.0	1.1	4.633	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction on Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	221	55	1475	700	0.316	220	199	0.3	0.5	7.507	A
	2 - Purbrook Way (E)	987	247	481	1938	0.509	986	1215	0.7	1.0	3.774	A
	3 - A3(M) on-slip			728				739				
	4 - Purbrook Way (W)	1572	393	107	2134	0.737	1568	621	1.6	2.7	6.301	A
2 - Western roundabout	1 - Purbrook Way (E)	618	155	4	1794	0.345	618	1577	0.4	0.5	3.060	A
	2 - A3(M) off-slip	1253	313	622	1775	0.706	1249	0	1.3	2.3	6.791	A
	3 - Purbrook Way (W)	998	249	586	1533	0.651	995	1285	1.1	1.8	6.650	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction on Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	271	68	1776	497	0.545	268	241	0.5	1.2	15.515	C
	2 - Purbrook Way (E)	1209	302	581	1859	0.650	1206	1463	1.0	1.8	5.486	A
	3 - A3(M) on-slip			890				897				
	4 - Purbrook Way (W)	1907	477	131	2116	0.901	1886	759	2.7	7.8	14.512	B
2 - Western roundabout	1 - Purbrook Way (E)	756	189	4	1793	0.422	755	1913	0.5	0.7	3.468	A
	2 - A3(M) off-slip	1535	384	759	1665	0.922	1508	0	2.3	9.1	20.244	C
	3 - Purbrook Way (W)	1222	306	707	1443	0.847	1209	1560	1.8	5.0	14.653	B

17:00 - 17:15

Junction	Arm	Total Demand	Junction on Arrivals	Circulating flow (Veh/hr)	Capacity	RF C	Throughput (Veh/hr)	Throughput (exit	Start queue	End queue	Delay (s)	Unsignalled level
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		(Veh/ hr)	Is (Veh)		(Veh/ hr)			side) (Veh/hr)	ue (Veh)	(Veh)		of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	271	68	1810	474	0.5 71	270	244	1.2	1.3	17.6 04	C
	2 - Purbrook Way (E)	1209	302	590	1851	0.6 53	1209	1490	1.8	1.9	5.60 5	A
	3 - A3(M) on- slip			893				907				
	4 - Purbrook Way (W)	1928	482	131	2116	0.9 11	1923	762	7.8	9.1	17.8 75	C
2 - Western roundabout	1 - Purbrook Way (E)	758	190	4	1793	0.4 23	758	1934	0.7	0.7	3.47 9	A
	2 - A3(M) off- slip	1535	384	763	1662	0.9 24	1530	0	9.1	10.2	25.5 79	D
	3 - Purbrook Way (W)	1222	306	718	1436	0.8 51	1221	1575	5.0	5.4	16.4 95	C

17:15 - 17:30

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/h r)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Del ay (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	221	55	1533	661	0.3 34	224	203	1.3	0.5	8.29 6	A
	2 - Purbrook Way (E)	987	247	498	1925	0.5 13	990	1260	1.9	1.1	3.86 3	A
	3 - A3(M) on- slip			733				755				
	4 - Purbrook Way (W)	1605	401	107	2134	0.7 52	1629	625	9.1	3.1	7.44 8	A
2 - Western roundabout	1 - Purbrook Way (E)	623	156	4	1793	0.3 47	623	1610	0.7	0.5	3.07 8	A
	2 - A3(M) off- slip	1253	313	627	1770	0.7 08	1284	0	10.2	2.5	7.85 9	A
	3 - Purbrook Way (W)	998	249	602	1521	0.6 56	1012	1309	5.4	1.9	7.24 8	A

17:30 - 17:45

Junction	Arm	Total Dema nd (Veh/ hr)	Juncti on Arriva ls (Veh)	Circulat ing flow (Veh/hr)	Capac ity (Veh/h r)	RF C	Through put (Veh/hr)	Through put (exit side) (Veh/hr)	Star t que ue (Veh)	End que ue (Veh)	Del ay (s)	Unsignali sed level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	185	46	1254	849	0.2 18	186	168	0.5	0.3	5.43 6	A
	2 - Purbrook Way (E)	827	207	408	1997	0.4 14	828	1032	1.1	0.7	3.08 3	A
	3 - A3(M) on- slip			612				625				
	4 - Purbrook Way (W)	1326	332	90	2147	0.6 18	1332	522	3.1	1.6	4.45 1	A
2 - Western roundabout	1 - Purbrook Way (E)	520	130	3	1794	0.2 90	520	1331	0.5	0.4	2.82 7	A
	2 - A3(M) off- slip	1049	262	523	1853	0.5 66	1054	0	2.5	1.3	4.53 1	A
	3 - Purbrook Way (W)	836	209	495	1601	0.5 22	839	1083	1.9	1.1	4.74 6	A

Revised layout - 2025 + devt (excl committed), 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	9.06	A
2	Western roundabout	Standard Roundabout		1, 2, 3	9.16	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	6	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)	Run automatically
D11	2025 + devt (excl committed)	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	246	100.000

	2 - Purbrook Way (E)		ONE HOUR	✓	1051	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	1254	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	994	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	115	42	89
	2 - Purbrook Way (E)	112	7	387	545
	3 - A3(M) on-slip	Exit-only	Exit-only	Exit-only	Exit-only
	4 - Purbrook Way (W)	110	1206	310	11

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)	2	0	636
	2 - A3(M) off-slip	652	0	602
	3 - Purbrook Way (W)	990	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	0	0	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)	0	2	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)	50	0	2
	2 - A3(M) off-slip	0	0	1
	3 - Purbrook Way (W)	2	0	25

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.49	12.59	0.9	B	226	339
	2 - Purbrook Way (E)	0.60	4.68	1.5	A	964	1447
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.85	11.35	5.5	B	1502	2253
2 - Western roundabout	1 - Purbrook Way (E)	0.39	3.31	0.6	A	589	883
	2 - A3(M) off-slip	0.81	11.08	4.1	B	1151	1726
	3 - Purbrook Way (W)	0.76	10.56	3.1	B	912	1368

Main Results for each time segment

16:15 - 16:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	185	46	1145	923	0.201	184	166	0.0	0.2	4.869	A
	2 - Purbrook Way (E)	791	198	338	2054	0.385	789	992	0.0	0.6	2.839	A
	3 - A3(M) on-slip			573				553				
	4 - Purbrook Way (W)	1227	307	89	2147	0.572	1222	484	0.0	1.3	3.873	A
2 - Western roundabout	1 - Purbrook Way (E)	482	120	3	1794	0.269	480	1232	0.0	0.4	2.738	A
	2 - A3(M) off-slip	944	236	483	1886	0.501	940	0	0.0	1.0	3.790	A
	3 - Purbrook Way (W)	748	187	490	1604	0.467	745	933	0.0	0.9	4.175	A

16:30 - 16:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	221	55	1373	769	0.288	221	199	0.2	0.4	6.561	A
	2 - Purbrook Way (E)	945	236	405	2000	0.472	944	1189	0.6	0.9	3.404	A
	3 - A3(M) on-slip			686				663				
	4 - Purbrook Way (W)	1469	367	107	2133	0.688	1465	579	1.3	2.2	5.360	A
2 - Western roundabout	1 - Purbrook Way (E)	576	144	4	1793	0.321	576	1475	0.4	0.5	2.957	A
	2 - A3(M) off-slip	1127	282	580	1809	0.623	1125	0	1.0	1.6	5.240	A
	3 - Purbrook Way (W)	894	223	587	1533	0.583	892	1118	0.9	1.4	5.598	A

16:45 - 17:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	271	68	1668	570	0.475	269	243	0.4	0.9	11.888	B
	2 - Purbrook Way (E)	1157	289	492	1930	0.599	1155	1444	0.9	1.5	4.629	A
	3 - A3(M) on-slip			839				808				
	4 - Purbrook Way (W)	1791	448	131	2116	0.847	1780	708	2.2	5.1	10.360	B
2 - Western roundabout	1 - Purbrook Way (E)	705	176	4	1793	0.393	704	1798	0.5	0.6	3.306	A
	2 - A3(M) off-slip	1381	345	709	1706	0.809	1371	0	1.6	4.0	10.470	B
	3 - Purbrook Way (W)	1094	274	715	1438	0.761	1088	1365	1.4	3.0	10.099	B

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	271	68	1688	556	0.487	271	244	0.9	0.9	12.592	B
	2 - Purbrook Way (E)	1157	289	497	1926	0.601	1157	1461	1.5	1.5	4.681	A
	3 - A3(M) on-slip			841				813				
	4 - Purbrook Way (W)	1802	451	131	2115	0.852	1801	710	5.1	5.5	11.350	B
2 - Western roundabout	1 - Purbrook Way (E)	707	177	4	1793	0.394	707	1809	0.6	0.6	3.314	A
	2 - A3(M) off-slip	1381	345	711	1704	0.810	1380	0	4.0	4.1	11.077	B
	3 - Purbrook Way (W)	1094	274	720	1434	0.763	1094	1372	3.0	3.1	10.557	B

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	221	55	1402	749	0.295	223	202	0.9	0.4	6.871	A
	2 - Purbrook Way (E)	945	236	412	1994	0.474	947	1213	1.5	0.9	3.447	A
	3 - A3(M) on-slip			689				670				
	4 - Purbrook Way (W)	1484	371	107	2133	0.696	1497	582	5.5	2.3	5.762	A
2 - Western roundabout	1 - Purbrook Way (E)	579	145	4	1793	0.323	580	1490	0.6	0.5	2.968	A
	2 - A3(M) off-slip	1127	282	584	1806	0.624	1137	0	4.1	1.7	5.461	A
	3 - Purbrook Way (W)	894	223	593	1528	0.585	900	1128	3.1	1.4	5.798	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	185	46	1162	911	0.203	186	168	0.4	0.3	4.969	A
	2 - Purbrook Way (E)	791	198	342	2050	0.386	792	1006	0.9	0.6	2.865	A
	3 - A3(M) on-slip			576				558				
	4 - Purbrook Way (W)	1236	309	90	2146	0.576	1240	486	2.3	1.4	3.991	A
2 - Western roundabout	1 - Purbrook Way (E)	484	121	3	1794	0.270	485	1241	0.5	0.4	2.752	A
	2 - A3(M) off-slip	944	236	488	1883	0.501	947	0	1.7	1.0	3.858	A
	3 - Purbrook Way (W)	748	187	494	1601	0.467	751	941	1.4	0.9	4.244	A

Revised layout - 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	5.90	A
2	Western roundabout	Standard Roundabout		1, 2, 3	4.07	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)	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)
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✓	✓	HV Percentages	2.00
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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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	499	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	955	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	820	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	765	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	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			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	510
	2 - A3(M) off-slip	528	0	292
	3 - Purbrook Way (W)	761	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	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.59	9.53	1.4	A	458	687
	2 - Purbrook Way (E)	0.56	4.38	1.3	A	876	1314
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.69	5.64	2.2	A	1181	1771
2 - Western roundabout	1 - Purbrook Way (E)	0.31	2.88	0.5	A	470	706
	2 - A3(M) off-slip	0.49	3.87	1.0	A	752	1129
	3 - Purbrook Way (W)	0.54	5.06	1.2	A	702	1053

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	376	94	780	1173	0.320	374	343	0.0	0.5	4.492	A
	2 - Purbrook Way (E)	719	180	394	2023	0.355	717	760	0.0	0.5	2.751	A
	3 - A3(M) on-slip			543				568				
	4 - Purbrook Way (W)	966	241	160	2112	0.457	963	383	0.0	0.8	3.124	A
2 - Western roundabout	1 - Purbrook Way (E)	385	96	3	1815	0.212	384	968	0.0	0.3	2.514	A

	2 - A3(M) off-slip	617	154	387	1977	0.312	616	0	0.0	0.5	2.641	A
	3 - Purbrook Way (W)	576	144	397	1691	0.341	574	605	0.0	0.5	3.217	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	449	112	935	1069	0.420	448	411	0.5	0.7	5.780	A
	2 - Purbrook Way (E)	859	215	472	1960	0.438	858	911	0.5	0.8	3.262	A
	3 - A3(M) on-slip			650				680				
	4 - Purbrook Way (W)	1156	289	191	2088	0.554	1154	459	0.8	1.2	3.850	A
2 - Western roundabout	1 - Purbrook Way (E)	460	115	4	1814	0.254	460	1158	0.3	0.3	2.658	A
	2 - A3(M) off-slip	737	184	464	1916	0.385	736	0	0.5	0.6	3.051	A
	3 - Purbrook Way (W)	688	172	475	1633	0.421	687	725	0.5	0.7	3.801	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	549	137	1143	930	0.591	547	502	0.7	1.4	9.321	A
	2 - Purbrook Way (E)	1051	263	577	1876	0.561	1050	1113	0.8	1.3	4.347	A
	3 - A3(M) on-slip			795				831				
	4 - Purbrook Way (W)	1415	354	234	2056	0.688	1411	561	1.2	2.2	5.552	A
2 - Western roundabout	1 - Purbrook Way (E)	563	141	4	1814	0.310	563	1418	0.3	0.4	2.877	A
	2 - A3(M) off-slip	903	226	567	1834	0.492	901	0	0.6	1.0	3.856	A
	3 - Purbrook Way (W)	842	211	582	1554	0.542	840	887	0.7	1.2	5.036	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	549	137	1148	927	0.593	549	504	1.4	1.4	9.534	A
	2 - Purbrook Way (E)	1051	263	580	1873	0.561	1051	1118	1.3	1.3	4.379	A
	3 - A3(M) on-slip			797				834				
	4 - Purbrook Way (W)	1417	354	235	2055	0.690	1417	563	2.2	2.2	5.640	A
2 - Western roundabout	1 - Purbrook Way (E)	565	141	4	1814	0.311	565	1420	0.4	0.5	2.881	A

	2 - A3(M) off-slip	903	226	569	1832	0.493	903	0	1.0	1.0	3.873	A
	3 - Purbrook Way (W)	842	211	582	1553	0.542	842	889	1.2	1.2	5.064	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	449	112	943	1064	0.421	451	413	1.4	0.7	5.898	A
	2 - Purbrook Way (E)	859	215	476	1957	0.439	860	918	1.3	0.8	3.288	A
	3 - A3(M) on-slip			653				684				
	4 - Purbrook Way (W)	1160	290	192	2087	0.556	1164	461	2.2	1.3	3.912	A
2 - Western roundabout	1 - Purbrook Way (E)	463	116	4	1814	0.255	463	1162	0.5	0.3	2.664	A
	2 - A3(M) off-slip	737	184	467	1913	0.385	739	0	1.0	0.6	3.067	A
	3 - Purbrook Way (W)	688	172	476	1632	0.421	689	729	1.2	0.7	3.825	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	376	94	787	1168	0.322	377	345	0.7	0.5	4.555	A
	2 - Purbrook Way (E)	719	180	397	2020	0.356	720	767	0.8	0.6	2.770	A
	3 - A3(M) on-slip			546				571				
	4 - Purbrook Way (W)	970	243	161	2111	0.460	972	385	1.3	0.9	3.166	A
2 - Western roundabout	1 - Purbrook Way (E)	387	97	3	1815	0.213	387	972	0.3	0.3	2.521	A
	2 - A3(M) off-slip	617	154	390	1974	0.313	618	0	0.6	0.5	2.655	A
	3 - Purbrook Way (W)	576	144	399	1690	0.341	577	609	0.7	0.5	3.235	A

Revised layout - 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.
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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	7.02	A
2	Western roundabout	Standard Roundabout		1, 2, 3	4.47	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)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	524	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1015	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	873	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	812	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			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	541
	2 - A3(M) off-slip	562	0	311
	3 - Purbrook Way (W)	808	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	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			
		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)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.66	12.04	1.9	B	481	721
	2 - Purbrook Way (E)	0.61	4.93	1.5	A	931	1397
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.74	6.66	2.7	A	1255	1882
2 - Western roundabout	1 - Purbrook Way (E)	0.33	2.96	0.5	A	498	747
	2 - A3(M) off-slip	0.53	4.26	1.1	A	801	1202
	3 - Purbrook Way (W)	0.59	5.70	1.4	A	745	1118

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	99	832	1139	0.346	392	359	0.0	0.5	4.810	A
	2 - Purbrook Way (E)	764	191	416	2005	0.381	762	808	0.0	0.6	2.889	A
	3 - A3(M) on-slip			574				604				
	4 - Purbrook Way (W)	1026	257	168	2105	0.488	1023	406	0.0	0.9	3.314	A
2 - Western roundabout	1 - Purbrook Way (E)	407	102	3	1815	0.224	406	1029	0.0	0.3	2.553	A
	2 - A3(M) off-slip	657	164	409	1959	0.335	655	0	0.0	0.5	2.758	A
	3 - Purbrook Way (W)	611	153	423	1672	0.366	609	642	0.0	0.6	3.379	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	118	997	1028	0.458	470	430	0.5	0.8	6.440	A
	2 - Purbrook Way (E)	912	228	499	1938	0.471	911	968	0.6	0.9	3.502	A
	3 - A3(M) on-slip			687				724				
	4 - Purbrook Way (W)	1228	307	201	2080	0.590	1226	486	0.9	1.4	4.206	A
2 - Western roundabout	1 - Purbrook Way (E)	487	122	4	1814	0.269	487	1231	0.3	0.4	2.712	A
	2 - A3(M) off-slip	785	196	491	1894	0.414	784	0	0.5	0.7	3.241	A
	3 - Purbrook Way (W)	730	182	506	1610	0.453	729	769	0.6	0.8	4.081	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignaled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	144	1218	880	0.656	573	526	0.8	1.8	11.586	B
	2 - Purbrook Way (E)	1118	279	609	1850	0.604	1115	1182	0.9	1.5	4.882	A
	3 - A3(M) on-slip			840				884				
	4 - Purbrook Way (W)	1503	376	246	2046	0.734	1498	593	1.4	2.7	6.503	A

2 - Western roundabout	1 - Purbrook Way (E)	596	149	4	1814	0.328	595	1506	0.4	0.5	2.952	A
	2 - A3(M) off-slip	961	240	600	1808	0.532	960	0	0.7	1.1	4.235	A
	3 - Purbrook Way (W)	894	224	619	1526	0.586	892	940	0.8	1.4	5.656	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	144	1225	875	0.659	577	528	1.8	1.9	12.039	B
	2 - Purbrook Way (E)	1118	279	612	1847	0.605	1117	1189	1.5	1.5	4.935	A
	3 - A3(M) on-slip			842				888				
	4 - Purbrook Way (W)	1506	377	247	2046	0.736	1506	596	2.7	2.7	6.659	A
2 - Western roundabout	1 - Purbrook Way (E)	598	149	4	1814	0.330	598	1509	0.5	0.5	2.959	A
	2 - A3(M) off-slip	961	240	602	1806	0.532	961	0	1.1	1.1	4.262	A
	3 - Purbrook Way (W)	894	224	620	1525	0.586	894	944	1.4	1.4	5.703	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	118	1007	1021	0.461	475	433	1.9	0.9	6.643	A
	2 - Purbrook Way (E)	912	228	504	1934	0.472	915	978	1.5	0.9	3.542	A
	3 - A3(M) on-slip			690				729				
	4 - Purbrook Way (W)	1233	308	202	2080	0.593	1238	489	2.7	1.5	4.304	A
2 - Western roundabout	1 - Purbrook Way (E)	490	123	4	1814	0.270	491	1236	0.5	0.4	2.720	A
	2 - A3(M) off-slip	785	196	495	1891	0.415	786	0	1.1	0.7	3.262	A
	3 - Purbrook Way (W)	730	182	507	1609	0.454	732	774	1.4	0.8	4.117	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	99	840	1133	0.348	396	362	0.9	0.5	4.893	A
	2 - Purbrook Way (E)	764	191	420	2002	0.382	765	816	0.9	0.6	2.913	A
	3 - A3(M) on-slip			577				609				
	4 - Purbrook Way (W)	1031	258	169	2105	0.490	1033	408	1.5	1.0	3.368	A

2 - Western roundabout	1 - Purbrook Way (E)	410	102	3	1815	0.2 26	410	1034	0.4	0.3	2.56 2	A
	2 - A3(M) off-slip	657	164	413	1956	0.3 36	658	0	0.7	0.5	2.77 6	A
	3 - Purbrook Way (W)	611	153	424	1671	0.3 66	612	647	0.8	0.6	3.40 3	A

Revised layout - 2025 + devt (excl committed), 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	10.99	B
2	Western roundabout	Standard Roundabout		1, 2, 3	5.64	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)	Run automatically
D16	2025 + devt (excl committed)	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

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	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Eastern (B&Q) roundabout	1 - B&Q / site		ONE HOUR	✓	524	100.000
	2 - Purbrook Way (E)		ONE HOUR	✓	1015	100.000
	3 - A3(M) on-slip					
	4 - Purbrook Way (W)	✓				
2 - Western roundabout	1 - Purbrook Way (E)	✓				
	2 - A3(M) off-slip		ONE HOUR	✓	873	100.000
	3 - Purbrook Way (W)		ONE HOUR	✓	812	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			
		1 - Purbrook Way (E)	2 - A3(M) off-slip	3 - Purbrook Way (W)
From	1 - Purbrook Way (E)	1	0	541
	2 - A3(M) off-slip	562	0	311
	3 - Purbrook Way (W)	808	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	0	0	0
	2 - Purbrook Way (E)	0	0	0	100
	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)	1	0	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Eastern (B&Q) roundabout	1 - B&Q / site	0.66	12.05	1.9	B	481	721
	2 - Purbrook Way (E)	0.82	14.88	4.5	B	931	1397
	3 - A3(M) on-slip						
	4 - Purbrook Way (W)	0.74	6.67	2.7	A	1255	1883
2 - Western roundabout	1 - Purbrook Way (E)	0.55	4.42	1.2	A	833	1250
	2 - A3(M) off-slip	0.65	6.85	1.8	A	801	1202
	3 - Purbrook Way (W)	0.59	5.71	1.4	A	745	1118

Main Results for each time segment

11:30 - 11:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	99	832	1139	0.346	392	359	0.0	0.5	4.811	A
	2 - Purbrook Way (E)	764	191	416	1473	0.519	760	808	0.0	1.1	5.021	A
	3 - A3(M) on-slip			573				603				
	4 - Purbrook Way (W)	1027	257	168	2106	0.488	1023	405	0.0	0.9	3.314	A
2 - Western roundabout	1 - Purbrook Way (E)	680	170	3	1815	0.375	678	1029	0.0	0.6	3.160	A
	2 - A3(M) off-slip	657	164	681	1743	0.377	655	0	0.0	0.6	3.301	A
	3 - Purbrook Way (W)	611	153	423	1672	0.366	609	913	0.0	0.6	3.379	A

11:45 - 12:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	118	998	1027	0.458	470	430	0.5	0.8	6.441	A
	2 - Purbrook Way (E)	912	228	499	1424	0.641	910	969	1.1	1.7	6.964	A
	3 - A3(M) on-slip			686				723				
	4 - Purbrook Way (W)	1229	307	201	2081	0.591	1227	485	0.9	1.4	4.206	A
2 - Western roundabout	1 - Purbrook Way (E)	815	204	4	1814	0.449	814	1231	0.6	0.8	3.594	A
	2 - A3(M) off-slip	785	196	817	1635	0.480	784	0	0.6	0.9	4.223	A
	3 - Purbrook Way (W)	730	182	506	1610	0.453	729	1095	0.6	0.8	4.082	A

12:00 - 12:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	144	1218	880	0.656	573	524	0.8	1.8	11.581	B
	2 - Purbrook Way (E)	1118	279	609	1359	0.822	1107	1182	1.7	4.3	13.792	B
	3 - A3(M) on-slip			835				881				
	4 - Purbrook Way (W)	1502	376	244	2048	0.734	1497	591	1.4	2.7	6.483	A
2 - Western roundabout	1 - Purbrook Way (E)	992	248	4	1814	0.547	991	1506	0.8	1.2	4.364	A
	2 - A3(M) off-slip	961	240	995	1494	0.643	958	0	0.9	1.8	6.672	A
	3 - Purbrook Way (W)	894	224	618	1526	0.586	892	1334	0.8	1.4	5.654	A

12:15 - 12:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	577	144	1225	875	0.659	577	528	1.8	1.9	12.052	B
	2 - Purbrook Way (E)	1118	279	613	1357	0.824	1117	1189	4.3	4.5	14.884	B
	3 - A3(M) on-slip			842				888				
	4 - Purbrook Way (W)	1507	377	246	2046	0.736	1507	595	2.7	2.7	6.666	A
2 - Western roundabout	1 - Purbrook Way (E)	1000	250	4	1814	0.551	1000	1510	1.2	1.2	4.423	A
	2 - A3(M) off-slip	961	240	1004	1486	0.647	961	0	1.8	1.8	6.848	A
	3 - Purbrook Way (W)	894	224	621	1525	0.586	894	1345	1.4	1.4	5.708	A

12:30 - 12:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
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1 - Eastern (B&Q) roundabout	1 - B&Q / site	471	118	1008	1020	0.462	475	435	1.9	0.9	6.652	A
	2 - Purbrook Way (E)	912	228	504	1421	0.642	923	979	4.5	1.8	7.380	A
	3 - A3(M) on-slip			695				732				
	4 - Purbrook Way (W)	1235	309	204	2078	0.594	1240	492	2.7	1.5	4.320	A
2 - Western roundabout	1 - Purbrook Way (E)	826	207	4	1814	0.455	828	1238	1.2	0.8	3.652	A
	2 - A3(M) off-slip	785	196	831	1624	0.483	788	0	1.8	0.9	4.326	A
	3 - Purbrook Way (W)	730	182	509	1608	0.454	732	1111	1.4	0.8	4.122	A

12:45 - 13:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RF C	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalled level of service
1 - Eastern (B&Q) roundabout	1 - B&Q / site	394	99	841	1132	0.348	396	362	0.9	0.5	4.896	A
	2 - Purbrook Way (E)	764	191	420	1470	0.520	767	817	1.8	1.1	5.143	A
	3 - A3(M) on-slip			578				609				
	4 - Purbrook Way (W)	1032	258	169	2104	0.491	1034	409	1.5	1.0	3.369	A
2 - Western roundabout	1 - Purbrook Way (E)	687	172	3	1815	0.378	688	1035	0.8	0.6	3.196	A
	2 - A3(M) off-slip	657	164	691	1735	0.379	659	0	0.9	0.6	3.346	A
	3 - Purbrook Way (W)	611	153	425	1670	0.366	612	924	0.8	0.6	3.405	A