

Bloor Homes

HINCKLEY WEST DEVELOPMENT

PLANNING APPLICATION REF: 23/0573/FUL

TECHNICAL NOTE 7:

RESPONSE TO LEICESTERSHIRE COUNTY COUNCIL COMMENTS (ISSUED 15/05/24)

1.0 INTRODUCTION

- 1.1.1 Capricorn Transport Planning Ltd (CTP) is appointed by Bloor Homes to advise on the traffic and highways issues relevant to the above Full Planning Application (FPA) to Hinckley and Bosworth Borough Council (HBBC), for additional residential development on land to the west of Normandy Way, Hinckley. The local highway authority is Leicestershire County Council (LCC).
- 1.1.2 The FPA scheme lies adjacent to the development known as *Hollycroft Grange*, now under construction to provide 850 dwellings and complementary land uses in accordance with Outline Planning Consent reference: *15/00188/OUT*. The FPA proposes a further 153 dwellings and a second access to Hollycroft Grange from the Normandy Way/Roston Drive/Triumph roundabout together with new pedestrian/cycle routes and crossings of Normandy Way.
- 1.1.3 The FPA is supported by a Transport Assessment (TA); two Stage 1 Road Safety Audits (RSAs); corresponding RSA Response Reports; Technical Notes 3, 4 and 6; and a response to LCC's previous (second) formal response dated 22/12/23.
- 1.1.4 LCC issued its third formal response to the FPA on 15/05/24, which is reproduced in **Appendix TN7-A** with annotated comments by developer team, colour coded as follows:
- Red - Further discussion required and/or LCC's acceptance of the comment(s).
 - Orange - Further information to be provided to LCC.
 - Green - No further action or information required.
- 1.1.5 A meeting with LCC's Section 278 team was held on Monday 17 June 2024 to discuss the highway design and layout issues where comments are made in red or orange. The design

changes agreed with LCC at the meeting have been incorporated in a revised set of highway works drawings.

1.1.6 This Technical Note (TN7) presents the revised drawings and additional information on transport impacts and modelling as identified under the remaining red and orange comments.

1.1.7 TN7 therefore provides the development team's response to LCC's requests for further information or amendments under the following additional headings (as used by LCC):

- Site Access
- Highway Impact
- Junction Capacity Assessments
- Off-Site Implications
- Pedestrian and Cycling Infrastructure
- Internal Layout

2.0 SITE ACCESS

- 2.1.1 The design issues raised by LCC and the developer's design team response are summarised below. Each issue was discussed at the meeting with LCC's Section 278 team on Monday 17 June 2024, and the responses and/or design changes provided below reflect what was agreed. The revised design drawings are presented in **Appendix TN7-B**.

LCC Comment No. 1	Design Team Response
For the signal crossing tactile paving the stems should be on the right hand side of the crossing and not on the left (see Figure 3A of <i>Guidance on the use of tactile paving surfaces</i>). The paving should also be two slabs deep and not three.	Accepted. Revised proposals are shown on Drawing C21021/DR101 (Rev. B) .

LCC Comment No. 2	Design Team Response
Previous highway comments raised the issue of exit width leading towards the new crossing being less than the 7m required by the DMRB CD116. This is because of the requirement to include a toucan crossing. The splitter island is very wide and could allow a broken-down vehicle to mount the kerb and enable vehicles to pass, if a splayed kerb were provided for the splitter island.	Accepted. Note added to Drawing C21021/DR101 (Rev. B) to specify splayed kerbing that would allow the splitter island kerb to be mounted in order to pass a broken-down vehicle.

LCC Comment No. 3	Design Team Response
Visibility splays for the proposed access should be based on measured 85th percentile speeds and not the posted speed limit.	The access will be from the proposed Spine Road, which is currently a short-cul-de-sac and only provides access to the Triumph factory. Existing speeds on this existing short section of road would not provide any reliable indication of future traffic speeds when it is extended into the site. Therefore, 2.4m x 43m visibility splays are proposed, consistent with the design speed of the Spine Road. LCC's S278 Design Team has confirmed that this is acceptable.

LCC Comment No. 4	Design Team Response
As the access is located on the outside of a horizontal bend, an additional visibility area ought to be shown to a point tangential to the nearer edge of the main road carriageway, as per DMRB CD123 Figure 3.9.	Accepted. Amendments are shown on Drawing C21021/DR101 (Rev. B) .

LCC Comment No. 5	Design Team Response
Road markings on the roundabout should be shown, demonstrating how the layout will ensure vehicles do not collide with the southwest corner of the proposed wider splitter island.	Accepted. Amended proposals with spiral road markings to guide vehicles into the correct lane are shown on Drawing C21021/DR101 (Rev. B) .

LCC Comment No. 6	Design Team Response
A Stopping Sight Distance (SSD) of 59m is shown on the drawing for the proposed traffic signals, however speed readings would be required to determine whether the SSDs are in accordance with the requirements of DMRB CD109 Table 2.10.	CTP Response Note dated 26/03/24, Page 8, shows that the measured 85th percentile speeds documented in the TA support proposed 59m SSD. The proposed visibility splays of 59m are therefore in accordance with the requirements of the Leicestershire Highways Design Guide (LHDG) and the Manual for Streets. Following discussions, LCC's S278 Design Team accepts 59m forward visibility splays on the northbound approach to the roundabout.

LCC Comment No. 7	Design Team Response
The existing cycling facilities on the eastern side of Normandy Way are segregated. In accordance with the requirements of LTN1/20 segregated footway/cycleway facilities should be provided between the new Toucan crossing and the site access.	A 3.0m wide shared use facility is shown adjacent to the carriageway, which is consistent with the accepted cross-section along the remainder of the Spine Road. Providing a segregated facility on the short section between the proposed Toucan and the Roston Drive crossing points would provide little benefit. Following further discussions, LCC's S278 Design Team accepts this position and the 3.0m wide shared-use facility therefore remains as originally proposed.

LCC Comment No. 8	Design Team Response
For the traffic signals, the signal head is pointing in the wrong direction for the west side crossing, a secondary signal head is required for the east side crossing, some push buttons are shown without poles.	Accepted. Amended proposals are shown on Drawing C21021/DR101 (Rev. B) .

LCC Comment No. 9	Design Team Response
As previously requested, swept path analysis should be provided for all movements using the Normandy Way roundabout northern exit, to prove that the proposed kerb and splitter island changes are suitable.	Drawing C21021/DR105 shows that the various swept paths can be satisfactorily accommodated.

LCC Comment No. 10	Design Team Response
The LHA recommends that tracking is undertaken using vehicle speeds of 15kph with an ideal 0.5m clearance to the kerb line.	Revised vehicle tracking is shown on Drawings C21021/DR102 (Rev B) and C21021/DR105 . Tracking has been undertaken at a vehicle speed of 15kph. Although 0.5m clearance from the kerb-line has been provided wherever possible, we note from discussions with the S378 Design Team that this is not an absolute requirement.

LCC Comment No. 11	Design Team Response
Road markings should be shown on the roundabout circulatory confirming that the swept paths show the vehicle staying within the appropriate lane.	Road markings adjusted to accommodate swept paths where possible. Due to the size of the roundabout, there are some movements where the 18.55m articulated HGV would over-run the adjacent lane, but this is commonplace on roundabouts of this size and is an existing issue that would not be exacerbated by the proposals. The final layout of lane markings will be agreed at detailed design stage.

LCC Comment No. 12	Design Team Response
The length of the Max Legal Length Articulated Vehicle has increased from 16.5m to 18.55m (in May 2023) - this should be reflected in the revised swept path analysis drawing.	Accepted – please see revised drawings.

3.0 HIGHWAY IMPACT

3.1.1 Reference to Appendix TN7-A highlights the following matters on which further information is to be provided:

- Traffic survey data for A47/Greenfinch Road Roundabout – factors used to convert cars to PCUs (factor of 0.4 used instead of 1.0);
- Application of COVID adjustment factors to June 2022 survey data.

3.1.2 With regard to the first matter, the PCU calculations for this junction have been checked and amended where necessary. The revised base data has been used in the updated capacity assessments presented below (Section 4), but these have made no difference to the conclusions reached in the TA; i.e. - that the proposed development would have no impact on the satisfactory future operation of this junction.

3.1.3 To address the second matter, COVID factors for the date of the traffic surveys (21/06/22) have been supplied by LCC's NDI team and are included in **Appendix TN7-C**. The corresponding AM and PM peak hour uplift factors are as follows:

- AM Peak Hour (08:00-09:00) = 0%
- PM Peak Hour (17:00-18:00) = 1%

3.1.4 The 1% factor for the PM peak hour is statistically insignificant and, as it would not be distinguishable from day-to-day variations in traffic flow, should not be applied. The above factors are in line with expectations, since COVID restrictions were officially lifted a year earlier than the surveys.

3.1.5 Furthermore, the traffic growth assumptions used in the TA are highly robust. The TA adopts unified assessment year of 2036 that was agreed with LCC and National Highways. Traffic growth between the survey year (2022) and 2036 has been accepted at 11%. LCC has stated in its latest response that it would usually require a future year scenario of base year (year of planning application) plus 5 years (see "Junction Capacity Assessments" below), which would be 2028.

- 3.1.6 Using the most current version of TEMPRO (v.8.1), growth between 2022 and 2028 would be 4.7%. The difference between the 11% growth to 2036 and 4.7% growth to 2028 is 11% / 4.7% = 6.0%, which significantly exceeds the above COVID corrections.
- 3.1.7 It is therefore considered that no further adjustment of the traffic survey data is required.

4.0 JUNCTION CAPACITY ASSESSMENTS

4.1 Overview

- 4.1.1 LCC's response includes minor comments on the model of Junction 1 (A47/Outlands Drive) relating to visibility parameters and more significant comments on Junction 2 (A47/Roston Drive), relating to lane usage. These comments are addressed in updated assessments presented below. However, for completeness, all four of the junction models presented in the TA have been updated to reflect the revised trip generation rates derived from the Sword Drive traffic survey, which LCC has now accepted.
- 4.1.2 The models now use updated assessment year (2036) traffic forecasts that take into account the following changes:
- Updated Sword Drive trip rates applied to both the approved scheme (850 dwellings) and the FPA scheme (153 dwellings);
 - Traffic growth forecasts updated to the latest version of TEMPRO (v8.1). These are slightly higher than the previous growth forecasts used in the TA;
 - Traffic flows generated by the Richborough Estates appeal scheme at Stoke Road (HBBC planning ref: 22/00318/OUT) added, as this is now a committed development;
 - Pedestrian crossing demands at the proposed *Toucan* crossing updated to latest forecasts (as set out in TN6, to be submitted separately).
- 4.1.3 As shown in Section 3, the continued use of a 2036 assessment year is highly robust and exceeds LCC's usual requirements. The revised assessment results for each junction are presented on this basis below.
- 4.1.4 The following traffic scenarios are considered for each junction, as relevant:
- Survey 2022 – traffic flows in PCUs as surveyed on 21/06/22;
 - DM2 (2036) & DM3 (2028) - Approved Hollycroft Grange development only;
 - DS3 (2036) & DS4 (2028) - Approved Hollycroft Grange development and FPA development, with the new access from Roston Drive.

4.2 Junction 1: A47/Outlands Drive

- 4.2.1 In addition to using the updated traffic forecasts, the revised model of this junction includes the minor changes to minor road visibility distances raised in LCC's latest response. The traffic forecasts and model outputs are presented in **Appendix TN7-D** and the results are summarised in **Table TN7.1**.

**Table TN7.1: Results of Updated JUNCTIONS 10 Assessment –
Junction 1: A47/Outlands Drive Junction**

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	EXISTING (NO TOUCAN) - Survey 2022							
Stream B-C	A1 D1	0.2	9.45	0.14	A1 D2	0.1	7.83	0.07
Stream B-A		0.4	22.12	0.25		0.2	20.69	0.19
Stream C-AB		0.1	7.75	0.06		0.2	7.55	0.14
	EXISTING (NO TOUCAN) - DM2 2036							
Stream B-C	A1 D3	0.3	19.04	0.24	A1 D4	0.2	22.31	0.17
Stream B-A		1.8	122.95	0.67		2.5	186.51	0.77
Stream C-AB		0.1	10.94	0.05		0.1	9.30	0.12
	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	PROPOSED (WITH TOUCAN) - DS3 2036							
Stream B-C	A2 D5	0.2	11.50	0.18	A2 D6	0.1	9.48	0.11
Stream B-A		0.5	35.73	0.31		0.6	47.13	0.34
Stream C-AB		0.1	9.41	0.09		0.2	8.64	0.13
Stream A-B C		2.2	6.98	0.67		1.3	4.93	0.54

- 4.2.2 The results shown above confirm the conclusions reached in the submitted TA. The junction would operate with improved performance with the proposed FPA development and Toucan crossing in place (DS3), compared with the traffic survey year and the future year "No Development" (DM2) scenarios. This is because in the DS3 scenario, some of the trips associated with the currently-approved Hollycroft Grange development would reassign from Greenfinch Road to the new access at Roston Drive.

4.3 Junction 2: A47/Roston Drive Roundabout

4.3.1 In addition to using the updated traffic forecasts, the revised model of this junction includes intercept corrections to simulate unequal lane use at the following entries:

- **A47 N/B entry:** reducing the northbound exit width to accommodate the *Toucan* crossing would result in northbound drivers at the roundabout entry using only the nearside lane. The off-side lane would be used only by drivers turning right into Roston Drive eastbound and would therefore carry less traffic than the nearside lane.
- **Roston Drive W/B entry:** reducing the northbound exit width to accommodate the *Toucan* crossing would result in right-turning westbound drivers at the roundabout entry using only the off-side lane. The nearside lane would be used only by drivers turning left or traveling straight ahead and would therefore carry less traffic than the off-side lane.

4.3.2 These effects have been taken into account by applying intercept corrections to each entry, as recommended in the Barbara Chard "*Arcady Heath Warning*" paper cited in LCC's response.

4.3.3 The traffic forecasts, intercept correction calculations and model outputs are presented in **Appendix TN7-E** and the results are summarised in **Table TN7.2**.

**Table TN7.2: Results of Updated JUNCTIONS 10 Assessment –
Junction 2: A47/Roston Drive Roundabout**

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	EXISTING ROUNDABOUT - DM2 2036							
Arm A	A1 D5	0.0	3.42	0.02	A1 D6	0.5	7.12	0.31
Arm B		2.7	6.89	0.71		1.3	4.77	0.55
Arm C		0.5	6.33	0.31		0.5	5.35	0.30
Arm D		0.7	3.66	0.38		2.2	6.71	0.67
	EXISTING ROUNDABOUT - DS3 2036							
Arm A	A1 D7	0.4	4.39	0.28	A1 D8	1.0	8.23	0.47
Arm B		2.1	6.42	0.66		1.2	4.69	0.52
Arm C		0.5	6.64	0.33		0.5	5.54	0.31
Arm D		0.7	3.75	0.39		2.4	7.15	0.68

	AM			
	Set ID	Queue (PCU)	Delay (s)	RFC
PROPOSED ROUNDABOUT (AM) - DS3 2036				
Arm A	A2 D7	0.4	4.39	0.28
Arm B		2.3	7.06	0.68
Arm C		0.9	11.77	0.46
Arm D		1.6	8.94	0.60

	PM			
	Set ID	Queue (PCU)	Delay (s)	RFC
PROPOSED ROUNDABOUT (PM) - DS3 2036				
Arm A	A3 D8	0.9	7.95	0.46
Arm B		1.3	5.17	0.54
Arm C		0.8	9.32	0.43
Arm D		25.7	77.41	1.00

- 4.3.4 The results show that the roundabout would operate within capacity in all scenarios except the final PM peak hour table, with the full development in place (DS3). This scenario also allows for the reduction in exit width associated with providing the Toucan crossing, as a result of which the A47 Northbound entry (Arm D) is forecast to operate at capacity (RFC = 1.0) and with a queue of just over 25 vehicles. This is a direct result of the reduced exit width (the principle of which has already been accepted by LCC), as evidenced in Table TN7.2 by the results for the "*Existing roundabout- DS3*" scenario, in which all arms would operate within capacity, allowing for the full development but no exit width reduction.
- 4.3.5 It must again be emphasised that this is, in any event, a worst-case scenario for an assessment year of 2036, which exceeds LCC's usual requirements. An alternative assessment using a 2028 assessment year is presented in **Table TN7.3**.

**Table TN7.3: Results of Updated JUNCTIONS 10 Assessment –
Junction 2: A47/Roston Drive Roundabout (2028 Assessment Year)**

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	EXISTING ROUNDABOUT - DM3 2028							
Arm A	A1 D5	0.0	3.30	0.02	A1 D6	0.4	6.25	0.26
Arm B		2.3	6.07	0.67		1.2	4.41	0.52
Arm C		0.4	5.84	0.28		0.4	5.05	0.27
Arm D		0.6	3.46	0.35		1.8	5.81	0.62
	EXISTING ROUNDABOUT - DS4 2028							
Arm A	A1 D7	0.4	4.20	0.27	A1 D8	0.8	7.14	0.42
Arm B		1.7	5.71	0.61		1.0	4.37	0.48
Arm C		0.5	6.11	0.29		0.4	5.26	0.29
Arm D		0.6	3.54	0.36		1.9	6.18	0.64

	AM			
	Set ID	Queue (PCU)	Delay (s)	RFC
	PROPOSED ROUNDABOUT (AM) - DS4 2028			
Arm A	A2 D7	0.4	4.20	0.27
Arm B		1.9	6.32	0.64
Arm C		0.7	9.80	0.40
Arm D		1.4	8.15	0.56

	PM			
	Set ID	Queue (PCU)	Delay (s)	RFC
	PROPOSED ROUNDABOUT (PM) - DS4 2028			
Arm A	A3 D8	0.8	7.09	0.42
Arm B		1.1	4.82	0.51
Arm C		0.7	8.56	0.40
Arm D		11.2	38.49	0.93

- 4.3.6 Table TN7.3 shows that in the “*Proposed roundabout- DS4*” scenario for 2028, the A47 Northbound entry would operate with a Ratio of Flow to Capacity (RFC) value of 0.93 and a maximum queue of 11 vehicles. Whilst it is acknowledged that the desirable maximum RFC for new junctions is 0.85, this result is considered satisfactory for an existing junction and not indicative of a severe residual impact compared with the equivalent “*No Development*” (DM3) scenario.
- 4.3.7 The reduction in northbound entry capacity must also be balanced against significantly improved pedestrian and cyclist connectivity that would arise from the Toucan crossing proposal, thus supporting the Travel Plan modal shift targets. The provision of 3 controlled pedestrian crossings (at this location, at Outlands Drive and Greenfinch Road) is central to this strategy and is supported by Active Travel England (ATE). The new Toucan crossing at this location (Roston Drive) will also provide significant betterment by improving pedestrian and cyclist access to the existing Triumph Motorcycles factory from the residential area to the east.
- 4.3.8 On this basis, it is considered that there is no requirement for further mitigation works to the junction over and above those currently proposed and accepted in-principle by LCC.

4.4 Junction 4: A47/Greenfinch Road

- 4.4.1 The revised traffic forecasts and model outputs for this junction are presented in **Appendix TN7-F** and the results are summarised in **Table TN7.4**.

**Table TN7.4: Results of Updated JUNCTIONS 10 Assessment –
Junction 4: A47/Greenfinch Road Roundabout**

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	Survey 2022							
A - Greenfinch Way	D1	0.0	2.57	0.02	D2	0.0	3.00	0.02
B - A47 Normandy Way (North)		1.2	4.90	0.53		0.7	3.78	0.39
C - A47 Normandy Way (South)		0.7	3.34	0.39		1.3	4.46	0.55
	DM2 2036							
A - Greenfinch Way	D3	0.4	3.38	0.25	D4	0.3	4.07	0.19
B - A47 Normandy Way (North)		3.5	10.91	0.77		1.6	6.06	0.60
C - A47 Normandy Way (South)		0.9	3.79	0.46		3.1	7.54	0.74
	DS3 2036							
A - Greenfinch Way	D5	0.1	2.76	0.09	D6	0.1	3.55	0.07
B - A47 Normandy Way (North)		2.4	7.49	0.69		1.4	5.35	0.57
C - A47 Normandy Way (South)		0.7	3.43	0.40		2.1	5.97	0.67

- 4.4.2 The results confirm that the junction would continue to operate within capacity with the proposed development in place.

4.5 Junction T1: Triumph Motorcycles Access

4.5.1 The updated traffic forecasts and model outputs for this proposed junction are presented in **Appendix TN7-G** and the results are summarised in **Table TN7.5**.

**Table TN7.5: Results of Updated JUNCTIONS 10 Assessment –
Junction T1: Triumph Motorcycles Access**

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	DS3 2036							
Stream B-AC	D1	0.1	8.42	0.07	D2	0.9	13.96	0.46
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00

4.5.2 The results confirm that the proposed junction would operate within capacity.

5.0 OFF-SITE IMPLICATIONS

- 5.1.1 LCC's response identifies existing capacity issues at the A47/A447 Ashby Road junction and states that it is likely to require the developer to provide a fair and reasonable Section 106 contribution towards possible highway improvements.
- 5.1.2 CTP's previous response note dated 22/12/23 provided an updated assessment of traffic flow increases on the adjoining highway network, using the new Sword Drive trip rates and the trip distribution adopted in the TA (both now accepted by LCC), but no allowance for any modal shift. For convenience, this revised assessment is included again in **Appendix TN7-H** and the summary of peak hour development traffic flows into key junctions is presented in **Table TN7.6**.

**Table TN7.6: Development Traffic Flows Into Key Junctions – FPA Scheme
(Agreed "Sword Drive" Trip Rates)**

JUNCTION		AM (Vehicles)	PM (Vehicles)
A1	NORMANDY WAY/GREENFINCH ROAD	19	16
J1	NORMANDY WAY/OUTLANDS DRIVE	6	5
J2	NORMANDY WAY/ROSTON DRIVE	65	54
J3	A5/A47 DODWELL'S ROUNDABOUT	47	39
J4	A5/A47 THE LONG SHOOT SIGNALS	20	17
J5	M69 JUNCTION 1	23	19
J6	A47/WYKIN ROAD ROUNDABOUT	17	14
J7	A47/STOKE ROAD ROUNDABOUT	15	12
J8	A47/A447 JUNCTION	14	12
J9	A47/LEICESTER ROAD JUNCTION, EARL SHILTON	12	10

- 5.1.3 Development traffic flows are forecast to be well below 30 vehicles at all junctions on the corridor highlighted by LCC, except for Junctions 2 and 3 for which improvements to address the development's transport requirements have already been identified.

- 5.1.4 Table TN7.6 shows a maximum of 14 additional vehicles per hour through the A47/A447 junction, which is not material. Previous LCC responses (22/12/23) have advised that capacity assessments would be required where 30 or more two-way trips are generated. The A47/A447 junction clearly does not approach this threshold.
- 5.1.5 On this basis, capacity assessments at other junctions on the A47 corridor between the site and the B4668 Leicester Road are not required, and it is therefore considered that no S106 contribution towards works at the A47/A447 junction is justified.

6.0 PEDESTRIAN AND CYCLING INFRASTRUCTURE

6.1.1 LCC's comments under this heading relate to the proposed Toucan crossing of Normandy Way to the north of the Outlands Drive junction. The design issues raised by LCC and CTP's design team response are summarised below. Each issue was discussed at the meeting with LCC's Section 278 team on Monday 17 June 2024, and the responses and/or design changes provided below reflect what was agreed.

6.1.2 The revised design drawings are presented in **Appendix TN7-B**.

LCC Comment No. 1	Design Team Response
The LHA note 85th percentile speeds are provided in the technical note and these are less than 85kph, therefore turning lane widths over 3.65m are acceptable.	Noted. Proposed turning lane width is 5.0m. No further action required.

LCC Comment No. 2	Design Team Response
The existing segregated footway/cycleway facilities on the east side of Normandy Way are shown as remaining as they currently are. There is scope to increase the width of the cycleway using the existing wide grass verges.	Following discussions with the S278 Design Team, no further works to provide a wider cycleway are required at this location.

LCC Comment No. 3	Design Team Response
The length of the tapers for the central hatching and carriageway widening are shown but for completeness, the actual gradient should also be identified (e.g. 1:20).	Accepted. Amendments are shown on Drawing C21021/DR104 (Rev. A) .

LCC Comment No. 4	Design Team Response
The LHA would ask the applicant why are there two separate crossings being provided with a large central island? It would be better to have a single crossing so pedestrians / cyclists can cross the full width of the carriageway in a single movement (with no central refuge).	At the meeting with LCC's S278 Design Team, it was confirmed that the crossing will provide a "green-man" phase to allow pedestrians to cross the full width of Normandy Way in a single movement. The proposed island is a modified version of the existing island, which serves the purposes of guiding vehicles around the ghost-island, protecting right turning traffic and reducing the scope for unsafe overtaking. It has therefore been agreed with the S278 Design Team that the proposed island should be retained within the design.

LCC Comment No. 5	Design Team Response
Relating to the above comment, primary signal heads are being proposed in each direction, which will be confusing and dangerous for drivers and users of the crossing, especially if one crossing is red to traffic and the other green to traffic.	Signal heads have been checked for compliance and amended as necessary. Revised scheme is shown on Drawing C21021/DR104 (Rev. A) .

LCC Comment No. 6	Design Team Response
No Zig Zag markings have been shown for the crossing and this is a legal requirement.	Accepted. These are now shown on Drawing C21021/DR104 (Rev. A) .

LCC Comment No. 7	Design Team Response
The LHA will need to see a more detailed drawing showing controller, feed pillar, ducting, chambers, detection etc.	It has been agreed with the S278 Design Team that this matter will be addressed at detailed design stage.

LCC Comment No. 8	Design Team Response
The crossing should be MOVA control for safety as speeds are more than 40mph.	It has been agreed with the S278 Design Team that this matter will be addressed at detailed design stage.

LCC Comment No. 9	Design Team Response
The through lane widths, ghost island taper lengths and direct taper lengths should be identified on the drawing. Although existing features we need confirmation that they are to standard.	Accepted. These are now shown on Drawing C21021/DR104 (Rev. A) .

LCC Comment No. 10	Design Team Response
The LHA recommends that tracking is undertaken using vehicle speeds of 15kph.	Revised vehicle tracking is shown on Drawing C21021/DR104 (Rev A) . Tracking has been undertaken at a vehicle speed of 15kph. Although 0.5m clearance from the kerb-line has been provided wherever possible, we note from discussions with the S378 Design Team that this is not an absolute requirement.

LCC Comment No. 11	Design Team Response
The length of the Max Legal Length Articulated Vehicle has increased from 16.5m to 18.55m (in May 2023) - this should be reflected in the revised swept path analysis drawing.	Accepted – please see revised drawings.

LCC Comment No. 12	Design Team Response
Resurfacing may be needed on the approaches to ensure the PSV is in accordance with the requirements of the LCC document "Carriageway – Skidding Resistance Procedure" Tables 1.1 and 2.	Noted. To be addressed at detailed design stage.

- 6.1.4 Once the scheme revisions proposed above have been agreed, a Stage 1 Road Safety Audit (RSA) and Response Reports will be provided in respect of the proposed scheme.

7.0 INTERNAL LAYOUT

- 7.1.1 LCC's comments on internal layout matters have been addressed by Bloor Homes, whose responses are summarised within Appendix TN7-A.

Capricorn Transport Planning
20 June 2024

Capricorn Transport Planning

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Traffic Engineering
Sustainable Travel
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APPENDIX TN7-A

LCC THIRD RESPONSE (15/05/24)

Substantive response of the Local Highway Authority to a planning consultation received under The Development Management Order.



Response provided under the delegated authority of the Director of Environment & Transport.

APPLICATION DETAILS:

Planning Application Number: 23/00573/FUL

Highway Reference Number: 2023/0573/04/H/R2

Application Address: Land To The West Of Normandy Way Hinckley Leicestershire

Application Type: Full

Description of Application:

Re-consultation. Full planning application for 153 dwellings with a vehicular access from the factory access road and existing roundabout on the A47, drainage, landscaping, public open space, ground remodelling and supporting infrastructure and utilities.

GENERAL DETAILS

Planning Case Officer: Matt Jedruch

Applicant: Sally Smith

County Councillor: Cllr David Bill MBE

Parish:

Road Classification: Class A

Substantive Response provided in accordance with article 22(5) of The Town and Country Planning (Development Management Procedure) (England) Order 2015:

The Local Highway Authority does not consider that the application as submitted fully assesses the highway impact of the proposed development and further information is required as set out in this response. Without this information the Local Highway Authority is unable to provide final highway advice on this application.

Advice to Local Planning Authority

Background

In the Local Highway Authority's (LHA) second formal response to the planning application dated 22 December 2023, the LHA asked for further information / clarification from the applicant on the following aspects of the application:

- Proposed site access strategy;
- Off-site pedestrian / cycle crossing at Outlands Drive;
- Highway impact of the proposed development;
- Traffic survey data at junctions identified along with revised junction capacity assessments and model files based on revised trip rates;
- Justification / evidence of current mode split and detailed breakdown of proposed 11.7% distributed to other modes; and
- Amendments to layout of the proposed development to ensure it would be adopted by the LHA.

To address these comments the applicant has now submitted the following transport documents / plans to the Local Planning Authority (LPA):

- Define Covering Letter document ref: DE_155I_Highways Cover_2024 03 28_SP, 'Land west of Normandy Way Hinckley', dated 28 March 2024;
- Capricorn Transport Planning, document ref: C21021, 'Highways Technical Note 6 (HTN6) 'Hinckley West Development', submitted to the Local Planning Authority on 28 March 2024;
- Lawrence Walker Limited, 'Travel Plan (Phase 4 Extension Full Application) – Normandy Fields Hinckley', dated August 2023;
- Nineteen47 Chartered Town Planners and Urban Designers, drawing number: n1787-F-008, 'Planning Layout - Land at Normandy Fields, West of Hinckley', Revision N;
- Nineteen47 Chartered Town Planners and Urban Designers, drawing number: n1787-F-009, 'Presentation Layout - Land at Normandy Fields, West of Hinckley', Revision L;
- Nineteen47 Chartered Town Planners and Urban Designers, drawing number: n1787-F-402, 'Car Parking Schedule - Land at Normandy Fields, West of Hinckley', Revision I;
- Nineteen47 Chartered Town Planners and Urban Designers, drawing number: n1787-F-403, 'Refuse Strategy Plan - Land at Normandy Fields, West of Hinckley', Revision I;
- Capricorn Transport Planning Consulting drawing number: C21021-DR101, 'Proposed Development Access Arrangement Option 1 – Normandy Way', Revision A, dated 13 March 2024;
- Capricorn Transport Planning Consulting drawing number: C21021-DR102, 'Development Access Option 1 – Vehicle Swept Path', Revision A, dated 13 March 2024;
- Capricorn Transport Planning Consulting drawing number: C21021-DR104, 'Normandy Way / Outlands Drive Toucan Crossing', dated 5 February 2024;
- Bloor Homes drawing number: MI100-HL-101FUL-B, 'Highways Layout – Full', dated 11 January 2024;
- Bloor Homes Response to Highway Comments (Internal Layout) Technical Note, submitted to the Local Planning Authority on 24 April 2024; and
- Active Travel England Consultation Response dated 17 April 2024.

It is noted that CTP's Response Note to LCC dated 26/03/24 is not listed above. Please confirm if it was reviewed.

The LHA has now had the opportunity to review further aspects of the proposed development and is pleased to offer the following comments for consideration by the applicant.

Site Access

The LHA provided detailed comments on the proposed site access as part of the formal response in December 2023.

The LHA discussed the site access comments with the applicant on 18 January 2024 and the applicant provided a tracking drawing showing an 18.55m long HGV traversing the roundabout exit heading north on Normandy Way. After a review of the tracking drawing the LHA agreed with the applicant that the 4.5m exit width off the roundabout heading north up Normandy Way is acceptable for the applicant to base their detailed design off.

The updated site access arrangements for the proposed development are shown on drawing number: C21021-DR101, Revision A and is reproduced is Figure 1 below:

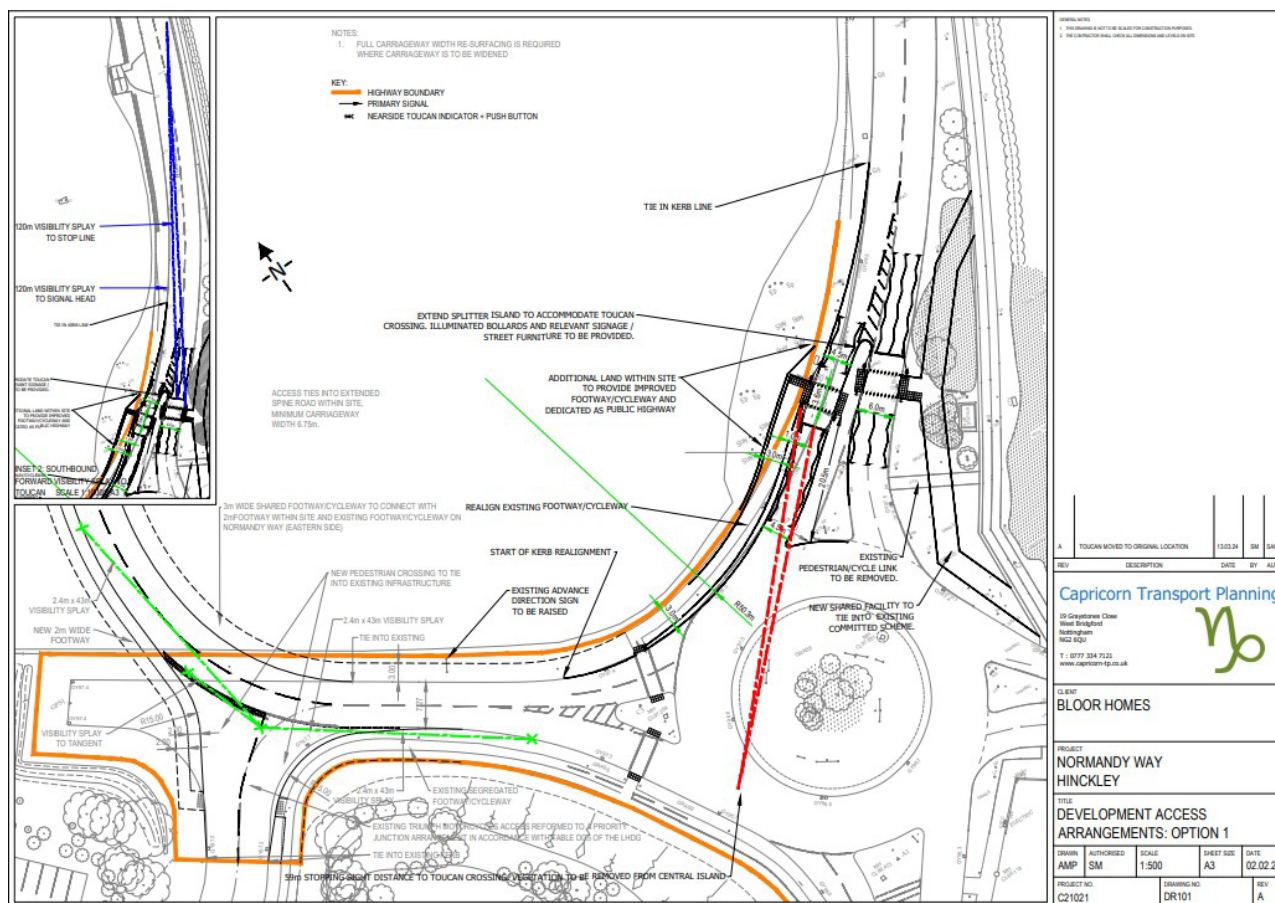


Figure 1 – Proposed site access reproduced from drawing number: C21021-DR101, Revision A

After a review of the updated plans, the LHA is able to provide further comments on the site access arrangements and tracking drawing.

Capricorn Transport Planning drawing number: C21021-DR101 Development Access Arrangements: Option 1, Revision A

- For the signal crossing tactile paving the stems should be on the right hand side of the crossing and not on the left (see Figure 3A of Guidance on the use of tactile paving surfaces). The paving should also be two slabs deep and not three. **Accepted. Drawing to be amended.**
- Previous highway comments raised the issue of exit width leading towards the new crossing being less than the 7m required by the DMRB CD116. This is because of the requirement to include a toucan crossing. The splitter island is very wide and could allow a broken-down vehicle to mount the kerb and enable vehicles to pass, if a splayed kerb were provided for the splitter island. **Accepted. Note will be added to drawing to specify kerbing of height sufficient to prevent kerb mounting, in conjunction with suitable road markings (see below).**
- Visibility splays for the proposed access should be based on measured 85th percentile speeds and not the posted speed limit. **Please see CTP Response Note dated 26/03/24, Page 7. This is a proposed new road and existing speeds cannot be measured. Therefore, please confirm that the 2.4m x 43m visibility splays are acceptable.**
- As the access is located on the outside of a horizontal bend, an additional visibility area ought to be shown to a point tangential to the nearer edge of the main road carriageway, as per DMRB CD123 Figure 3.9. **Accepted. Drawing to be amended.**
- Road markings on the roundabout should be shown, demonstrating how the layout will ensure vehicles do not collide with the southwest corner of the proposed wider splitter island. **Accepted. Drawing to be amended.**
- A Stopping Sight Distance (SSD) of 59m is shown on the drawing for the proposed traffic signals, however speed readings would be required to determine whether the SSDs are in accordance with the requirements of DMRB CD109 Table 2.10. **Please see CTP Response Note dated 26/03/24, Page 8. Measured 85th percentile speeds documented in the TA support proposed 59m SSD. Therefore, please confirm that these are acceptable.**
- The existing cycling facilities on the eastern side of Normandy Way are segregated. In accordance with the requirements of LTN1/20 segregated footway/cycleway facilities should be provided between the new Toucan crossing and the site access. **A 3.0m wide shared use facility is shown adjacent to the carriageway, which is consistent with the accepted cross-section along the remainder of the Spine Road. Whilst it would be possible to provide the additional width for a segregated facility using land within the site, this would provide little benefit if only on the short section between the Toucan and the Roston Drive crossing points. Furthermore, we note that Active Travel England (ATE) has accepted the proposals as they stand. Further discussion required.**
- For the traffic signals, the signal head is pointing in the wrong direction for the west side crossing, a secondary signal head is required for the east side crossing, some push buttons are shown without poles. **Accepted. Drawing to be amended.**

Capricorn Transport Planning drawing number: C21021-DR102 Development Access Option 1 Vehicle Swept Path - Bus and Development Access Option 1 Vehicle Swept Path – Artic, Revision

A

- As previously requested, swept path analysis should be provided for all movements using the Normandy Way roundabout northern exit, to prove that the proposed kerb and splitter island changes are suitable. **Accepted. Additional drawing to be provided.**
- The LHA recommends that tracking is undertaken using vehicle speeds of 15kph with an ideal 0.5m clearance to the kerb line. **Noted that this is a recommendation, not a requirement,**

but will be considered further.

- Road markings should be shown on the roundabout circulatory confirming that the swept paths show the vehicle staying within the appropriate lane. **Accepted. Drawing to be amended.**
- The length of the Max Legal Length Articulated Vehicle has increased from 16.5m to 18.55m (in May 2023) - this should be reflected in the revised swept path analysis drawing. **Swept path analysis to be re-run and relevant drawings amended.**

The applicant should make the amendments highlighted above and submit revised site access and tracking drawings to the LHA for review.

Highway Safety

The LHA provided a review of the Personal Injury Collision (PIC) data up to 31 October 2023 on the A47 between A47 / Stoke Road junction (to the north) and the A5 / Dodwells Road junction (south of the site) in its formal response in December 2023. The summary of that analysis confirmed that there were no patterns / trends within the PIC data.

The LHA now has PIC data up to end of December 2023 that has indicated that there has been another two PICs in the study area, which were classified as slight in severity. These additional collisions do not change the LHA's overall conclusion that there are no existing safety issues on the county roads that would be exacerbated because of the proposed development.

No further action or information required.

Highway Impact

Trip Generation

The proposed development is predicted to generate 84 and 70 (two-way) trips in the AM and PM peak hours respectively.

The applicant has based the trip distribution / assignment from the site on Travel to Work data from the 2011 Census data for the Hinckley and Bosworth 011 Mid Layer Super-Output Area and use of satellite imagery and a route finder tool to assess the likely routes. As set out for the 2021 application, the LHA do not usually accept the methodology adopted for assessing route choice.

Based on these flows the applicant has indicated that 51% of the trips will use the A5 / Dodwells roundabout for access to the strategic road network. The LHA has carried out its own checks on the distribution / assignment information and whilst it does not exactly match the applicant's results, any changes on the local highway network would be minimal, so the LHA would not object to the methodology used by the applicant.

No further action or information required.

Future Year Scenarios

The applicant has tested the impact of the proposed development in the 2022 base year and 2036 scenarios. As part of the future traffic growth information the applicant has provided TEMPRO growth factors for the morning and evening peak hours for various areas to factor the 2022 flows and then to 2036. The final TEMPRO factors applied 11% for both highway peak hours are acceptable. According to the TA the future year traffic scenarios have also considered the additional committed development identified below.

Noted, but please see comments under “Junction Capacity Assessments” below. The use of a 2036 assessment horizon is highly robust.

Committed Developments

The applicant has considered development traffic from three other applications in their assessments of the junctions in the area:

- Barwell SUE (2,140 dwellings);
- Earl Shilton SUE (1,355 dwellings); and
- Hollycroft Grange development (850 dwellings – Parcel 1 area)

No further action or information required.

Traffic Flow Scenarios

The traffic flow diagrams have been based on traffic surveys undertaken in June 2022 and then included all the committed developments. The traffic survey at the Roston Drive roundabout was repeated in October 2022 because the Triumph Motorcycles Visitor Centre was closed when the June 2022 survey was done.

The LHA has checked the traffic flow diagrams in Appendix L of TA (Revision A dated May 2023) and note the following:

- The trip distribution flow diagrams in 'Transport Assessment RS Part 4 of 6' (accessed on page 2 of H&BBC's planning portal) pages 32 – 33 and Transport Assessment RS Part 5 of 6 pages 1 – 8 are acceptable
- AM Peak Hour 2022 Survey Data (07:45 to 08:45) and PM Peak Hour 2022 Survey Data (16:30 to 17:30) – in both the AM and PM peaks at the Greenfinch Road / A47 Normandy Way roundabout junction, the PCU's for cars have been calculated as 0.4 per car – this means the number of cars through the junction on the traffic survey is more than halved as the PCU for a car should be one. This is also shown in the traffic survey data, see Transport Assessment RS Part 5 of 6 pages 26-28. **This will be checked and calculations amended if required. Please note that the model of this junction used the original 2015 trip generation rates. If the model is to be re-run, the agreed Sword Drive trip rates will be applied for consistency with the most recent Roston Drive roundabout assessment.**

The LHA note the applicant undertook the traffic surveys in June 2022. The LHA requires Covid factors to be applied consistently for surveys undertaken prior to 2nd September 2022 as for all other applications using data during the affected time periods. The applicant is therefore required to contact ndi@leics.gov.uk for the appropriate factors, adjust their traffic flow scenarios accordingly and resubmit all the results. **The COVID factors for the date of the traffic surveys (21/06/23) have been supplied by LCC's NDI team. The corresponding AM and PM peak hour uplift factors are as follows:**

- **AM Peak Hour (08:00-09:00) = 0%**
- **PM Peak Hour (17:00-18:00) = 1%.**

The 1% factor for the PM peak hour is statistically insignificant and we do not consider that it should be applied, as it is not distinguishable from day-to-day variations in traffic flow. The above factors are in line with expectations, since COVID restrictions were officially lifted a year earlier than the surveys.

Furthermore, the traffic growth assumptions used in the TA are considered highly robust. The TA adopts unified assessment year of 2036 that was agreed with LCC and National Highways. Traffic growth between the survey year (2022) and 2036 has been accepted at 11%. LCC has stated that it would usually require a future year scenario of base year (year of planning application) plus 5 years (see "Junction Capacity Assessments" below), which would be 2028.

Using the most current version of TEMPRO (v.8.1), growth between 2022 and 2028 would be 4.7%. The difference between the 11% growth to 2036 and 4.7% growth to 2028 is 11% / 4.7% = 6.0%, which significantly exceeds the above COVID corrections.

It is therefore considered that no further adjustment of the traffic survey data is required. To be discussed/agreed.

Junction Capacity Assessments

Despite the LHA's comments on the traffic flows and scenarios above, the LHA has checked the geometry and general layout of the junction models and the applicant should note the following:

Junction 1: A47 Normandy Way / Outlands Drive

The visibility to the left should be 71m and to the right should be 104m (as per the drawing) but making these changes to the junction model does not make a significant difference to the results and Ratio Flow Capacity values remain exceeded for Outlands Drive. **Model will be updated for completeness.**

Junction A1: A47 Normandy Way / Greenfinch Road

The geometry and layout of the model are satisfactory.

No further action or information required.

Junction T1: Triumph Motorcycles / Development Access east and west

The geometry and layout of the model are satisfactory.

No further action or information required.

Junction 2: A47 Normandy Way / Triumph Motorcycles / Roston Drive (existing)

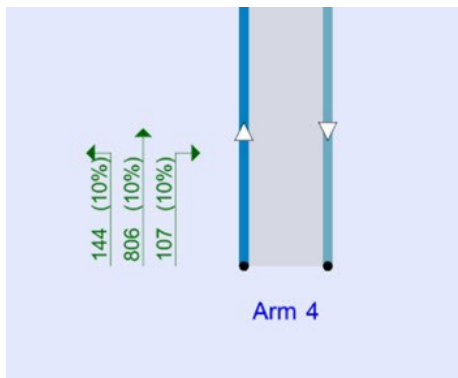
The geometry and layout of the model are satisfactory.

No further action or information required.

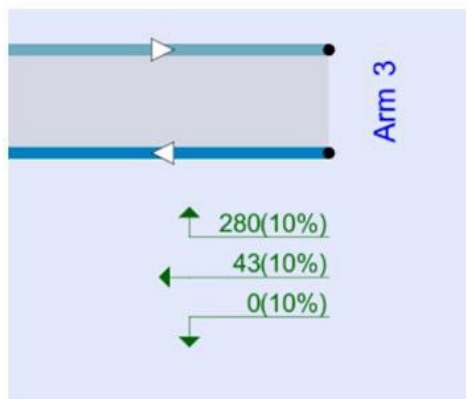
Junction 2: A47 Normandy Way / Roston Drive (proposed with pedestrian crossing)

The LHA have a concern about this model relating to the proposed narrowing of the carriageway on Arm 1 (A47 North) which will result in the removal of the existing 2-lane exit. This means that traffic on Arm 4 (A47 South) will no longer be able to use both lanes to go ahead to A47 North (Arm 1).

The traffic flows on A47 South are imbalanced, in the extract from the model shown below for example, 950 pcus will use lane 1 to go left/ahead and only 107 pcus will use lane 2 as it will no longer be possible to use both lanes to go ahead:



There are also imbalances in flows on Arm 3 where most traffic is turning right:



The ARCADY model assumes that approach lane flows are balanced, and corrections should be made to the model to account for unequal lane usage (e.g. as per the advice in the Barbara Chard “Arcady Heath Warning” which can be found at http://231618.vps-10.com/Home/docs/tec_arcadyHealthWarning.pdf). Alternatively, the use of “Lane Simulation” mode in the model should give more accurate results.

The model has been adjusted to reflect the unequal lane usage on the A47 South (Arm 4) as noted above, using the Barbara Chard methodology (intercept correction). This is documented in our Response Note dated 26/03/24 and the model files for this scenario were also forwarded to LCC for review. Please confirm that this model has been reviewed and is acceptable.

Although no intercept correction has been applied in the case of Roston Drive East (Arm 3), doing so is unlikely to make a significant difference to the conclusion reached due to lower traffic demands and short flare. However, the model will be re-run with the appropriate correction applied for completeness.

Whilst the LHA would usually require a baseline year assessment consistent with the year of the planning application and future scenario of base year + five years the LHA is content that in these site-specific circumstances the dates used are appropriate. Nevertheless, the applicant has not included the results for the 2036 scenarios so these should be submitted once the applicant is satisfied that the traffic flows are correct (see further details below). **The model included with our Response Note dated 26/03/24 includes all assessments at 2036. This unified assessment year was agreed in order to align with the requirements of National Highways. Following the LCC approach would result in an assessment year of 2028 (planning application year 2023 + 5 years). Use of a 2036 assessment year is therefore robust, although use of a 2028 year as suggested would provide better results for the single-lane N/B exit scenario and we are happy to provide this.**

Once the traffic flows have been adjusted and checked, the junction capacity assessments will need to be repeated to understand, the impact of the proposed development on the network and what mitigation is required (see section below for further details).

Noted and will be done once the above matters have been discussed and agreed.

Off-Site Implications

A47 Normandy Way / A447 Ashby Road

The LHA is aware of capacity issues at this junction and is looking at a highway improvement scheme to accommodate additional growth in the area.

Please see Response Note dated 26/03/24. Table 5.1 on Page 11 shows that the Sword Drive trip rates would result in a maximum of 14 additional vehicles per hour through this junction, which is not material. Previous LCC response (22/12/23) advised that capacity assessments would be required where 30 or more two-way trips are generated. The A47/A447 junction clearly does not approach this threshold.

Once the applicant has made the changes to the traffic flows and provided an updated junction capacity assessment the LHA will consider the impact of the proposed development at the junction. However, the LHA would advise the LPA that it is likely the applicant will be required to make a fair and reasonable Section 106 contribution to the highway works that will be delivered.

It is therefore considered that no S106 contribution is appropriate.

A47 / Dodwells Roundabout Mitigation

To address the impact of the proposed development at the A47 / A5 Dodwells roundabout the applicant has submitted a scheme of mitigation as shown on PJA Transport drawing number: 07839-TR-A-0001. This shows improvements at the roundabout including:

- Existing drop kerb to be removed - full height kerb to be reinstated;
- Realigned kerb to tie in with existing kerb before warning tactile paving on shared use path;
- Dedicated turning lane arrangement for a left-turn approach lane; and
- Increase in number of cars stored between stop line and pedestrian crossing to north from nine to 12

The LHA has checked the drawing and would advise that reduction in the shared use cycleway to a width of 2.5m would be less than the minimum requirements detailed in LTN1/20. This will need to be amended on a revised plan.

There is an existing shared use facility which runs along the eastern side of the A47 before continuing along the B4666 on the northern side of the carriageway. The facility is generally in excess of 3m in width as per the guidance in LTN1/20. The shared use facility continuing along the A5 (W) is below this guidance however.

The proposed highway improvement scheme requires the shared use facility to be narrowed from 4m to 2.5m to accommodate the second traffic lane over a greater distance. Whilst the guidance contained in LTN1/20 is understood, in this instance this is deemed acceptable for the following reasons:

- There is already an existing section of the shared use facility with local narrowing to the south of the Harrow Brook which falls below a 3m width.
- The distance over which the narrowing is required is limited at only approximately 25m.
- Pedestrian and cycle flows in this location are modest. Wider geometries are required where there is likely to be higher numbers of non-motorised users and in particular where there is a high potential for conflict between pedestrians and cyclists. This is not the case in this location.
- Furthermore LTN1/20 (Section 5.2) sets out the dynamic kinetic envelope of cyclists; a space of around 1.0m is required for moving cyclists on a standard bicycle with a minimum of 0.5m separation between cyclists passing one another. The 2.5m wide facility would allow for two cyclists to pass one another in the relatively unlikely event they are on the limited narrowed section concurrently.
- Considering the limited section of shared use facility which would be narrowed, the modest pedestrian and cycle numbers and the benefits that would be achieved through the highway improvement, it is deemed that the proposal is acceptable.

Pedestrian and Cycling Infrastructure

Normandy Way / Outlands Drive Toucan Crossing

After the initial observations, the LHA has now undertaken a design check on the updated pedestrian / cycle crossing at Outlands Drive. The scheme is shown on Capricorn Transport Planning drawing number: C21021/DR104, dated 5 February 2024. The applicant would need to provide an updated drawing to take into account the following issues:

- The LHA note 85th percentile speeds are provided in the technical note and these are less than 85kph, therefore turning lane widths over 3.65m are acceptable. **Noted. No further action required.**
- The existing segregated footway/cycleway facilities on the east side of Normandy Way are shown as remaining as they currently are. There is scope to increase the width of the cycleway using the existing wide grass verges. **The requirement is to connect the Toucan satisfactorily with the existing foot/cycleway, which the scheme does. ATE has accepted the proposals as they stand. Therefore, no further works to existing cycleway proposed.**
- The length of the tapers for the central hatching and carriageway widening are shown but for completeness, the actual gradient should also be identified (e.g. 1:20). **Accepted. Drawing to be amended.**
- The LHA would ask the applicant why are there two separate crossings being provided with a large central island? It would be better to have a single crossing so pedestrians / cyclists

can cross the full width of the carriageway in a single movement (with no central refuge). **The intention is for pedestrians and cyclists to cross in a single green man phase. The proposed island is a modified version of the existing island, which is not a pedestrian refuge but serves the purposes of guiding vehicles around the ghost-island, protecting right turning traffic and reducing the scope for unsafe overtaking. Such issues might be raised in a Stage 1 Road Safety Audit. Whilst the refuge can be removed, confirmation is first sought from LCC's road safety team that this would be acceptable.**

- Relating to the above comment, primary signal heads are being proposed in each direction, which will be confusing and dangerous for drivers and users of the crossing, especially if one crossing is red to traffic and the other green to traffic. **Please see above. Drawing can be amended, but confirmation of whether removal of refuge is acceptable is required.**
 - No Zig Zag markings have been shown for the crossing and this is a legal requirement. **Accepted. Drawing to be amended.**
 - The LHA will need to see a more detailed drawing showing controller, feed pillar, ducting, chambers, detection etc. **Noted – to be addressed at detailed design stage.**
 - The crossing should be MOVA control for safety as speeds are more than 40mph. **Noted – to be addressed at detailed design stage.**
-
- The through lane widths, ghost island taper lengths and direct taper lengths should be identified on the drawing. Although existing features we need confirmation that they are to standard. **Accepted. Drawing to be amended.**
 - LHA recommends a vehicle speed of 15KPH is used for swept path analysis. **Noted that this is a recommendation, not a requirement, but will be considered further.**
 - The length of the Max Legal Length Articulated Vehicle has increased from 16.5m to 18.55m (in May 2023) - this should be reflected in the swept path analysis and will need updating by the applicant. **Swept path analysis to be re-run and relevant drawings amended.**
 - Resurfacing may be needed on the approaches to ensure the PSV is in accordance with the requirements of the LCC document "Carriageway – Skidding Resistance Procedure" Tables 1.1 and 2. **Noted – to be addressed at detailed design stage.**

The applicant will need to make the changes highlighted above before submitting a Stage 1 Road Safety Audit of the proposals, along with a Designers Response to any issues raised.

Noted. RSA to be instructed once the design issues raised above have been agreed.

Transport Sustainability

The highway observations in December 2023 provided an overview of the walking, cycling and public transport provision in the local area. However, the applicant was asked to provide further clarification / evidence as to why a modal shift of 11.7% is appropriate for this planning application.

The applicant has provided additional information regarding the modal shift targets in their response to Active Travel England (ATE) comments on 28 March 2024, and the LHA note ATE has now withdrawn their previous objection to the application. Therefore, the LHA will work with the

Travel Plan Co-ordinator to encourage sustainable modes of travel. The inclusion of additional pedestrian / cycling infrastructure and updated Public Transport Strategy including new bus stops will also reduce single occupancy car journeys.

Lastly, the LHA welcome the ATE request for cycle storage, however as advised before this should not result in a reduction in the dimensions of any garages that are being provided. **Noted.**

Travel Plan

The LHA has reviewed the Travel Plan (TP) submitted in support of the planning application but unfortunately, the current TP is not acceptable. Although the TP builds on previous phases of the development and provides an outline of hard and soft measures, it does not demonstrate a commitment to specific measures or milestones throughout the life span of the plan. A clear programme of initiatives with dates for intended delivery should be set out and could include:

- Cycle training/doctor bike repairs/ cycle purchase discounts;
- Promotion of national events such as walking month/cycle work day/clean air day;
- Creation of walking groups/led walks;
- Bike loans;
- Promotion of LCC's Free Betterpoints app; and
- Travel information stands

Therefore, the LHA would ask the applicant to review the TP in line with the LCC guidance, which can be found at: <https://www.choosehowyoumove.co.uk/wp-content/uploads/2019/12/writing-a-successful-travel-plan.pdf>.

If the applicant does not want to make the amendments to the document as part of the planning application process then the LHA would be satisfied that a condition could be included to allow the submission of a revised TP for approval. **Bloor Homes would accept an appropriately-worded planning condition to secure the submission of a revised Travel Plan for later approval.**

Section 106 contributions

A proof of the Travel Pack will need to be submitted to LCC for approval before being distributed to residents. An admin fee of £500 will be required upon submission. Alternatively, LCC can provide each dwelling with a travel information pack for £52.85 per pack. The applicant should provide details of the Travel Plan Co-ordinator to s106monitoring@leics.gov.uk once appointed.

The Residential Travel Plan Monitoring Fee required for this site will be the sum of £6,000.

Noted.

Internal Layout

For the site to be suitable for adoption, the internal layout must be designed fully in accordance with the Leicestershire Highway Design Guide (LHDG). An initial review of the development identified several issues with the internal layout, which meant that it was not designed to the standards in the LHDG.

The LHA has now checked the Highway Layout as shown on drawing number: MI100-HL-001-FUL, Revision B and whilst some of the previous issues have been addressed, the LHA still has the following concerns with the layout:

Speed control

The speed reduction measures on the following internal roads 12, 94, 95 and 106 will need to be amended to ensure a 20mph design speed is delivered on these internal roads.

Road 12 has been reduced in length.

Road 94 is a bus route and our understanding is that 80m distance between speed reducing features is acceptable, nevertheless, we have added a feature in between plots 579 and 599.

Road 95 has no sections of road more than 60m without speed reducing features.

Road 106 falls largely outside of this application. In any case, there are no sections greater than 60m without speed reducing features.

Road 108

For a road to be considered for adoption it must provide direct frontage access to five properties or more as detailed in the LHDG. Please refer to part 3 points 3.40. Road 108 detailed below fails to comply with this requirement, please amend the planning layout to resolve this issue.

Road 108 is to be excluded from the S38.

Therefore, the current internal layout of the site is not in accordance with the LHDG and will not be considered for adoption by the LHA.

Parking

The applicant has provided further information on the parking issues raised in the previous highway observations in Bloor Homes Technical Note. Therefore, the LHA has rechecked the parking provision for the site, which is detailed on drawing number: n1787-F-402, Revision I and the level of parking for the proposed development is generally acceptable and the LHA would not seek to resist the proposals based on the parking provision for the proposed development. **No further action or information required.**

Private Drives

The applicant is advised that for shared drives that are to remain private the minimum effective width of an access to a shared private drive serving two to five dwellings is 4.25m and for 6 to 25 dwellings is 4.8m for a minimum distance of 5m behind the highway boundary. The minimum width for private drives is 5m if more than 25m in length. In all cases the applicant should add 0.5m if bound by a wall, fence, hedge, line of trees, etc. 1m should be added if the drive is so bound on both sides please refer to Part 3, LHDG for further guidance. **No further action required; all drives are compliant.**

**Date Received
19 December 2023**

**Case Officer
David Hunt**

**Reviewer
RD**

**Date issued
15 May 2024**

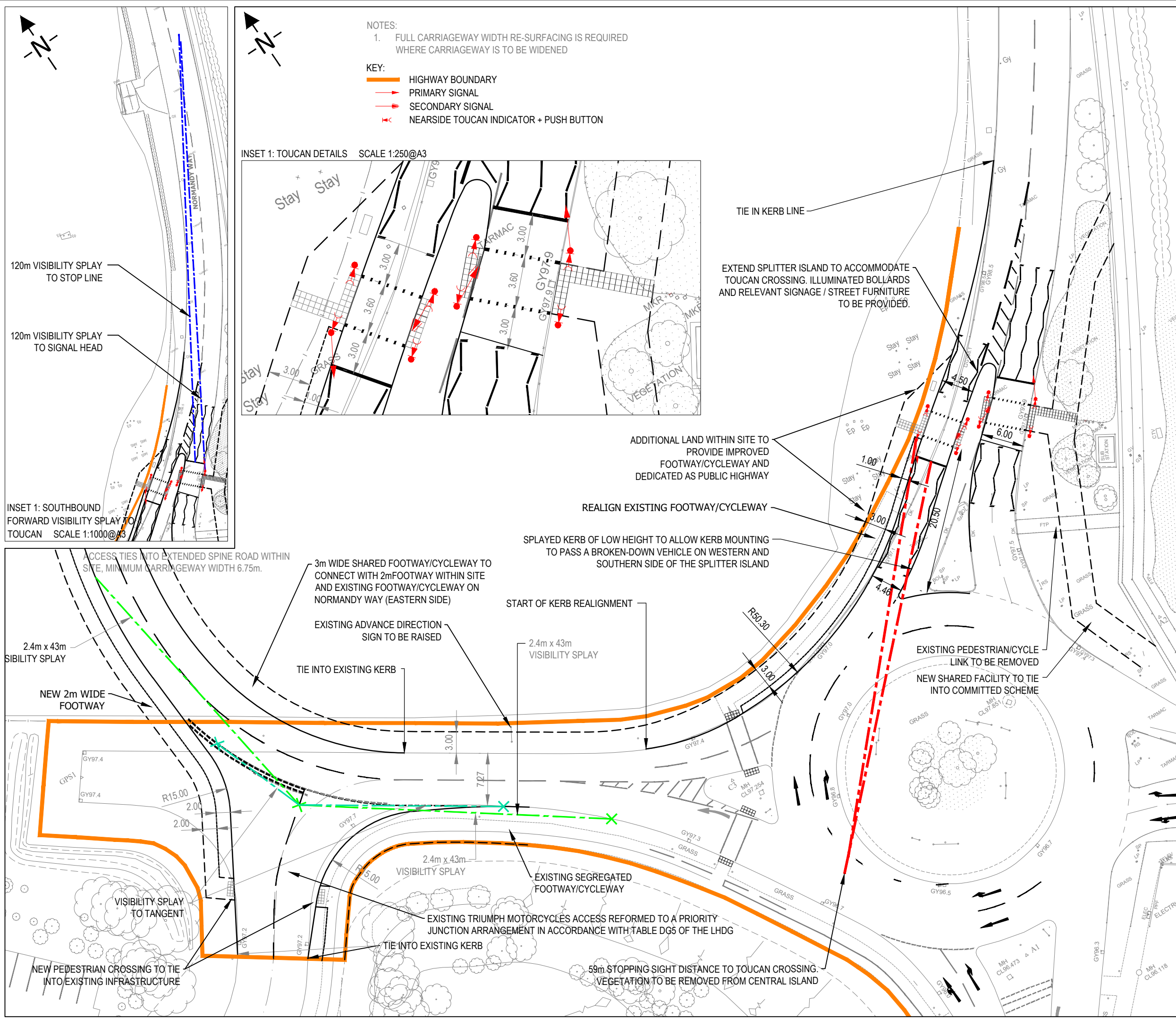
Capricorn Transport Planning

Transport Planning
Traffic Engineering
Sustainable Travel
Road Safety

19 Graystones Close
West Bridgford
Nottingham
NG26QU
0777 334 7121
Email: sean.mcgregor@capricorn-tp.co.uk
www.capricorn-tp.co.uk

APPENDIX TN7-B

REVISED DRAWINGS



GENERAL NOTES

1. THIS DRAWING IS NOT TO BE SCALED FOR CONSTRUCTION PURPOSES.
2. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND LEVELS ON SITE

B	UPDATES FOLLOWING LCC COMMENTS 15/05/24	19.06.24	AMP	SAM
A	TOUCAN MOVED TO ORIGINAL LOCATION	13.03.24	SM	SAM
REV	DESCRIPTION	DATE	BY	AUTH

Capricorn Transport Planning

19 Graystones Close
West Bridgford
Nottingham
NG2 6QU

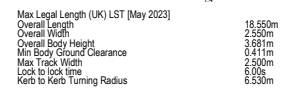
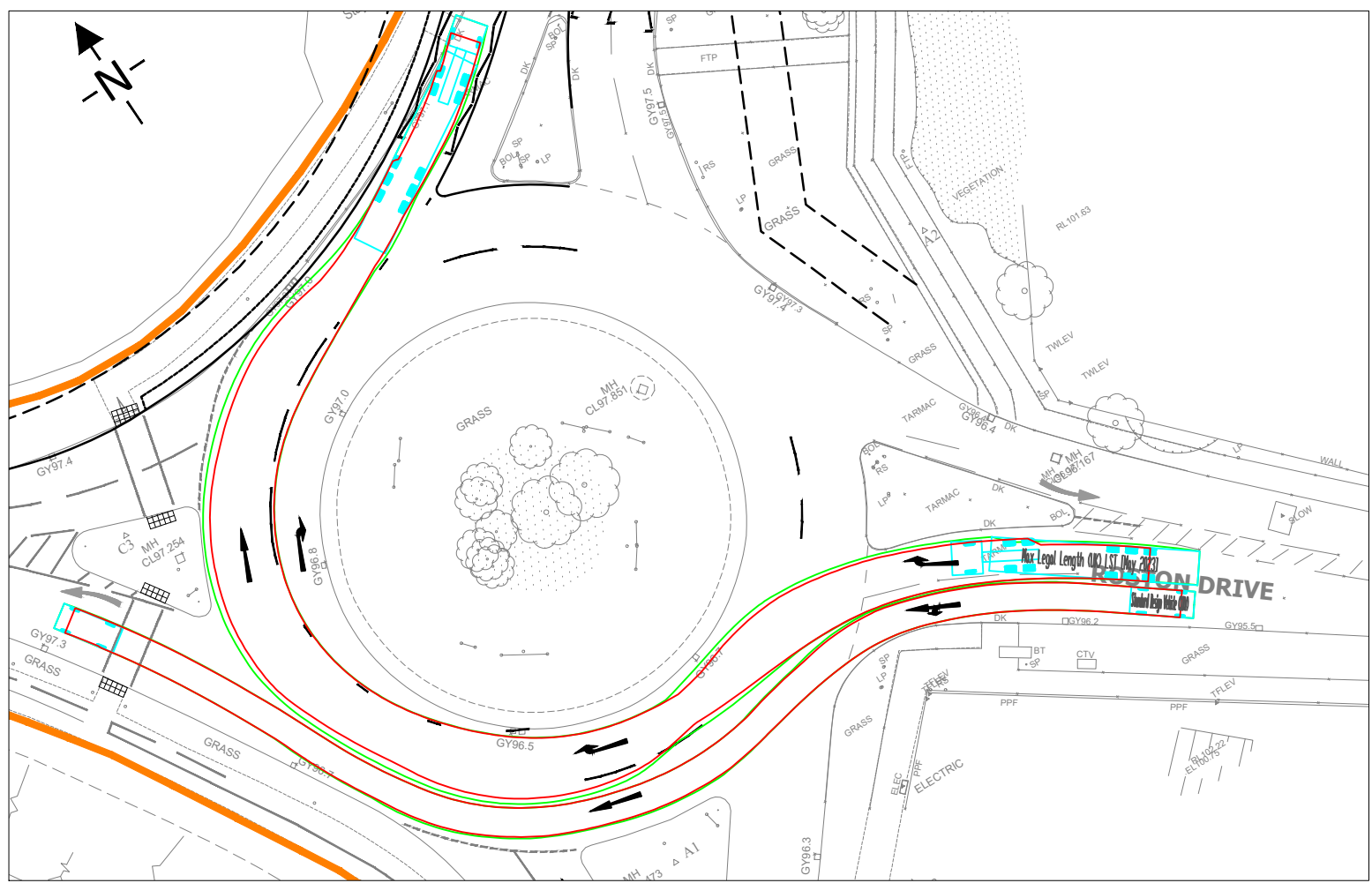
T : 0777 334 7121
www.capricorn-tp.co.uk

CLIENT
BLOOR HOMES

PROJECT NORMANDY WAY HINCKLEY

TITLE
DEVELOPMENT ACCESS
ARRANGEMENTS: OPTION 1

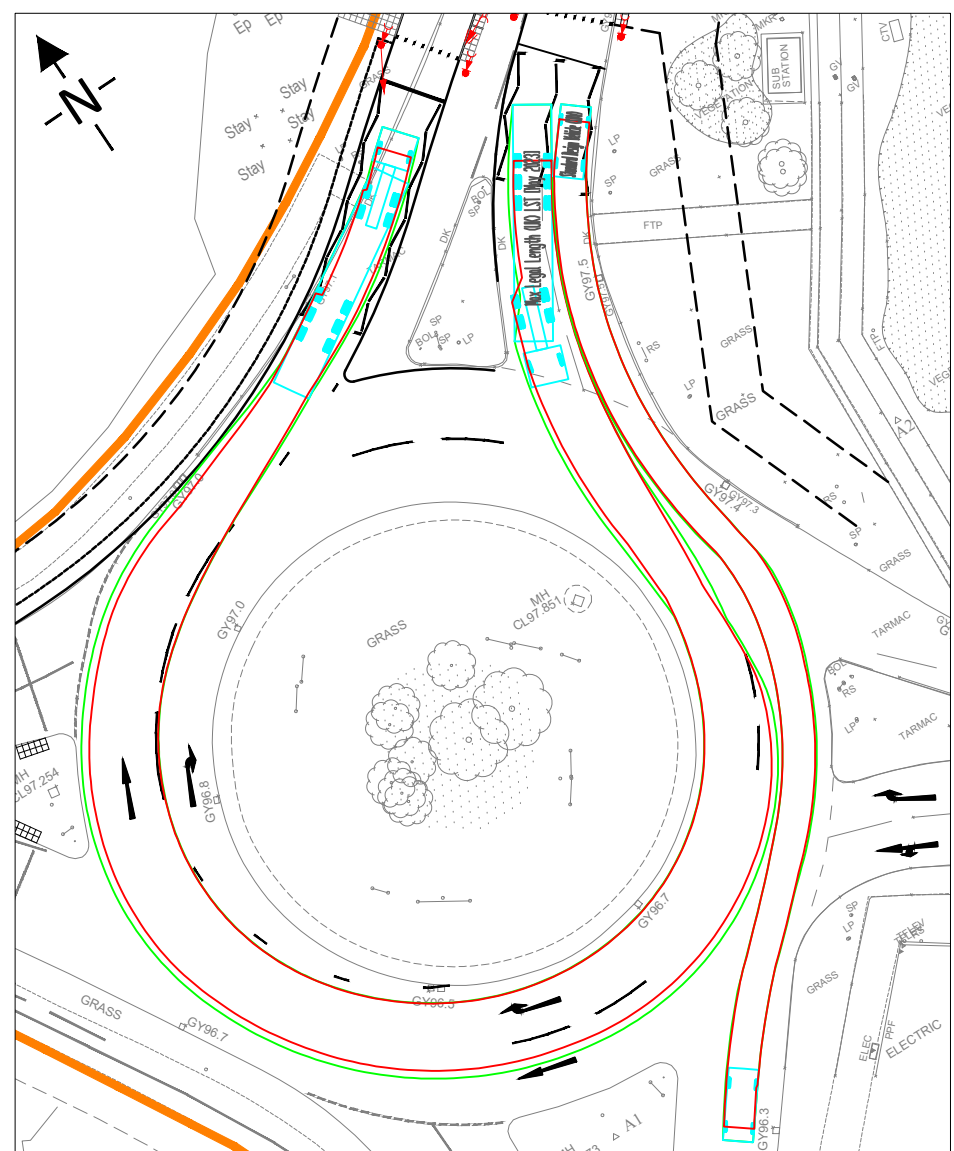
DRAWN AMP	AUTHORISED SM	SCALE 1:500	SHEET SIZE A3	DATE 02.02.24
PROJECT NO. C21021		DRAWING NO. DR101		REV B



A diagram of a car with a total length of 4.8. The front overhang is 0.9, and the wheelbase is 2.9.

Standard Design Vehicle (SDV)	
Overall Length	4.800m
Overall Width	2.000m
Overall Body Height	1.950m
Min Body Ground Clearance	0.100m
Track Width	2.000m
Lock to lock time	4.00s
Wall to Wall Turning Radius	6.000m

DESIGN VEHICLE - CAR
NOT TO SCALE



NOTE:
TRACKING UNDERTAKEN WITH VEHICLE SPEEDS AT 15kph

GENERAL NOTES

1. THIS DRAWING IS NOT TO BE SCALED FOR CONSTRUCTION PURPOSES.
2. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND LEVELS ON SITE.

REV	DESCRIPTION	DATE	BY	AUTH
Capricorn Transport Planning 19 Graystones Close West Bridgford Nottingham NG2 6QU T : 0777 334 7121 www.capricorn-tp.co.uk 				
CLIENT BLOOR HOMES				
PROJECT NORMANDY WAY HINCKLEY				
TITLE A47/ ROSTON DRIVE ROUNDABOUT NORTHERN EXIT - ARTIC SWEPT PATH				
DRAWN AMP	AUTHORISED SM	SCALE 1:500	SHEET SIZE A3	DATE 19.06.24
PROJECT NO. C21021		DRAWING NO. DR105		REV -

Capricorn Transport Planning

Transport Planning
Traffic Engineering
Sustainable Travel
Road Safety

19 Graystones Close
West Bridgford
Nottingham
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APPENDIX TN7-C

LCC COVID ADJUSTMENT FACTORS



To apply the factor divide the observed count by the factor percentage, as in the example below.

Example:

	Total Count	Thu	Factored
	(x)	01/10/2020 (y)	(x/y)
00:00:00	17	82%	20
01:00:00	8	100%	8
02:00:00	5	100%	5
03:00:00	8	72%	11
04:00:00	22	92%	23
05:00:00	87	92%	94
06:00:00	196	78%	251
07:00:00	535	82%	652
08:00:00	549	87%	631
09:00:00	400	90%	444
10:00:00	333	91%	365
11:00:00	356	96%	370
12:00:00	393	94%	418
13:00:00	366	94%	389
14:00:00	436	96%	454
15:00:00	466	95%	490
16:00:00	576	89%	647
17:00:00	539	86%	626
18:00:00	347	87%	398
19:00:00	210	91%	230
20:00:00	147	87%	168
21:00:00	128	87%	147
22:00:00	102	70%	145
23:00:00	40	64%	62

Note:

The factors provided below are for survey data gathered in Leicestershire only.
 These factors are intended to be used to adjust volume data gathered during
 the period represented in the table below.

Week 119					
	Mon	Tue	Wed	Thu	Fri
	20/06/2022	21/06/2022	22/06/2022	23/06/2022	24/06/2022
00:00:00	92%	100%	100%	100%	100%
01:00:00	100%	100%	100%	100%	100%
02:00:00	100%	100%	100%	100%	100%
03:00:00	100%	100%	100%	100%	100%
04:00:00	100%	100%	100%	100%	100%
05:00:00	100%	100%	100%	100%	96%
06:00:00	93%	98%	98%	96%	92%
07:00:00	93%	97%	96%	96%	86%
08:00:00	98%	100%	100%	100%	93%
09:00:00	97%	100%	100%	98%	100%
10:00:00	97%	100%	98%	100%	100%
11:00:00	97%	100%	98%	100%	100%
12:00:00	96%	100%	100%	99%	100%
13:00:00	94%	100%	100%	102%	100%
14:00:00	96%	98%	100%	101%	100%
15:00:00	98%	100%	100%	102%	100%
16:00:00	99%	100%	100%	97%	97%
17:00:00	96%	99%	98%	97%	92%
18:00:00	94%	99%	100%	97%	100%
19:00:00	96%	100%	100%	100%	100%
20:00:00	100%	100%	100%	100%	100%
21:00:00	98%	100%	100%	100%	100%
22:00:00	81%	100%	100%	100%	100%
23:00:00	90%	99%	100%	100%	100%

APPENDIX TN7-D

REVISED TRAFFIC FORECASTS AND CAPACITY ASSESSMENT: JUNCTION 1 – A47/OUTLANDS DRIVE



Hinckley, Tuesday 21st June 2022

Junction: 3

Approach: A47 Normandy Way North

	Left to Outlands Drive								Ahead to A47 Normandy Way (S)							
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	0	0	6	0	0	0	0	6	2	7	141	30	7	3	1	191
07:45 - 08:00	0	0	10	1	0	0	0	11	3	7	178	48	1	5	1	243
Hourly Total	0	0	16	1	0	0	0	17	5	14	319	78	8	8	2	434
08:00 - 08:15	0	0	7	0	0	0	0	7	0	5	147	23	1	4	0	180
08:15 - 08:30	0	0	6	1	0	0	0	7	0	2	144	22	5	4	1	178
08:30 - 08:45	0	0	18	1	0	0	0	19	0	1	131	29	1	5	0	167
08:45 - 09:00	0	0	13	3	0	0	0	16	1	0	144	29	3	9	1	187
Hourly Total	0	0	44	5	0	0	0	49	1	8	566	103	10	22	2	712
09:00 - 09:15	0	1	6	1	0	0	0	8	0	1	90	22	4	8	0	125
09:15 - 09:30	0	0	8	3	0	0	0	11	0	2	100	23	7	11	1	144
Hourly Total	0	1	14	4	0	0	0	19	0	3	190	45	11	19	1	269

TOTAL	0	1	74	10	0	0	0	85	6	25	1075	226	29	49	5	1415
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16:30 - 16:45	0	1	18	2	0	0	0	21	0	0	106	23	3	6	1	139
16:45 - 17:00	0	1	16	3	1	0	0	21	0	1	98	20	0	1	1	121
Hourly Total	0	2	34	5	1	0	0	42	0	1	204	43	3	7	2	260
17:00 - 17:15	0	2	20	3	0	0	0	25	0	2	109	16	0	3	0	130
17:15 - 17:30	0	1	23	3	0	0	0	27	1	0	114	19	0	0	0	134
17:30 - 17:45	0	0	14	2	0	0	0	16	0	5	143	9	0	1	0	158
17:45 - 18:00	0	0	13	0	0	0	0	13	0	2	94	12	1	1	1	111
Hourly Total	0	3	70	8	0	0	0	81	1	9	460	56	1	5	1	533
18:00 - 18:15	0	0	16	3	0	0	0	19	0	2	113	9	2	0	0	126
18:15 - 18:30	0	0	14	1	0	0	0	15	1	2	79	10	0	2	0	94
Hourly Total	0	0	30	4	0	0	0	34	1	4	192	19	2	2	0	220

TOTAL	0	5	134	17	1	0	0	157	2	14	856	118	6	14	3	1013
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	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	Sub Total	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	Sub Total	Overall Total
	0.2	0.4	1	1	2	2	2		0.2	0.4	1	1	2	2	2		
Rolling Peak	0	0	29	2	0	0	0	31	1	8.4	610	123	28	32	6	808.4	839.4
07:30 to 08:30	0	0	41	3	0	0	0	44	0.6	6	600	122	16	36	4	784.6	828.6
07:45 to 08:45	0	0	44	5	0	0	0	49	0.2	3.2	566	103	20	44	4	740.4	789.4
08:00 to 09:00	0	0.4	43	6	0	0	0	49.4	0.2	1.6	509	102	26	52	4	694.8	744.2
08:15 to 09:15	0	0.4	45	8	0	0	0	53.4	0.2	1.6	465	103	30	66	4	669.8	723.2
08:30 to 09:30	0	0.4	45	8	0	0	0	53.4	0.2	1.6	465	103	30	66	4	669.8	723.2

	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	Sub Total	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	Sub Total	Overall Total
	0.2	0.4	1	1	2	2	2		0.2	0.4	1	1	2	2	2		
Rolling Peak	0	2	77	11	2	0	0	92	0.2	1.2	427	78	6	20	4	536.4	628.4
16:30 to 17:30	0	1.6	73	11	2	0	0	87.6	0.2	3.2	464	64	0	10	2	543.4	631
16:45 to 17:45	0	1.6	73	11	2	0	0	87.6	0.2	3.2	464	64	0	10	2	543.4	631
17:00 to 18:00	0	1.2	70	8	0	0	0	79.2	0.2	3.6	460	56	2	10	2	533.8	613
17:15 to 18:15	0	0.4	66	8	0	0	0	74.4	0.2	3.6	464	49	6	4	2	528.8	603.2
17:30 to 18:30	0	0	57	6	0	0	0	63	0.2	4.4	429	40	6	8	2	489.6	552.6

WebTag M3.1

PCU Factors:

CYCLE 0.2

M/CYCLE 0.4

CAR 1

LGV 1

OGV1 2

OGV2 2

BUS 2



Hinckley, Tuesday 21st June 2022

Junction: 3

Approach: Outlands Drive

	Left to A47 Normandy Way (S)								Right to A47 Normandy Way (N)							
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	0	3	19	2	0	0	0	24	0	0	11	1	1	0	0	13
07:45 - 08:00	0	1	12	5	0	0	0	18	0	2	6	8	0	0	0	16
Hourly Total	0	4	31	7	0	0	0	42	0	2	17	9	1	0	0	29
08:00 - 08:15	0	0	19	1	0	0	0	20	0	0	4	3	0	0	0	7
08:15 - 08:30	0	0	11	2	0	0	0	13	0	0	14	1	0	0	0	15
08:30 - 08:45	0	1	11	1	0	0	0	13	0	0	13	1	1	0	0	15
08:45 - 09:00	0	0	19	2	0	0	0	21	0	0	12	2	0	0	0	14
Hourly Total	0	1	60	6	0	0	0	67	0	0	43	7	1	0	0	51
09:00 - 09:15	0	0	6	2	0	0	0	8	0	0	6	1	0	0	0	7
09:15 - 09:30	0	0	5	1	0	0	0	6	0	0	6	2	0	0	0	8
Hourly Total	0	0	11	3	0	0	0	14	0	0	12	3	0	0	0	15

TOTAL	0	5	102	16	0	0	0	123	0	2	72	19	2	0	0	95
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16:30 - 16:45	0	0	5	2	0	0	0	7	0	0	7	0	0	0	0	7
16:45 - 17:00	0	0	10	1	0	0	0	11	0	0	10	4	0	0	0	14
Hourly Total	0	0	15	3	0	0	0	18	0	0	17	4	0	0	0	21
17:00 - 17:15	0	0	9	1	0	0	0	10	1	1	9	0	0	0	0	11
17:15 - 17:30	0	0	7	0	0	0	0	7	0	1	8	1	0	0	0	10
17:30 - 17:45	0	0	6	0	0	0	0	6	0	0	8	1	0	0	0	9
17:45 - 18:00	0	0	8	1	0	0	0	9	0	0	15	0	0	0	0	15
Hourly Total	0	0	30	2	0	0	0	32	1	2	40	2	0	0	0	45
18:00 - 18:15	0	0	6	1	0	0	0	7	0	0	9	3	0	0	0	12
18:15 - 18:30	0	0	6	0	0	0	0	6	0	1	15	4	0	0	0	20
Hourly Total	0	0	12	1	0	0	0	13	0	1	24	7	0	0	0	32

TOTAL	0	0	57	6	0	0	0	63	1	3	81	13	0	0	0	98
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
07:30 to 08:30	0	1.6	61	10	0	0	0	72.6	0	0.8	35	13	2	0	0	50.8	123.4
07:45 to 08:45	0	0.8	53	9	0	0	0	62.8	0	0.8	37	13	2	0	0	52.8	115.6
08:00 to 09:00	0	0.4	60	6	0	0	0	66.4	0	0	43	7	2	0	0	52	118.4
08:15 to 09:15	0	0.4	47	7	0	0	0	54.4	0	0	45	5	2	0	0	52	106.4
08:30 to 09:30	0	0.4	41	6	0	0	0	47.4	0	0	37	6	2	0	0	45	92.4

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0	0	31	4	0	0	0	35	0.2	0.8	34	5	0	0	0	40	75
16:45 to 17:45	0	0	32	2	0	0	0	34	0.2	0.8	35	6	0	0	0	42	76
17:00 to 18:00	0	0	30	2	0	0	0	32	0.2	0.8	40	2	0	0	0	43	75
17:15 to 18:15	0	0	27	2	0	0	0	29	0	0.4	40	5	0	0	0	45.4	74.4
17:30 to 18:30	0	0	26	2	0	0	0	28	0	0.4	47	8	0	0	0	55.4	83.4

WebTag M3.1

PCU Factors:

CYCLE 0.2

M/CYCLE 0.4

CAR 1

LGV 1

OGV1 2

OGV2 2

BUS 2



Hinckley, Tuesday 21st June 2022

Junction: 3

Approach: A47 Normandy Way South

TIME	Ahead to A47 Normandy Way (N)								Right to Outlands Drive							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	0	1	83	22	1	3	0	110	0	0	1	1	0	0	0	2
07:45 - 08:00	0	0	90	27	7	4	1	129	0	0	3	1	0	0	0	4
Hourly Total	0	1	173	49	8	7	1	239	0	0	4	2	0	0	0	6
08:00 - 08:15	0	1	88	31	3	5	0	128	0	0	7	2	0	0	0	9
08:15 - 08:30	0	0	134	21	4	6	1	166	0	0	6	2	1	0	0	9
08:30 - 08:45	0	0	133	28	5	5	0	171	0	0	4	2	0	0	0	6
08:45 - 09:00	0	1	100	35	2	2	1	141	0	0	3	4	0	0	0	7
Hourly Total	0	2	455	115	14	18	2	606	0	0	20	10	1	0	0	31
09:00 - 09:15	0	4	80	41	4	4	1	134	0	0	9	3	0	0	0	12
09:15 - 09:30	0	1	70	20	2	3	0	96	0	0	3	4	0	0	0	7
Hourly Total	0	5	150	61	6	7	1	230	0	0	12	7	0	0	0	19

TOTAL	0	8	778	225	28	32	4	1075	0	0	36	19	1	0	0	56
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16:30 - 16:45	1	6	177	42	4	3	0	233	0	0	16	5	0	0	0	21
16:45 - 17:00	1	4	190	26	1	3	0	225	0	0	13	8	0	0	0	21
Hourly Total	2	10	367	68	5	6	0	458	0	0	29	13	0	0	0	42
17:00 - 17:15	0	7	240	24	4	2	1	278	0	0	17	1	0	0	0	18
17:15 - 17:30	2	8	170	20	2	3	0	205	0	0	17	1	0	0	0	18
17:30 - 17:45	5	1	179	27	2	1	0	215	1	0	19	0	0	0	0	20
17:45 - 18:00	0	4	154	11	1	1	2	173	0	0	14	3	0	0	0	17
Hourly Total	7	20	743	82	9	7	3	871	1	0	67	5	0	0	0	73
18:00 - 18:15	1	5	141	13	1	1	1	163	0	0	11	2	0	0	0	13
18:15 - 18:30	0	0	121	12	0	2	0	135	0	0	8	1	0	0	0	9
Hourly Total	1	5	262	25	1	3	1	298	0	0	19	3	0	0	0	22

TOTAL	10	35	1372	175	15	16	4	1627	1	0	115	21	0	0	0	137
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
07:30 to 08:30	0	0.8	395	101	30	36	4	566.8	0	0	17	6	2	0	0	25	591.8
07:45 to 08:45	0	0.4	445	107	38	40	4	634.4	0	0	20	7	2	0	0	29	663.4
08:00 to 09:00	0	0.8	455	115	28	36	4	638.8	0	0	20	10	2	0	0	32	670.8
08:15 to 09:15	0	2	447	125	30	34	6	644	0	0	22	11	2	0	0	35	679
08:30 to 09:30	0	2.4	383	124	26	28	4	567.4	0	0	19	13	0	0	0	32	599.4

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0.8	10	777	112	22	22	2	945.8	0	0	63	15	0	0	0	78	1023.8
16:45 to 17:45	1.6	8	779	97	18	18	2	923.6	0.2	0	66	10	0	0	0	76.2	999.8
17:00 to 18:00	1.4	8	743	82	18	14	6	872.4	0.2	0	67	5	0	0	0	72.2	944.6
17:15 to 18:15	1.6	7.2	644	71	12	12	6	753.8	0.2	0	61	6	0	0	0	67.2	821
17:30 to 18:30	1.2	4	595	63	8	10	6	687.2	0.2	0	52	6	0	0	0	58.2	745.4

AM	All arms	
07:30 to 08:30	1554.6	
07:45 to 08:45	1607.6	PEAK HOUR
08:00 to 09:00	1578.6	
08:15 to 09:15	1529.6	
08:30 to 09:30	1415	

PM	All arms	
16:30 to 17:30	1727.2	PEAK HOUR
16:45 to 17:45	1706.8	
17:00 to 18:00	1632.6	
17:15 to 18:15	1498.6	
17:30 to 18:30	1381.4	

WebTag M3.1

PCU Factors:

CYCLE 0.2

M/CYCLE 0.4

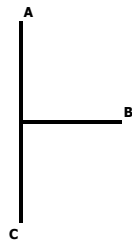
CAR 1

LGV 1

OGV1 2

OGV2 2

BUS 2

C21021 HINCKLEY WEST PHASE 4**TRANSPORT ASSESSMENT v3****TRAFFIC FLOWS****JUNCTION 1: A47 NORMANDY WAY/OUTLANDS DRIVE**

A= A47 SOUTH
B= OUTLANDS DRIVE
C= A47 NORTH

ALL FLOWS ARE IN PCUs

AM PEAK HOUR 07:45 to 08:45

2022 SURVEYED FLOWS
Tuesday 21/06/22

	A	B	C	TOTAL
A	0	44	785	829
B	53	0	63	116
C	634	29	0	663
TOTAL	687	73	848	1608

PM PEAK HOUR 16:30 to 17:30

	A	B	C	TOTAL
A	0	92	536	628
B	40	0	35	75
C	946	78	0	1024
TOTAL	986	170	571	1727

2036 BASE FLOWS

TEMPRO 8.1
HBBC Local Authority Area

	A	B	C	TOTAL
A	0	50	884	934
B	60	0	71	131
C	714	33	0	747
TOTAL	774	82	955	1811

TEMPRO Growth Factor 1.1261

	A	B	C	TOTAL
A	0	104	604	707
B	45	0	39	84
C	1065	88	0	1153
TOTAL	1110	191	643	1945

TEMPRO Growth Factor 1.1261

COMMITTED DEV. 1

Barwell and Earl Shilton SUEs

	A	B	C	TOTAL
A	0	1	60	61
B	-17	0	-10	-27
C	-84	-14	0	-98
TOTAL	-101	-13	50	-64

	A	B	C	TOTAL
A	0	-10	145	135
B	-10	0	-6	-16
C	30	-35	0	-5
TOTAL	20	-45	139	114

COMMITTED DEV. 2

Richborough Estates
Stoke Road

	A	B	C	TOTAL
A	0	0	54	54
B	0	0	0	0
C	18	0	0	18
TOTAL	18	0	54	72

	A	B	C	TOTAL
A	0	0	19	19
B	0	0	0	0
C	50	0	0	50
TOTAL	50	0	19	69

OPA DEVELOPMENT

SWORD DRIVE TRIP RATES

	A	B	C	TOTAL
A	0	23	235	258
B	10	0	0	10
C	102	0	0	102
TOTAL	112	23	235	370

	A	B	C	TOTAL
A	0	13	129	142
B	15	0	0	15
C	151	0	0	151
TOTAL	166	13	129	308

2036 NO DEVELOPMENT
DM2

	A	B	C	TOTAL
A	0	74	1233	1307
B	53	0	61	114
C	750	19	0	769
TOTAL	803	92	1294	2189

	A	B	C	TOTAL
A	0	107	897	1003
B	50	0	33	83
C	1296	53	0	1349
TOTAL	1346	159	930	2436

OPA+FPA DEVELOPMENT

SWORD DRIVE TRIP RATES

	A	B	C	TOTAL
A	0	8	0	8
B	3	0	9	12
C	0	20	0	20
TOTAL	3	28	9	40

	A	B	C	TOTAL
A	0	4	0	4
B	5	0	13	18
C	0	11	0	11
TOTAL	5	15	13	33

2036 WITH DEVELOPMENT
DS3

	A	B	C	TOTAL
A	0	59	998	1057
B	46	0	70	116
C	648	39	0	687
TOTAL	694	97	1068	1859

	A	B	C	TOTAL
A	0	98	768	865
B	40	0	46	86
C	1145	64	0	1209
TOTAL	1185	161	814	2161

Junctions 10			
PICADY 10 - Priority Intersection Module			
Version: 10.1.1.1905 © Copyright TRL Software Limited, 2023			
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com			
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Filename: 21021-J1-TA3_01.j10

Path: D:\OneDrive - Capricorn Transport Planning Ltd\PROJECTS\C21021 Hinckley West\WORK\Calculations\TA3

Report generation date: 19/06/2024 11:28:01

- »EXISTING (NO TOUCAN) - Survey 2022, AM
- »EXISTING (NO TOUCAN) - Survey 2022, PM
- »EXISTING (NO TOUCAN) - DM2 2036, AM
- »EXISTING (NO TOUCAN) - DM2 2036, PM
- »PROPOSED (WITH TOUCAN) - DS3 2036, AM
- »PROPOSED (WITH TOUCAN) - DS3 2036, PM

Summary of junction performance

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	EXISTING (NO TOUCAN) - Survey 2022							
Stream B-C	A1 D1	0.2	9.45	0.14	A1 D2	0.1	7.83	0.07
Stream B-A		0.4	22.12	0.25		0.2	20.69	0.19
Stream C-AB		0.1	7.75	0.06		0.2	7.55	0.14
	EXISTING (NO TOUCAN) - DM2 2036							
Stream B-C	A1 D3	0.3	19.04	0.24	A1 D4	0.2	22.31	0.17
Stream B-A		1.8	122.95	0.67		2.5	186.51	0.77
Stream C-AB		0.1	10.94	0.05		0.1	9.30	0.12

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
PROPOSED (WITH TOUCAN) - DS3 2036								
Stream B-C	A2 D5	0.2	11.50	0.18	A2 D6	0.1	9.48	0.11
Stream B-A		0.5	35.73	0.31		0.6	47.13	0.34
Stream C-AB		0.1	9.41	0.09		0.2	8.64	0.13
Stream A-BC		2.2	6.98	0.67		1.3	4.93	0.54

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

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

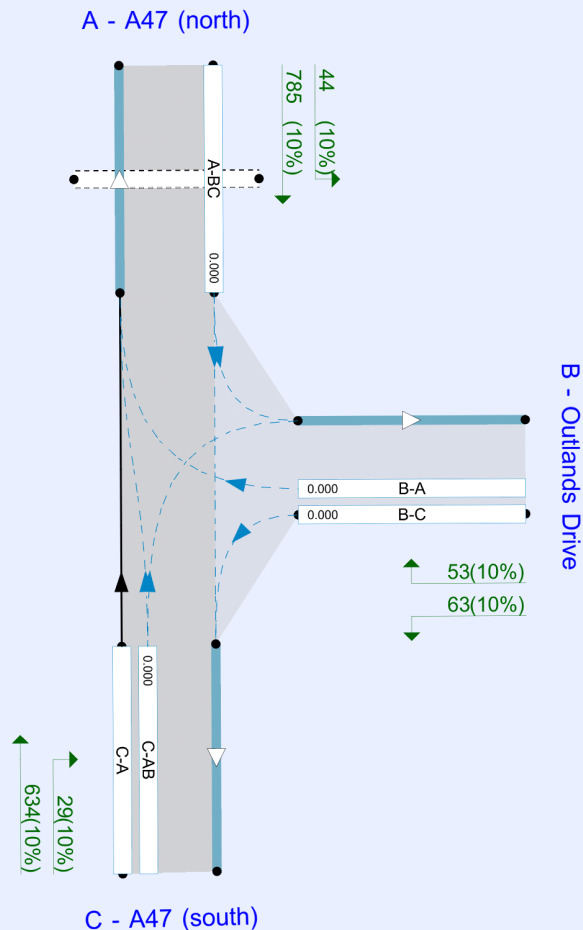
File summary

File Description

Title	Proposed Development, Normandy Way
Location	A47 / Outlands Drive
Site number	
Date	10/11/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	VECTIO-PC1\m_cle
Description	One Hour Profile

Units

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



Flows show original traffic demand (PCU/hr).
Streams (downstream end) show RFC ()

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Survey 2022	AM	ONE HOUR	07:30	09:00	15	✓
D2	Survey 2022	PM	ONE HOUR	16:15	17:45	15	✓
D3	DM2 2036	AM	ONE HOUR	07:30	09:00	15	✓
D4	DM2 2036	PM	ONE HOUR	16:15	17:45	15	✓
D5	DS3 2036	AM	ONE HOUR	07:30	09:00	15	✓
D6	DS3 2036	PM	ONE HOUR	16:15	17:45	15	✓

EXISTING (NO TOUCAN) - Survey 2022, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Outlands Drive - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set (s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	EXISTING (NO TOUCAN)	✓	✓	D1,D2,D3,D4	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.24	A

Junction Network

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

Arms

Arms

Arm	Name	Description	Arm type
A	A47 (north)		Major
B	Outlands Drive		Minor
C	A47 (south)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A47 (south)	7.00		✓	3.50	250.0	✓	11.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Outlands Drive	One lane plus flare	10.00	9.50	7.30	6.80	6.60		5.00	71	104

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	597	0.104	0.263	0.165	0.375
B-C	776	0.114	0.287	-	-
C-B	820	0.304	0.304	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Survey 2022	AM	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A47 (north)		ONE HOUR	✓	829	100.000
B - Outlands Drive		ONE HOUR	✓	116	100.000
C - A47 (south)		ONE HOUR	✓	663	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
From	A - A47 (north)	0	44	785
	B - Outlands Drive	53	0	63
	C - A47 (south)	634	29	0

Proportions

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
From	A - A47 (north)	0.00	0.05	0.95
	B - Outlands Drive	0.46	0.00	0.54
	C - A47 (south)	0.96	0.04	0.00

Vehicle Mix

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

Heavy Vehicle %

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
From	A - A47 (north)	10	10	10
	B - Outlands Drive	10	10	10
	C - A47 (south)	10	10	10

Average PCU Per Veh

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
From	A - A47 (north)	1.100	1.100	1.100
	B - Outlands Drive	1.100	1.100	1.100
	C - A47 (south)	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A - A47 (north)	07:30-07:45	624	624
	07:45-08:00	745	745
	08:00-08:15	913	913
	08:15-08:30	913	913
	08:30-08:45	745	745
	08:45-09:00	624	624
B - Outlands Drive	07:30-07:45	87	87
	07:45-08:00	104	104
	08:00-08:15	128	128
	08:15-08:30	128	128
	08:30-08:45	104	104
	08:45-09:00	87	87
C - A47 (south)	07:30-07:45	499	499
	07:45-08:00	596	596
	08:00-08:15	730	730
	08:15-08:30	730	730
	08:30-08:45	596	596
	08:45-09:00	499	499

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.14	9.45	0.2	A	58	87
B-A	0.25	22.12	0.4	C	49	73
C-AB	0.06	7.75	0.1	A	27	40
C-A					582	873
A-B					40	61
A-C					720	1080

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	47	12	585	0.081	47	0.0	0.1	7.359	A
B-A	40	10	351	0.114	39	0.0	0.1	12.696	B
C-AB	22	5	631	0.035	22	0.0	0.0	6.500	A
C-A	477	119			477				
A-B	33	8			33				
A-C	591	148			591				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	57	14	545	0.104	57	0.1	0.1	8.098	A
B-A	48	12	303	0.157	47	0.1	0.2	15.468	C
C-AB	26	7	594	0.044	26	0.0	0.1	6.973	A
C-A	570	142			570				
A-B	40	10			40				
A-C	706	176			706				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	69	17	489	0.142	69	0.1	0.2	9.431	A
B-A	58	15	237	0.246	58	0.2	0.3	21.997	C
C-AB	32	8	543	0.059	32	0.1	0.1	7.748	A
C-A	698	175			698				
A-B	48	12			48				
A-C	864	216			864				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	69	17	488	0.142	69	0.2	0.2	9.454	A
B-A	58	15	237	0.246	58	0.3	0.4	22.118	C
C-AB	32	8	543	0.059	32	0.1	0.1	7.749	A
C-A	698	175			698				
A-B	48	12			48				
A-C	864	216			864				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	57	14	544	0.104	57	0.2	0.1	8.124	A
B-A	48	12	303	0.157	48	0.4	0.2	15.549	C
C-AB	26	7	594	0.044	26	0.1	0.1	6.975	A
C-A	570	142			570				
A-B	40	10			40				
A-C	706	176			706				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	47	12	584	0.081	48	0.1	0.1	7.386	A
B-A	40	10	351	0.114	40	0.2	0.1	12.751	B
C-AB	22	5	631	0.035	22	0.1	0.0	6.504	A
C-A	477	119			477				
A-B	33	8			33				
A-C	591	148			591				

EXISTING (NO TOUCAN) - Survey 2022 , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Outlands Drive - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set (s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	EXISTING (NO TOUCAN)	✓	✓	D1,D2,D3,D4	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.98	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.98	A

Arms

Arms

Arm	Name	Description	Arm type
A	A47 (north)		Major
B	Outlands Drive		Minor
C	A47 (south)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A47 (south)	7.00		✓	3.50	250.0	✓	11.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Outlands Drive	One lane plus flare	10.00	9.50	7.30	6.80	6.60		5.00	71	104

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	620	0.108	0.273	0.172	0.390
B-C	747	0.109	0.277	-	-
C-B	820	0.304	0.304	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Survey 2022	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A47 (north)		ONE HOUR	✓	628	100.000
B - Outlands Drive		ONE HOUR	✓	75	100.000
C - A47 (south)		ONE HOUR	✓	1024	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	0	92	536
	B - Outlands Drive	40	0	35
	C - A47 (south)	946	78	0

Proportions

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	0.00	0.15	0.85
	B - Outlands Drive	0.53	0.00	0.47
	C - A47 (south)	0.92	0.08	0.00

Vehicle Mix

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

Heavy Vehicle %

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	10	10	10
	B - Outlands Drive	10	10	10
	C - A47 (south)	10	10	10

Average PCU Per Veh

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	1.100	1.100	1.100
	B - Outlands Drive	1.100	1.100	1.100
	C - A47 (south)	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A - A47 (north)	16:15-16:30	473	473
	16:30-16:45	565	565
	16:45-17:00	691	691
	17:00-17:15	691	691
	17:15-17:30	565	565
	17:30-17:45	473	473
B - Outlands Drive	16:15-16:30	56	56
	16:30-16:45	67	67
	16:45-17:00	83	83
	17:00-17:15	83	83
	17:15-17:30	67	67
	17:30-17:45	56	56
C - A47 (south)	16:15-16:30	771	771
	16:30-16:45	921	921
	16:45-17:00	1127	1127
	17:00-17:15	1127	1127
	17:15-17:30	921	921
	17:30-17:45	771	771

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.07	7.83	0.1	A	32	48
B-A	0.19	20.69	0.2	C	37	55
C-AB	0.14	7.55	0.2	A	72	107
C-A					868	1302
A-B					84	127
A-C					492	738

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	7	614	0.043	26	0.0	0.0	6.731	A
B-A	30	8	357	0.084	30	0.0	0.1	12.090	B
C-AB	59	15	677	0.087	58	0.0	0.1	6.399	A
C-A	712	178			712				
A-B	69	17			69				
A-C	404	101			404				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	8	586	0.054	31	0.0	0.1	7.137	A
B-A	36	9	306	0.118	36	0.1	0.1	14.654	B
C-AB	70	18	649	0.108	70	0.1	0.1	6.839	A
C-A	850	213			850				
A-B	83	21			83				
A-C	482	120			482				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	39	10	545	0.071	38	0.1	0.1	7.818	A
B-A	44	11	235	0.187	44	0.1	0.2	20.610	C
C-AB	86	21	610	0.141	86	0.1	0.2	7.548	A
C-A	1042	260			1042				
A-B	101	25			101				
A-C	590	148			590				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	39	10	544	0.071	39	0.1	0.1	7.829	A
B-A	44	11	235	0.187	44	0.2	0.2	20.689	C
C-AB	86	21	610	0.141	86	0.2	0.2	7.551	A
C-A	1042	260			1042				
A-B	101	25			101				
A-C	590	148			590				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	8	585	0.054	32	0.1	0.1	7.155	A
B-A	36	9	306	0.117	36	0.2	0.1	14.705	B
C-AB	70	18	649	0.108	70	0.2	0.1	6.846	A
C-A	850	213			850				
A-B	83	21			83				
A-C	482	120			482				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	7	613	0.043	26	0.1	0.0	6.745	A
B-A	30	8	357	0.084	30	0.1	0.1	12.127	B
C-AB	59	15	677	0.087	59	0.1	0.1	6.409	A
C-A	712	178			712				
A-B	69	17			69				
A-C	404	101			404				

EXISTING (NO TOUCAN) - DM2 2036, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Outlands Drive - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set (s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	EXISTING (NO TOUCAN)	✓	✓	D1,D2,D3,D4	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		3.60	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.60	A

Arms

Arms

Arm	Name	Description	Arm type
A	A47 (north)		Major
B	Outlands Drive		Minor
C	A47 (south)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A47 (south)	7.00		✓	3.50	250.0	✓	11.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Outlands Drive	One lane plus flare	10.00	9.50	7.30	6.80	6.60		5.00	71	104

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	598	0.104	0.263	0.166	0.376
B-C	773	0.113	0.287	-	-
C-B	820	0.304	0.304	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	DM2 2036	AM	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A47 (north)		ONE HOUR	✓	1307	100.000
B - Outlands Drive		ONE HOUR	✓	114	100.000
C - A47 (south)		ONE HOUR	✓	769	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	A - A47 (north)	0	74	1233
	B - Outlands Drive	53	0	61
	C - A47 (south)	750	19	0

Proportions

From	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	A - A47 (north)	0.00	0.06	0.94
	B - Outlands Drive	0.46	0.00	0.54
	C - A47 (south)	0.98	0.02	0.00

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	A - A47 (north)	10	10	10
	B - Outlands Drive	10	10	10
	C - A47 (south)	10	10	10

Average PCU Per Veh

From	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	A - A47 (north)	1.100	1.100	1.100
	B - Outlands Drive	1.100	1.100	1.100
	C - A47 (south)	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A - A47 (north)	07:30-07:45	984	984
	07:45-08:00	1175	1175
	08:00-08:15	1439	1439
	08:15-08:30	1439	1439
	08:30-08:45	1175	1175
	08:45-09:00	984	984
B - Outlands Drive	07:30-07:45	86	86
	07:45-08:00	102	102
	08:00-08:15	126	126
	08:15-08:30	126	126
	08:30-08:45	102	102
	08:45-09:00	86	86
C - A47 (south)	07:30-07:45	579	579
	07:45-08:00	691	691
	08:00-08:15	847	847
	08:15-08:30	847	847
	08:30-08:45	691	691
	08:45-09:00	579	579

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.24	19.04	0.3	C	56	84
B-A	0.67	122.95	1.8	F	49	73
C-AB	0.05	10.94	0.1	B	17	26
C-A					688	1032
A-B					68	102
A-C					1131	1697

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	46	11	481	0.096	45	0.0	0.1	9.086	A
B-A	40	10	249	0.160	39	0.0	0.2	18.796	C
C-AB	14	4	521	0.027	14	0.0	0.0	7.808	A
C-A	565	141			565				
A-B	56	14			56				
A-C	928	232			928				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	55	14	418	0.131	55	0.1	0.2	10.900	B
B-A	48	12	181	0.263	47	0.2	0.4	29.331	D
C-AB	17	4	463	0.037	17	0.0	0.0	8.874	A
C-A	674	169			674				
A-B	67	17			67				
A-C	1108	277			1108				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	17	293	0.230	67	0.2	0.3	17.466	C
B-A	58	15	87	0.667	53	0.4	1.6	104.982	F
C-AB	21	5	383	0.055	21	0.0	0.1	10.935	B
C-A	826	206			826				
A-B	81	20			81				
A-C	1358	339			1358				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	17	275	0.244	67	0.3	0.3	19.039	C
B-A	58	15	88	0.661	58	1.6	1.8	122.954	F
C-AB	21	5	383	0.055	21	0.1	0.1	10.939	B
C-A	826	206			826				
A-B	81	20			81				
A-C	1358	339			1358				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	55	14	409	0.134	56	0.3	0.2	11.238	B
B-A	48	12	184	0.259	53	1.8	0.4	31.515	D
C-AB	17	4	463	0.037	17	0.1	0.0	8.881	A
C-A	674	169			674				
A-B	67	17			67				
A-C	1108	277			1108				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	46	11	479	0.096	46	0.2	0.1	9.152	A
B-A	40	10	250	0.160	41	0.4	0.2	19.025	C
C-AB	14	4	521	0.027	14	0.0	0.0	7.812	A
C-A	565	141			565				
A-B	56	14			56				
A-C	928	232			928				

EXISTING (NO TOUCAN) - DM2 2036, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Outlands Drive - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set (s)	Specific Demand Set (s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	EXISTING (NO TOUCAN)	✓	✓	D1,D2,D3,D4	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		4.33	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.33	A

Arms

Arms

Arm	Name	Description	Arm type
A	A47 (north)		Major
B	Outlands Drive		Minor
C	A47 (south)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A47 (south)	7.00		✓	3.50	250.0	✓	11.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Outlands Drive	One lane plus flare	10.00	9.50	7.30	6.80	6.60		5.00	71	104

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	635	0.111	0.280	0.176	0.400
B-C	727	0.107	0.269	-	-
C-B	820	0.304	0.304	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	DM2 2036	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A47 (north)		ONE HOUR	✓	1004	100.000
B - Outlands Drive		ONE HOUR	✓	83	100.000
C - A47 (south)		ONE HOUR	✓	1349	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	0	107	897
	B - Outlands Drive	50	0	33
	C - A47 (south)	1296	53	0

Proportions

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	0.00	0.11	0.89
	B - Outlands Drive	0.60	0.00	0.40
	C - A47 (south)	0.96	0.04	0.00

Vehicle Mix

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

Heavy Vehicle %

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	10	10	10
	B - Outlands Drive	10	10	10
	C - A47 (south)	10	10	10

Average PCU Per Veh

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	1.100	1.100	1.100
	B - Outlands Drive	1.100	1.100	1.100
	C - A47 (south)	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A - A47 (north)	16:15-16:30	756	756
	16:30-16:45	903	903
	16:45-17:00	1105	1105
	17:00-17:15	1105	1105
	17:15-17:30	903	903
	17:30-17:45	756	756
B - Outlands Drive	16:15-16:30	62	62
	16:30-16:45	75	75
	16:45-17:00	91	91
	17:00-17:15	91	91
	17:15-17:30	75	75
	17:30-17:45	62	62
C - A47 (south)	16:15-16:30	1016	1016
	16:30-16:45	1213	1213
	16:45-17:00	1485	1485
	17:00-17:15	1485	1485
	17:15-17:30	1213	1213
	17:30-17:45	1016	1016

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.17	22.31	0.2	C	30	45
B-A	0.77	186.51	2.5	F	46	69
C-AB	0.12	9.30	0.1	A	49	73
C-A					1189	1784
A-B					98	147
A-C					823	1235

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	6	516	0.048	25	0.0	0.1	8.050	A
B-A	38	9	250	0.151	37	0.0	0.2	18.532	C
C-AB	40	10	591	0.068	40	0.0	0.1	7.184	A
C-A	976	244			976				
A-B	81	20			81				
A-C	675	169			675				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	7	466	0.064	30	0.1	0.1	9.063	A
B-A	45	11	175	0.257	44	0.2	0.4	30.123	D
C-AB	48	12	546	0.087	48	0.1	0.1	7.942	A
C-A	1165	291			1165				
A-B	96	24			96				
A-C	806	202			806				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	9	292	0.124	36	0.1	0.2	15.451	C
B-A	55	14	71	0.770	48	0.4	2.1	143.756	F
C-AB	58	15	484	0.120	58	0.1	0.1	9.288	A
C-A	1427	357			1427				
A-B	118	29			118				
A-C	988	247			988				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	9	213	0.170	36	0.2	0.2	22.315	C
B-A	55	14	72	0.764	53	2.1	2.5	186.510	F
C-AB	58	15	484	0.120	58	0.1	0.1	9.295	A
C-A	1427	357			1427				
A-B	118	29			118				
A-C	988	247			988				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	7	453	0.065	30	0.2	0.1	9.373	A
B-A	45	11	177	0.253	53	2.5	0.4	33.927	D
C-AB	48	12	546	0.087	48	0.1	0.1	7.952	A
C-A	1165	291			1165				
A-B	96	24			96				
A-C	806	202			806				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	6	514	0.048	25	0.1	0.1	8.097	A
B-A	38	9	250	0.150	38	0.4	0.2	18.755	C
C-AB	40	10	591	0.068	40	0.1	0.1	7.195	A
C-A	976	244			976				
A-B	81	20			81				
A-C	675	169			675				

PROPOSED (WITH TOUCAN) - DS3 2036, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Outlands Drive - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set (s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PROPOSED (WITH TOUCAN)	✓	✓	D5,D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.48	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.48	A

Arms

Arms

Arm	Name	Description	Arm type
A	A47 (north)		Major
B	Outlands Drive		Minor
C	A47 (south)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A47 (south)	7.00		✓	3.50	250.0	✓	11.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Outlands Drive	One lane plus flare	10.00	9.50	7.30	6.80	6.60		5.00	71	104

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
A - A47 (north)	2.00	3.00	2.90	1.00	7.00	12.00	7.00

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	583	0.102	0.257	0.161	0.367
B-C	793	0.116	0.294	-	-
C-B	820	0.304	0.304	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	DS3 2036	AM	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A47 (north)		ONE HOUR	✓	1057	100.000
B - Outlands Drive		ONE HOUR	✓	116	100.000
C - A47 (south)		ONE HOUR	✓	687	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A47 (north)	[ONE HOUR]	37.00
B - Outlands Drive		
C - A47 (south)		

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	0	59	998
	B - Outlands Drive	46	0	70
	C - A47 (south)	648	39	0

Proportions

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	0.00	0.06	0.94
	B - Outlands Drive	0.40	0.00	0.60
	C - A47 (south)	0.94	0.06	0.00

Vehicle Mix

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

Heavy Vehicle %

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	10	10	10
	B - Outlands Drive	10	10	10
	C - A47 (south)	10	10	10

Average PCU Per Veh

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	1.100	1.100	1.100
	B - Outlands Drive	1.100	1.100	1.100
	C - A47 (south)	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A - A47 (north)	07:30-07:45	796	796	27.86
	07:45-08:00	950	950	33.26
	08:00-08:15	1164	1164	40.74
	08:15-08:30	1164	1164	40.74
	08:30-08:45	950	950	33.26
	08:45-09:00	796	796	27.86
B - Outlands Drive	07:30-07:45	87	87	
	07:45-08:00	104	104	
	08:00-08:15	128	128	
	08:15-08:30	128	128	
	08:30-08:45	104	104	
	08:45-09:00	87	87	
C - A47 (south)	07:30-07:45	517	517	
	07:45-08:00	618	618	
	08:00-08:15	756	756	
	08:15-08:30	756	756	
	08:30-08:45	618	618	
	08:45-09:00	517	517	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.18	11.50	0.2	B	64	96
B-A	0.31	35.73	0.5	E	42	63
C-AB	0.09	9.41	0.1	A	36	54
C-A					595	892
A-BC	0.67	6.98	2.2	A	970	1455

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	13		550	0.096	52	0.0	0.1	7.943	A
B-A	35	9		296	0.117	34	0.0	0.1	15.095	C
C-AB	29	7		578	0.051	29	0.0	0.1	7.205	A
C-A	488	122				488				
A-BC	796	199	27.86	1776	0.448	792	0.0	0.9	4.011	A

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	63	16		499	0.126	63	0.1	0.2	9.079	A
B-A	41	10		239	0.173	41	0.1	0.2	19.931	C
C-AB	35	9		530	0.066	35	0.1	0.1	7.992	A
C-A	583	146				583				
A-BC	950	238	33.26	1756	0.541	949	0.9	1.3	4.892	A

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	77	19		424	0.182	77	0.2	0.2	11.395	B
B-A	51	13		162	0.313	50	0.2	0.5	34.938	D
C-AB	43	11		465	0.092	43	0.1	0.1	9.376	A
C-A	713	178				713				
A-BC	1164	291	40.74	1730	0.673	1160	1.3	2.2	6.896	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	77	19		421	0.183	77	0.2	0.2	11.499	B
B-A	51	13		161	0.314	51	0.5	0.5	35.731	E
C-AB	43	11		464	0.093	43	0.1	0.1	9.406	A
C-A	713	178				713				
A-BC	1164	291	40.74	1730	0.673	1164	2.2	2.2	6.984	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	63	16		496	0.127	63	0.2	0.2	9.166	A
B-A	41	10		239	0.173	42	0.5	0.2	20.284	C
C-AB	35	9		529	0.066	35	0.1	0.1	8.024	A
C-A	583	146				583				
A-BC	950	238	33.26	1756	0.541	954	2.2	1.3	4.958	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	13		548	0.096	53	0.2	0.1	8.007	A
B-A	35	9		295	0.117	35	0.2	0.1	15.259	C
C-AB	29	7		577	0.051	29	0.1	0.1	7.233	A
C-A	488	122				488				
A-BC	796	199	27.86	1776	0.448	797	1.3	0.9	4.053	A

PROPOSED (WITH TOUCAN) - DS3 2036, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Outlands Drive - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Analysis Set Details

ID	Name	Include in report	Use specific Demand Set(s)	Specific Demand Set (s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PROPOSED (WITH TOUCAN)	✓	✓	D5,D6	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		3.30	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.30	A

Arms

Arms

Arm	Name	Description	Arm type
A	A47 (north)		Major
B	Outlands Drive		Minor
C	A47 (south)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A47 (south)	7.00		✓	3.50	250.0	✓	11.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Outlands Drive	One lane plus flare	10.00	9.50	7.30	6.80	6.60		5.00	71	104

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
A - A47 (north)	2.00	3.00	2.90	1.00	7.00	12.00	7.00

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	598	0.104	0.264	0.166	0.376
B-C	773	0.113	0.287	-	-
C-B	820	0.304	0.304	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	DS3 2036	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A47 (north)		ONE HOUR	✓	866	100.000
B - Outlands Drive		ONE HOUR	✓	86	100.000
C - A47 (south)		ONE HOUR	✓	1209	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - A47 (north)	[ONE HOUR]	30.00
B - Outlands Drive		
C - A47 (south)		

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	0	98	768
	B - Outlands Drive	40	0	46
	C - A47 (south)	1145	64	0

Proportions

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	0.00	0.11	0.89
	B - Outlands Drive	0.47	0.00	0.53
	C - A47 (south)	0.95	0.05	0.00

Vehicle Mix

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

Heavy Vehicle %

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	10	10	10
	B - Outlands Drive	10	10	10
	C - A47 (south)	10	10	10

Average PCU Per Veh

	To			
		A - A47 (north)	B - Outlands Drive	C - A47 (south)
	From			
	A - A47 (north)	1.100	1.100	1.100
	B - Outlands Drive	1.100	1.100	1.100
	C - A47 (south)	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A - A47 (north)	16:15-16:30	652	652	22.59
	16:30-16:45	779	779	26.97
	16:45-17:00	953	953	33.03
	17:00-17:15	953	953	33.03
	17:15-17:30	779	779	26.97
	17:30-17:45	652	652	22.59
B - Outlands Drive	16:15-16:30	65	65	
	16:30-16:45	77	77	
	16:45-17:00	95	95	
	17:00-17:15	95	95	
	17:15-17:30	77	77	
	17:30-17:45	65	65	
C - A47 (south)	16:15-16:30	910	910	
	16:30-16:45	1087	1087	
	16:45-17:00	1331	1331	
	17:00-17:15	1331	1331	
	17:15-17:30	1087	1087	
	17:30-17:45	910	910	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.11	9.48	0.1	A	42	63
B-A	0.34	47.13	0.6	E	37	55
C-AB	0.13	8.64	0.2	A	59	88
C-A					1051	1576
A-BC	0.54	4.93	1.3	A	795	1192

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	35	9		583	0.059	34	0.0	0.1	7.215	A
B-A	30	8		277	0.109	30	0.0	0.1	15.953	C
C-AB	48	12		622	0.077	48	0.0	0.1	6.889	A
C-A	862	216				862				
A-BC	652	163	22.59	1796	0.363	649	0.0	0.6	3.448	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	10		540	0.077	41	0.1	0.1	7.934	A
B-A	36	9		214	0.168	36	0.1	0.2	22.108	C
C-AB	58	14		583	0.099	57	0.1	0.1	7.532	A
C-A	1029	257				1029				
A-BC	779	195	26.97	1779	0.438	778	0.6	0.8	3.950	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	51	13		471	0.107	50	0.1	0.1	9.406	A
B-A	44	11		128	0.344	43	0.2	0.5	45.818	E
C-AB	70	18		529	0.133	70	0.1	0.2	8.619	A
C-A	1261	315				1261				
A-BC	953	238	33.03	1757	0.543	952	0.8	1.3	4.904	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	51	13		468	0.108	51	0.1	0.1	9.477	A
B-A	44	11		128	0.345	44	0.5	0.6	47.125	E
C-AB	70	18		529	0.133	70	0.2	0.2	8.636	A
C-A	1261	315				1261				
A-BC	953	238	33.03	1757	0.543	953	1.3	1.3	4.926	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	10		536	0.077	42	0.1	0.1	8.007	A
B-A	36	9		215	0.168	37	0.6	0.2	22.493	C
C-AB	58	14		582	0.099	58	0.2	0.1	7.555	A
C-A	1029	257				1029				
A-BC	779	195	26.97	1779	0.438	780	1.3	0.9	3.972	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	35	9		580	0.060	35	0.1	0.1	7.259	A
B-A	30	8		277	0.109	30	0.2	0.1	16.100	C
C-AB	48	12		621	0.078	48	0.1	0.1	6.913	A
C-A	862	216				862				
A-BC	652	163	22.59	1796	0.363	653	0.9	0.6	3.470	A

APPENDIX TN7-E

REVISED TRAFFIC FORECASTS AND CAPACITY ASSESSMENT: JUNCTION 2 – A47/ROSTON DRIVE ROUNDABOUT



Hinckley, Tuesday 21st June 2022

Junction: 2

Approach: A47 Normandy Way

	Left to Roston Drive								Ahead to A47 Dodwells Road								Right to Motorcyle Factory								U-Turn							
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	0	2	20	6	0	0	0	28	0	4	128	27	6	3	1	169	2	4	13	2	0	0	0	21	0	0	1	0	0	0	0	1
07:45 - 08:00	0	3	47	13	1	0	1	65	3	2	119	34	1	5	0	164	1	3	21	4	0	0	0	29	0	0	0	0	0	0	0	0
Hourly Total	0	5	67	19	1	0	1	93	3	6	247	61	7	8	1	333	3	7	34	6	0	0	0	50	0	0	1	0	0	0	0	1
08:00 - 08:15	0	1	32	8	0	0	0	41	0	1	122	17	1	4	0	145	0	3	6	0	0	0	0	9	0	0	0	0	0	0	0	0
08:15 - 08:30	0	0	48	4	0	0	1	53	0	2	109	18	4	4	0	137	0	0	4	0	1	0	0	5	0	0	1	0	0	0	0	1
08:30 - 08:45	0	0	39	7	1	0	0	47	0	2	102	21	1	5	0	131	0	0	2	0	1	0	0	3	0	0	0	1	0	0	0	1
08:45 - 09:00	1	0	57	7	0	0	0	65	0	0	108	22	2	9	1	142	0	0	2	2	0	0	0	4	0	0	0	0	0	0	0	0
Hourly Total	1	1	176	26	1	0	1	206	0	5	441	78	8	22	1	555	0	3	14	2	2	0	0	21	0	0	1	1	0	0	0	2
09:00 - 09:15	0	0	20	4	0	0	0	24	0	1	76	19	4	8	0	108	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
09:15 - 09:30	0	0	21	3	0	0	0	24	0	2	74	21	6	11	1	115	0	0	1	1	1	0	0	3	0	0	0	0	0	0	0	0
Hourly Total	0	0	41	7	0	0	0	48	0	3	150	40	10	19	1	223	0	0	3	1	1	0	0	5	0	0	0	0	0	0	0	0

TOTAL	1	6	284	52	2	0	2	347	3	14	838	179	25	49	3	1111	3	10	51	9	3	0	0	76	0	0	2	1	0	0	0	3
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16:30 - 16:45	0	0	31	6	0	0	0	37	0	0	77	16	3	6	0	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45 - 17:00	0	1	36	8	0	0	1	46	0	0	66	11	0	1	1	79	0	0	2	0	0	0	0	2	0	0	1	1	0	0	0	2
Hourly Total	0	1	67	14	0	0	1	83	0	0	143	27	3	7	1	181	0	0	2	0	0	0	0	2	0	0	1	1	0	0	0	2
17:00 - 17:15	0	0	43	8	0	0	0	51	0	2	79	10	0	3	0	94	0	0	1	1	0	0	0	2	0	0	2	0	0	0	0	2
17:15 - 17:30	0	0	44	10	0	0	0	54	1	0	77	10	0	0	0	88	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	1
17:30 - 17:45	0	0	42	1	0	0	0	43	0	5	101	7	0	1	0	114	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
17:45 - 18:00	0	0	25	1	0	0	1	27	0	2	85	11	1	1	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	154	20	0	0	1	175	1	9	342	38	1	5	0	396	0	0	1	2	0	0	0	3	0	0	4	1	0	0	0	5
18:00 - 18:15	0	0	32	3	0	0	0	35	0	2	79	10	2	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15 - 18:30	1	1	28	2	0	0	0	32	0	1	61	6	0	2	0	70	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Hourly Total	1	1	60	5	0	0	0	67	0	3	140	16	2	2	0	163	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1

TOTAL	1	2	281	39	0	0	2	325	1	12	625	81	6	14	1	740	0	0	3	2	0	0	0	5	0	0	6	2	0	0	0	8
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
07:30 to 08:30	0	2.4	147	31	2	0	4	186.4	0.6	3.6	478	96	24	32	2	636.2	0.6	4	44	6	2	0	0	56.6	0	0	2	0	0	0	0	2	881.2
07:45 to 08:45	0	1.6	166	32	4	0	4	207.6	0.6	2.8	452	90	14	36	0	595.4	0.2	2.4	33	4	4	0	0	43.6	0	0	1	1	0	0	0	2	848.6
08:00 to 09:00	0.2	0.4	176	26	2	0	2	206.6	0	2	441	78	16	44	2	583	0	1.2	14	2	4	0	0	21.2	0	0	1	1	0	0	0	2	812.8
08:15 to 09:15	0.2	0	164	22	2	0	2	190.2	0	2	395	80	22	52	2	553	0	0	10	2	4	0	0	16	0	0	1	1	0	0	0	2	761.2
08:30 to 09:30	0.2	0	137	21	2	0	0	160.2	0	2	360	83	26	66	4	541	0	0	7	3	4	0	0	14	0	0	0	1	0	0	0	1	716.2

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0	0.4	154	32	0	0	2	188.4	0.2	0.8	299	47	6	20	2	375	0	0	3	2	0	0	0	5	0	0	4	1	0	0	0	5	573.4
16:45 to 17:45	0	0.4	165	27	0	0	2	194.4	0.2	2.8	323	38	0	10	2	376	0	0	3	2	0	0	0	5	0	0	5	2	0	0	0	7	582.4
17:00 to 18:00	0	0	154	20	0	0	2	176	0.2	3.6	342	38	2	10	0	395.8	0	0	1	2	0	0	0	3	0	0	4	1	0	0	0	5	579.8
17:15 to 18:15	0	0	143	15	0	0	2	160	0.2	3.6	342	38	6	4	0	393.8	0	0	0	1	0	0	0	1	0	0	2	1	0	0	0	3	557.8
17:30 to 18:30	0.2	0.4	127	7	0	0	2	136.6	0	4	326	34	6	8	0	378	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	517.6

WebTag M3.1

PCU Factors:

CYCLE 0.2

M/CYCLE 0.4

CAR 1

LGV 1

OGV1 2

OGV2 2

BUS 2



Hinckley, Tuesday 21st June 2022

Junction: 2

Approach: Roston Drive

TIME	Left to A47 Dodwells Road								Ahead to Motorcyle Factory								Right to A47 Normandy Way								U-Turn							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	1	2	17	2	0	1	0	23	3	0	5	1	0	0	0	9	0	0	22	8	0	0	0	30	0	0	0	0	0	0	0	0
07:45 - 08:00	0	3	21	0	0	1	0	25	1	0	8	1	0	0	0	10	0	0	40	8	0	0	1	49	0	0	0	0	0	0	0	0
Hourly Total	1	5	38	2	0	2	0	48	4	0	13	2	0	0	0	19	0	0	62	16	0	0	1	79	0	0	0	0	0	0	0	0
08:00 - 08:15	0	0	6	2	0	1	0	9	0	0	1	0	0	0	0	1	0	1	41	8	0	0	0	50	0	0	0	0	0	0	0	0
08:15 - 08:30	0	2	6	1	1	0	0	10	0	0	2	1	0	0	0	3	0	0	49	7	1	0	1	58	0	0	0	0	0	0	0	0
08:30 - 08:45	0	1	1	2	0	2	0	6	0	1	1	0	0	0	0	2	0	0	61	6	0	0	0	67	0	0	0	0	0	0	0	0
08:45 - 09:00	0	2	2	1	1	0	0	6	0	0	0	0	0	0	0	0	0	0	41	8	0	0	0	49	0	0	0	0	0	0	0	0
Hourly Total	0	5	15	6	2	3	0	31	0	1	4	1	0	0	0	6	0	1	192	29	1	0	1	224	0	0	0	0	0	0	0	0
09:00 - 09:15	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	1	0	1	19	9	0	0	1	30	0	0	0	0	0	0	0	0
09:15 - 09:30	0	0	0	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	24	2	0	0	0	26	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	2	0	2	0	4	0	0	1	0	0	0	0	1	0	1	43	11	0	0	1	56	0	0	0	0	0	0	0	0

TOTAL	1	10	53	10	2	7	0	83	4	1	18	3	0	0	0	26	0	2	297	56	1	0	3	359	0	0	0	0	0	0	0	0
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16:30 - 16:45	0	0	1	3	0	0	0	4	0	0	1	0	0	0	0	1	0	0	43	13	0	0	0	56	0	0	0	0	0	0	0	0
16:45 - 17:00	0	1	1	1	0	0	0	3	0	0	1	1	0	0	0	2	0	0	50	9	0	0	0	59	0	0	0	0	0	0	0	0
Hourly Total	0	1	2	4	0	0	0	7	0	0	2	1	0	0	0	3	0	0	93	22	0	0	0	115	0	0	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	53	9	0	0	1	64	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	35	5	0	0	0	41	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	40	5	0	0	0	45	0	0	1	0	0	0	0	1
17:45 - 18:00	0	0	1	0	0	0	0	1	0	0	2	0	0	0	0	2	0	0	24	2	0	0	0	26	0	0	0	0	0	0	0	0
Hourly Total	0	0	3	0	0	0	0	3	0	0	5	0	0	0	0	5	0	2	152	21	0	0	1	176	0	0	1	0	0	0	0	1
18:00 - 18:15	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	28	3	0	0	1	33	0	0	0	0	0	0	0	0
18:15 - 18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	1	0	0	0	43	0	0	0	0	0	0	0	0
Hourly Total	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	70	4	0	0	1	76	0	0	0	0	0	0	0	0

TOTAL	0	1	6	4	0	0	0	11	0	0	7	1	0	0	0	8	1	2	315	47	0	0	2	367	0	0	1	0	0	0	0	1
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
07:30 to 08:30	0.2	2.8	50	5	2	6	0	66	0.8	0	16	3	0	0	0	19.8	0	0.4	152	31	2	0	4	189.4	0	0	0	0	0	0	0	0	275.2
07:45 to 08:45	0	2.4	34	5	2	8	0	51.4	0.2	0.4	12	2	0	0	0	14.6	0	0.4	191	29	2	0	4	226.4	0	0	0	0	0	0	0	0	292.4
08:00 to 09:00	0	2	15	6	4	6	0	33	0	0.4	4	1	0	0	0	5.4	0	0.4	192	29	2	0	2	225.4	0	0	0	0	0	0	0	0	263.8
08:15 to 09:15	0	2	9	4	4	6	0	25	0	0.4	4	1	0	0	0	5.4	0	0.4	170	30	2	0	4	206.4	0	0	0	0	0	0	0	0	236.8
08:30 to 09:30	0	1.2	3	5	2	8	0	19.2	0	0.4	2	0	0	0	0	2.4	0	0.4	145	25	0	0	2	172.4	0	0	0	0	0	0	0	0	194

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0	0.4	3	4	0	0	0	7.4	0	0	4	1	0	0	0	5	0	0.8	181	35	0	0	2	219.8	0	0	0	0	0	0	0	0	232.2
16:45 to 17:45	0	0.4	3	1	0	0	0	4.4	0	0	4	1	0	0	0	5	0	0.8	178	28	0	0	2	208.8	0	0	1	0	0	0	0	1	219.2
17:00 to 18:00	0	0	3	0	0	0	0	3	0	0	5	0	0	0	0	5	0	0.8	152	21	0	0	2	175.8	0	0	1	0	0	0	0	1	184.8
17:15 to 18:15	0	0	4	0	0	0	0	4	0	0	4	0	0	0	0	4	0.2	0.4	127	15	0	0	2	144.6	0	0	1	0	0	0	0	1	153.6
17:30 to 18:30	0	0	3	0	0	0	0	3	0	0	3	0	0	0	0	3	0.2	0	134	11	0	0	2	147.2	0	0	1	0	0	0	0	1	154.2

WebTag M3.1

PCU Factors:

CYCLE 0.2

M/CYCLE 0.4

CAR 1

LGV 1

OGV1 2

OGV2 2

BUS 2



Hinckley, Tuesday 21st June 2022

Junction: 2

Approach: A47 Dodwells Road

TIME	Left to Motorcyle Factory								Ahead to A47 Normandy Way								Right to Roston Drive								U-Turn							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	0	2	16	3	0	1	0	22	0	1	54	16	2	3	0	76	0	0	7	3	0	0	0	10	0	0	0	0	0	0	0	0
07:45 - 08:00	0	3	20	0	0	1	0	24	0	0	54	21	6	4	0	85	0	0	11	0	1	1	0	13	0	0	0	0	0	0	0	0
Hourly Total	0	5	36	3	0	2	0	46	0	1	108	37	8	7	0	161	0	0	18	3	1	1	0	23	0	0	0	0	0	0	0	0
08:00 - 08:15	0	0	6	2	0	1	0	9	0	0	55	24	2	5	0	86	0	1	4	4	0	0	0	9	0	0	0	0	0	0	0	0
08:15 - 08:30	0	2	6	1	1	0	0	10	0	0	93	17	4	6	0	120	0	0	11	2	0	0	0	13	0	0	1	0	0	0	0	1
08:30 - 08:45	0	1	1	2	0	2	0	6	0	0	78	24	5	5	0	112	0	0	7	2	0	1	0	10	0	0	0	1	0	0	0	1
08:45 - 09:00	0	2	2	1	1	0	0	6	0	1	61	26	2	2	1	93	0	0	7	3	0	1	0	11	0	0	1	0	0	0	0	1
Hourly Total	0	5	15	6	2	3	0	31	0	1	287	91	13	18	1	411	0	1	29	11	0	2	0	43	0	0	2	1	0	0	0	3
09:00 - 09:15	0	0	0	0	0	1	0	1	0	3	70	33	3	4	0	113	0	0	7	5	0	0	1	13	0	0	1	0	0	0	0	1
09:15 - 09:30	0	0	2	0	0	1	0	3	0	1	48	22	1	3	0	75	0	0	6	4	0	1	0	11	0	0	1	0	0	0	0	1
Hourly Total	0	0	2	0	0	2	0	4	0	4	118	55	4	7	0	188	0	0	13	9	0	1	1	24	0	0	2	0	0	0	0	2

TOTAL	0	10	53	9	2	7	0	81	0	6	513	183	25	32	1	760	0	1	60	23	1	4	1	90	0	0	4	1	0	0	0	5
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16:30 - 16:45	0	0	1	3	0	0	0	4	0	4	137	28	4	3	0	176	0	0	30	5	0	0	0	35	0	0	0	0	0	0	0	0
16:45 - 17:00	0	1	1	1	0	0	0	3	0	1	137	22	1	3	0	164	0	0	34	1	0	0	0	35	0	0	0	1	0	0	0	1
Hourly Total	0	1	2	4	0	0	0	7	0	5	274	50	5	6	0	340	0	0	64	6	0	0	0	70	0	0	0	1	0	0	0	1
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	180	17	4	2	0	203	0	1	29	3	0	0	1	34	0	0	0	1	0	0	0	1
17:15 - 17:30	0	0	1	0	0	0	0	1	0	4	134	12	2	3	0	155	0	1	21	0	0	0	0	22	0	0	1	0	0	0	0	1
17:30 - 17:45	0	0	1	0	0	0	0	1	2	0	149	16	2	1	0	170	0	0	24	2	0	0	0	26	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	3	133	14	1	1	2	154	1	0	10	4	0	0	0	15	0	0	1	0	0	0	0	1
Hourly Total	0	0	2	0	0	0	0	2	2	7	596	59	9	7	2	682	1	2	84	9	0	0	1	97	0	0	2	1	0	0	0	3
18:00 - 18:15	0	0	1	0	0	0	0	1	0	3	121	15	1	1	0	141	0	0	21	1	0	0	0	22	0	0	0	0	0	0	0	0
18:15 - 18:30	0	0	1	0	0	0	0	1	0	0	89	10	0	2	0	101	0	0	12	1	0	0	0	13	0	0	0	0	0	0	0	0
Hourly Total	0	0	2	0	0	0	0	2	0	3	210	25	1	3	0	242	0	0	33	2	0	0	0	35	0	0	0	0	0	0	0	0

TOTAL	0	1	6	4	0	0	0	11	2	15	1080	134	15	16	2	1264	1	2	181	17	0	0	1	202	0	0	2	2	0	0	0	4
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
07:30 to 08:30	0	2.8	48	6	2	6	0	64.8	0	0.4	256	78	28	36	0	398.4	0	0.4	33	9	2	2	0	46.4	0	0	1	0	0	0	0	1	510.6
07:45 to 08:45	0	2.4	33	5	2	8	0	50.4	0	0	280	86	34	40	0	440	0	0.4	33	8	2	4	0	47.4	0	0	1	1	0	0	0	2	539.8
08:00 to 09:00	0	2	15	6	4	6	0	33	0	0.4	287	91	26	36	2	442.4	0	0.4	29	11	0	4	0	44.4	0	0	2	1	0	0	0	3	522.8
08:15 to 09:15	0	2	9	4	4	6	0	25	0	1.6	302	100	28	34	2	467.6	0	0	32	12	0	4	2	50	0	0	3	1	0	0	0	4	546.6
08:30 to 09:30	0	1.2	5	3	2	8	0	19.2	0	2	257	105	22	28	2	416	0	0	27	14	0	6	2	49	0	0	3	1	0	0	0	4	488.2

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0	0.4	3	4	0	0	0	7.4	0	3.6	588	79	22	22	0	714.6	0	0.8	114	9	0	0	2	125.8	0	0	1	2	0	0	0	3	850.8
16:45 to 17:45	0	0.4	3	1	0	0	0	4.4	0.4	2	600	67	18	18	0	705.4	0	0.8	108	6	0	0	2	116.8	0	0	1	2	0	0	0	3	829.6
17:00 to 18:00	0	0	2	0	0	0	0	2	0.4	2.8	596	59	18	14	4	694.2	0.2	0.8	84	9	0	0	2	96	0	0	2	1	0	0	0	3	795.2
17:15 to 18:15	0	0	3	0	0	0	0	3	0.4	4	537	57	12	12	4	626.4	0.2	0.4	76	7	0	0	0	83.6	0	0	2	0	0	0	0	2	715
17:30 to 18:30	0	0	3	0	0	0	0	3	0.4	2.4	492	55	8	10	4	571.8	0.2	0	67	8	0	0	0	75.2	0	0	1	0	0	0	0	1	651

WebTag M3.1

PCU Factors:

CYCLE 0.2

M/CYCLE 0.4

CAR 1

LGV 1

OGV1 2

OGV2 2

BUS 2



Hinckley, Tuesday 21st June 2022

Junction: 2

Approach: Motorcyle Factory

TIME	Left to A47 Normandy Way								Ahead to Roston Drive								Right to A47 Dodwells Road							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	5
07:45 - 08:00	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Hourly Total	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	3	0	1	0	6
08:00 - 08:15	0	0	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 - 08:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	2
08:30 - 08:45	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
08:45 - 09:00	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	5
Hourly Total	0	0	1	2	1	0	0	4	0	0	0	1	0	0	0	1	0	0	2	3	1	3	0	9
09:00 - 09:15	0	0	0	0	2	0	0	2	0	0	0	1	0	0	0	1	0	0	0	2	1	0	0	3
09:15 - 09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Hourly Total	0	0	0	0	2	0	0	2	0	0	0	1	0	0	0	1	0	0	1	3	1	0	0	5

TOTAL	0	0	4	2	3	0	0	9	0	0	0	2	0	0	0	2	0	0	5	9	2	4	0	20
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16:30 - 16:45	1	2	11	2	0	0	0	16	3	1	6	0	0	0	0	10	0	1	16	1	0	0	0	18
16:45 - 17:00	1	3	16	1	0	0	0	21	0	2	7	0	0	0	0	9	0	0	12	3	0	1	0	16
Hourly Total	2	5	27	3	0	0	0	37	3	3	13	0	0	0	0	19	0	1	28	4	0	1	0	34
17:00 - 17:15	0	5	16	4	0	0	0	25	1	0	8	0	0	0	0	9	0	1	32	5	0	0	0	38
17:15 - 17:30	2	3	18	2	0	0	0	25	0	2	5	0	0	0	0	7	0	4	12	3	0	0	0	19
17:30 - 17:45	5	1	13	2	0	0	0	21	0	2	4	1	0	0	0	7	0	2	19	1	0	0	0	22
17:45 - 18:00	0	1	10	2	0	0	0	13	1	0	1	0	0	0	0	2	0	3	9	0	0	0	0	12
Hourly Total	7	10	57	10	0	0	0	84	2	4	18	1	0	0	0	25	0	10	72	9	0	0	0	91
18:00 - 18:15	0	2	2	0	0	0	0	4	1	0	1	0	0	0	0	2	0	2	1	1	0	0	0	4
18:15 - 18:30	0	0	2	0	0	0	0	2	0	0	1	0	0	0	0	1	0	0	2	0	0	0	0	2
Hourly Total	0	2	4	0	0	0	0	6	1	0	2	0	0	0	0	3	0	2	3	1	0	0	0	6

TOTAL	9	17	88	13	0	0	0	127	6	7	33	1	0	0	0	47	0	13	103	14	0	1	0	131
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
07:30 to 08:30	0	0	4	0	2	0	0	6	0	0	0	1	0	0	0	1	0	0	3	4	0	4	0	11	0	0	0	0	0	0	0	0	18
07:45 to 08:45	0	0	4	1	2	0	0	7	0	0	0	1	0	0	0	1	0	0	1	2	0	4	0	7	0	0	0	0	0	0	0	0	15
08:00 to 09:00	0	0	1	2	2	0	0	5	0	0	0	0	1	0	0	0	1	0	0	2	3	2	6	0	13	0	0	0	0	0	0	0	19
08:15 to 09:15	0	0	0	2	4	0	0	6	0	0	0	2	0	0	0	2	0	0	2	5	4	4	0	15	0	0	0	0	0	0	0	0	23
08:30 to 09:30	0	0	0	2	4	0	0	6	0	0	0	1	0	0	0	1	0	0	2	5	4	4	0	15	0	0	0	0	0	0	0	0	22

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0.8	5.2	61	9	0	0	0	76	0.8	2	26	0	0	0	0	28.8	0	2.4	72	12	0	2	0	88.4	0	0	0	0	0	0	0	0	193.2
16:45 to 17:45	1.6	4.8	63	9	0	0	0	78.4	0.2	2.4	24	1	0	0	0	27.6	0	2.8	75	12	0	2	0	91.8	0	0	0	0	0	0	0	0	197.8
17:00 to 18:00	1.4	4	57	10	0	0	0	72.4	0.4	1.6	18	1	0	0	0	21	0	4	72	9	0	0	0	85	0	0	0	0	0	0	0	0	178.4
17:15 to 18:15	1.4	2.8	43	6	0	0	0	53.2	0.4	1.6	11	1	0	0	0	14	0	4.4	41	5	0	0	0	50.4	0	0	0	0	0	0	0	0	117.6
17:30 to 18:30	1	1.6	27	4	0	0	0	33.6	0.4	0.8	7	1	0	0	0	9.2	0	2.8	31	2	0	0	0	35.8	0	0	0	0	0	0	0	0	78.6

WebTag M3.1	
PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1
LGV	1
OGV1	2
OGV2	2
BUS	2

Dataset Version:	80
Dataset Scenario:	Core
Result Type:	Trip ends by time period
Base Year:	2022
Future Year:	2028
Trip Purpose Group:	All purposes
Time Period:	Weekday AM peak period (0700 - 0959)
Trip End Type:	Origin/Destination
Alternative Assumptions Applied:	No

Growth Factor (2028 Data/2022 Data)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	1.0522	1.0502
Authority	Hinckley and Bosworth	1.0444	1.0489
E02005387	Hinckley and Bosworth 011	1.0429	1.0447

Future Year (2028) - Base Year (2022)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	13,919	13,674
Authority	Hinckley and Bosworth	1,348	1,256
E02005387	Hinckley and Bosworth 011	126	150

Base Year (2022)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	266,587	272,163
Authority	Hinckley and Bosworth	30,342	25,702
E02005387	Hinckley and Bosworth 011	2,940	3,348

Future Year (2028)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	280,505	285,837
Authority	Hinckley and Bosworth	31,690	26,958
E02005387	Hinckley and Bosworth 011	3,066	3,498

Growth Factor (2028 Data/2022 Data)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	1.0522	1.0502
Authority	Hinckley and Bosworth	1.0444	1.0489
E02005387	Hinckley and Bosworth 011	1.0429	1.0447

Future Year (2028) - Base Year (2022)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	13,919	13,674
Authority	Hinckley and Bosworth	1,348	1,256
E02005387	Hinckley and Bosworth 011	126	150

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County	Leicestershire	266,587	272,163
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Future Year (2028)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	280,505	285,837
Authority	Hinckley and Bosworth	31,690	26,958
E02005387	Hinckley and Bosworth 011	3,066	3,498

Level	Area	Local Growth Figure
County	Leicestershire	1.051264
Authority	Hinckley and Bosworth	1.046714
E02005387	Hinckley and Bosworth 011	1.043864

Dataset Version:	80
Dataset Scenario:	Core
Result Type:	Trip ends by time period
Base Year:	2022
Future Year:	2028
Trip Purpose Group:	All purposes
Time Period:	Weekday PM peak period (1600 - 1859)
Trip End Type:	Origin/Destination
Alternative Assumptions Applied:	No

Growth Factor (2028 Data/2022 Data)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	1.0517	1.0530
Authority	Hinckley and Bosworth	1.0488	1.0457
E02005387	Hinckley and Bosworth 011	1.0438	1.0421

Future Year (2028) - Base Year (2022)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	15,114	15,260
Authority	Hinckley and Bosworth	1,416	1,472
E02005387	Hinckley and Bosworth 011	156	134

Base Year (2022)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	292,426	288,007
Authority	Hinckley and Bosworth	29,028	32,205
E02005387	Hinckley and Bosworth 011	3,570	3,180

Future Year (2028)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	307,540	303,267
Authority	Hinckley and Bosworth	30,444	33,677
E02005387	Hinckley and Bosworth 011	3,727	3,314

Growth Factor (2028 Data/2022 Data)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	1.0517	1.0530
Authority	Hinckley and Bosworth	1.0488	1.0457
E02005387	Hinckley and Bosworth 011	1.0438	1.0421

Future Year (2028) - Base Year (2022)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	15,114	15,260
Authority	Hinckley and Bosworth	1,416	1,472
E02005387	Hinckley and Bosworth 011	156	134

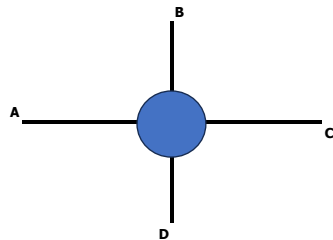
Base Year (2022)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	292,426	288,007
Authority	Hinckley and Bosworth	29,028	32,205
E02005387	Hinckley and Bosworth 011	3,570	3,180

Future Year (2028)

Area Description		All purposes	
Level	Name	Origin	Destination
County	Leicestershire	307,540	303,267
Authority	Hinckley and Bosworth	30,444	33,677
E02005387	Hinckley and Bosworth 011	3,727	3,314

Level	Area	Local Growth Figure
County	Leicestershire	1.052414
Authority	Hinckley and Bosworth	1.047314
E02005387	Hinckley and Bosworth 011	1.043014

C21021 HINCKLEY WEST PHASE 4**TRANSPORT ASSESSMENT v3****TRAFFIC FLOWS****JUNCTION 2: A47 NORMANDY WAY/ROSTON DRIVE ROUNDABOUT**

A= ROSTON DRIVE WEST
B= A47 NORTH
C= ROSTON DRIVE EAST
D= A47 SOUTH

ALL FLOWS ARE IN PCUs**AM PEAK HOUR** 07:45 to 08:45**2022 SURVEYED FLOWS**
Tuesday 21/06/22

	A	B	C	D	TOTAL
A	0	7	1	7	15
B	44	2	208	595	849
C	15	226	0	51	292
D	50	440	47	2	539
TOTAL	109	675	256	655	1695

PM PEAK HOUR 16:30 to 17:30

	A	B	C	D	TOTAL
A	0	76	29	88	193
B	5	5	188	375	573
C	5	220	0	7	232
D	7	715	126	3	851
TOTAL	17	1016	343	473	1849

2028 BASE FLOWSTEMPRO 8.1
HBBC Local Authority Area

	A	B	C	D	TOTAL
A	0	7	1	7	16
B	46	2	218	623	889
C	16	237	0	53	306
D	52	461	49	2	564
TOTAL	114	707	268	686	1774

TEMPRO Growth Factor 1.0467

	A	B	C	D	TOTAL
A	0	80	30	92	202
B	5	5	197	393	600
C	5	230	0	7	243
D	7	749	132	3	891
TOTAL	18	1064	359	495	1936

TEMPRO Growth Factor 1.0473

COMMITTED DEV. 1

Barwell and Earl Shilton SUEs

	A	B	C	D	TOTAL
A	0	5	-2	4	7
B	22	0	4	24	50
C	-1	-34	0	-65	-100
D	-7	-71	-31	0	-109
TOTAL	14	-100	-29	-37	-152

	A	B	C	D	TOTAL
A	0	-5	9	0	4
B	-1	0	4	133	136
C	-5	-1	0	-79	-85
D	0	-3	-56	0	-59
TOTAL	-6	-9	-43	54	-4

COMMITTED DEV. 2Richborough Estates
Stoke Road

	A	B	C	D	TOTAL
A	0	0	0	0	0
B	0	0	0	54	54
C	0	0	0	0	0
D	0	18	0	0	18
TOTAL	0	18	0	54	72

	A	B	C	D	TOTAL
A	0	0	0	0	0
B	0	0	0	19	19
C	0	0	0	0	0
D	0	50	0	0	50
TOTAL	0	50	0	19	69

OPA DEVELOPMENT

SWORD DRIVE TRIP RATES

	A	B	C	D	TOTAL
A	0	0	0	0	0
B	0	0	53	182	235
C	0	23	0	0	23
D	0	79	0	0	79
TOTAL	0	102	53	182	337

	A	B	C	D	TOTAL
A	0	0	0	0	0
B	0	0	29	100	129
C	0	34	0	0	34
D	0	117	0	0	117
TOTAL	0	151	29	100	280

2028 NO DEVELOPMENT
DM3

	A	B	C	D	TOTAL
A	0	12	-1	11	23
B	68	2	275	883	1228
C	15	226	0	-12	229
D	45	487	18	2	552
TOTAL	128	727	292	885	2031

	A	B	C	D	TOTAL
A	0	75	39	92	206
B	4	5	230	645	884
C	0	263	0	-72	192
D	7	913	76	3	999
TOTAL	12	1256	345	668	2281

OPA+FPA DEVELOPMENT
SWORD DRIVE TRIP RATES

	A	B	C	D	TOTAL
A	0	20	63	215	298
B	9	0	0	0	9
C	27	0	0	0	27
D	94	0	0	0	94
TOTAL	130	20	63	215	428

	A	B	C	D	TOTAL
A	0	11	34	118	163
B	13	0	0	0	13
C	40	0	0	0	40
D	138	0	0	0	138
TOTAL	191	11	34	118	354

2028 WITH DEVELOPMENT
DS4

	A	B	C	D	TOTAL
A	0	32	62	226	321
B	77	2	222	701	1002
C	42	203	0	-12	233
D	139	408	18	2	567
TOTAL	258	645	302	918	2122

	A	B	C	D	TOTAL
A	0	86	73	210	369
B	17	5	201	545	768
C	40	229	0	-72	198
D	145	796	76	3	1020
TOTAL	203	1116	350	686	2355

C21021 NORMANDY WAY, HINCKLEY

ARCADY MODEL: JUNCTION 2

PROPOSED LAYOUT

INTERCEPT CORRECTIONS ARM C

Intercept corrections are required because of traffic demands and entry layout, which may result in unequal lane and flare use at some entries. The following methodology has been used to derive the necessary intercept corrections, as recommended in:

"ARCADY Health Warning: Account for unequal lane usage or risk damaging the public purse!", B. Chard, published in Traffic Engineering and Control, March 1997.

Formulae

F=303X2k
f=0.210tDk(1+0.2X2)
Qe=F-fQc (at grade roundabouts)
k=1-0.00347(Φ-30)-0.0978(1/r-0.05)
tD=1+0.5/{1+exp[D-60]/10}]
X2=v+{(e-v)/(1+2S)}
S=1.6{(e-v)/l'}

Calculations

TEST FUNCTION OF SPREADSHEET:

Example given in B. Chard paper (see above). Results correct: spreadsheet validated.

v	e	l'	r	D	Φ	S	X2	tD	k	f	F	F
3	3.65	10	20	40	40	0.104	3.538	1.440	0.965	0.499	1035	17.25
										✓	pcu/h	pcu/m
											✓	✓

PROBLEM: 2-lane entry. Lane will carry all RT traffic, which is more than 50% of flow. Unequal lane use will result. Main lane (Lane 2) will carry most of traffic.

SOLUTION: Calculate intercept of full entry width; then calculate intercept of main lane. Factor intercept value by ratio of total flow to main flow. Difference between resulting intercept and the intercept for the full entry width gives the intercept correction to be applied.

	v	e	l'	r	D	Φ	S	X2	tD	k	f	F	F
Full	3.1	6.5	28.9	10.9	50.0	45.8	0.188	5.57	1.366	0.904	0.548	1526	25.44
L2	3.1	3.8	5.8	14.0	50.0	33.3	0	3.60	1.366	0.968	0.477	1057	17.61
			Est pro-rata									pcu/h	pcu/m

Intercept weightings	DS3 2036		DS4 2028		-		-		-		-		AVERAGE	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Main flow	221	247	203	229	-	-	-	-	-	-	-	-	-	-
Other flows	43	41	42	40	-	-	-	-	-	-	-	-	-	-
Total flow	264	288	245	269	-	-	-	-	-	-	-	-	-	-
Weighting	1.195	1.166	1.207	1.175	-	-	-	-	-	-	-	-	-	-
New F value	1262	1232	1275	1241	-	-	-	-	-	-	-	-	-	-
Correction	-263.9	-294.1	-250.9	-284.9	-	-	-	-	-	-	-	-	-	-
ARCADY value:	-263.9	-294.1	-250.9	-284.9	-	-	-	-	-	-	-	-	-	-
% Change	-17%	-19%	-16%	-19%	-	-	-	-	-	-	-	-	-	-
% of full	83%	81%	84%	81%	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

NB: Positive intercept corrections ignored and no adjustment made, as recommended in Chard paper.

C21021 NORMANDY WAY, HINCKLEY**ARCADY MODEL: JUNCTION 2****PROPOSED LAYOUT****INTERCEPT CORRECTIONS****ARM****D**

Intercept corrections are required because of traffic demands and entry layout, which may result in unequal lane and flare use at some entries. The following methodology has been used to derive the necessary intercept corrections, as recommended in:

"ARCADY Health Warning: Account for unequal lane usage or risk damaging the public purse!", B. Chard, published in Traffic Engineering and Control, March 1997.

Formulae

$$F=303X2k$$

$$f=0.210tDk(1+0.2X2)$$

$$Q_e=F-fQ_c \text{ (at grade roundabouts)}$$

$$k=1-0.00347(\Phi-30)-0.0978(1/r-0.05)$$

$$tD=1+0.5/\{1+\exp[D-60]/10\}$$

$$X2=v+\{(e-v)/(1+2S)\}$$

$$S=1.6\{(e-v)/l'\}$$

Calculations**TEST FUNCTION OF SPREADSHEET:**

Example given in B. Chard paper (see above). Results correct: spreadsheet validated.

v	e	l'	r	D	Φ	S	X2	tD	k	f	F	F
3	3.65	10	20	40	40	0.104	3.538	1.440	0.965	0.499 ✓	1035 pcu/h ✓	17.25 pcu/m ✓

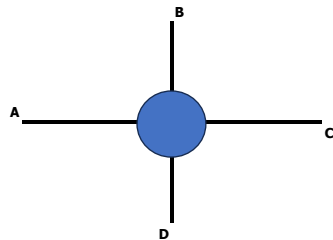
PROBLEM: 2-lane entry. Lane 2 will become RT only but carries less than 50% of flow. Unequal lane use will result. Main lane (Lane 1) carries most of traffic.

SOLUTION: Calculate intercept of full entry width; then calculate intercept of main lane. Factor intercept value by ratio of total flow to main flow. Difference between resulting intercept and the intercept for the full entry width gives the intercept correction to be applied.

	v	e	l'	r	D	Φ	S	X2	tD	k	f	F	F
Full	3.8	7.5	34.1	27.1	50.0	33.3	0.176	6.52	1.366	1.001	0.662	1979	32.99
L1	3.8	4.5	6.8	27.1	50.0	33.3	0	4.30	1.366	1.001	0.534	1306	21.77
			Est pro-rata									pcu/h	pcu/m

Intercept weightings	DS3 2036		DS4 2028		-		-		-		-		AVERAGE	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Main flow	585	1000	547	941	-	-	-	-	-	-	-	-	-	-
Other flows	25	92	20	79	-	-	-	-	-	-	-	-	-	-
Total flow	610	1092	567	1020	-	-	-	-	-	-	-	-	-	-
Weighting	1.043	1.092	1.037	1.084	-	-	-	-	-	-	-	-	-	-
New F value	1362	1426	1354	1416	-	-	-	-	-	-	-	-	-	-
Correction	-617.5	-553.1	-625.5	-563.6	-	-	-	-	-	-	-	-	-	-
ARCADY value:	-617.5	-553.1	-625.5	-563.6	-	-	-	-	-	-	-	-	-	-
% Change	-31%	-28%	-32%	-28%	-	-	-	-	-	-	-	-	-	-
% of full	69%	72%	68%	72%	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

NB: Positive intercept corrections ignored and no adjustment made, as recommended in Chard paper.

C21021 HINCKLEY WEST PHASE 4**TRANSPORT ASSESSMENT v3****TRAFFIC FLOWS****JUNCTION 2: A47 NORMANDY WAY/ROSTON DRIVE ROUNDABOUT**

A= ROSTON DRIVE WEST
B= A47 NORTH
C= ROSTON DRIVE EAST
D= A47 SOUTH

ALL FLOWS ARE IN PCUs

AM PEAK HOUR 07:45 to 08:45

2022 SURVEYED FLOWS
Tuesday 21/06/22

	A	B	C	D	TOTAL
A	0	7	1	7	15
B	44	2	208	595	849
C	15	226	0	51	292
D	50	440	47	2	539
TOTAL	109	675	256	655	1695

PM PEAK HOUR 16:30 to 17:30

	A	B	C	D	TOTAL
A	0	76	29	88	193
B	5	5	188	375	573
C	5	220	0	7	232
D	7	715	126	3	851
TOTAL	17	1016	343	473	1849

2036 BASE FLOWS

TEMPO 8.1
HBBC Local Authority Area

	A	B	C	D	TOTAL
A	0	8	1	8	17
B	50	2	234	670	956
C	17	255	0	57	329
D	56	495	53	2	607
TOTAL	123	760	288	738	1909

TEMPO Growth Factor 1.1261

	A	B	C	D	TOTAL
A	0	86	33	99	218
B	6	6	212	423	647
C	6	248	0	8	262
D	8	807	142	3	960
TOTAL	19	1146	387	534	2086

TEMPO Growth Factor 1.1283

COMMITTED DEV. 1

Barwell and Earl Shilton SUEs

	A	B	C	D	TOTAL
A	0	5	-2	4	7
B	22	0	4	24	50
C	-1	-34	0	-65	-100
D	-7	-71	-31	0	-109
TOTAL	14	-100	-29	-37	-152

	A	B	C	D	TOTAL
A	0	-5	9	0	4
B	-1	0	4	133	136
C	-5	-1	0	-79	-85
D	0	-3	-56	0	-59
TOTAL	-6	-9	-43	54	-4

COMMITTED DEV. 2

Richborough Estates
Stoke Road

	A	B	C	D	TOTAL
A	0	0	0	0	0
B	0	0	0	54	54
C	0	0	0	0	0
D	0	18	0	0	18
TOTAL	0	18	0	54	72

	A	B	C	D	TOTAL
A	0	0	0	0	0
B	0	0	0	19	19
C	0	0	0	0	0
D	0	50	0	0	50
TOTAL	0	50	0	19	69

OPA DEVELOPMENT

SWORD DRIVE TRIP RATES

	A	B	C	D	TOTAL
A	0	0	0	0	0
B	0	0	53	182	235
C	0	23	0	0	23
D	0	79	0	0	79
TOTAL	0	102	53	182	337

	A	B	C	D	TOTAL
A	0	0	0	0	0
B	0	0	29	100	129
C	0	34	0	0	34
D	0	117	0	0	117
TOTAL	0	151	29	100	280

2036 NO DEVELOPMENT
DM2

	A	B	C	D	TOTAL
A	0	13	-1	12	24
B	72	2	291	930	1295
C	16	244	0	-8	252
D	49	521	22	2	595
TOTAL	137	780	312	937	2166

	A	B	C	D	TOTAL
A	0	81	42	99	222
B	5	6	245	675	931
C	1	281	0	-71	211
D	8	971	86	3	1068
TOTAL	13	1338	373	707	2431

OPA+FPA DEVELOPMENT
SWORD DRIVE TRIP RATES

	A	B	C	D	TOTAL
A	0	20	63	215	298
B	9	0	0	0	9
C	27	0	0	0	27
D	94	0	0	0	94
TOTAL	130	20	63	215	428

	A	B	C	D	TOTAL
A	0	11	34	118	163
B	13	0	0	0	13
C	40	0	0	0	40
D	138	0	0	0	138
TOTAL	191	11	34	118	354

2036 WITH DEVELOPMENT
DS3

	A	B	C	D	TOTAL
A	0	33	62	227	322
B	81	2	238	748	1069
C	43	221	0	-8	256
D	143	442	22	2	610
TOTAL	267	698	322	970	2257

	A	B	C	D	TOTAL
A	0	92	76	217	385
B	18	6	216	575	815
C	41	247	0	-71	217
D	146	854	86	3	1089
TOTAL	204	1198	378	725	2505

Junctions 10		
ARCADY 10 - Roundabout Module		
Version: 10.1.1.1905		
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For sales and distribution information, program advice and maintenance, contact TRL Software:		
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Filename: 21021-J2-TA3_02.j10

Path: D:\OneDrive - Capricorn Transport Planning Ltd\PROJECTS\C21021 Hinckley West\WORK\Calculations\TA3

Report generation date: 19/06/2024 11:38:45

-
- »EXISTING ROUNDABOUT - DM2 2036, AM
 - »EXISTING ROUNDABOUT - DM2 2036, PM
 - »EXISTING ROUNDABOUT - DS3 2036, AM
 - »EXISTING ROUNDABOUT - DS3 2036, PM
 - »PROPOSED ROUNDABOUT (AM) - DS3 2036, AM
 - »PROPOSED ROUNDABOUT (PM) - DS3 2036, PM

Summary of junction performance

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	EXISTING ROUNDABOUT - DM2 2036							
Arm A	A1 D5	0.0	3.42	0.02	A1 D6	0.5	7.12	0.31
Arm B		2.7	6.89	0.71		1.3	4.77	0.55
Arm C		0.5	6.33	0.31		0.5	5.35	0.30
Arm D		0.7	3.66	0.38		2.2	6.71	0.67
	EXISTING ROUNDABOUT - DS3 2036							
Arm A	A1 D7	0.4	4.39	0.28	A1 D8	1.0	8.23	0.47
Arm B		2.1	6.42	0.66		1.2	4.69	0.52
Arm C		0.5	6.64	0.33		0.5	5.54	0.31
Arm D		0.7	3.75	0.39		2.4	7.15	0.68

AM				
	Set ID	Queue (PCU)	Delay (s)	RFC
PROPOSED ROUNDABOUT (AM) - DS3 2036				
Arm A	A2 D7	0.4	4.39	0.28
Arm B		2.3	7.06	0.68
Arm C		0.9	11.77	0.46
Arm D		1.6	8.94	0.60

PM				
	Set ID	Queue (PCU)	Delay (s)	RFC
PROPOSED ROUNDABOUT (PM) - DS3 2036				
Arm A	A3 D8	0.9	7.95	0.46
Arm B		1.3	5.17	0.54
Arm C		0.8	9.32	0.43
Arm D		25.7	77.41	1.00

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

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

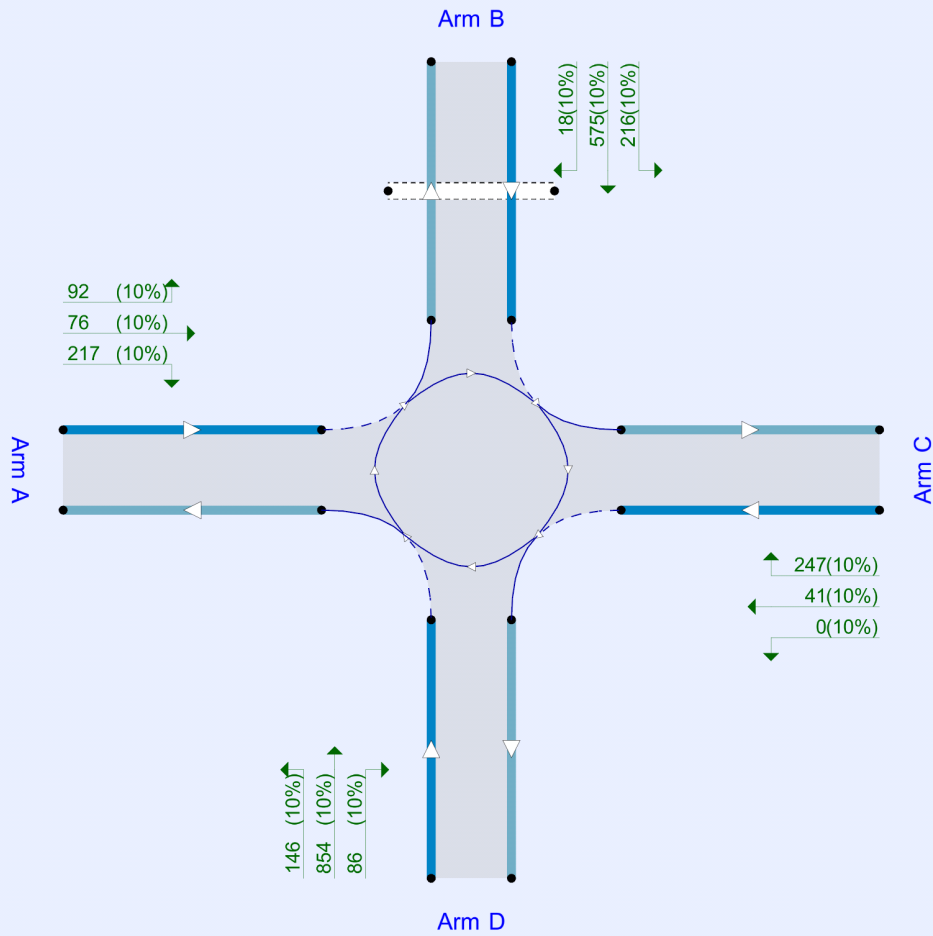
File summary

File Description

Title	HINCKLEY WEST PHASE 4
Location	A47/ROSTON DRIVE ROUNDABOUT
Site number	2
Date	27/02/2024
Version	01
Status	PRELIMINARY
Identifier	
Client	BLOOR HOMES
Jobnumber	C21021
Enumerator	PC-CAPRICORN-01\seanm
Description	

Units

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



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	DM2 2036	AM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓
D6	DM2 2036	PM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓
D7	DS3 2036	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓
D8	DS3 2036	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

EXISTING ROUNDABOUT - DM2 2036, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.90	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.90	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

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)	Run automatically
D5	DM2 2036	AM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	25	100.000
B		ONE HOUR	✓	1295	100.000
C		ONE HOUR	✓	260	100.000
D		ONE HOUR	✓	594	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	13	0	12
	B	72	2	291	930
	C	16	244	0	0
	D	49	521	22	2

Proportions

	To				
		A	B	C	D
From	A	0.00	0.52	0.00	0.48
	B	0.06	0.00	0.22	0.72
	C	0.06	0.94	0.00	0.00
	D	0.08	0.88	0.04	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A	07:30-07:45	19	19
	07:45-08:00	22	22
	08:00-08:15	28	28
	08:15-08:30	28	28
	08:30-08:45	22	22
	08:45-09:00	19	19
B	07:30-07:45	975	975
	07:45-08:00	1164	1164
	08:00-08:15	1426	1426
	08:15-08:30	1426	1426
	08:30-08:45	1164	1164
	08:45-09:00	975	975
C	07:30-07:45	196	196
	07:45-08:00	234	234
	08:00-08:15	286	286
	08:15-08:30	286	286
	08:30-08:45	234	234
	08:45-09:00	196	196
D	07:30-07:45	447	447
	07:45-08:00	534	534
	08:00-08:15	654	654
	08:15-08:30	654	654
	08:30-08:45	534	534
	08:45-09:00	447	447

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.02	3.42	0.0	A	23	34
B	0.71	6.89	2.7	A	1188	1782
C	0.31	6.33	0.5	A	239	358
D	0.38	3.66	0.7	A	545	818

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	19	5	593	1360	0.014	19	103	0.0	0.0	2.952	A
B	975	244	27	2008	0.485	971	585	0.0	1.0	3.800	A
C	196	49	763	1108	0.177	195	235	0.0	0.2	4.332	A
D	447	112	250	1814	0.247	446	708	0.0	0.4	2.892	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	22	6	710	1286	0.017	22	123	0.0	0.0	3.133	A
B	1164	291	32	2005	0.581	1162	700	1.0	1.5	4.689	A
C	234	58	914	1025	0.228	233	281	0.2	0.3	4.997	A
D	534	133	300	1781	0.300	534	847	0.4	0.5	3.174	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	28	7	870	1186	0.023	27	150	0.0	0.0	3.417	A
B	1426	356	40	2000	0.713	1421	857	1.5	2.7	6.788	A
C	286	72	1117	914	0.313	286	344	0.3	0.5	6.297	A
D	654	164	367	1737	0.377	653	1036	0.5	0.7	3.653	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	28	7	871	1185	0.023	28	151	0.0	0.0	3.419	A
B	1426	356	40	2000	0.713	1426	859	2.7	2.7	6.891	A
C	286	72	1121	912	0.314	286	345	0.5	0.5	6.329	A
D	654	164	368	1736	0.377	654	1039	0.7	0.7	3.658	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	22	6	712	1285	0.017	23	124	0.0	0.0	3.136	A
B	1164	291	32	2005	0.581	1169	703	2.7	1.5	4.763	A
C	234	58	919	1023	0.229	234	282	0.5	0.3	5.030	A
D	534	133	301	1780	0.300	535	852	0.7	0.5	3.181	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	19	5	596	1358	0.014	19	103	0.0	0.0	2.956	A
B	975	244	27	2008	0.485	977	588	1.5	1.0	3.846	A
C	196	49	768	1105	0.177	196	236	0.3	0.2	4.356	A
D	447	112	252	1813	0.247	448	712	0.5	0.4	2.901	A

EXISTING ROUNDABOUT - DM2 2036, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.87	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.87	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

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)	Run automatically
D6	DM2 2036	PM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	222	100.000
B		ONE HOUR	✓	931	100.000
C		ONE HOUR	✓	282	100.000
D		ONE HOUR	✓	1068	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	81	42	99
	B	5	6	245	675
	C	1	281	0	0
	D	8	971	86	3

Proportions

		To			
		A	B	C	D
From	A	0.00	0.36	0.19	0.45
	B	0.01	0.01	0.26	0.73
	C	0.00	1.00	0.00	0.00
	D	0.01	0.91	0.08	0.00

Vehicle Mix

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

Heavy Vehicle %

		To			
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

		To			
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A	16:15-16:30	167	167
	16:30-16:45	200	200
	16:45-17:00	244	244
	17:00-17:15	244	244
	17:15-17:30	200	200
	17:30-17:45	167	167
B	16:15-16:30	701	701
	16:30-16:45	837	837
	16:45-17:00	1025	1025
	17:00-17:15	1025	1025
	17:15-17:30	837	837
	17:30-17:45	701	701
C	16:15-16:30	212	212
	16:30-16:45	254	254
	16:45-17:00	310	310
	17:00-17:15	310	310
	17:15-17:30	254	254
	17:30-17:45	212	212
D	16:15-16:30	804	804
	16:30-16:45	960	960
	16:45-17:00	1176	1176
	17:00-17:15	1176	1176
	17:15-17:30	960	960
	17:30-17:45	804	804

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.31	7.12	0.5	A	204	306
B	0.55	4.77	1.3	A	854	1281
C	0.30	5.35	0.5	A	259	388
D	0.67	6.71	2.2	A	980	1470

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	167	42	1010	1098	0.152	166	10	0.0	0.2	4.247	A
B	701	175	172	1910	0.367	698	1004	0.0	0.6	3.261	A
C	212	53	591	1202	0.177	211	280	0.0	0.2	3.993	A
D	804	201	220	1834	0.438	801	583	0.0	0.9	3.820	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	200	50	1209	973	0.205	199	13	0.2	0.3	5.117	A
B	837	209	206	1887	0.444	836	1202	0.6	0.9	3.764	A
C	254	63	708	1138	0.223	253	335	0.2	0.3	4.472	A
D	960	240	263	1805	0.532	959	698	0.9	1.2	4.668	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	244	61	1479	803	0.304	244	15	0.3	0.5	7.068	A
B	1025	256	252	1856	0.552	1023	1470	0.9	1.3	4.745	A
C	310	78	866	1052	0.295	310	410	0.3	0.5	5.331	A
D	1176	294	322	1766	0.666	1172	854	1.2	2.1	6.625	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	244	61	1483	801	0.305	244	15	0.5	0.5	7.120	A
B	1025	256	253	1855	0.553	1025	1474	1.3	1.3	4.769	A
C	310	78	868	1051	0.296	310	411	0.5	0.5	5.349	A
D	1176	294	323	1766	0.666	1176	855	2.1	2.2	6.708	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	200	50	1215	969	0.206	200	13	0.5	0.3	5.157	A
B	837	209	208	1886	0.444	839	1208	1.3	0.9	3.789	A
C	254	63	710	1137	0.223	254	336	0.5	0.3	4.487	A
D	960	240	264	1805	0.532	964	700	2.2	1.3	4.728	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	167	42	1016	1094	0.153	167	11	0.3	0.2	4.275	A
B	701	175	174	1909	0.367	702	1010	0.9	0.6	3.281	A
C	212	53	594	1201	0.177	213	281	0.3	0.2	4.009	A
D	804	201	221	1833	0.439	806	586	1.3	0.9	3.860	A

EXISTING ROUNDABOUT - DS3 2036, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.44	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.44	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

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)	Run automatically
D7	DS3 2036	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	322	100.000
B		ONE HOUR	✓	1069	100.000
C		ONE HOUR	✓	264	100.000
D		ONE HOUR	✓	609	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	33	62	227
	B	81	2	238	748
	C	43	221	0	0
	D	143	442	22	2

Proportions

	To				
		A	B	C	D
From	A	0.00	0.10	0.19	0.70
	B	0.08	0.00	0.22	0.70
	C	0.16	0.84	0.00	0.00
	D	0.23	0.73	0.04	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A	07:30-07:45	242	242
	07:45-08:00	289	289
	08:00-08:15	355	355
	08:15-08:30	355	355
	08:30-08:45	289	289
	08:45-09:00	242	242
B	07:30-07:45	805	805
	07:45-08:00	961	961
	08:00-08:15	1177	1177
	08:15-08:30	1177	1177
	08:30-08:45	961	961
	08:45-09:00	805	805
C	07:30-07:45	199	199
	07:45-08:00	237	237
	08:00-08:15	291	291
	08:15-08:30	291	291
	08:30-08:45	237	237
	08:45-09:00	199	199
D	07:30-07:45	458	458
	07:45-08:00	547	547
	08:00-08:15	671	671
	08:15-08:30	671	671
	08:30-08:45	547	547
	08:45-09:00	458	458

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.28	4.39	0.4	A	295	443
B	0.66	6.42	2.1	A	981	1471
C	0.33	6.64	0.5	A	242	363
D	0.39	3.75	0.7	A	559	838

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	242	61	517	1408	0.172	242	200	0.0	0.2	3.395	A
B	805	201	235	1868	0.431	801	523	0.0	0.8	3.704	A
C	199	50	795	1091	0.182	198	241	0.0	0.2	4.431	A
D	458	115	260	1807	0.254	457	733	0.0	0.4	2.930	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	289	72	619	1344	0.215	289	240	0.2	0.3	3.755	A
B	961	240	281	1836	0.523	960	627	0.8	1.2	4.509	A
C	237	59	952	1005	0.236	237	289	0.2	0.3	5.156	A
D	547	137	311	1773	0.309	547	877	0.4	0.5	3.229	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	355	89	757	1257	0.282	354	293	0.3	0.4	4.386	A
B	1177	294	344	1794	0.656	1174	767	1.2	2.1	6.349	A
C	291	73	1164	888	0.327	290	354	0.3	0.5	6.611	A
D	671	168	381	1727	0.388	670	1073	0.5	0.7	3.744	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	355	89	759	1256	0.282	355	294	0.4	0.4	4.393	A
B	1177	294	345	1793	0.656	1177	768	2.1	2.1	6.421	A
C	291	73	1167	887	0.328	291	355	0.5	0.5	6.645	A
D	671	168	382	1727	0.388	671	1076	0.7	0.7	3.748	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	289	72	621	1343	0.216	290	241	0.4	0.3	3.766	A
B	961	240	282	1836	0.523	964	629	2.1	1.2	4.563	A
C	237	59	956	1002	0.237	238	290	0.5	0.3	5.186	A
D	547	137	313	1772	0.309	548	881	0.7	0.5	3.239	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	242	61	519	1406	0.172	243	201	0.3	0.2	3.403	A
B	805	201	236	1867	0.431	806	526	1.2	0.8	3.740	A
C	199	50	799	1088	0.183	199	243	0.3	0.2	4.456	A
D	458	115	262	1806	0.254	459	737	0.5	0.4	2.942	A

EXISTING ROUNDABOUT - DS3 2036, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	6.35	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.35	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

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)	Run automatically
D8	DS3 2036	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	385	100.000
B		ONE HOUR	✓	815	100.000
C		ONE HOUR	✓	288	100.000
D		ONE HOUR	✓	1089	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	92	76	217
	B	18	6	216	575
	C	41	247	0	0
	D	146	854	86	3

Proportions

	To				
		A	B	C	D
From	A	0.00	0.24	0.20	0.56
	B	0.02	0.01	0.27	0.71
	C	0.14	0.86	0.00	0.00
	D	0.13	0.78	0.08	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A	16:15-16:30	290	290
	16:30-16:45	346	346
	16:45-17:00	424	424
	17:00-17:15	424	424
	17:15-17:30	346	346
	17:30-17:45	290	290
B	16:15-16:30	614	614
	16:30-16:45	733	733
	16:45-17:00	897	897
	17:00-17:15	897	897
	17:15-17:30	733	733
	17:30-17:45	614	614
C	16:15-16:30	217	217
	16:30-16:45	259	259
	16:45-17:00	317	317
	17:00-17:15	317	317
	17:15-17:30	259	259
	17:30-17:45	217	217
D	16:15-16:30	820	820
	16:30-16:45	979	979
	16:45-17:00	1199	1199
	17:00-17:15	1199	1199
	17:15-17:30	979	979
	17:30-17:45	820	820

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.47	8.23	1.0	A	353	530
B	0.52	4.69	1.2	A	748	1122
C	0.31	5.54	0.5	A	264	396
D	0.68	7.15	2.4	A	999	1499

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	290	72	896	1169	0.248	288	154	0.0	0.4	4.489	A
B	614	153	286	1833	0.335	611	899	0.0	0.6	3.236	A
C	217	54	614	1190	0.182	216	283	0.0	0.2	4.062	A
D	820	205	234	1825	0.449	816	596	0.0	0.9	3.914	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	346	87	1073	1058	0.327	345	184	0.4	0.5	5.553	A
B	733	183	343	1795	0.408	732	1076	0.6	0.8	3.724	A
C	259	65	735	1123	0.231	259	339	0.2	0.3	4.576	A
D	979	245	280	1794	0.546	977	714	0.9	1.3	4.839	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	424	106	1313	908	0.467	422	225	0.5	0.9	8.131	A
B	897	224	419	1743	0.515	896	1316	0.8	1.2	4.665	A
C	317	79	900	1033	0.307	316	415	0.3	0.5	5.521	A
D	1199	300	343	1753	0.684	1195	873	1.3	2.3	7.050	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	424	106	1317	905	0.468	424	226	0.9	1.0	8.228	A
B	897	224	421	1742	0.515	897	1320	1.2	1.2	4.687	A
C	317	79	902	1032	0.307	317	416	0.5	0.5	5.538	A
D	1199	300	344	1752	0.684	1199	875	2.3	2.4	7.153	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	346	87	1079	1054	0.328	348	185	1.0	0.5	5.619	A
B	733	183	345	1793	0.409	734	1082	1.2	0.8	3.744	A
C	259	65	738	1121	0.231	260	341	0.5	0.3	4.596	A
D	979	245	281	1793	0.546	983	717	2.4	1.3	4.912	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	290	72	902	1166	0.249	291	155	0.5	0.4	4.528	A
B	614	153	288	1832	0.335	614	904	0.8	0.6	3.257	A
C	217	54	618	1188	0.183	217	285	0.3	0.2	4.082	A
D	820	205	235	1824	0.450	822	600	1.3	0.9	3.959	A

PROPOSED ROUNDABOUT (AM) - DS3 2036, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

ID	Name	Description	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PROPOSED ROUNDABOUT (AM)	WIDTH OF A47 N/B EXIT REDUCED TO SINGLE LANE	✓	✓	D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	7.74	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.74	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B	20.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A	None		
B	None		
C	Percentage	UNEQUAL LANE USE	83.00
D	Percentage	UNEQUAL LANE USE	69.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1267
D	0.662	1366

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

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)	Run automatically
D7	DS3 2036	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	322	100.000
B		ONE HOUR	✓	1069	100.000
C		ONE HOUR	✓	264	100.000
D		ONE HOUR	✓	609	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	[ONEHOUR]	37.00
C		
D		

Origin-Destination Data

Demand (PCU/hr)

	To				
From		A	B	C	D
	A	0	33	62	227
	B	81	2	238	748
	C	43	221	0	0
	D	143	442	22	2

Proportions

	To				
From		A	B	C	D
	A	0.00	0.10	0.19	0.70
	B	0.08	0.00	0.22	0.70
	C	0.16	0.84	0.00	0.00
	D	0.23	0.73	0.04	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A	07:30-07:45	242	242	
	07:45-08:00	289	289	
	08:00-08:15	355	355	
	08:15-08:30	355	355	
	08:30-08:45	289	289	
	08:45-09:00	242	242	
B	07:30-07:45	805	805	27.86
	07:45-08:00	961	961	33.26
	08:00-08:15	1177	1177	40.74
	08:15-08:30	1177	1177	40.74
	08:30-08:45	961	961	33.26
	08:45-09:00	805	805	27.86
C	07:30-07:45	199	199	
	07:45-08:00	237	237	
	08:00-08:15	291	291	
	08:15-08:30	291	291	
	08:30-08:45	237	237	
	08:45-09:00	199	199	
D	07:30-07:45	458	458	
	07:45-08:00	547	547	
	08:00-08:15	671	671	
	08:15-08:30	671	671	
	08:30-08:45	547	547	
	08:45-09:00	458	458	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.28	4.39	0.4	A	295	443
B	0.68	7.06	2.3	A	981	1471
C	0.46	11.77	0.9	B	242	363
D	0.60	8.94	1.6	A	559	838

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	242	61	515		1409	0.172	242	200	0.0	0.2	3.393	A
B	805	201	235	27.86	1786	0.451	801	522	0.0	0.9	4.007	A
C	199	50	795		831	0.239	197	241	0.0	0.3	6.236	A
D	458	115	260		1194	0.384	456	732	0.0	0.7	5.345	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	289	72	618		1344	0.215	289	240	0.2	0.3	3.753	A
B	961	240	281	33.26	1761	0.546	959	626	0.9	1.3	4.932	A
C	237	59	951		745	0.318	237	289	0.3	0.5	7.776	A
D	547	137	311		1160	0.472	546	877	0.7	1.0	6.442	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	355	89	755		1258	0.282	354	293	0.3	0.4	4.379	A
B	1177	294	344	40.74	1730	0.680	1173	765	1.3	2.3	7.063	A
C	291	73	1164		629	0.462	289	353	0.5	0.9	11.593	B
D	671	168	380		1114	0.602	668	1073	1.0	1.6	8.819	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	355	89	758		1256	0.282	355	294	0.4	0.4	4.393	A
B	1177	294	345	40.74	1746	0.674	1177	768	2.3	2.3	6.958	A
C	291	73	1167		627	0.464	291	355	0.9	0.9	11.766	B
D	671	168	382		1113	0.602	670	1076	1.6	1.6	8.944	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	289	72	623		1341	0.216	290	241	0.4	0.3	3.767	A
B	961	240	282	33.26	1780	0.540	965	631	2.3	1.3	4.881	A
C	237	59	956		743	0.320	239	291	0.9	0.5	7.889	A
D	547	137	314		1158	0.473	550	881	1.6	1.0	6.542	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	242	61	520		1406	0.172	243	202	0.3	0.2	3.407	A
B	805	201	236	27.86	1801	0.447	806	527	1.3	0.9	3.986	A
C	199	50	800		829	0.240	199	243	0.5	0.4	6.303	A
D	458	115	262		1192	0.385	460	737	1.0	0.7	5.413	A

PROPOSED ROUNDABOUT (PM) - DS3 2036, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

ID	Name	Description	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A3	PROPOSED ROUNDABOUT (PM)	WIDTH OF A47 N/B EXIT REDUCED TO SINGLE LANE	✓	✓	D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	36.57	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	36.57	E

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B	20.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A	None		
B	None		
C	Percentage	UNEQUAL LANE USE	81.00
D	Percentage	UNEQUAL LANE USE	72.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1236
D	0.662	1425

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

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)	Run automatically
D8	DS3 2036	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	385	100.000
B		ONE HOUR	✓	815	100.000
C		ONE HOUR	✓	288	100.000
D		ONE HOUR	✓	1089	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	[ONEHOUR]	37.00
C		
D		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	92	76	217
	B	18	6	216	575
	C	41	247	0	0
	D	146	854	86	3

Proportions

		To			
		A	B	C	D
From	A	0.00	0.24	0.20	0.56
	B	0.02	0.01	0.27	0.71
	C	0.14	0.86	0.00	0.00
	D	0.13	0.78	0.08	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A	16:15-16:30	290	290	
	16:30-16:45	346	346	
	16:45-17:00	424	424	
	17:00-17:15	424	424	
	17:15-17:30	346	346	
	17:30-17:45	290	290	
B	16:15-16:30	614	614	27.86
	16:30-16:45	733	733	33.26
	16:45-17:00	897	897	40.74
	17:00-17:15	897	897	40.74
	17:15-17:30	733	733	33.26
	17:30-17:45	614	614	27.86
C	16:15-16:30	217	217	
	16:30-16:45	259	259	
	16:45-17:00	317	317	
	17:00-17:15	317	317	
	17:15-17:30	259	259	
	17:30-17:45	217	217	
D	16:15-16:30	820	820	
	16:30-16:45	979	979	
	16:45-17:00	1199	1199	
	17:00-17:15	1199	1199	
	17:15-17:30	979	979	
	17:30-17:45	820	820	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.46	7.95	0.9	A	353	530
B	0.54	5.17	1.3	A	748	1122
C	0.43	9.32	0.8	A	264	396
D	1.00	77.41	25.7	F	999	1499

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	290	72	892		1172	0.247	288	153	0.0	0.4	4.476	A
B	614	153	286	27.86	1749	0.351	611	895	0.0	0.6	3.471	A
C	217	54	614		900	0.241	215	283	0.0	0.3	5.775	A
D	820	205	233		1271	0.645	812	596	0.0	1.9	8.498	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	346	87	1068		1061	0.326	345	183	0.4	0.5	5.527	A
B	733	183	342	33.26	1711	0.428	732	1071	0.6	0.8	4.042	A
C	259	65	735		833	0.311	258	339	0.3	0.5	6.880	A
D	979	245	280		1240	0.790	971	714	1.9	3.8	14.343	B

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	424	106	1266		937	0.452	422	218	0.5	0.9	7.676	A
B	897	224	415	40.74	1660	0.541	895	1274	0.8	1.3	5.168	A
C	317	79	899		743	0.427	316	411	0.5	0.8	9.237	A
D	1199	300	342		1199	1.000	1142	873	3.8	18.2	46.764	E

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	424	106	1291		921	0.460	424	222	0.9	0.9	7.954	A
B	897	224	418	40.74	1666	0.539	897	1296	1.3	1.3	5.152	A
C	317	79	902		742	0.427	317	414	0.8	0.8	9.316	A
D	1199	300	343		1198	1.001	1169	875	18.2	25.7	77.407	F

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	346	87	1150		1010	0.343	347	196	0.9	0.6	5.988	A
B	733	183	351	33.26	1715	0.427	734	1146	1.3	0.8	4.045	A
C	259	65	739		831	0.311	260	347	0.8	0.5	6.949	A
D	979	245	282		1239	0.790	1064	717	25.7	4.6	30.600	D

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	290	72	910		1161	0.250	291	156	0.6	0.4	4.556	A
B	614	153	289	27.86	1758	0.349	615	911	0.8	0.6	3.466	A
C	217	54	618		898	0.242	217	286	0.5	0.4	5.828	A
D	820	205	236		1269	0.646	830	600	4.6	2.1	9.206	A

Junctions 10		
ARCADY 10 - Roundabout Module		
Version: 10.1.1.1905		
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Path: D:\OneDrive - Capricorn Transport Planning Ltd\PROJECTS\C21021 Hinckley West\WORK\Calculations\TA3

Report generation date: 19/06/2024 11:43:26

-
- »EXISTING ROUNDABOUT - DM3 2028, AM
 - »EXISTING ROUNDABOUT - DM3 2028, PM
 - »EXISTING ROUNDABOUT - DS4 2028, AM
 - »EXISTING ROUNDABOUT - DS4 2028, PM
 - »PROPOSED ROUNDABOUT (AM) - DS4 2028, AM
 - »PROPOSED ROUNDABOUT (PM) - DS4 2028, PM

Summary of junction performance

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	EXISTING ROUNDABOUT - DM3 2028							
Arm A	A1 D5	0.0	3.30	0.02	A1 D6	0.4	6.25	0.26
Arm B		2.3	6.07	0.67		1.2	4.41	0.52
Arm C		0.4	5.84	0.28		0.4	5.05	0.27
Arm D		0.6	3.46	0.35		1.8	5.81	0.62
	EXISTING ROUNDABOUT - DS4 2028							
Arm A	A1 D7	0.4	4.20	0.27	A1 D8	0.8	7.14	0.42
Arm B		1.7	5.71	0.61		1.0	4.37	0.48
Arm C		0.5	6.11	0.29		0.4	5.26	0.29
Arm D		0.6	3.54	0.36		1.9	6.18	0.64

	AM			
	Set ID	Queue (PCU)	Delay (s)	RFC
PROPOSED ROUNDABOUT (AM) - DS4 2028				
Arm A	A2 D7	0.4	4.20	0.27
Arm B		1.9	6.32	0.64
Arm C		0.7	9.80	0.40
Arm D		1.4	8.15	0.56

	PM			
	Set ID	Queue (PCU)	Delay (s)	RFC
PROPOSED ROUNDABOUT (PM) - DS4 2028				
Arm A	A3 D8	0.8	7.09	0.42
Arm B		1.1	4.82	0.51
Arm C		0.7	8.56	0.40
Arm D		11.2	38.49	0.93

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

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

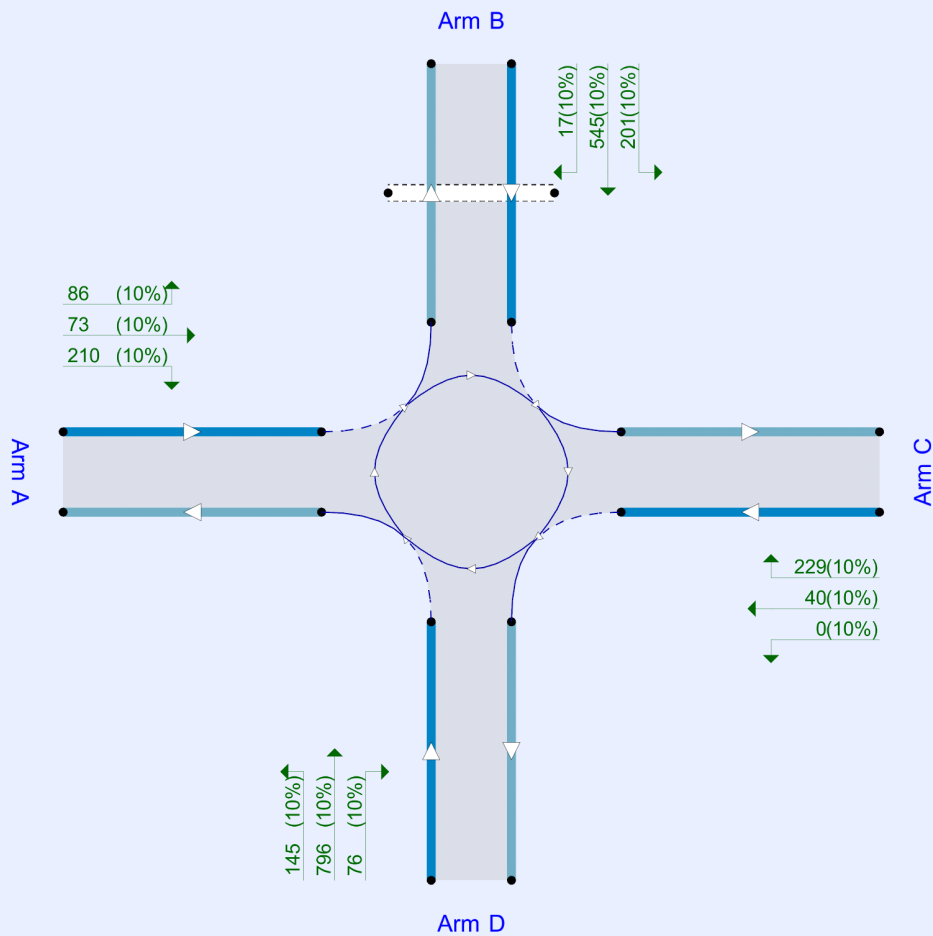
File summary

File Description

Title	HINCKLEY WEST PHASE 4
Location	A47/ROSTON DRIVE ROUNDABOUT
Site number	2
Date	27/02/2024
Version	01
Status	PRELIMINARY
Identifier	
Client	BLOOR HOMES
Jobnumber	C21021
Enumerator	PC-CAPRICORN-01\seanm
Description	

Units

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



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	DM3 2028	AM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓
D6	DM3 2028	PM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓
D7	DS4 2028	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓
D8	DS4 2028	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

EXISTING ROUNDABOUT - DM3 2028, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.31	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

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)	Run automatically
D5	DM3 2028	AM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	23	100.000
B		ONE HOUR	✓	1228	100.000
C		ONE HOUR	✓	241	100.000
D		ONE HOUR	✓	552	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	12	0	11
	B	68	2	275	883
	C	15	226	0	0
	D	45	487	18	2

Proportions

	To				
		A	B	C	D
From	A	0.00	0.52	0.00	0.48
	B	0.06	0.00	0.22	0.72
	C	0.06	0.94	0.00	0.00
	D	0.08	0.88	0.03	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A	07:30-07:45	17	17
	07:45-08:00	21	21
	08:00-08:15	25	25
	08:15-08:30	25	25
	08:30-08:45	21	21
	08:45-09:00	17	17
B	07:30-07:45	925	925
	07:45-08:00	1104	1104
	08:00-08:15	1352	1352
	08:15-08:30	1352	1352
	08:30-08:45	1104	1104
	08:45-09:00	925	925
C	07:30-07:45	181	181
	07:45-08:00	217	217
	08:00-08:15	265	265
	08:15-08:30	265	265
	08:30-08:45	217	217
	08:45-09:00	181	181
D	07:30-07:45	416	416
	07:45-08:00	496	496
	08:00-08:15	608	608
	08:15-08:30	608	608
	08:30-08:45	496	496
	08:45-09:00	416	416

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.02	3.30	0.0	A	21	32
B	0.67	6.07	2.3	A	1127	1690
C	0.28	5.84	0.4	A	221	332
D	0.35	3.46	0.6	A	507	760

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	17	4	551	1386	0.012	17	96	0.0	0.0	2.892	A
B	925	231	23	2011	0.460	921	545	0.0	0.9	3.621	A
C	181	45	724	1129	0.161	181	220	0.0	0.2	4.171	A
D	416	104	233	1825	0.228	414	672	0.0	0.3	2.804	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	21	5	660	1318	0.016	21	115	0.0	0.0	3.052	A
B	1104	276	28	2008	0.550	1102	653	0.9	1.3	4.364	A
C	217	54	867	1051	0.206	216	263	0.2	0.3	4.744	A
D	496	124	279	1795	0.277	496	804	0.3	0.4	3.049	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	25	6	808	1225	0.021	25	141	0.0	0.0	3.300	A
B	1352	338	34	2004	0.675	1348	799	1.3	2.2	6.010	A
C	265	66	1061	945	0.281	265	322	0.3	0.4	5.818	A
D	608	152	342	1753	0.347	607	984	0.4	0.6	3.453	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	25	6	809	1224	0.021	25	141	0.0	0.0	3.302	A
B	1352	338	34	2004	0.675	1352	800	2.2	2.3	6.074	A
C	265	66	1064	943	0.281	265	323	0.4	0.4	5.840	A
D	608	152	342	1753	0.347	608	986	0.6	0.6	3.457	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	21	5	662	1317	0.016	21	115	0.0	0.0	3.055	A
B	1104	276	28	2008	0.550	1108	655	2.3	1.4	4.417	A
C	217	54	871	1049	0.207	217	264	0.4	0.3	4.765	A
D	496	124	280	1794	0.277	497	808	0.6	0.4	3.056	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	17	4	554	1384	0.013	17	97	0.0	0.0	2.896	A
B	925	231	23	2011	0.460	926	548	1.4	0.9	3.655	A
C	181	45	729	1127	0.161	182	221	0.3	0.2	4.190	A
D	416	104	235	1824	0.228	416	676	0.4	0.3	2.812	A

EXISTING ROUNDABOUT - DM3 2028, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.24	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.24	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

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)	Run automatically
D6	DM3 2028	PM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	206	100.000
B		ONE HOUR	✓	884	100.000
C		ONE HOUR	✓	263	100.000
D		ONE HOUR	✓	999	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	75	39	92
	B	4	5	230	645
	C	0	263	0	0
	D	7	913	76	3

Proportions

	To				
		A	B	C	D
From	A	0.00	0.36	0.19	0.45
	B	0.00	0.01	0.26	0.73
	C	0.00	1.00	0.00	0.00
	D	0.01	0.91	0.08	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A	16:15-16:30	155	155
	16:30-16:45	185	185
	16:45-17:00	227	227
	17:00-17:15	227	227
	17:15-17:30	185	185
	17:30-17:45	155	155
B	16:15-16:30	666	666
	16:30-16:45	795	795
	16:45-17:00	973	973
	17:00-17:15	973	973
	17:15-17:30	795	795
	17:30-17:45	666	666
C	16:15-16:30	198	198
	16:30-16:45	236	236
	16:45-17:00	290	290
	17:00-17:15	290	290
	17:15-17:30	236	236
	17:30-17:45	198	198
D	16:15-16:30	752	752
	16:30-16:45	898	898
	16:45-17:00	1100	1100
	17:00-17:15	1100	1100
	17:15-17:30	898	898
	17:30-17:45	752	752

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.26	6.25	0.4	A	189	284
B	0.52	4.41	1.2	A	811	1217
C	0.27	5.05	0.4	A	241	362
D	0.62	5.81	1.8	A	917	1375

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	155	39	945	1139	0.136	154	8	0.0	0.2	4.020	A
B	666	166	157	1920	0.347	663	942	0.0	0.6	3.145	A
C	198	50	562	1218	0.163	197	259	0.0	0.2	3.874	A
D	752	188	204	1844	0.408	749	555	0.0	0.8	3.607	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	185	46	1131	1022	0.181	185	10	0.2	0.2	4.732	A
B	795	199	189	1899	0.418	794	1128	0.6	0.8	3.581	A
C	236	59	673	1158	0.204	236	310	0.2	0.3	4.297	A
D	898	225	244	1818	0.494	897	665	0.8	1.1	4.293	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	227	57	1384	863	0.263	226	12	0.2	0.4	6.217	A
B	973	243	231	1871	0.520	972	1380	0.8	1.2	4.397	A
C	290	72	823	1075	0.269	289	379	0.3	0.4	5.035	A
D	1100	275	299	1782	0.617	1097	813	1.1	1.7	5.763	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	227	57	1387	861	0.264	227	12	0.4	0.4	6.246	A
B	973	243	231	1870	0.520	973	1383	1.2	1.2	4.414	A
C	290	72	825	1074	0.270	290	380	0.4	0.4	5.046	A
D	1100	275	299	1781	0.618	1100	815	1.7	1.8	5.811	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	185	46	1136	1019	0.182	186	10	0.4	0.2	4.759	A
B	795	199	189	1899	0.419	796	1132	1.2	0.8	3.596	A
C	236	59	675	1156	0.204	237	311	0.4	0.3	4.310	A
D	898	225	245	1817	0.494	901	667	1.8	1.1	4.333	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	155	39	950	1135	0.137	155	8	0.2	0.2	4.041	A
B	666	166	158	1920	0.347	666	947	0.8	0.6	3.163	A
C	198	50	565	1217	0.163	198	260	0.3	0.2	3.890	A
D	752	188	205	1844	0.408	753	558	1.1	0.8	3.635	A

EXISTING ROUNDABOUT - DS4 2028, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	4.95	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.95	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

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)	Run automatically
D7	DS4 2028	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	320	100.000
B		ONE HOUR	✓	1002	100.000
C		ONE HOUR	✓	245	100.000
D		ONE HOUR	✓	567	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	32	62	226
	B	77	2	222	701
	C	42	203	0	0
	D	139	408	18	2

Proportions

	To				
		A	B	C	D
From	A	0.00	0.10	0.19	0.71
	B	0.08	0.00	0.22	0.70
	C	0.17	0.83	0.00	0.00
	D	0.25	0.72	0.03	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A	07:30-07:45	241	241
	07:45-08:00	288	288
	08:00-08:15	352	352
	08:15-08:30	352	352
	08:30-08:45	288	288
	08:45-09:00	241	241
B	07:30-07:45	754	754
	07:45-08:00	901	901
	08:00-08:15	1103	1103
	08:15-08:30	1103	1103
	08:30-08:45	901	901
	08:45-09:00	754	754
C	07:30-07:45	184	184
	07:45-08:00	220	220
	08:00-08:15	270	270
	08:15-08:30	270	270
	08:30-08:45	220	220
	08:45-09:00	184	184
D	07:30-07:45	427	427
	07:45-08:00	510	510
	08:00-08:15	624	624
	08:15-08:30	624	624
	08:30-08:45	510	510
	08:45-09:00	427	427

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.27	4.20	0.4	A	294	440
B	0.61	5.71	1.7	A	919	1379
C	0.29	6.11	0.5	A	225	337
D	0.36	3.54	0.6	A	520	780

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	241	60	475	1434	0.168	240	194	0.0	0.2	3.315	A
B	754	189	231	1870	0.403	751	484	0.0	0.7	3.531	A
C	184	46	756	1112	0.166	184	226	0.0	0.2	4.262	A
D	427	107	243	1819	0.235	426	697	0.0	0.3	2.840	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	288	72	568	1375	0.209	287	232	0.2	0.3	3.640	A
B	901	225	277	1839	0.490	900	579	0.7	1.0	4.208	A
C	220	55	905	1030	0.214	220	271	0.2	0.3	4.884	A
D	510	127	291	1787	0.285	509	834	0.3	0.4	3.099	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	352	88	696	1295	0.272	352	284	0.3	0.4	4.196	A
B	1103	276	339	1797	0.614	1101	709	1.0	1.7	5.661	A
C	270	67	1107	919	0.293	269	332	0.3	0.5	6.087	A
D	624	156	356	1744	0.358	624	1021	0.4	0.6	3.533	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	352	88	697	1295	0.272	352	284	0.4	0.4	4.202	A
B	1103	276	339	1797	0.614	1103	710	1.7	1.7	5.706	A
C	270	67	1110	918	0.294	270	332	0.5	0.5	6.109	A
D	624	156	357	1743	0.358	624	1023	0.6	0.6	3.537	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	288	72	570	1374	0.209	288	232	0.4	0.3	3.649	A
B	901	225	277	1839	0.490	903	581	1.7	1.1	4.246	A
C	220	55	909	1028	0.214	221	272	0.5	0.3	4.908	A
D	510	127	292	1786	0.285	510	837	0.6	0.4	3.107	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	241	60	477	1433	0.168	241	194	0.3	0.2	3.323	A
B	754	189	232	1870	0.403	756	486	1.1	0.7	3.560	A
C	184	46	760	1110	0.166	185	228	0.3	0.2	4.283	A
D	427	107	244	1818	0.235	427	700	0.4	0.3	2.848	A

EXISTING ROUNDABOUT - DS4 2028, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.65	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.65	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

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)	Run automatically
D8	DS4 2028	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	369	100.000
B		ONE HOUR	✓	768	100.000
C		ONE HOUR	✓	275	100.000
D		ONE HOUR	✓	1020	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	86	73	210
	B	17	5	201	545
	C	40	229	6	0
	D	145	796	76	3

Proportions

	To				
		A	B	C	D
From	A	0.00	0.23	0.20	0.57
	B	0.02	0.01	0.26	0.71
	C	0.15	0.83	0.02	0.00
	D	0.14	0.78	0.07	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A	16:15-16:30	278	278
	16:30-16:45	332	332
	16:45-17:00	406	406
	17:00-17:15	406	406
	17:15-17:30	332	332
	17:30-17:45	278	278
B	16:15-16:30	578	578
	16:30-16:45	690	690
	16:45-17:00	846	846
	17:00-17:15	846	846
	17:15-17:30	690	690
	17:30-17:45	578	578
C	16:15-16:30	207	207
	16:30-16:45	247	247
	16:45-17:00	303	303
	17:00-17:15	303	303
	17:15-17:30	247	247
	17:30-17:45	207	207
D	16:15-16:30	768	768
	16:30-16:45	917	917
	16:45-17:00	1123	1123
	17:00-17:15	1123	1123
	17:15-17:30	917	917
	17:30-17:45	768	768

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.42	7.14	0.8	A	339	508
B	0.48	4.37	1.0	A	705	1057
C	0.29	5.26	0.4	A	252	379
D	0.64	6.18	1.9	A	936	1404

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	278	69	836	1207	0.230	276	151	0.0	0.3	4.248	A
B	578	145	276	1840	0.314	576	837	0.0	0.5	3.127	A
C	207	52	585	1206	0.172	206	267	0.0	0.2	3.959	A
D	768	192	223	1832	0.419	765	568	0.0	0.8	3.699	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	332	83	1001	1103	0.301	331	181	0.3	0.5	5.124	A
B	690	173	330	1803	0.383	690	1002	0.5	0.7	3.555	A
C	247	62	700	1142	0.216	247	320	0.2	0.3	4.421	A
D	917	229	267	1803	0.509	916	681	0.8	1.1	4.457	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	406	102	1225	963	0.422	405	222	0.5	0.8	7.082	A
B	846	211	404	1753	0.482	844	1226	0.7	1.0	4.350	A
C	303	76	857	1056	0.287	302	391	0.3	0.4	5.247	A
D	1123	281	326	1763	0.637	1120	833	1.1	1.9	6.125	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	406	102	1228	961	0.423	406	222	0.8	0.8	7.137	A
B	846	211	405	1752	0.483	846	1229	1.0	1.0	4.366	A
C	303	76	859	1056	0.287	303	392	0.4	0.4	5.260	A
D	1123	281	327	1763	0.637	1123	835	1.9	1.9	6.184	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	332	83	1005	1101	0.301	333	182	0.8	0.5	5.168	A
B	690	173	332	1802	0.383	692	1006	1.0	0.7	3.573	A
C	247	62	703	1141	0.217	248	321	0.4	0.3	4.437	A
D	917	229	268	1802	0.509	920	683	1.9	1.2	4.503	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	278	69	841	1204	0.231	278	152	0.5	0.3	4.280	A
B	578	145	278	1839	0.314	579	842	0.7	0.5	3.146	A
C	207	52	588	1204	0.172	207	268	0.3	0.2	3.974	A
D	768	192	224	1831	0.419	769	572	1.2	0.8	3.733	A

PROPOSED ROUNDABOUT (AM) - DS4 2028, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

ID	Name	Description	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PROPOSED ROUNDABOUT (AM)	WIDTH OF A47 N/B EXIT REDUCED TO SINGLE LANE	✓	✓	D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	6.89	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.89	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B	20.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A	None		
B	None		
C	Percentage	UNEQUAL LANE USE	84.00
D	Percentage	UNEQUAL LANE USE	68.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1282
D	0.662	1346

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

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)	Run automatically
D7	DS4 2028	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	320	100.000
B		ONE HOUR	✓	1002	100.000
C		ONE HOUR	✓	245	100.000
D		ONE HOUR	✓	567	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	[ONEHOUR]	37.00
C		
D		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	32	62	226
	B	77	2	222	701
	C	42	203	0	0
	D	139	408	18	2

Proportions

		To			
		A	B	C	D
From	A	0.00	0.10	0.19	0.71
	B	0.08	0.00	0.22	0.70
	C	0.17	0.83	0.00	0.00
	D	0.25	0.72	0.03	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A	07:30-07:45	241	241	
	07:45-08:00	288	288	
	08:00-08:15	352	352	
	08:15-08:30	352	352	
	08:30-08:45	288	288	
	08:45-09:00	241	241	
B	07:30-07:45	754	754	27.86
	07:45-08:00	901	901	33.26
	08:00-08:15	1103	1103	40.74
	08:15-08:30	1103	1103	40.74
	08:30-08:45	901	901	33.26
	08:45-09:00	754	754	27.86
C	07:30-07:45	184	184	
	07:45-08:00	220	220	
	08:00-08:15	270	270	
	08:15-08:30	270	270	
	08:30-08:45	220	220	
	08:45-09:00	184	184	
D	07:30-07:45	427	427	
	07:45-08:00	510	510	
	08:00-08:15	624	624	
	08:15-08:30	624	624	
	08:30-08:45	510	510	
	08:45-09:00	427	427	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.27	4.20	0.4	A	294	440
B	0.64	6.32	1.9	A	919	1379
C	0.40	9.80	0.7	A	225	337
D	0.56	8.15	1.4	A	520	780

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	241	60	474		1435	0.168	240	193	0.0	0.2	3.313	A
B	754	189	231	27.86	1787	0.422	751	483	0.0	0.8	3.812	A
C	184	46	756		868	0.213	183	226	0.0	0.3	5.776	A
D	427	107	242		1186	0.360	424	697	0.0	0.6	5.186	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	288	72	568		1376	0.209	287	231	0.2	0.3	3.638	A
B	901	225	277	33.26	1760	0.512	899	579	0.8	1.1	4.594	A
C	220	55	905		786	0.280	220	271	0.3	0.4	6.987	A
D	510	127	291		1154	0.442	509	834	0.6	0.9	6.132	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	352	88	694		1296	0.272	352	283	0.3	0.4	4.191	A
B	1103	276	339	40.74	1724	0.640	1100	708	1.1	1.9	6.316	A
C	270	67	1107		675	0.400	269	332	0.4	0.7	9.711	A
D	624	156	355		1111	0.562	622	1020	0.9	1.4	8.068	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	352	88	697		1295	0.272	352	284	0.4	0.4	4.202	A
B	1103	276	339	40.74	1737	0.635	1103	710	1.9	1.9	6.246	A
C	270	67	1110		674	0.400	270	333	0.7	0.7	9.801	A
D	624	156	357		1110	0.562	624	1023	1.4	1.4	8.150	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	288	72	572		1373	0.209	288	233	0.4	0.3	3.652	A
B	901	225	277	33.26	1776	0.507	904	582	1.9	1.1	4.557	A
C	220	55	909		784	0.281	221	272	0.7	0.4	7.055	A
D	510	127	293		1152	0.442	512	838	1.4	0.9	6.201	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	241	60	478		1432	0.168	241	195	0.3	0.2	3.327	A
B	754	189	232	27.86	1801	0.419	756	487	1.1	0.8	3.793	A
C	184	46	760		865	0.213	185	228	0.4	0.3	5.824	A
D	427	107	245		1184	0.360	428	701	0.9	0.6	5.245	A

PROPOSED ROUNDABOUT (PM) - DS4 2028, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm D - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

ID	Name	Description	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A3	PROPOSED ROUNDABOUT (PM)	WIDTH OF A47 N/B EXIT REDUCED TO SINGLE LANE	✓	✓	D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	19.71	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	19.71	C

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B	20.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A	None		
B	None		
C	Percentage	UNEQUAL LANE USE	81.00
D	Percentage	UNEQUAL LANE USE	72.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1236
D	0.662	1425

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

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)	Run automatically
D8	DS4 2028	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	369	100.000
B		ONE HOUR	✓	768	100.000
C		ONE HOUR	✓	275	100.000
D		ONE HOUR	✓	1020	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	[ONEHOUR]	37.00
C		
D		

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	86	73	210
	B	17	5	201	545
	C	40	229	6	0
	D	145	796	76	3

Proportions

	To				
	A	B	C	D	
From	A	0.00	0.23	0.20	0.57
	B	0.02	0.01	0.26	0.71
	C	0.15	0.83	0.02	0.00
	D	0.14	0.78	0.07	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A	16:15-16:30	278	278	
	16:30-16:45	332	332	
	16:45-17:00	406	406	
	17:00-17:15	406	406	
	17:15-17:30	332	332	
	17:30-17:45	278	278	
B	16:15-16:30	578	578	27.86
	16:30-16:45	690	690	33.26
	16:45-17:00	846	846	40.74
	17:00-17:15	846	846	40.74
	17:15-17:30	690	690	33.26
	17:30-17:45	578	578	27.86
C	16:15-16:30	207	207	
	16:30-16:45	247	247	
	16:45-17:00	303	303	
	17:00-17:15	303	303	
	17:15-17:30	247	247	
	17:30-17:45	207	207	
D	16:15-16:30	768	768	
	16:30-16:45	917	917	
	16:45-17:00	1123	1123	
	17:00-17:15	1123	1123	
	17:15-17:30	917	917	
	17:30-17:45	768	768	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.42	7.09	0.8	A	339	508
B	0.51	4.82	1.1	A	705	1057
C	0.40	8.56	0.7	A	252	379
D	0.93	38.49	11.2	E	936	1404

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	278	69	833		1209	0.230	276	151	0.0	0.3	4.239	A
B	578	145	276	27.86	1755	0.329	576	834	0.0	0.5	3.352	A
C	207	52	585		916	0.226	206	267	0.0	0.3	5.568	A
D	768	192	222		1278	0.601	761	568	0.0	1.6	7.573	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	332	83	998		1106	0.300	331	181	0.3	0.5	5.110	A
B	690	173	330	33.26	1717	0.402	690	999	0.5	0.7	3.855	A
C	247	62	700		852	0.290	247	319	0.3	0.4	6.532	A
D	917	229	266		1249	0.734	912	681	1.6	2.9	11.572	B

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	406	102	1203		976	0.416	405	218	0.5	0.8	6.917	A
B	846	211	402	40.74	1664	0.508	844	1206	0.7	1.1	4.821	A
C	303	76	857		767	0.395	302	389	0.4	0.7	8.500	A
D	1123	281	326		1209	0.929	1096	833	2.9	9.7	29.575	D

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	406	102	1222		964	0.421	406	222	0.8	0.8	7.094	A
B	846	211	405	40.74	1669	0.507	846	1224	1.1	1.1	4.808	A
C	303	76	859		766	0.396	303	391	0.7	0.7	8.555	A
D	1123	281	327		1209	0.929	1117	835	9.7	11.2	38.489	E

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	332	83	1031		1085	0.306	333	186	0.8	0.5	5.277	A
B	690	173	334	33.26	1723	0.401	692	1029	1.1	0.7	3.849	A
C	247	62	703		851	0.291	248	323	0.7	0.5	6.584	A
D	917	229	268		1248	0.735	949	683	11.2	3.2	14.531	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	278	69	845		1201	0.231	278	153	0.5	0.3	4.292	A
B	578	145	278	27.86	1763	0.328	579	845	0.7	0.5	3.346	A
C	207	52	588		914	0.227	208	269	0.5	0.3	5.612	A
D	768	192	224		1277	0.601	774	572	3.2	1.7	7.967	A

APPENDIX TN7-F

REVISED TRAFFIC FORECASTS AND CAPACITY ASSESSMENT: JUNCTION 4 – A47/GREENFINCH ROAD ROUNDABOUT



Hinckley, Tuesday 21st June 2022

Junction: 4

Approach: A47 Normandy Way North

TIME	Ahead to A47 Normandy Way (S)								Right to Greenfinch Road								U-Turn							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	2	7	154	31	7	3	1	205	0	0	1	2	1	0	0	4	0	0	0	0	0	0	0	0
07:45 - 08:00	4	7	176	49	1	5	1	243	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	0
Hourly Total	6	14	330	80	8	8	2	448	0	0	1	9	1	0	0	11	0	0	0	0	0	0	0	0
08:00 - 08:15	0	5	153	22	1	4	0	185	0	0	2	1	0	1	0	4	0	0	0	0	0	0	0	0
08:15 - 08:30	0	3	152	23	5	5	1	189	0	0	0	2	0	1	0	3	0	0	0	0	0	0	0	0
08:30 - 08:45	0	0	147	30	2	4	0	183	0	0	1	0	1	0	0	2	0	0	0	1	0	0	0	1
08:45 - 09:00	1	0	152	28	3	9	1	194	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0
Hourly Total	1	8	604	103	11	22	2	751	0	0	8	3	1	2	0	14	0	0	0	1	0	0	0	1
09:00 - 09:15	0	2	95	20	4	7	0	128	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0
09:15 - 09:30	0	2	107	26	7	11	1	154	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1
Hourly Total	0	4	202	46	11	18	1	282	0	0	2	2	0	0	0	4	0	0	1	0	0	0	0	1

TOTAL	7	26	1136	229	30	48	5	1481	0	0	11	14	2	2	0	29	0	0	1	1	0	0	0	2
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16:30 - 16:45	0	1	121	19	3	5	1	150	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0
16:45 - 17:00	0	2	111	22	1	1	1	138	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	0	3	232	41	4	6	2	288	0	0	2	1	0	0	0	3	0	0	0	0	0	0	0	0
17:00 - 17:15	0	4	126	20	0	3	0	153	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
17:15 - 17:30	1	1	134	19	0	0	0	155	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0
17:30 - 17:45	0	5	155	9	0	1	0	170	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0
17:45 - 18:00	0	2	109	12	1	1	1	126	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	1	12	524	60	1	5	1	604	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0
18:00 - 18:15	0	2	128	12	2	0	0	144	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	0
18:15 - 18:30	1	2	95	12	0	2	0	112	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	0
Hourly Total	1	4	223	24	2	2	0	256	0	0	6	2	0	0	0	8	0	0	0	0	0	0	0	0

TOTAL	2	19	979	125	7	13	3	1148	0	0	16	3	0	0	0	19	0	0	0	0	0	0	0	0
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	1	0.4	1	2	2	2	Sub Total	Total
07:30 to 08:30	1.2	8.8	635	125	28	34	6	838	0	0	1.2	12	2	4	0	19.2	0	0	0	0	0	0	0	0	857.2
07:45 to 08:45	0.8	6	628	124	18	36	4	816.8	0	0	1.2	10	2	4	0	17.2	0	0	0	1	0	0	0	1	835
08:00 to 09:00	0.2	3.2	604	103	22	44	4	780.4	0	0	3.2	3	2	4	0	12.2	0	0	0	1	0	0	0	1	793.6
08:15 to 09:15	0.2	2	546	101	28	50	4	731.2	0	0	2.8	4	2	2	0	10.8	0	0	0	1	0	0	0	1	743
08:30 to 09:30	0.2	1.6	501	104	32	62	4	704.8	0	0	3.2	2	2	0	0	7.2	0	0	0.4	1	0	0	0	1.4	713.4

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0.2	3.2	492	80	8	18	4	605.4	0	0	6	1	0	0	0	7	0	0	0	0	0	0	0	0	612.4
16:45 to 17:45	0.2	4.8	526	70	2	10	2	615	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	623
17:00 to 18:00	0.2	4.8	524	60	2	10	2	603	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	611
17:15 to 18:15	0.2	4	526	52	6	4	2	594.2	0	0	10	1	0	0	0	11	0	0	0	0	0	0	0	0	605.2
17:30 to 18:30	0.2	4.4	487	45	6	8	2	552.6	0	0	10	2	0	0	0	12	0	0	0	0	0	0	0	0	564.6

WebTag M3.1	
PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1
LGV	1
OGV1	2
OGV2	2
BUS	2



Hinckley, Tuesday 21st June 2022

Junction: 4

Approach: A47 Normandy Way South

TIME	Left to Greenfinch Road								Ahead to A47 Normandy Way (N)								U-Turn							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	0	0	4	2	1	0	0	7	0	2	90	22	1	3	0	118	0	0	0	0	0	0	0	0
07:45 - 08:00	0	0	1	1	0	1	0	3	0	2	99	37	6	3	1	148	0	0	0	0	0	0	0	0
Hourly Total	0	0	5	3	1	1	0	10	0	4	189	59	7	6	1	266	0	0	0	0	0	0	0	0
08:00 - 08:15	0	0	0	1	0	0	0	1	0	1	87	32	3	5	0	128	0	0	0	0	0	0	0	0
08:15 - 08:30	0	0	0	1	0	1	0	2	0	0	152	19	5	5	1	182	0	0	0	0	0	0	0	0
08:30 - 08:45	0	0	1	2	0	0	0	3	0	0	145	28	6	4	0	183	0	0	0	0	0	0	0	0
08:45 - 09:00	0	0	2	2	0	0	0	4	0	1	114	34	2	3	1	155	0	0	1	1	0	0	0	2
Hourly Total	0	0	3	6	0	1	0	10	0	2	498	113	16	17	2	648	0	0	1	1	0	0	0	2
09:00 - 09:15	0	0	0	3	0	0	0	3	0	4	85	33	4	4	1	131	0	0	0	0	0	0	0	0
09:15 - 09:30	0	0	0	1	0	0	0	1	0	1	80	22	2	3	0	108	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	4	0	0	0	4	0	5	165	55	6	7	1	239	0	0	0	0	0	0	0	0

TOTAL	0	0	8	13	1	2	0	24	0	11	852	227	29	30	4	1153	0	0	1	1	0	0	0	2
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16:30 - 16:45	0	0	4	0	0	0	0	4	1	7	184	37	4	3	0	236	0	0	0	0	0	0	0	0
16:45 - 17:00	0	0	3	0	0	0	0	3	1	4	191	33	1	3	0	233	0	0	0	0	0	0	0	0
Hourly Total	0	0	7	0	0	0	0	7	2	11	375	70	5	6	0	469	0	0	0	0	0	0	0	0
17:00 - 17:15	0	0	5	0	0	0	0	5	1	8	244	24	4	2	1	284	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	3	0	0	0	0	3	2	9	179	20	2	3	0	215	0	0	0	1	0	0	0	1
17:30 - 17:45	0	0	3	0	0	0	0	3	5	1	180	26	2	1	0	215	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	3	0	0	0	0	3	0	4	168	13	1	1	2	189	0	0	0	0	0	0	0	0
Hourly Total	0	0	14	0	0	0	0	14	8	22	771	83	9	7	3	903	0	0	0	1	0	0	0	1
18:00 - 18:15	0	0	1	1	0	0	0	2	1	5	143	16	1	1	1	168	0	0	0	0	0	0	0	0
18:15 - 18:30	0	0	0	0	0	0	0	0	0	1	134	16	0	2	0	153	0	0	0	0	0	0	0	0
Hourly Total	0	0	1	1	0	0	0	2	1	6	277	32	1	3	1	321	0	0	0	0	0	0	0	0

TOTAL	0	0	22	1	0	0	0	23	11	39	1423	185	15	16	4	1693	0	0	0	1	0	0	0	1
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
07:30 to 08:30	0	0	5	5	2	4	0	16	0	2	428	110	30	32	4	606	0	0	0	0	0	0	0	0	622
07:45 to 08:45	0	0	2	5	0	4	0	11	0	1.2	483	116	40	34	4	678.2	0	0	0	0	0	0	0	0	689.2
08:00 to 09:00	0	0	3	6	0	2	0	11	0	0.8	498	113	32	34	4	681.8	0	0	1	1	0	0	0	2	694.8
08:15 to 09:15	0	0	3	8	0	2	0	13	0	2	496	114	34	32	6	684	0	0	1	1	0	0	0	2	699
08:30 to 09:30	0	0	3	8	0	0	0	11	0	2.4	424	117	28	28	4	603.4	0	0	1	1	0	0	0	2	616.4

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0	0	15	0	0	0	0	15	1	11.2	798	114	22	22	2	970.2	0	0	0	1	0	0	0	1	986.2
16:45 to 17:45	0	0	14	0	0	0	0	14	1.8	8.8	794	103	18	18	2	945.6	0	0	0	1	0	0	0	1	960.6
17:00 to 18:00	0	0	14	0	0	0	0	14	1.6	8.8	771	83	18	14	6	902.4	0	0	0	1	0	0	0	1	917.4
17:15 to 18:15	0	0	10	1	0	0	0	11	1.6	7.6	670	75	12	12	6	784.2	0	0	0	1	0	0	0	1	796.2
17:30 to 18:30	0	0	7	1	0	0	0	8	1.2	4.4	625	71	8	10	6	725.6	0	0	0	0	0	0	0	0	733.6

WebTag M3.1	
PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1
LGV	1
OGV1	2
OGV2	2
BUS	2



Hinckley, Tuesday 21st June 2022

Junction: 4

Approach: Greenfinch Road

Left to A47 Normandy Way (N)									Right to A47 Normandy Way (S)								U-Turn							
TIME	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:30 - 07:45	0	0	3	0	0	0	0	3	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
07:45 - 08:00	0	0	3	0	0	0	0	3	0	0	4	1	0	0	0	5	0	0	0	0	0	0	0	0
Hourly Total	0	0	6	0	0	0	0	6	0	0	5	1	0	0	0	6	0	0	0	0	0	0	0	0
08:00 - 08:15	0	0	2	2	0	0	0	4	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
08:15 - 08:30	0	0	3	1	0	1	0	5	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
08:30 - 08:45	0	0	2	1	0	1	0	4	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0
08:45 - 09:00	0	0	6	0	1	0	0	7	0	0	0	2	0	0	0	2	0	0	1	0	0	0	0	1
Hourly Total	0	0	13	4	1	2	0	20	0	0	7	2	0	0	0	9	0	0	1	0	0	0	0	1
09:00 - 09:15	0	0	0	1	0	0	0	1	0	0	2	1	0	1	0	4	0	0	0	0	0	0	0	0
09:15 - 09:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	1	0	0	0	1	0	0	3	1	0	1	0	5	0	0	0	0	0	0	0	0

TOTAL	0	0	19	5	1	2	0	27	0	0	15	4	0	1	0	20	0	0	1	0	0	0	0	1
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16:30 - 16:45	0	0	2	5	0	0	0	7	0	0	5	6	0	0	0	11	0	0	0	0	0	0	0	0
16:45 - 17:00	0	0	2	0	0	0	0	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	0	0	4	5	0	0	0	9	0	0	6	6	0	0	0	12	0	0	0	0	0	0	0	0
17:00 - 17:15	0	0	2	0	0	0	0	2	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	2	0	0	0	0	2	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Hourly Total	0	0	6	0	0	0	0	6	0	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0
18:00 - 18:15	0	0	2	0	0	0	0	2	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0
18:15 - 18:30	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	3	0	0	0	0	3	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0

TOTAL	0	0	13	5	0	0	0	18	0	0	16	8	0	0	0	24	0	0	0	0	0	0	0	0
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AM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
07:30 to 08:30	0	0	11	3	0	2	0	16	0	0	8	1	0	0	0	9	0	0	0	0	0	0	0	0	25
07:45 to 08:45	0	0	10	4	0	4	0	18	0	0	11	1	0	0	0	12	0	0	0	0	0	0	0	0	30
08:00 to 09:00	0	0	13	4	2	4	0	23	0	0	7	2	0	0	0	9	0	0	1	0	0	0	0	1	33
08:15 to 09:15	0	0	11	3	2	4	0	20	0	0	8	3	0	2	0	13	0	0	1	0	0	0	0	1	34
08:30 to 09:30	0	0	8	2	2	2	0	14	0	0	7	3	0	2	0	12	0	0	1	0	0	0	0	1	27

PM Peak	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS		Overall
Rolling Peak	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	0.2	0.4	1	1	2	2	2	Sub Total	Total
16:30 to 17:30	0	0	7	5	0	0	0	12	0	0	12	6	0	0	0	18	0	0	0	0	0	0	0	0	30
16:45 to 17:45	0	0	7	0	0	0	0	7	0	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0	16
17:00 to 18:00	0	0	6	0	0	0	0	6	0	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0	15
17:15 to 18:15	0	0	6	0	0	0	0	6	0	0	4	2	0	0	0	6	0	0	0	0	0	0	0	0	12
17:30 to 18:30	0	0	6	0	0	0	0	6	0	0	4	2	0	0	0	6	0	0	0	0	0	0	0	0	12

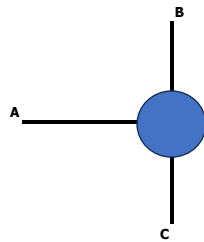
AM	All arms
07:30 to 08:30	1504.2
07:45 to 08:45	1554.2
08:00 to 09:00	1521.4
08:15 to 09:15	1476
08:30 to 09:30	1356.8

PEAK HOUR

PM	All arms
16:30 to 17:30	1628.6
16:45 to 17:45	1599.6
17:00 to 18:00	1543.4
17:15 to 18:15	1413.4
17:30 to 18:30	1310.2

PEAK HOUR

WebTag M3.1	
PCU Factors:	
CYCLE	0.2
M/CYCLE	0.4
CAR	1
LGV	1
OGV1	2
OGV2	2
BUS	2

C21021 HINCKLEY WEST PHASE 4**TRANSPORT ASSESSMENT v3****TRAFFIC FLOWS****JUNCTION 4: A47 NORMANDY WAY/GREENFINCH ROAD ROUNDABOUT**

A= GREENFINCH ROAD
B= A47 NORTH
C= A47 SOUTH

ALL FLOWS ARE IN PCUs

	AM	PEAK HOUR	07:45	to	08:45		PM	PEAK HOUR	16:30	to	17:30	
2022 SURVEYED FLOWS 100												
		A	B	C		TOTAL		A	B	C		TOTAL
	A	0	18	12		30	A	0	12	18		30
	B	17	1	816		834	B	7	0	605		612
	C	11	678	0		689	C	15	970	1		986
	TOTAL	28	697	828		1553	TOTAL	22	982	624		1628
2036 BASE FLOWS TEMPRO 8.1 HBBC Local Authority Area		A	B	C		TOTAL		A	B	C		TOTAL
	A	0	20	14		34	A	0	14	20		34
	B	19	1	919		939	B	8	0	681		689
	C	12	764	0		776	C	17	1092	1		1110
	TOTAL	32	785	932		1749	TOTAL	25	1106	703		1833
	TEMPRO Growth Factor					1.1261	TEMPRO Growth Factor					1.1261
COMMITTED DEV. 1 Barwell and Earl Shilton SUEs		A	B	C		TOTAL		A	B	C		TOTAL
	A	0	0	0		0	A	0	0	0		0
	B	0	0	54		54	B	0	0	129		129
	C	0	-101	0		-101	C	0	20	0		20
	TOTAL	0	-101	54		-47	TOTAL	0	20	129		149
COMMITTED DEV. 2 Richborough Estates Stoke Road		A	B	C		TOTAL		A	B	C		TOTAL
	A	0	0	0		0	A	0	0	0		0
	B	0	0	54		54	B	0	0	19		19
	C	0	18	0		18	C	0	50	0		50
	TOTAL	0	18	54		72	TOTAL	0	50	19		69
OPA DEVELOPMENT SWORD DRIVE TRIP RATES		A	B	C		TOTAL		A	B	C		TOTAL
	A	0	68	259		327	A	0	37	141		178
	B	29	0	0		29	B	43	0	0		43
	C	113	0	0		113	C	166	0	0		166
	TOTAL	142	68	259		469	TOTAL	209	37	141		387
2036 NO DEVELOPMENT DM2		A	B	C		TOTAL		A	B	C		TOTAL
	A	0	88	273		361	A	0	51	161		212
	B	48	1	1027		1076	B	51	0	829		880
	C	125	681	0		806	C	183	1162	1		1346
	TOTAL	174	770	1299		2243	TOTAL	234	1213	992		2438
OPA+FPA DEVELOPMENT SWORD DRIVE TRIP RATES		A	B	C		TOTAL		A	B	C		TOTAL
	A	0	80	8		88	A	0	44	4		48
	B	35	0	0		35	B	51	0	0		51
	C	3	0	0		3	C	5	0	0		5
	TOTAL	38	80	8		126	TOTAL	56	44	4		104
2036 WITH DEVELOPMENT DS3		A	B	C		TOTAL		A	B	C		TOTAL
	A	0	100	22		122	A	0	58	24		82
	B	54	1	1027		1082	B	59	0	829		888
	C	15	681	0		696	C	22	1162	1		1185
	TOTAL	70	782	1048		1900	TOTAL	81	1220	855		2155

Junctions 10			
ARCADY 10 - Roundabout Module			
Version: 10.1.1.1905			
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Filename: 21021-J4-TA3_01.j10

Path: D:\OneDrive - Capricorn Transport Planning Ltd\PROJECTS\C21021 Hinckley West\WORK\Calculations\TA3

Report generation date: 19/06/2024 11:45:58

- »Survey 2022, AM
- »Survey 2022, PM
- »DM2 2036, AM
- »DM2 2036, PM
- »DS3 2036, AM
- »DS3 2036, PM

Summary of junction performance

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
	Survey 2022							
A - Greenfinch Way	D1	0.0	2.57	0.02	D2	0.0	3.00	0.02
B - A47 Normandy Way (North)		1.2	4.90	0.53		0.7	3.78	0.39
C - A47 Normandy Way (South)		0.7	3.34	0.39		1.3	4.46	0.55
	DM2 2036							
A - Greenfinch Way	D3	0.4	3.38	0.25	D4	0.3	4.07	0.19
B - A47 Normandy Way (North)		3.5	10.91	0.77		1.6	6.06	0.60
C - A47 Normandy Way (South)		0.9	3.79	0.46		3.1	7.54	0.74
	DS3 2036							
A - Greenfinch Way	D5	0.1	2.76	0.09	D6	0.1	3.55	0.07
B - A47 Normandy Way (North)		2.4	7.49	0.69		1.4	5.35	0.57
C - A47 Normandy Way (South)		0.7	3.43	0.40		2.1	5.97	0.67

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

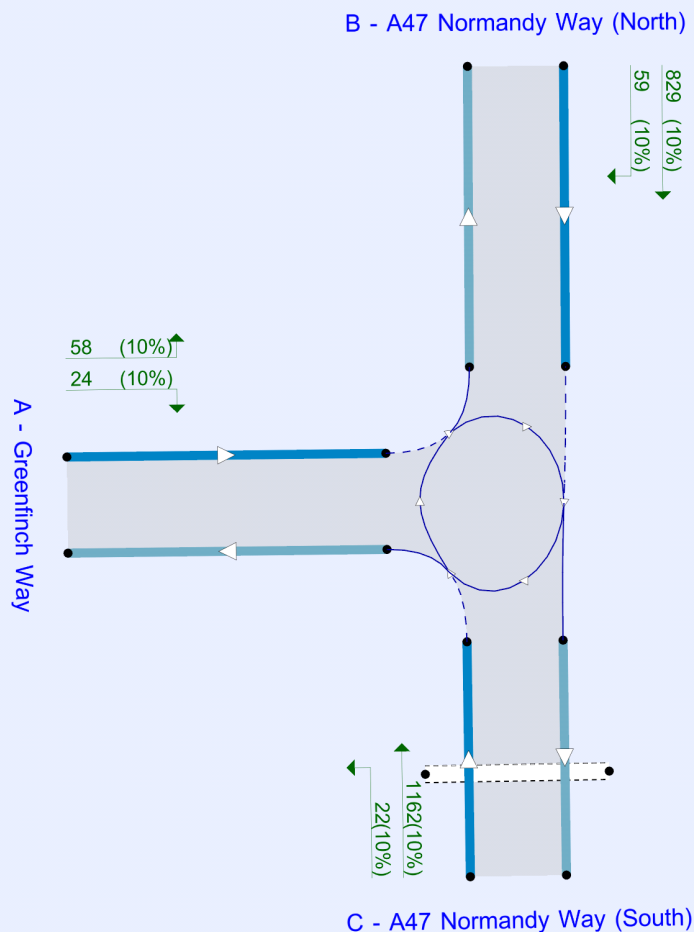
File summary

File Description

Title	Proposed Development, Normandy Way
Location	Greenfinch Way / Normandy Way
Site number	
Date	08/11/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	VECTIO-PC1\m_cle
Description	One Hour Profile

Units

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



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Survey 2022	AM	ONE HOUR	07:30	09:00	15	✓
D2	Survey 2022	PM	ONE HOUR	16:15	17:45	15	✓
D3	DM2 2036	AM	ONE HOUR	07:30	09:00	15	✓
D4	DM2 2036	PM	ONE HOUR	16:15	17:45	15	✓
D5	DS3 2036	AM	ONE HOUR	07:30	09:00	15	✓
D6	DS3 2036	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

Survey 2022, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	4.16	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.16	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Greenfinch Way		
B	A47 Normandy Way (North)		
C	A47 Normandy Way (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A - Greenfinch Way	6.75	7.40	0.1	29.8	50.0	30.5		
B - A47 Normandy Way (North)	3.25	6.90	17.8	34.5	50.0	21.6		
C - A47 Normandy Way (South)	4.76	8.20	18.1	28.9	50.0	30.3		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
C - A47 Normandy Way (South)	7.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - Greenfinch Way	0.685	2084
B - A47 Normandy Way (North)	0.629	1735
C - A47 Normandy Way (South)	0.692	2120

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	Survey 2022	AM	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Greenfinch Way		ONE HOUR	✓	30	100.000
B - A47 Normandy Way (North)		ONE HOUR	✓	834	100.000
C - A47 Normandy Way (South)		ONE HOUR	✓	689	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Greenfinch Way		
B - A47 Normandy Way (North)		
C - A47 Normandy Way (South)	[ONEHOUR]	50.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	0	18	12
	B - A47 Normandy Way (North)	17	1	816
	C - A47 Normandy Way (South)	11	678	0

Proportions

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No
	A - Greenfinch Way	0.00	0.60	(
	B - A47 Normandy Way (North)	0.02	0.00	
	C - A47 Normandy Way (South)	0.02	0.98	

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	10	10	10
	B - A47 Normandy Way (North)	10	10	10
	C - A47 Normandy Way (South)	10	10	10

Average PCU Per Veh

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No
	A - Greenfinch Way	1.100	1.100	(
	B - A47 Normandy Way (North)	1.100	1.100	
	C - A47 Normandy Way (South)	1.100	1.100	

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A - Greenfinch Way	07:30-07:45	23	23	
	07:45-08:00	27	27	
	08:00-08:15	33	33	
	08:15-08:30	33	33	
	08:30-08:45	27	27	
	08:45-09:00	23	23	
B - A47 Normandy Way (North)	07:30-07:45	628	628	
	07:45-08:00	750	750	
	08:00-08:15	918	918	
	08:15-08:30	918	918	
	08:30-08:45	750	750	
	08:45-09:00	628	628	
C - A47 Normandy Way (South)	07:30-07:45	519	519	37.64
	07:45-08:00	619	619	44.95
	08:00-08:15	759	759	55.05
	08:15-08:30	759	759	55.05
	08:30-08:45	619	619	44.95
	08:45-09:00	519	519	37.64

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - Greenfinch Way	0.02	2.57	0.0	A	28	41
B - A47 Normandy Way (North)	0.53	4.90	1.2	A	765	1148
C - A47 Normandy Way (South)	0.39	3.34	0.7	A	632	948

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	23	6	510		1734	0.013	23	21	0.0	0.0	2.312	A
B - A47 Normandy Way (North)	628	157	9		1729	0.363	625	523	0.0	0.6	3.581	A
C - A47 Normandy Way (South)	519	130	13	37.64	1979	0.262	517	621	0.0	0.4	2.706	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	27	7	610		1666	0.016	27	25	0.0	0.0	2.415	A
B - A47 Normandy Way (North)	750	187	11		1728	0.434	749	626	0.6	0.8	4.042	A
C - A47 Normandy Way (South)	619	155	16	44.95	1966	0.315	619	744	0.4	0.5	2.941	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	33	8	747		1572	0.021	33	31	0.0	0.0	2.572	A
B - A47 Normandy Way (North)	918	230	13		1726	0.532	917	767	0.8	1.2	4.881	A
C - A47 Normandy Way (South)	759	190	20	55.05	1943	0.390	758	910	0.5	0.7	3.340	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	33	8	748		1571	0.021	33	31	0.0	0.0	2.573	A
B - A47 Normandy Way (North)	918	230	13		1726	0.532	918	767	1.2	1.2	4.900	A
C - A47 Normandy Way (South)	759	190	20	55.05	1947	0.390	759	912	0.7	0.7	3.330	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	27	7	611		1665	0.016	27	25	0.0	0.0	2.417	A
B - A47 Normandy Way (North)	750	187	11		1728	0.434	751	627	1.2	0.8	4.063	A
C - A47 Normandy Way (South)	619	155	16	44.95	1971	0.314	620	746	0.7	0.5	2.934	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	23	6	512		1733	0.013	23	21	0.0	0.0	2.316	A
B - A47 Normandy Way (North)	628	157	9		1729	0.363	629	525	0.8	0.6	3.601	A
C - A47 Normandy Way (South)	519	130	14	37.64	1987	0.261	519	624	0.5	0.4	2.697	A

Survey 2022, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	4.17	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.17	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Survey 2022	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Greenfinch Way		ONE HOUR	✓	30	100.000
B - A47 Normandy Way (North)		ONE HOUR	✓	612	100.000
C - A47 Normandy Way (South)		ONE HOUR	✓	986	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Greenfinch Way		
B - A47 Normandy Way (North)		
C - A47 Normandy Way (South)	[ONEHOUR]	50.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	0	12	18
	B - A47 Normandy Way (North)	7	0	605
	C - A47 Normandy Way (South)	15	970	1

Proportions

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No
	A - Greenfinch Way	0.00	0.40	(
	B - A47 Normandy Way (North)	0.01	0.00	
	C - A47 Normandy Way (South)	0.02	0.98	

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	10	10	10
	B - A47 Normandy Way (North)	10	10	10
	C - A47 Normandy Way (South)	10	10	10

Average PCU Per Veh

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No (
	A - Greenfinch Way	1.100	1.100	
	B - A47 Normandy Way (North)	1.100	1.100	
	C - A47 Normandy Way (South)	1.100	1.100	

Detailed Demand Data

Demand for each time segment

Am	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A - Greenfinch Way	16:15-16:30	23	23	
	16:30-16:45	27	27	
	16:45-17:00	33	33	
	17:00-17:15	33	33	
	17:15-17:30	27	27	
	17:30-17:45	23	23	
B - A47 Normandy Way (North)	16:15-16:30	461	461	
	16:30-16:45	550	550	
	16:45-17:00	674	674	
	17:00-17:15	674	674	
	17:15-17:30	550	550	
	17:30-17:45	461	461	
C - A47 Normandy Way (South)	16:15-16:30	742	742	37.64
	16:30-16:45	886	886	44.95
	16:45-17:00	1086	1086	55.05
	17:00-17:15	1086	1086	55.05
	17:15-17:30	886	886	44.95
	17:30-17:45	742	742	37.64

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - Greenfinch Way	0.02	3.00	0.0	A	28	41
B - A47 Normandy Way (North)	0.39	3.78	0.7	A	562	842
C - A47 Normandy Way (South)	0.55	4.46	1.3	A	905	1357

Main Results for each time segment

16:15 - 16:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	23	6	728		1585	0.014	23	17	0.0	0.0	2.534	A
B - A47 Normandy Way (North)	461	115	14		1726	0.267	459	737	0.0	0.4	3.122	A
C - A47 Normandy Way (South)	742	186	5	37.64	1989	0.373	740	468	0.0	0.7	3.163	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	27	7	872		1486	0.018	27	20	0.0	0.0	2.713	A
B - A47 Normandy Way (North)	550	138	17		1724	0.319	550	882	0.4	0.5	3.370	A
C - A47 Normandy Way (South)	886	222	6	44.95	1983	0.447	885	561	0.7	0.9	3.605	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	33	8	1067		1352	0.024	33	24	0.0	0.0	3.000	A
B - A47 Normandy Way (North)	674	168	21		1721	0.391	673	1079	0.5	0.7	3.775	A
C - A47 Normandy Way (South)	1086	271	8	55.05	1971	0.551	1084	686	0.9	1.3	4.455	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	33	8	1069		1351	0.024	33	24	0.0	0.0	3.003	A
B - A47 Normandy Way (North)	674	168	21		1721	0.391	674	1081	0.7	0.7	3.778	A
C - A47 Normandy Way (South)	1086	271	8	55.05	1981	0.548	1086	687	1.3	1.3	4.424	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	27	7	875		1484	0.018	27	20	0.0	0.0	2.718	A
B - A47 Normandy Way (North)	550	138	17		1724	0.319	551	885	0.7	0.5	3.380	A
C - A47 Normandy Way (South)	886	222	6	44.95	1996	0.444	888	562	1.3	0.9	3.580	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	23	6	732		1582	0.014	23	17	0.0	0.0	2.540	A
B - A47 Normandy Way (North)	461	115	14		1726	0.267	461	740	0.5	0.4	3.132	A
C - A47 Normandy Way (South)	742	186	5	37.64	2003	0.371	743	470	0.9	0.7	3.147	A

DM2 2036, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	7.14	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.14	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	DM2 2036	AM	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Greenfinch Way		ONE HOUR	✓	361	100.000
B - A47 Normandy Way (North)		ONE HOUR	✓	1075	100.000
C - A47 Normandy Way (South)		ONE HOUR	✓	806	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Greenfinch Way		
B - A47 Normandy Way (North)		
C - A47 Normandy Way (South)	[ONEHOUR]	50.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	0	88	273
	B - A47 Normandy Way (North)	48	0	1027
	C - A47 Normandy Way (South)	125	681	0

Proportions

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No
	A - Greenfinch Way	0.00	0.24	(
	B - A47 Normandy Way (North)	0.04	0.00	
	C - A47 Normandy Way (South)	0.16	0.84	

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	10	10	10
	B - A47 Normandy Way (North)	10	10	10
	C - A47 Normandy Way (South)	10	10	10

Average PCU Per Veh

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No (
	A - Greenfinch Way	1.100	1.100	
	B - A47 Normandy Way (North)	1.100	1.100	
	C - A47 Normandy Way (South)	1.100	1.100	

Detailed Demand Data

Demand for each time segment

Am	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A - Greenfinch Way	07:30-07:45	272	272	
	07:45-08:00	325	325	
	08:00-08:15	397	397	
	08:15-08:30	397	397	
	08:30-08:45	325	325	
	08:45-09:00	272	272	
B - A47 Normandy Way (North)	07:30-07:45	809	809	
	07:45-08:00	966	966	
	08:00-08:15	1184	1184	
	08:15-08:30	1184	1184	
	08:30-08:45	966	966	
	08:45-09:00	809	809	
C - A47 Normandy Way (South)	07:30-07:45	607	607	37.64
	07:45-08:00	725	725	44.95
	08:00-08:15	887	887	55.05
	08:15-08:30	887	887	55.05
	08:30-08:45	725	725	44.95
	08:45-09:00	607	607	37.64

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - Greenfinch Way	0.25	3.38	0.4	A	331	497
B - A47 Normandy Way (North)	0.77	10.91	3.5	B	986	1480
C - A47 Normandy Way (South)	0.46	3.79	0.9	A	740	1109

Main Results for each time segment

07:30 - 07:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	272	68	511		1734	0.157	271	130	0.0	0.2	2.706	A
B - A47 Normandy Way (North)	809	202	205		1606	0.504	805	577	0.0	1.1	4.919	A
C - A47 Normandy Way (South)	607	152	36	37.64	1967	0.309	605	974	0.0	0.5	2.904	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	325	81	612		1665	0.195	324	155	0.2	0.3	2.954	A
B - A47 Normandy Way (North)	966	242	245		1580	0.612	964	691	1.1	1.7	6.405	A
C - A47 Normandy Way (South)	725	181	43	44.95	1953	0.371	724	1166	0.5	0.6	3.221	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	397	99	749		1571	0.253	397	190	0.3	0.4	3.374	A
B - A47 Normandy Way (North)	1184	296	300		1546	0.766	1177	846	1.7	3.4	10.537	B
C - A47 Normandy Way (South)	887	222	53	55.05	1930	0.460	886	1424	0.6	0.9	3.792	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	397	99	750		1570	0.253	397	190	0.4	0.4	3.376	A
B - A47 Normandy Way (North)	1184	296	301		1545	0.766	1183	847	3.4	3.5	10.906	B
C - A47 Normandy Way (South)	887	222	53	55.05	1936	0.458	887	1431	0.9	0.9	3.776	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	325	81	613		1664	0.195	325	156	0.4	0.3	2.960	A
B - A47 Normandy Way (North)	966	242	246		1580	0.612	973	692	3.5	1.8	6.603	A
C - A47 Normandy Way (South)	725	181	43	44.95	1961	0.370	726	1176	0.9	0.6	3.208	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	272	68	513		1732	0.157	272	130	0.3	0.2	2.714	A
B - A47 Normandy Way (North)	809	202	206		1605	0.504	812	580	1.8	1.1	5.009	A
C - A47 Normandy Way (South)	607	152	36	37.64	1977	0.307	607	981	0.6	0.5	2.892	A

DM2 2036, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	6.70	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.70	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	DM2 2036	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Greenfinch Way		ONE HOUR	✓	212	100.000
B - A47 Normandy Way (North)		ONE HOUR	✓	880	100.000
C - A47 Normandy Way (South)		ONE HOUR	✓	1346	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Greenfinch Way		
B - A47 Normandy Way (North)		
C - A47 Normandy Way (South)	[ONEHOUR]	50.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	0	51	161
	B - A47 Normandy Way (North)	51	0	829
	C - A47 Normandy Way (South)	183	1162	1

Proportions

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No
	A - Greenfinch Way	0.00	0.24	(
	B - A47 Normandy Way (North)	0.06	0.00	
	C - A47 Normandy Way (South)	0.14	0.86	

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	10	10	10
	B - A47 Normandy Way (North)	10	10	10
	C - A47 Normandy Way (South)	10	10	10

Average PCU Per Veh

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No (
	A - Greenfinch Way	1.100	1.100	
	B - A47 Normandy Way (North)	1.100	1.100	
	C - A47 Normandy Way (South)	1.100	1.100	

Detailed Demand Data

Demand for each time segment

Am	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A - Greenfinch Way	16:15-16:30	160	160	
	16:30-16:45	191	191	
	16:45-17:00	233	233	
	17:00-17:15	233	233	
	17:15-17:30	191	191	
	17:30-17:45	160	160	
B - A47 Normandy Way (North)	16:15-16:30	663	663	
	16:30-16:45	791	791	
	16:45-17:00	969	969	
	17:00-17:15	969	969	
	17:15-17:30	791	791	
	17:30-17:45	663	663	
C - A47 Normandy Way (South)	16:15-16:30	1013	1013	37.64
	16:30-16:45	1210	1210	44.95
	16:45-17:00	1482	1482	55.05
	17:00-17:15	1482	1482	55.05
	17:15-17:30	1210	1210	44.95
	17:30-17:45	1013	1013	37.64

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - Greenfinch Way	0.19	4.07	0.3	A	195	292
B - A47 Normandy Way (North)	0.60	6.06	1.6	A	808	1211
C - A47 Normandy Way (South)	0.74	7.54	3.1	A	1235	1853

Main Results for each time segment

16:15 - 16:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	160	40	872		1486	0.107	159	175	0.0	0.1	2.981	A
B - A47 Normandy Way (North)	663	166	122		1658	0.400	660	909	0.0	0.7	3.955	A
C - A47 Normandy Way (South)	1013	253	38	37.64	1975	0.513	1009	743	0.0	1.1	4.081	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	191	48	1044		1369	0.139	190	210	0.1	0.2	3.360	A
B - A47 Normandy Way (North)	791	198	145		1643	0.481	790	1089	0.7	1.0	4.636	A
C - A47 Normandy Way (South)	1210	303	46	44.95	1981	0.611	1208	890	1.1	1.7	5.107	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	233	58	1276		1209	0.193	233	257	0.2	0.3	4.055	A
B - A47 Normandy Way (North)	969	242	178		1623	0.597	967	1331	1.0	1.6	6.015	A
C - A47 Normandy Way (South)	1482	370	56	55.05	1996	0.742	1476	1089	1.7	3.1	7.540	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	233	58	1281		1206	0.194	233	258	0.3	0.3	4.070	A
B - A47 Normandy Way (North)	969	242	178		1622	0.597	969	1336	1.6	1.6	6.059	A
C - A47 Normandy Way (South)	1482	370	56	55.05	2026	0.731	1482	1091	3.1	3.0	7.282	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	191	48	1050		1364	0.140	191	211	0.3	0.2	3.375	A
B - A47 Normandy Way (North)	791	198	146		1643	0.482	793	1095	1.6	1.0	4.674	A
C - A47 Normandy Way (South)	1210	303	46	44.95	2016	0.600	1215	893	3.0	1.7	4.978	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	160	40	877		1482	0.108	160	177	0.2	0.1	2.996	A
B - A47 Normandy Way (North)	663	166	122		1658	0.400	664	915	1.0	0.7	3.988	A
C - A47 Normandy Way (South)	1013	253	38	37.64	2001	0.506	1015	747	1.7	1.1	4.027	A

DS3 2036, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	5.70	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.70	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	DS3 2036	AM	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Greenfinch Way		ONE HOUR	✓	122	100.000
B - A47 Normandy Way (North)		ONE HOUR	✓	1082	100.000
C - A47 Normandy Way (South)		ONE HOUR	✓	696	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Greenfinch Way		
B - A47 Normandy Way (North)		
C - A47 Normandy Way (South)	[ONEHOUR]	50.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	0	100	22
	B - A47 Normandy Way (North)	54	1	1027
	C - A47 Normandy Way (South)	15	681	0

Proportions

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No
	A - Greenfinch Way	0.00	0.82	(
	B - A47 Normandy Way (North)	0.05	0.00	
	C - A47 Normandy Way (South)	0.02	0.98	

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	10	10	10
	B - A47 Normandy Way (North)	10	10	10
	C - A47 Normandy Way (South)	10	10	10

Average PCU Per Veh

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No (
	A - Greenfinch Way	1.100	1.100	
	B - A47 Normandy Way (North)	1.100	1.100	
	C - A47 Normandy Way (South)	1.100	1.100	

Detailed Demand Data

Demand for each time segment

Am	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A - Greenfinch Way	07:30-07:45	92	92	
	07:45-08:00	110	110	
	08:00-08:15	134	134	
	08:15-08:30	134	134	
	08:30-08:45	110	110	
	08:45-09:00	92	92	
B - A47 Normandy Way (North)	07:30-07:45	815	815	
	07:45-08:00	973	973	
	08:00-08:15	1191	1191	
	08:15-08:30	1191	1191	
	08:30-08:45	973	973	
	08:45-09:00	815	815	
C - A47 Normandy Way (South)	07:30-07:45	524	524	37.64
	07:45-08:00	626	626	44.95
	08:00-08:15	766	766	55.05
	08:15-08:30	766	766	55.05
	08:30-08:45	626	626	44.95
	08:45-09:00	524	524	37.64

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - Greenfinch Way	0.09	2.76	0.1	A	112	168
B - A47 Normandy Way (North)	0.69	7.49	2.4	A	993	1489
C - A47 Normandy Way (South)	0.40	3.43	0.7	A	639	958

Main Results for each time segment

07:30 - 07:45

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	92	23	512		1733	0.053	92	52	0.0	0.1	2.412	A
B - A47 Normandy Way (North)	815	204	17		1724	0.472	811	587	0.0	1.0	4.317	A
C - A47 Normandy Way (South)	524	131	41	37.64	1962	0.267	522	786	0.0	0.4	2.749	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	110	27	613		1664	0.066	110	62	0.1	0.1	2.547	A
B - A47 Normandy Way (North)	973	243	20		1722	0.565	971	702	1.0	1.4	5.260	A
C - A47 Normandy Way (South)	626	156	49	44.95	1945	0.322	625	941	0.4	0.5	3.001	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	134	34	750		1570	0.086	134	76	0.1	0.1	2.758	A
B - A47 Normandy Way (North)	1191	298	24		1719	0.693	1187	860	1.4	2.4	7.386	A
C - A47 Normandy Way (South)	766	192	60	55.05	1918	0.399	765	1151	0.5	0.7	3.434	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	134	34	751		1569	0.086	134	76	0.1	0.1	2.759	A
B - A47 Normandy Way (North)	1191	298	24		1719	0.693	1191	861	2.4	2.4	7.492	A
C - A47 Normandy Way (South)	766	192	61	55.05	1923	0.399	766	1155	0.7	0.7	3.423	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	110	27	614		1663	0.066	110	62	0.1	0.1	2.549	A
B - A47 Normandy Way (North)	973	243	20		1722	0.565	977	704	2.4	1.4	5.339	A
C - A47 Normandy Way (South)	626	156	50	44.95	1951	0.321	627	947	0.7	0.5	2.991	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	92	23	514		1732	0.053	92	52	0.1	0.1	2.416	A
B - A47 Normandy Way (North)	815	204	17		1724	0.472	816	589	1.4	1.0	4.372	A
C - A47 Normandy Way (South)	524	131	41	37.64	1970	0.266	524	791	0.5	0.4	2.740	A

DS3 2036, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	5.62	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.62	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	DS3 2036	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Greenfinch Way		ONE HOUR	✓	82	100.000
B - A47 Normandy Way (North)		ONE HOUR	✓	888	100.000
C - A47 Normandy Way (South)		ONE HOUR	✓	1185	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Greenfinch Way		
B - A47 Normandy Way (North)		
C - A47 Normandy Way (South)	[ONEHOUR]	50.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	0	58	24
	B - A47 Normandy Way (North)	59	0	829
	C - A47 Normandy Way (South)	22	1162	1

Proportions

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No
	A - Greenfinch Way	0.00	0.71	(
	B - A47 Normandy Way (North)	0.07	0.00	
	C - A47 Normandy Way (South)	0.02	0.98	

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	C - A47 Normandy Way (South)
	A - Greenfinch Way	10	10	10
	B - A47 Normandy Way (North)	10	10	10
	C - A47 Normandy Way (South)	10	10	10

Average PCU Per Veh

From	To			
		A - Greenfinch Way	B - A47 Normandy Way (North)	No (
	A - Greenfinch Way	1.100	1.100	
	B - A47 Normandy Way (North)	1.100	1.100	
	C - A47 Normandy Way (South)	1.100	1.100	

Detailed Demand Data

Demand for each time segment

Am	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
A - Greenfinch Way	16:15-16:30	62	62	
	16:30-16:45	74	74	
	16:45-17:00	90	90	
	17:00-17:15	90	90	
	17:15-17:30	74	74	
	17:30-17:45	62	62	
B - A47 Normandy Way (North)	16:15-16:30	669	669	
	16:30-16:45	798	798	
	16:45-17:00	978	978	
	17:00-17:15	978	978	
	17:15-17:30	798	798	
	17:30-17:45	669	669	
C - A47 Normandy Way (South)	16:15-16:30	892	892	37.64
	16:30-16:45	1065	1065	44.95
	16:45-17:00	1305	1305	55.05
	17:00-17:15	1305	1305	55.05
	17:15-17:30	1065	1065	44.95
	17:30-17:45	892	892	37.64

Results

Results Summary for whole modelled period

Am	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - Greenfinch Way	0.07	3.55	0.1	A	75	113
B - A47 Normandy Way (North)	0.57	5.35	1.4	A	815	1222
C - A47 Normandy Way (South)	0.67	5.97	2.1	A	1087	1631

Main Results for each time segment

16:15 - 16:30

Am	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	62	15	872		1486	0.042	62	61	0.0	0.0	2.779	A
B - A47 Normandy Way (North)	669	167	19		1723	0.388	666	915	0.0	0.7	3.737	A
C - A47 Normandy Way (South)	892	223	44	37.64	1967	0.454	889	640	0.0	0.9	3.659	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	74	18	1044		1368	0.054	74	73	0.0	0.1	3.058	A
B - A47 Normandy Way (North)	798	200	22		1720	0.464	797	1095	0.7	0.9	4.285	A
C - A47 Normandy Way (South)	1065	266	53	44.95	1965	0.542	1064	767	0.9	1.3	4.389	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	90	23	1277		1209	0.075	90	89	0.1	0.1	3.540	A
B - A47 Normandy Way (North)	978	244	27		1717	0.569	976	1340	0.9	1.4	5.326	A
C - A47 Normandy Way (South)	1305	326	65	55.05	1961	0.665	1301	938	1.3	2.1	5.971	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	90	23	1281		1206	0.075	90	89	0.1	0.1	3.547	A
B - A47 Normandy Way (North)	978	244	28		1717	0.569	978	1343	1.4	1.4	5.353	A
C - A47 Normandy Way (South)	1305	326	65	55.05	1980	0.659	1305	940	2.1	2.1	5.864	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	74	18	1049		1365	0.054	74	73	0.1	0.1	3.068	A
B - A47 Normandy Way (North)	798	200	23		1720	0.464	800	1100	1.4	1.0	4.313	A
C - A47 Normandy Way (South)	1065	266	53	44.95	1988	0.536	1069	770	2.1	1.3	4.326	A

17:30 - 17:45

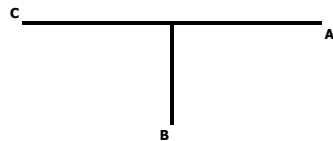
Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - Greenfinch Way	62	15	877		1483	0.042	62	61	0.1	0.0	2.786	A
B - A47 Normandy Way (North)	669	167	19		1723	0.388	670	920	1.0	0.7	3.765	A
C - A47 Normandy Way (South)	892	223	44	37.64	1988	0.449	894	644	1.3	0.9	3.623	A

APPENDIX TN7-G

REVISED TRAFFIC FORECASTS AND CAPACITY ASSESSMENT: JUNCTION T1 – PROPOSED TRIUMPH MOTORCYCLES ACCESS

C21021 HINCKLEY WEST PHASE 4**TRANSPORT ASSESSMENT v3****TRAFFIC FLOWS****JUNCTION T1: TRIUMPH MOTORCYCLES ACCESS (PROPOSED)**

A= SPINE ROAD EAST
B= TRIUMPH ACCESS
C= SPINE ROAD WEST

**ALL FLOWS ARE IN PCUs****AM PEAK HOUR** 07:45 to 08:45**2022 SURVEYED FLOWS**
Tuesday 21/06/22

	A	B	C	TOTAL
A	0	109	0	109
B	15	0	0	15
C	0	0	0	0
TOTAL	15	109	0	124

PM PEAK HOUR 16:30 to 17:30

	A	B	C	TOTAL
A	0	17	0	17
B	193	0	0	193
C	0	0	0	0
TOTAL	193	17	0	210

2036 BASE FLOWSTEMPRO 8.1
HBBC Local Authority Area

	A	B	C	TOTAL
A	0	123	0	123
B	17	0	0	17
C	0	0	0	0
TOTAL	17	123	0	140

TEMPRO Growth Factor 1.1283

	A	B	C	TOTAL
A	0	19	0	19
B	218	0	0	218
C	0	0	0	0
TOTAL	218	19	0	237

TEMPRO Growth Factor 1.1283

COMMITTED DEV. 1

Barwell and Earl Shilton SUEs

	A	B	C	TOTAL
A	0	14	0	14
B	7	0	0	7
C	0	0	0	0
TOTAL	7	14	0	21

	A	B	C	TOTAL
A	0	-6	0	-6
B	4	0	0	4
C	0	0	0	0
TOTAL	4	-6	0	-2

COMMITTED DEV. 2Richborough Estates
Stoke Road

	A	B	C	TOTAL
A	0	0	0	0
B	0	0	0	0
C	0	0	0	0
TOTAL	0	0	0	0

	A	B	C	TOTAL
A	0	0	0	0
B	0	0	0	0
C	0	0	0	0
TOTAL	0	0	0	0

OPA DEVELOPMENT

SWORD DRIVE TRIP RATES

	A	B	C	TOTAL
A	0	0	0	0
B	0	0	0	0
C	0	0	0	0
TOTAL	0	0	0	0

	A	B	C	TOTAL
A	0	0	0	0
B	0	0	0	0
C	0	0	0	0
TOTAL	0	0	0	0

2036 NO DEVELOPMENT
DM2

	A	B	C	TOTAL
A	0	137	0	137
B	24	0	0	24
C	0	0	0	0
TOTAL	24	137	0	161

	A	B	C	TOTAL
A	0	13	0	13
B	222	0	0	222
C	0	0	0	0
TOTAL	222	13	0	235

OPA+FPA DEVELOPMENT
SWORD DRIVE TRIP RATES

	A	B	C	TOTAL
A	0	0	129	129
B	9	0	0	9
C	298	0	0	298
TOTAL	307	0	129	436

	A	B	C	TOTAL
A	0	0	191	191
B	0	0	0	0
C	163	0	0	163
TOTAL	163	0	191	354

2036 WITH DEVELOPMENT
DS3

	A	B	C	TOTAL
A	0	137	129	266
B	33	0	0	33
C	298	0	0	298
TOTAL	331	137	129	597

	A	B	C	TOTAL
A	0	13	191	204
B	222	0	0	222
C	163	0	0	163
TOTAL	385	13	191	589

Junctions 10							
PICADY 10 - Priority Intersection Module							
Version: 10.1.1.1905							
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For sales and distribution information, program advice and maintenance, contact TRL Software:							
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com							
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution							

Filename: 21021-T1-TA3_02.j10

Path: D:\OneDrive - Capricorn Transport Planning Ltd\PROJECTS\C21021 Hinckley West\WORK\Calculations\TA3

Report generation date: 19/06/2024 11:49:19

»DS3 2036, AM

»DS3 2036, PM

Summary of junction performance

	AM				PM			
	Set ID	Queue (PCU)	Delay (s)	RFC	Set ID	Queue (PCU)	Delay (s)	RFC
DS3 2036								
Stream B-AC	D1	0.1	8.42	0.07	D2	0.9	13.96	0.46
Stream C-AB		0.0	0.00	0.00		0.0	0.00	0.00

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

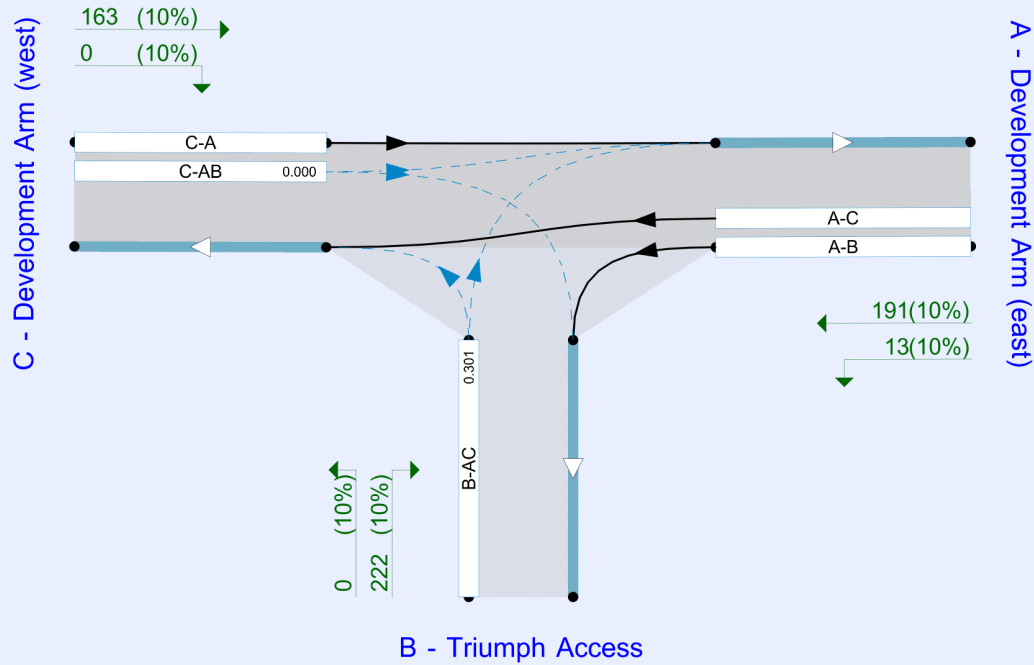
File summary

File Description

Title	Proposed Development, Normandy Way
Location	Proposed Development / New Triumph Access
Site number	
Date	14/11/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	VECTIO-PC1\m_cle
Description	One Hour Profile

Units

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



Flows show original traffic demand (PCU/hr).
Streams (downstream end) show RFC ()

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	DS3 2036	AM	ONE HOUR	07:30	09:00	15	✓
D2	DS3 2036	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

DS3 2036, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.47	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.47	A

Arms

Arms

Arm	Name	Description	Arm type
A	Development Arm (east)		Major
B	Triumph Access		Minor
C	Development Arm (west)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Development Arm (west)	7.40			43.0	✓	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 - Triumph Access	One lane	5.00	43	43

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	615	0.105	0.266	0.167	0.380
B-C	781	0.112	0.284	-	-
C-B	599	0.218	0.218	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	DS3 2036	AM	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Development Arm (east)		ONE HOUR	✓	266	100.000
B - Triumph Access		ONE HOUR	✓	33	100.000
C - Development Arm (west)		ONE HOUR	✓	298	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - Development Arm (east)	B - Triumph Access	C - Development Arm (west)
	A - Development Arm (east)	0	137	129
	B - Triumph Access	33	0	0
	C - Development Arm (west)	298	0	0

Proportions

From	To			
		A - Development Arm (east)	B - Triumph Access	C - Development Arm (west)
	A - Development Arm (east)	0.00	0.52	0.00
	B - Triumph Access	1.00	0.00	0.00
	C - Development Arm (west)	1.00	0.00	0.00

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - Development Arm (east)	B - Triumph Access	C - Development Arm (west)
	A - Development Arm (east)	10	10	10
	B - Triumph Access	10	10	10
	C - Development Arm (west)	10	10	10

Average PCU Per Veh

From	To			
		A - Development Arm (east)	B - Triumph Access	C - Development Arm (west)
	A - Development Arm (east)	1.100	1.100	1.1
	B - Triumph Access	1.100	1.100	1.1
	C - Development Arm (west)	1.100	1.100	1.1

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A - Development Arm (east)	07:30-07:45	200	200
	07:45-08:00	239	239
	08:00-08:15	293	293
	08:15-08:30	293	293
	08:30-08:45	239	239
	08:45-09:00	200	200
B - Triumph Access	07:30-07:45	25	25
	07:45-08:00	30	30
	08:00-08:15	36	36
	08:15-08:30	36	36
	08:30-08:45	30	30
	08:45-09:00	25	25
C - Development Arm (west)	07:30-07:45	224	224
	07:45-08:00	268	268
	08:00-08:15	328	328
	08:15-08:30	328	328
	08:30-08:45	268	268
	08:45-09:00	224	224

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.07	8.42	0.1	A	30	45
C-AB	0.00	0.00	0.0	A	0	0
C-A					273	410
A-B					126	189
A-C					118	178

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	541	0.046	25	0.0	0.1	7.663	A
C-AB	0	0	555	0.000	0	0.0	0.0	0.000	A
C-A	224	56			224				
A-B	103	26			103				
A-C	97	24			97				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	527	0.056	30	0.1	0.1	7.964	A
C-AB	0	0	547	0.000	0	0.0	0.0	0.000	A
C-A	268	67			268				
A-B	123	31			123				
A-C	116	29			116				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	507	0.072	36	0.1	0.1	8.415	A
C-AB	0	0	535	0.000	0	0.0	0.0	0.000	A
C-A	328	82			328				
A-B	151	38			151				
A-C	142	36			142				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	507	0.072	36	0.1	0.1	8.416	A
C-AB	0	0	535	0.000	0	0.0	0.0	0.000	A
C-A	328	82			328				
A-B	151	38			151				
A-C	142	36			142				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	527	0.056	30	0.1	0.1	7.968	A
C-AB	0	0	547	0.000	0	0.0	0.0	0.000	A
C-A	268	67			268				
A-B	123	31			123				
A-C	116	29			116				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	25	6	541	0.046	25	0.1	0.1	7.673	A
C-AB	0	0	555	0.000	0	0.0	0.0	0.000	A
C-A	224	56			224				
A-B	103	26			103				
A-C	97	24			97				

DS3 2036, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.26	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.26	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	DS3 2036	PM	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Development Arm (east)		ONE HOUR	✓	204	100.000
B - Triumph Access		ONE HOUR	✓	222	100.000
C - Development Arm (west)		ONE HOUR	✓	163	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To			
		A - Development Arm (east)	B - Triumph Access	C - Development Arm (west)
	A - Development Arm (east)	0	13	191
	B - Triumph Access	222	0	0
	C - Development Arm (west)	163	0	0

Proportions

From	To			
		A - Development Arm (east)	B - Triumph Access	C - Development Arm (west)
	A - Development Arm (east)	0.00	0.06	0.00
	B - Triumph Access	1.00	0.00	0.00
	C - Development Arm (west)	1.00	0.00	0.00

Vehicle Mix

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

Heavy Vehicle %

From	To			
		A - Development Arm (east)	B - Triumph Access	C - Development Arm (west)
	A - Development Arm (east)	10	10	10
	B - Triumph Access	10	10	10
	C - Development Arm (west)	10	10	10

Average PCU Per Veh

From	To			
		A - Development Arm (east)	B - Triumph Access	C - Development Arm (west)
	A - Development Arm (east)	1.100	1.100	1.1
	B - Triumph Access	1.100	1.100	1.1
	C - Development Arm (west)	1.100	1.100	1.1

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (PCU/hr)	Demand in PCU (PCU/hr)
A - Development Arm (east)	16:15-16:30	154	154
	16:30-16:45	183	183
	16:45-17:00	225	225
	17:00-17:15	225	225
	17:15-17:30	183	183
	17:30-17:45	154	154
B - Triumph Access	16:15-16:30	167	167
	16:30-16:45	200	200
	16:45-17:00	244	244
	17:00-17:15	244	244
	17:15-17:30	200	200
	17:30-17:45	167	167
C - Development Arm (west)	16:15-16:30	123	123
	16:30-16:45	147	147
	16:45-17:00	179	179
	17:00-17:15	179	179
	17:15-17:30	147	147
	17:30-17:45	123	123

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.46	13.96	0.9	B	204	306
C-AB	0.00	0.00	0.0	A	0	0
C-A					150	224
A-B					12	18
A-C					175	263

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	167	42	556	0.301	165	0.0	0.5	10.100	B
C-AB	0	0	565	0.000	0	0.0	0.0	0.000	A
C-A	123	31			123				
A-B	10	2			10				
A-C	144	36			144				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	200	50	544	0.367	199	0.5	0.6	11.455	B
C-AB	0	0	559	0.000	0	0.0	0.0	0.000	A
C-A	147	37			147				
A-B	12	3			12				
A-C	172	43			172				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	244	61	528	0.463	243	0.6	0.9	13.851	B
C-AB	0	0	550	0.000	0	0.0	0.0	0.000	A
C-A	179	45			179				
A-B	14	4			14				
A-C	210	53			210				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	244	61	528	0.463	244	0.9	0.9	13.961	B
C-AB	0	0	550	0.000	0	0.0	0.0	0.000	A
C-A	179	45			179				
A-B	14	4			14				
A-C	210	53			210				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	200	50	544	0.367	201	0.9	0.6	11.575	B
C-AB	0	0	559	0.000	0	0.0	0.0	0.000	A
C-A	147	37			147				
A-B	12	3			12				
A-C	172	43			172				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	167	42	556	0.301	168	0.6	0.5	10.230	B
C-AB	0	0	565	0.000	0	0.0	0.0	0.000	A
C-A	123	31			123				
A-B	10	2			10				
A-C	144	36			144				

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APPENDIX TN7-H

REVISED TRAFFIC IMPACT ASSESSMENT

21021 HINKLEY WEST

TRANSPORT ASSESSMENT

TRIP DISTRIBUTION

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)
ONS Crown Copyright Reserved [from Nomis on 14 February 2022]

population All usual residents aged 16 and over in employment the week before the census
units Persons
date 2011
usual residence E02005387 Hinkley and Bosworth 011 (2011 super output area - middle layer)

Usual Residence	Hinkley and Bosworth 011	%	A	B	C	D	E	F	G	H	I	J	K	L	M	TOTAL	A	B	C	D	E	F	G	H	I	J	K	L	M	TOTAL	CHECK
Place of work: 2011 census merged local authority district	CODE	Driving a car or van	STOKE ROAD	A447 NORTH	A47 NORTH	M69 NORTH	A5 SOUTH	M69 SOUTH	A47 SOUTH	A5 WEST	OUTLANDS DRIVE	ROSTON DRIVE	WYKIN ROAD WEST	WYKIN ROAD EAST	B4666 COVENTRY ROAD		STOKE ROAD	A447 NORTH	A47 NORTH	M69 NORTH	A5 SOUTH	M69 SOUTH	A47 SOUTH	A5 WEST	OUTLANDS DRIVE	ROSTON DRIVE	WYKIN ROAD WEST	WYKIN ROAD EAST	B4666 COVENTRY ROAD		
Gateshead	E41000276	2	0.06%													100%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
North Tyneside	E41000278	1	0.03%													100%	0.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Warrington	E41000007	1	0.03%													100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Cheshire East	E41000049	1	0.03%													60%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Preston	E41000155	1	0.03%													70%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Bolton	E41000257	1	0.03%													70%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Bury	E41000266	1	0.03%													70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Salford	E41000262	2	0.06%													70%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
Kingston upon Hull, City of	E41000010	1	0.03%													100%	0.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Barnsley	E41000272	1	0.03%			30%										20%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Doncaster	E41000275	1	0.03%			30%										20%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Rotherham	E41000274	1	0.03%			30%										20%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Leeds	E41000291	2	0.06%			30%										20%	0.00%	0.02%	0.00%	0.03%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
Wakefield	E41000292	3	0.09%			30%										20%	0.00%	0.03%	0.00%	0.05%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
Derby	E41000015	9	0.28%			30%										100%	0.00%	0.06%	0.08%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	OK
Leicester	E41000016	213	6.56%			50%										100%	0.00%	0.00%	3.28%	3.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.56%	OK
Rutland	E41000017	2	0.06%			70%										100%	0.00%	0.00%	0.02%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
Nottingham	E41000018	6	0.18%			20%										100%	0.00%	0.04%	0.04%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.18%	OK
Amber Valley	E41000071	3	0.09%			40%										100%	0.00%	0.04%	0.00%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	OK
Bolsover	E41000072	1	0.03%			40%										100%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Erewash	E41000076	3	0.09%			40%										100%	0.00%	0.04%	0.00%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	OK
Blaby	E41000161	186	5.72%			50%										100%	0.00%	0.00%	2.86%	1.72%	1.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.72%	OK
Charnwood	E41000162	47	1.43%			30%										100%	0.00%	0.43%	0.43%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.43%	OK
Hartlepool	E41000163	219	6.74%			20%										100%	0.00%	0.00%	1.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.74%	OK
Hinkley and Bosworth 001	E02005377	6	0.18%	40%	60%											100%	0.07%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.18%	OK
Hinkley and Bosworth 002	E02005378	6	0.18%			40%				60%						100%	0.00%	0.00%	0.07%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.18%	OK
Hinkley and Bosworth 003	E02005379	5	0.15%			30%				60%	10%					100%	0.00%	0.05%	0.09%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.15%	OK
Hinkley and Bosworth 004	E02005380	19	0.58%			50%				50%						100%	0.20%	0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.58%	OK
Hinkley and Bosworth 005	E02005381	31	0.95%	20%		20%				60%						100%	0.19%	0.19%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.95%	OK
Hinkley and Bosworth 006	E02005382	40	1.23%							100%						100%	0.00%	0.00%	1.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.23%	OK
Hinkley and Bosworth 007	E02005383	67	1.73%							100%						100%	0.00%	0.00%	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.73%	OK
Hinkley and Bosworth 008	E02005384	88	3.02%			40%				40%						100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	0.00%	1.21%	0.00%	0.00%	0.00%	3.02%	OK
Hinkley and Bosworth 009	E02005385	139	4.28%							60%						100%	0.00%	0.00%	2.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.86%	0.86%	0.00%	0.00%	0.00%	4.28%	OK
Hinkley and Bosworth 010	E02005386	315	9.70%							40%						100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.88%	3.88%	0.00%	1.94%	0.00%	0.00%	9.70%	OK
Hinkley and Bosworth 011	E02005387	345	10.62%							10%						100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.31%	0.00%	4.25%	0.00%	0.00%	0.00%	10.62%	OK
Hinkley and Bosworth 012	E02005388	163	5.02%													100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.02%	OK
Hinkley and Bosworth 013	E02005389	32	0.98%													20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.59%	0.20%	0.00%	0.00%	0.00%	0.00%	0.98%	OK
Hinkley and Bosworth 014	E02005390	61	2.63%					50%								100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.84%	0.00%	0.00%	0.00%	0.00%	0.00%	2.63%	OK
Melton	E41000165	8	0.25%		10%	20%	70%									100%	0.00%	0.02%	0.05%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%	OK
North West Leicestershire	E41000166	64	1.97%			60%	30%				10%					100%	0.00%	1.18%	0.00%	0.59%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	1.97%	OK
Oadby and Wigston	E41000167	24	0.74%			10%										100%	0.00%	0.00%	0.30%	0.44%	0.00%	0.00%	0.00%								

C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

OPA SCHEME ONLY

2023 SWORD DRIVE TRIP RATES

Direction	AM PEAK	
	RATE	VEH
IN	0.167	142
OUT	0.384	326
2-WAY	0.551	468

850 Dwellings

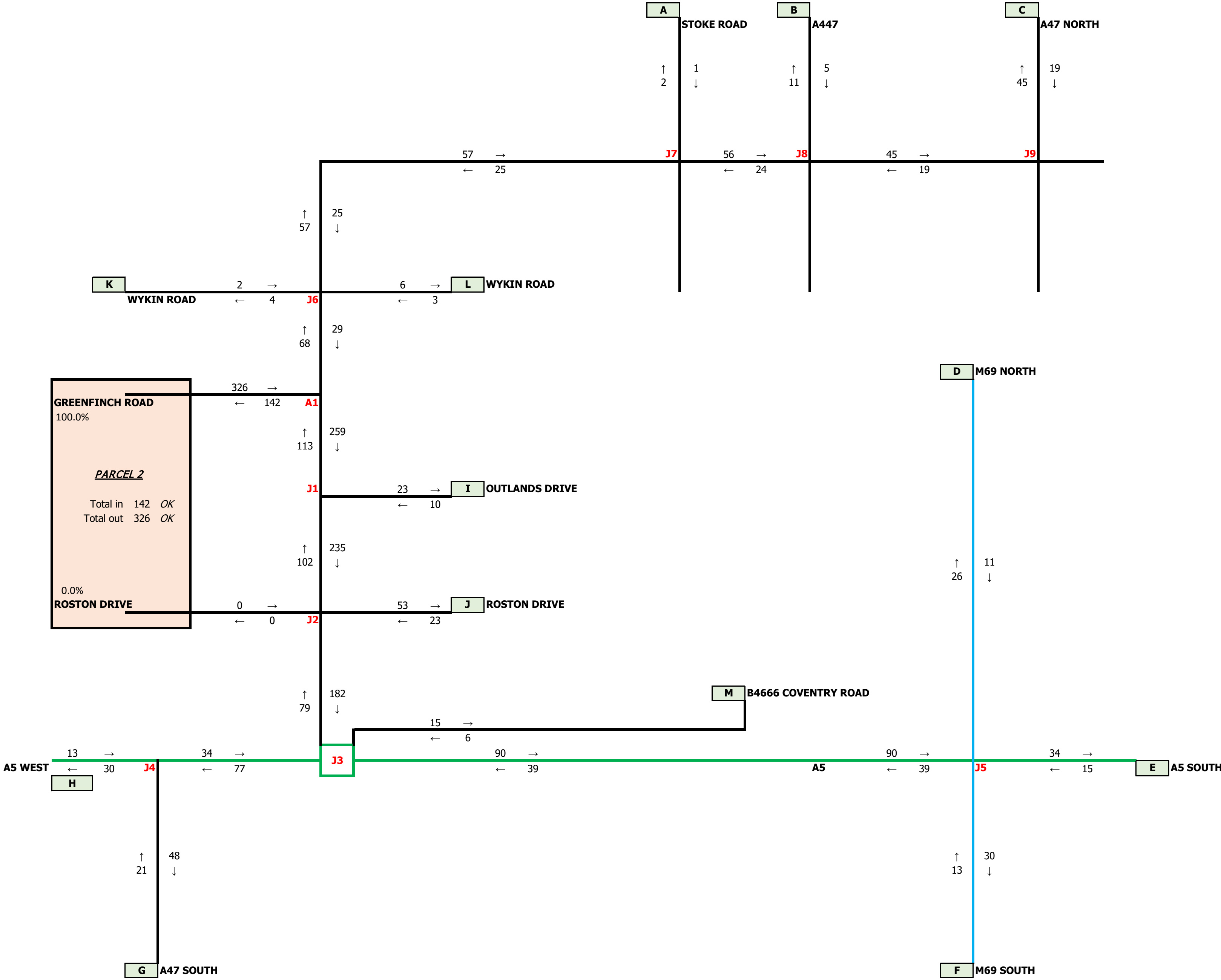
ROUTE		AM PEAK HOUR		
		IN	OUT	2-WAY
A	0.6%	1	2	3
B	3.4%	5	11	16
C	13.6%	19	45	64
D	8.0%	11	26	38
E	10.5%	15	34	49
F	9.2%	13	30	43
G	14.6%	21	48	68
H	9.1%	13	30	43
I	7.1%	10	23	33
J	16.3%	23	53	76
K	1.2%	2	4	6
L	1.9%	3	6	9
M	4.4%	6	15	21
TOTAL	100%	142	326	468
Cordon totals		142	326	
		OK	OK	

JUNCTION IMPACTS

- A1 NORMANDY WAY/GREENFINCH ROAD
- J1 NORMANDY WAY/OUTLANDS DRIVE
- J2 NORMANDY WAY/ROSTON DRIVE
- J3 A5/A47 DODWELL'S ROUNDABOUT
- J4 A5/A47 THE LONG SHOOT SIGNALS
- J5 M69 JUNCTION 1
- J6 A47/WYKIN ROAD ROUNDABOUT
- J7 A47/STOKE ROAD ROUNDABOUT
- J8 A47/A447 JUNCTION
- J9 A47/LEICESTER ROAD JUNCTION, EARL SHILTON

Total Inflow (Vehicles)

- 468 LESS TRAFFIC REASSIGNED TO NEW ACCESS
- 371
- 338 PLUS TRAFFIC REASSIGNED TO NEW ACCESS
- 262
- 111
- 130
- 97
- 82
- 80
- 64



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

OPA SCHEME ONLY

2023 SWORD DRIVE TRIP RATES

Direction	PM PEAK	
	RATE	VEH
IN	0.246	209
OUT	0.210	179
2-WAY	0.456	388

850 Dwellings

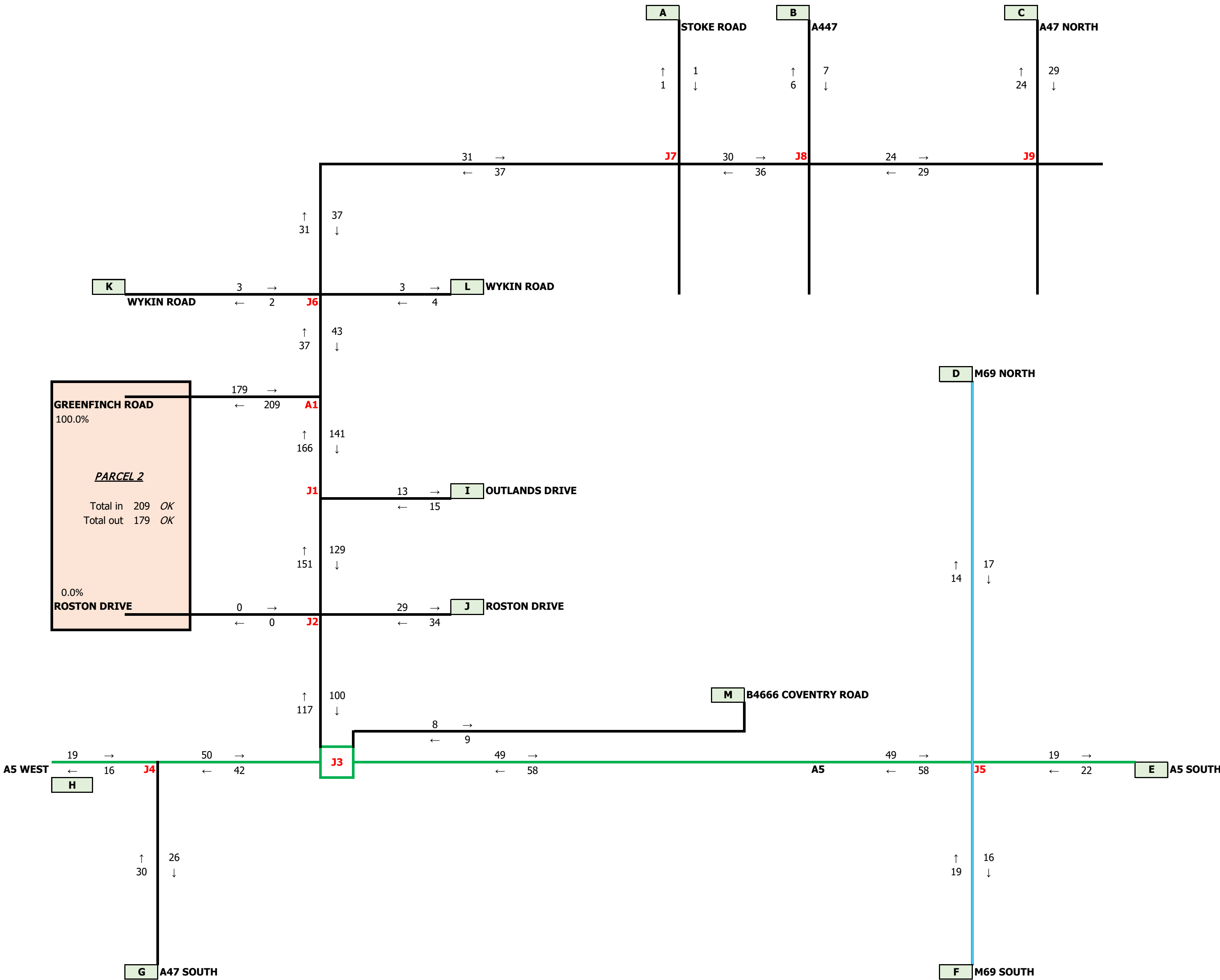
ROUTE		PM PEAK HOUR		
		IN	OUT	2-WAY
A	0.6%	1	1	2
B	3.4%	7	6	13
C	13.6%	29	24	53
D	8.0%	17	14	31
E	10.5%	22	19	41
F	9.2%	19	16	36
G	14.6%	30	26	57
H	9.1%	19	16	35
I	7.1%	15	13	28
J	16.3%	34	29	63
K	1.2%	3	2	5
L	1.9%	4	3	8
M	4.4%	9	8	17
TOTAL	100%	209	179	388
Cordon totals		209	179	
		OK	OK	

JUNCTION IMPACTS

- A1 NORMANDY WAY/GREENFINCH ROAD
- J1 NORMANDY WAY/OUTLANDS DRIVE
- J2 NORMANDY WAY/ROSTON DRIVE
- J3 A5/A47 DODWELL'S ROUNDABOUT
- J4 A5/A47 THE LONG SHOOT SIGNALS
- J5 M69 JUNCTION 1
- J6 A47/WYKIN ROAD ROUNDABOUT
- J7 A47/STOKE ROAD ROUNDABOUT
- J8 A47/A447 JUNCTION
- J9 A47/LEICESTER ROAD JUNCTION, EARL SHILTON

Total Inflow (Vehicles)

- 388 LESS TRAFFIC REASSIGNED TO NEW ACCESS
- 307
- 280 PLUS TRAFFIC REASSIGNED TO NEW ACCESS
- 217
- 92
- 107
- 80
- 68
- 66
- 53



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

FPA SCHEME ONLY

2023 SWORD DRIVE TRIP RATES

Direction	AM PEAK	
	RATE	VEH
IN	0.167	26
OUT	0.384	59
2-WAY	0.551	84

153 Dwellings (Net additional)

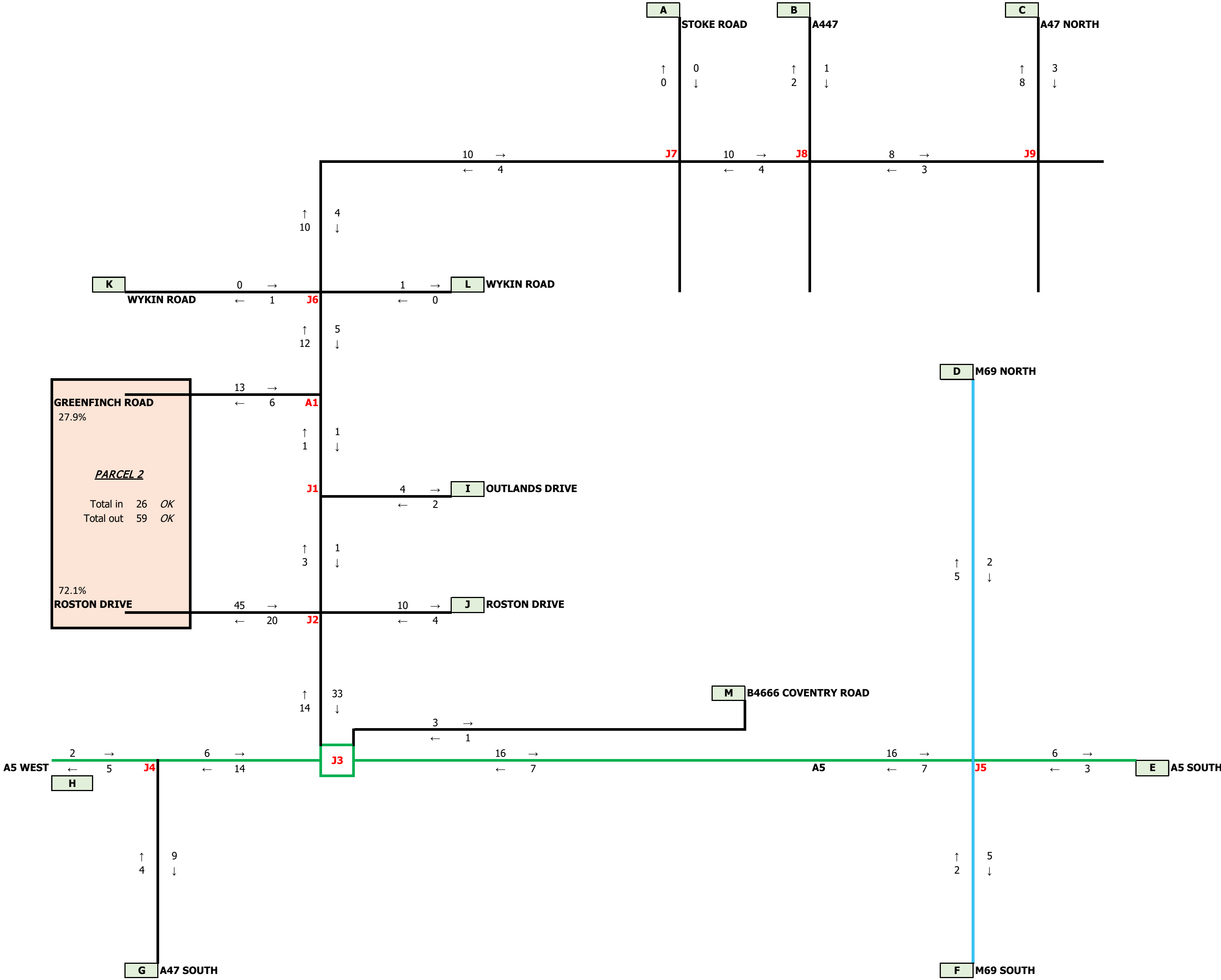
ROUTE	AM PEAK HOUR		
	IN	OUT	2-WAY
A	0.6%	0	0
B	3.4%	1	2
C	13.6%	3	8
D	8.0%	2	5
E	10.5%	3	6
F	9.2%	2	5
G	14.6%	4	9
H	9.1%	2	5
I	7.1%	2	4
J	16.3%	4	10
K	1.2%	0	1
L	1.9%	0	1
M	4.4%	1	3
TOTAL	100%	26	59
Cordon totals			
		26	59
		OK	OK

JUNCTION IMPACTS

- A1 NORMANDY WAY/GREENFINCH ROAD
- J1 NORMANDY WAY/OUTLANDS DRIVE
- J2 NORMANDY WAY/ROSTON DRIVE
- J3 A5/A47 DODWELL'S ROUNDABOUT
- J4 A5/A47 THE LONG SHOOT SIGNALS
- J5 M69 JUNCTION 1
- J6 A47/WYKIN ROAD ROUNDABOUT
- J7 A47/STOKE ROAD ROUNDABOUT
- J8 A47/A447 JUNCTION
- J9 A47/LEICESTER ROAD JUNCTION, EARL SHILTON

Total Inflow (Vehicles)

- 19 LESS TRAFFIC REASSIGNED TO NEW ACCESS
- 6
- 65 PLUS TRAFFIC REASSIGNED TO NEW ACCESS
- 47
- 20
- 23
- 17
- 15
- 14
- 12



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

FPA SCHEME ONLY

2023 SWORD DRIVE TRIP RATES

Direction	PM PEAK	
	RATE	VEH
IN	0.246	38
OUT	0.210	32
2-WAY	0.456	70

153 Dwellings (Net additional)

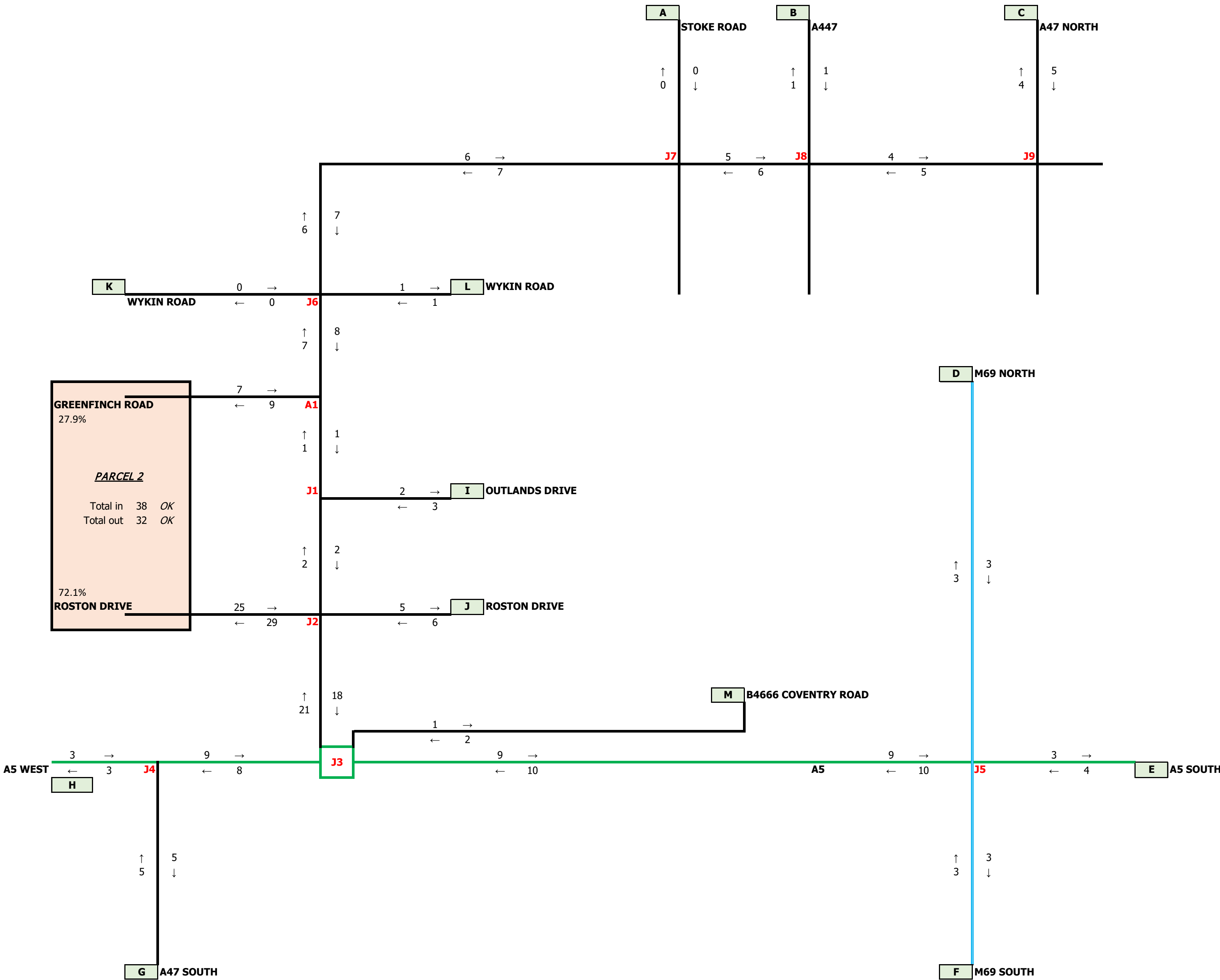
ROUTE	PM PEAK HOUR		
	IN	OUT	2-WAY
A	0.6%	0	0
B	3.4%	1	2
C	13.6%	5	10
D	8.0%	3	6
E	10.5%	4	7
F	9.2%	3	6
G	14.6%	5	10
H	9.1%	3	6
I	7.1%	3	5
J	16.3%	6	11
K	1.2%	0	1
L	1.9%	1	1
M	4.4%	2	3
TOTAL	100%	38	70
Cordon totals			
	38	32	
	OK	OK	

JUNCTION IMPACTS

- A1 NORMANDY WAY/GREENFINCH ROAD
- J1 NORMANDY WAY/OUTLANDS DRIVE
- J2 NORMANDY WAY/ROSTON DRIVE
- J3 A5/A47 DODWELL'S ROUNDABOUT
- J4 A5/A47 THE LONG SHOOT SIGNALS
- J5 M69 JUNCTION 1
- J6 A47/WYKIN ROAD ROUNDABOUT
- J7 A47/STOKE ROAD ROUNDABOUT
- J8 A47/A447 JUNCTION
- J9 A47/LEICESTER ROAD JUNCTION, EARL SHILTON

Total Inflow (Vehicles)

- 16 LESS TRAFFIC REASSIGNED TO NEW ACCESS
- 5
- 54 PLUS TRAFFIC REASSIGNED TO NEW ACCESS
- 39
- 17
- 19
- 14
- 12
- 12
- 10



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

OPA + FPA SCHEMES

2023 SWORD DRIVE TRIP RATES

Direction	AM PEAK	
	RATE	VEH
IN	0.167	168
OUT	0.384	385
2-WAY	0.551	553

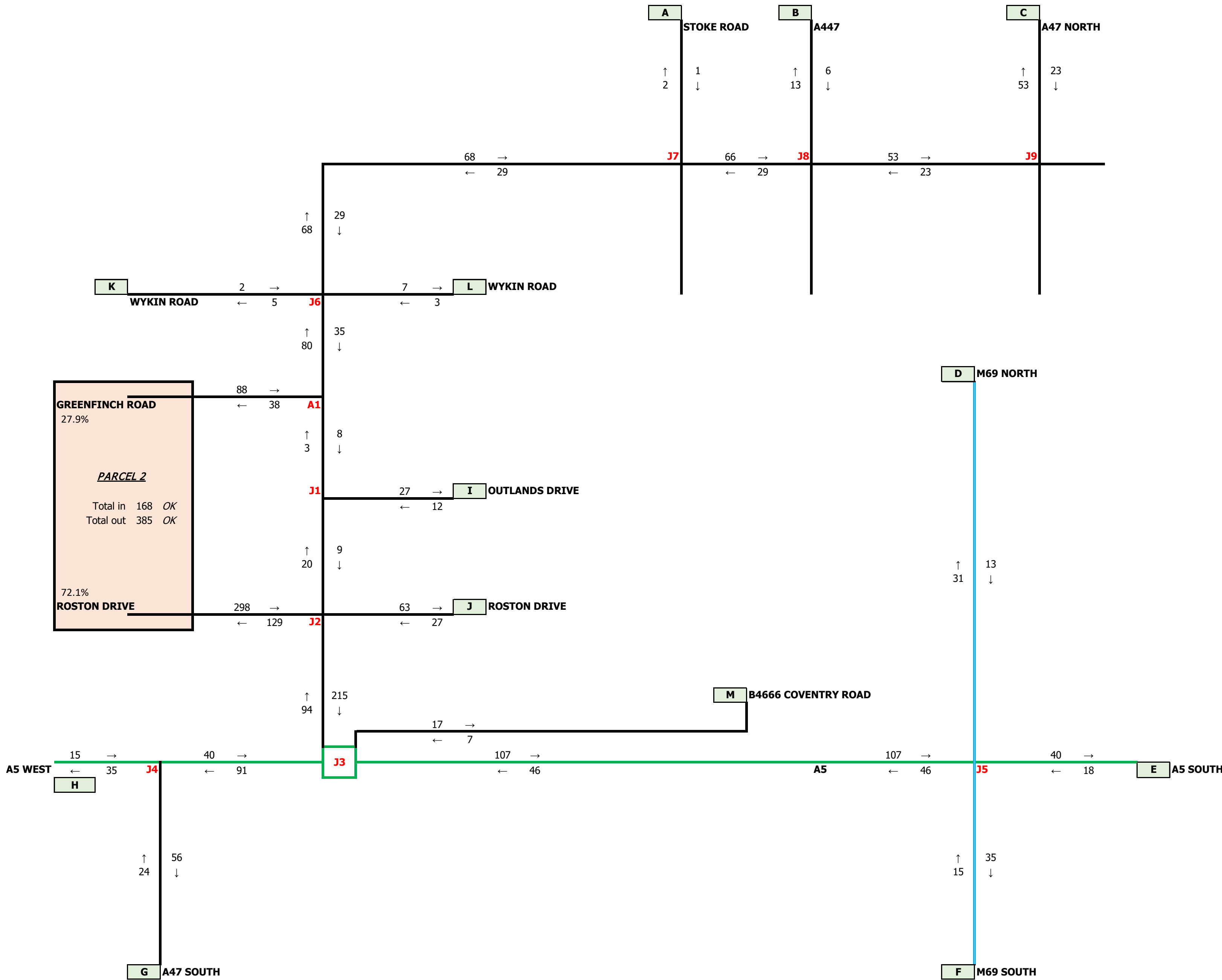
1003 Dwellings

ROUTE		AM PEAK HOUR		
		IN	OUT	2-WAY
A	0.6%	1	2	3
B	3.4%	6	13	19
C	13.6%	23	53	75
D	8.0%	13	31	44
E	10.5%	18	40	58
F	9.2%	15	35	51
G	14.6%	24	56	81
H	9.1%	15	35	50
I	7.1%	12	27	39
J	16.3%	27	63	90
K	1.2%	2	5	7
L	1.9%	3	7	11
M	4.4%	7	17	25
TOTAL	100%	168	385	553
Cordon totals		168	385	
		OK	OK	

JUNCTION IMPACTS

A1	NORMANDY WAY/GREENFINCH ROAD	126	LESS TRAFFIC REASSIGNED TO NEW ACCESS
J1	NORMANDY WAY/OUTLANDS DRIVE	39	
J2	NORMANDY WAY/ROSTON DRIVE	427	PLUS TRAFFIC REASSIGNED TO NEW ACCESS
J3	A5/A47 DODWELL'S ROUNDABOUT	309	
J4	A5/A47 THE LONG SHOOT SIGNALS	131	
J5	M69 JUNCTION 1	153	
J6	A47/WYKIN ROAD ROUNDABOUT	115	
J7	A47/STOKE ROAD ROUNDABOUT	97	
J8	A47/A447 JUNCTION	94	
J9	A47/LEICESTER ROAD JUNCTION, EARL SHILTON	75	

Total Inflow (Vehicles)



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

OPA + FPA SCHEMES

2023 SWORD DRIVE TRIP RATES

Direction	PM PEAK	
	RATE	VEH
IN	0.246	247
OUT	0.210	211
2-WAY	0.456	457

1003 Dwellings

ROUTE		AM PEAK HOUR		
		IN	OUT	2-WAY
A	0.6%	1	1	3
B	3.4%	8	7	15
C	13.6%	34	29	62
D	8.0%	20	17	37
E	10.5%	26	22	48
F	9.2%	23	19	42
G	14.6%	36	31	67
H	9.1%	23	19	42
I	7.1%	18	15	33
J	16.3%	40	34	74
K	1.2%	3	3	6
L	1.9%	5	4	9
M	4.4%	11	9	20
TOTAL	100%	247	211	457
Cordon totals		247	211	
		OK	OK	

JUNCTION IMPACTS		Total Inflow (Vehicles)	
A1	NORMANDY WAY/GREENFINCH ROAD	104	LESS TRAFFIC REASSIGNED TO NEW ACCESS
J1	NORMANDY WAY/OUTLANDS DRIVE	33	
J2	NORMANDY WAY/ROSTON DRIVE	353	PLUS TRAFFIC REASSIGNED TO NEW ACCESS
J3	A5/A47 DODWELL'S ROUNDABOUT	256	
J4	A5/A47 THE LONG SHOOT SIGNALS	108	
J5	M69 JUNCTION 1	127	
J6	A47/WYKIN ROAD ROUNDABOUT	95	
J7	A47/STOKE ROAD ROUNDABOUT	80	
J8	A47/A447 JUNCTION	78	
J9	A47/LEICESTER ROAD JUNCTION, EARL SHILTON	62	

