

Technical Note

Project: Hinckley

Subject: Land East of Stoke Road, Hinckley

Client:	Vistry		
Project No:	10046	Version:	A
Document Ref:	REP002	Author:	Lewis Griffiths
Date:	09/04/2026	Approved:	Richard Ellam

I Introduction

I.1 Overview of scope

- 1.1.1 PJA have been appointed by Vistry to review the Section 278 highway works associated with their proposed development at Land East of Stoke Road, Hinckley.
- 1.1.2 This Technical Note (TN) considers the impact of the proposed scheme at the roundabout junction of A47 Stoke Road / Normandy Way / Sword Drive, at which off-site highway mitigation works have been proposed as part of the outline planning consent.
- 1.1.3 The development proposals include mitigation works to offset its impact at this junction and the delivery of a toucan pedestrian crossing on the A47 (East) arm. These offsite highway works are shown on drawing no T19595/002/D included as **Appendix A** to this Note.

I.2 Planning consent

- 1.2.1 An outline planning application (Ref 22/00318/OUT) for the following, was submitted in April 2022 by Richborough Estates Ltd and Mr and Mrs Adcock:

“Outline planning application for the erection of up to 475 dwellings, including public open space, land reserved for a primary school together with future expansion land (Use Class F1(a)), drainage, landscaping and associated infrastructure.”
- 1.2.2 The application was initially refused consent by the Local Planning Authority but subsequently granted consent at appeal (ref: APP/K2420/W/23/3323113). Several of the main issues at Appeal in November 2023 were highway related and included the following:

“Whether or not:-

1) Safe and suitable access to the proposed development would be available for all users.

2) The proposed development would result in unacceptable impacts on the transport network.

3) Contributions to mitigate the impacts of the proposed development are a necessary and reasonable requirement, and whether such contributions have been made.”

1.2.3 Ultimately in progressing to appeal, the applicant and LHA agreed highways matters and the LHA withdrew their objection. As noted in paragraph 8 of the Appeal decision:

“8. However, during the appeal process these discussions were satisfactorily concluded with the appellants’ submitting data derived using the Leicestershire County Council Pan Regional Transport Model (PRTM). This data showed that there would be no unacceptable impacts relating to either highway safety or on the network in transport terms. Consequently, the Council withdrew their objection to the proposed development.”

I.3 Rationale for change

1.3.1 Since the Appeal hearing in 2023, the site has been purchased by Vistry and they are now progressing the on-site delivery and Section 278 off site highway works.

1.3.2 Condition 29 of the consent states that:

“Prior to first occupation - No part of the development hereby permitted shall be occupied until such time as the junction, pedestrian access and infrastructure works shown on Dwg No T19595-002 Rev E Stoke Road/A47 Proposed junction improvements have been implemented in full.”

1.3.3 In progressing the section 278 design works for the junction in question; it is becoming apparent that need for these offsite highway works is not as pressing or critical as envisaged in the original transport evidence base.

1.3.4 As such Vistry intend to submit a Section 73 application to vary this condition and allow the delay of these works from first occupation until later in the phasing of the development. This Technical note therefore explores the feasibility and reasonableness of such a delay and considers an appropriate trigger point for the works to be delivered.

- 1.3.5 This Technical Note thus re-visits the original appraisal and modelling of this junction in the supporting TA, to consider whether the mitigation measures at the roundabout could be provided as a phased approach whereby a set number of dwellings are delivered in advance of the S278 works.

1.4 Original Transport Assessment (TA)

- 1.4.1 A Transport Assessment (TA) in support of the original application was prepared by Hub Transport Planning Ltd in March 2022. This was informed by traffic survey data collected in October 2021, and given the timing of these surveys, 'Covid uplift' factors were applied given concerns about its validity. These factors were specific to Leicestershire and applied to reflect the difference between current traffic levels and expected traffic levels taking account of the effects of the Covid-19 pandemic. This resulted in uplift of between 6% and 9% in the observed flows.
- 1.4.2 The figure below, extracted from the March 2022 TA, summarises the subsequent modelling results in the TA for the junction of interest, in the existing scenarios (Table 9 of the original TA).

Table 9 – A47/Stoke Road Roundabout

Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
Stoke Road North	0.46	1	5	0.24	0	4
A47 East	0.75	3	9	0.84	5	13
Stoke Road South	0.44	1	5	0.39	1	5
Sword Drive	0.15	0	6	0.14	0	5
A47 West	0.71	3	11	0.85	5	20
2027 Base + Committed						
Stoke Road North	0.58	1	8	0.33	1	5
A47 East	0.92	11	27	1.04	50	93
Stoke Road South	0.56	1	8	0.48	1	7
Sword Drive	0.13	0	7	0.15	0	7
A47 West	0.88	7	26	1.05	42	118
2027 Base + Committed + Development						
Stoke Road North	0.77	3	14	0.38	1	5
A47 East	0.99	24	57	1.09	89	154
Stoke Road South	0.61	2	9	0.55	1	8
Sword Drive	0.14	0	8	0.16	0	7
A47 West	0.92	10	36	1.18	104	300
2032 Base + Committed						
Stoke Road North	0.61	2	8	0.33	1	5
A47 East	0.96	16	38	1.07	72	127
Stoke Road South	0.59	1	9	0.49	1	7
Sword Drive	0.14	0	7	0.15	0	7
A47 West	0.92	10	34	1.09	60	161
2032 Base + Committed + Development						
Stoke Road North	0.80	4	16	0.39	1	6
A47 East	1.02	39	83	1.12	114	199
Stoke Road South	0.63	2	10	0.56	1	8
Sword Drive	0.15	0	8	0.16	0	8
A47 West	0.96	15	49	1.22	125	382

RFC – Ratio of Flow to Capacity, Queue – Max Mean Queue, Delay – Seconds per vehicle

- 1.4.3 The modelling showed that the junction was operating at capacity on the A47 (West) arm, and operating close to capacity on the A47 (East) arm, in the PM peak period in the base year of 2022, with some reserve capacity in the AM peak.
- 1.4.4 The additional of committed development trips and background growth to a 2027 scenario, resulted in it being over capacity in both peak periods on both of the A47 arms. This was exacerbated by the addition of development trips and more growth in the 2032 scenarios. Hence the need for the development to provide offsite mitigation.
- 1.4.5 Mitigation was proposed to offset the development impact, although the development itself has a relatively modest impact in terms of total new trips at the junction adding circa 80 new trips added in both the AM and PM peak, which equates to an increase of 3% of the total junction flow.
- 1.4.6 It was proposed that widening to both the A47 (West) exit lane as well as the A47 (East) entry lane. In addition to this, significant pedestrian improvements were also proposed at the junction, which involved the provision of a toucan crossing on the A47 (East) arm as well as uncontrolled crossing facilities at the northern Stoke Road arm.
- 1.4.7 Modelling of the proposed mitigation works was presented in Table 17 of the TA, which is replicated below. This showed that the proposed mitigation scheme will address the impact of the development at the junction in question.

Table 17 – A47/Stoke Road Roundabout Proposed Mitigation Scheme

Approach	AM Peak 08:00-09:00			PM Peak 17:00-18:00		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
2027 Base + Committed + Development						
Stoke Road North	0.77	3	14	0.42	1	6
A47 East	0.87	7	16	0.97	20	41
Stoke Road South	0.62	2	10	0.59	1	10
Sword Drive	0.14	0	8	0.17	0	8
A47 West	0.62	2	6	0.78	4	10
2032 Base + Committed + Development						
Stoke Road North	0.81	4	16	0.44	1	7
A47 East	0.90	9	20	1.00	32	60
Stoke Road South	0.65	2	11	0.61	2	10
Sword Drive	0.16	0	9	0.18	0	9
A47 West	0.64	2	6	0.81	4	12

RFC – Ratio of Flow to Capacity, Queue – Max Mean Queue, Delay – Seconds per vehicle

1.5 Updated Traffic Flows

- 1.5.1 Given the previous assessment factored up the surveys undertaken in 2021 to a 2027 future year and allowed for a Covid uplift factor, updated surveys were undertaken in March 2026 at the roundabout to provide a more accurate representation of the expected flows in 2027 and to

provide a direct comparison between the two assessments. In considering the impact of the scheme at other junctions, Vistry have observed that general flows have not increased as much as expected or forecast in the intervening period between 2021 and 2027.

- 1.5.2 To growth the new 2026 baseline surveys to a consistent assessment year of 2027, industry standard Temprow has been used. In line with the same parameters used in the original TA where Temprow had been used to growth the 2021 surveyed flows to 2027 and a Covid uplift factor also applied.
- 1.5.3 When comparing the new surveys carried out 2026 to those carried out in 2021, it is observed that flows are higher in 2026 than in 2021. In the AM peak the total junction flow increases from 2,720 to 3,079 and in the PM from 2,644 to 3,026. Although it is observed that individual turning movements do fluctuate and some movements decrease between the surveys, overall, however there is a net increase at the junction.
- 1.5.4 However, when comparing the respective 2027 forecast years (and allowing for the growth forecasts), there is a net decrease of 46 vehicles using the junction during the AM Peak and a net increase of 8 vehicles using the junction using the PM peak.
- 1.5.5 The decrease of 46 vehicles translates to **-1.5% reduction in flows** at the junction during the AM peak and the increase of 8 vehicles during the PM peak represents a **marginal 0.2% increase** in vehicle trips at the junction. Again, as observed when comparing the surveys, individual turning movements fluctuate and some increase and some decrease in the updated surveys.

1.6 Revised Assessments

- 1.6.1 In order to re-appraise the impact at the junction and need for mitigation, the 2021 base flows have thus been replaced by the new 2026 base flows and the subsequent Junctions 10 models re-run.
- 1.6.2 The new 2026 surveyed flows have been factored up to both 2027 as well as 2032 to provide a consistent future year assessment, to that carried out in the original TA.
- 1.6.3 The original assessments in the TA, considered committed development at the following sites:
 - Residential development to the North of Triumph Factory (850 dwellings)
 - Barwell Sustainable Urban Extension (c2,500 dwellings)
 - East Shilton Sustainable Urban Extension (c1,600 dwellings)

- 1.6.4 It was obviously expected that these sites would have been fully developed by 2027, however to our knowledge this is not the case and only the residential site to the north of the Triumph factory has seen any development. Indeed, this has to date, to our knowledge, only seen approximately 45 of the 850 dwellings proposed on the site constructed and some of these are yet to be occupied.
- 1.6.5 In summary, little if any of the anticipated committed development has been realised in the surrounding area over the last five years.
- 1.6.6 It is thus not considered unreasonable to propose a temporary delay to the S278 mitigation works. To explore that, we have firstly carried revised assessments using the 2026 new surveys and excluding the committed development flows.
- 1.6.7 In terms of trips generated by the proposed development we have retained the same trip generation as used in the original TA to retain consistency in our approach. However, to explore potential trigger points, the number of dwellings provided has been reduced to test the impact of 50 dwellings at the proposed site, then 100 dwellings and then the full 475 dwellings.

1.7 First Test – No committed development.

- 1.7.1 The first iteration of testing is to re-run the existing junction model with the new 2026 flows and the removal of committed development flows. These results are included as **Appendix B** to this report.
- 1.7.2 **Base scenario-** The first test 2032 Base models show the junction operates with adequate reserve capacity in the AM peak period (max RFC – 0.83), an improved trend compared to the equivalent TA scenario (max RFC – 0.96). In the PM peak, the A47 west arm is over desirable capacity (max RFC – 0.97), with a similar level of queuing to that predicted in the TA analysis, however the A47 East arm's performance is much improved, with a queue of 13 compared to 89 in the equivalent TA scenario. The removal of committed development has thus seen a general improvement in junction performance, as would be expected.

Arm	AM Peak			PM Peak		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2032 Base						
Stoke Road North	0.54	1.2	6.17	0.36	0.6	5.34
A47 East	0.83	4.8	13.10	0.84	5.2	13.42

Stoke Road South	0.49	1.0	6.31	0.40	0.7	5.37
Sword Drive	0.15	0.2	6.33	0.18	0.2	5.88
A47	0.73	2.9	12.12	0.97	15.8	53.22

- 1.7.3 **50 dwellings** - The addition of the trips from 50 dwellings on the proposed site makes little difference to the performance of the junction. On all arms and both peak periods, the RFCs remain below 1.0 and the increase in queuing from the trips associated with 50 dwellings is very marginal.

Arm	AM Peak			PM Peak		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2032 Base + Development Flows (50 Dwellings)						
Stoke Road North	0.56	1.3	6.53	0.37	0.6	5.41
A47 East	0.83	5.1	13.87	0.85	5.5	14.15
Stoke Road South	0.50	1.0	6.44	0.41	0.7	5.50
Sword Drive	0.15	0.2	6.42	0.18	0.2	5.98
A47	0.74	3.0	12.44	0.98	19.8	64.53

- 1.7.4 **100 dwellings** - The addition of the trips from 100 dwellings on the proposed site again makes little difference to the performance of the junction. On all arms and both peak periods, the RFCs remain below 1.0 and the increase in queuing from the trips associated with 100 dwellings is again marginal.

Arm	AM Peak			PM Peak		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2032 Base + Development Flows (100 Dwellings)						
Stoke Road North	0.57	1.3	1.3	0.37	0.6	5.42
A47 East	0.84	5.2	5.2	0.85	5.6	14.39
Stoke Road South	0.50	1.0	1.0	0.42	0.7	5.55
Sword Drive	0.15	0.2	0.2	0.18	0.2	6.01
A47	0.74	3.0	3.0	0.99	21.4	68.77

- 1.7.5 **Full allocation** – when the full number of dwellings is modelled for the first time the RFCs exceed the absolute capacity value of 1.0. However, conditions still remain better in terms of cumulative queue lengths than the 2032 Base plus committed scenario modelled in the original TA.

Arm	AM Peak			PM Peak		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2032 Base + Development Flows (500 Dwellings)						
Stoke Road North	0.71	2.4	9.79	0.42	0.7	5.60
A47 East	0.89	7.5	20.48	0.89	7.8	19.58
Stoke Road South	0.54	1.2	7.26	0.48	0.9	6.41
Sword Drive	0.16	0.2	6.99	0.19	0.2	6.63
A47	0.77	3.5	14.53	1.10	64.1	174.32

- 1.7.6 In summary, the removal of the committed development trips, which haven't physically materialised, result in all of the with development scenarios being no worse than that considered as the baseline in the original supporting TA. In fact, conditions are better than the 2032 baseline considered in the original TA.

1.8 Second Test - Retaining committed development

- 1.8.1 For completeness, we have also re-run the assessments with the new 2026 flows and including the original committed development assumptions.

- 1.8.2 **50 dwellings including committed development** – the results for 50 dwellings on the proposed site show a total cumulative queue of 34 vehicles at the junction in the AM peak (compared to 28 vehicles in the 2032 base plus committed scenario from the TA). In the PM peak, the results show a total queue of 125 vehicles (compared to 134 in the TA).

Arm	AM Peak			PM Peak		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2032 Base + Committed + Development Flows (50 Dwellings)						
Stoke Road North	0.66	1.9	8.83	0.42	0.7	6.02
A47 East	0.98	22.5	52.53	1.01	35.3	71.55
Stoke Road South	0.61	1.5	9.12	0.49	0.9	7.13
Sword Drive	0.12	0.1	7.64	0.18	0.2	7.44

A47	0.88	6.8	25.57	1.15	88.4	226.42
-----	------	-----	-------	------	------	--------

1.8.3 In summary, the impact of just 50 dwellings results in marginally better conditions than the original baseline position, even including the committed development flows.

1.8.4 **100 dwellings including committed development** – the results for 100 dwellings on the proposed site show a total cumulative queue of 36 vehicles at the junction in the AM peak (compared to 28 vehicles in the 2032 base plus committed scenario from the TA). In the PM peak, the results show a total queue of 135 vehicles (compared to 134 in the TA).

Arm	AM Peak			PM Peak		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
2032 Base + Committed + Development Flows (100 Dwellings)						
Stoke Road North	0.68	2.1	9.32	0.43	0.8	6.04
A47 East	0.99	24.6	56.68	1.02	38.4	76.59
Stoke Road South	0.61	1.6	9.25	0.49	1.0	7.24
Sword Drive	0.12	0.1	7.70	0.18	0.2	7.51
A47	0.88	7.0	26.41	1.16	95.1	243.47

1.8.5 In summary, the impact of 100 dwellings results in very marginally worse conditions than the original baseline position, even including all of the committed development flows. Although it is a negligible change.

1.8.6 On that basis, even allowing for the committed development trips (which haven't materialised in the last five years and aren't likely to come forward in the time it will take Vistry to develop 100 dwellings), it seems perfectly reasonable to conclude that a delay of the proposed S278 works at this junction until 100 dwellings have been occupied, will not have a severe adverse impact on the operation of the network.

1.9 Summary and conclusion

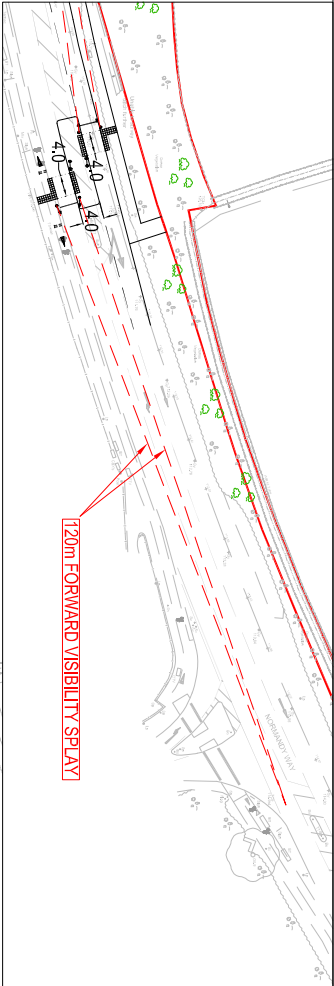
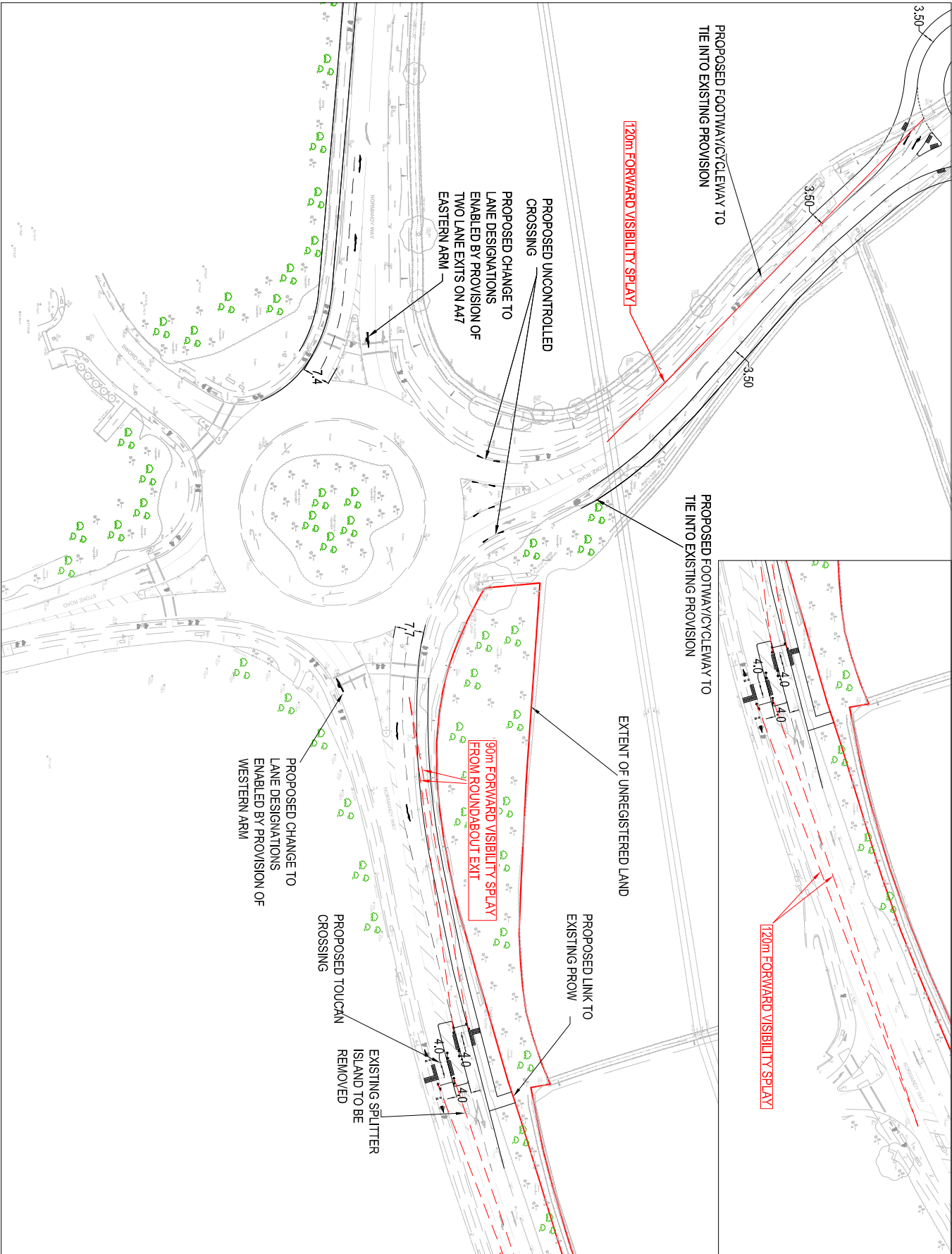
1.9.1 This Technical Note (TN) has considered the need and timing of the proposed S278 works at the junction of Stoke Road / Normandy Way / Sword Drive.

1.9.2 New traffic surveys have been conducted in 2026 to inform the exercise. These have shown that general traffic growth and committed development flows have not materialised at the

anticipated rate and thus the original assessments of the performance of this junction in the supporting TA are overly cautious.

- 1.9.3 Revised modelling of the junction has shown that if committed development flows are completely excluded the junction operates in all 'with development' scenarios within the absolute theoretical capacity.
- 1.9.4 The inclusion of committed development trips in the revised modelling, shows that up to 100 dwellings could be accommodated on the proposed site with the junction's performance remaining as forecast in the equivalent 'without development' scenarios in the original TA, prepared in support of the development.
- 1.9.5 On that basis it is proposed, based on the remodelling, that Condition 29 of the consent be amended so the proposed highway works are to be delivered before the occupation of the 100th dwelling.
- 1.9.6 For clarity it is not proposed that the S278 works are not delivered, merely phased to reflect their delivery at a point that reflects their need.

Appendix A Mitigation Plan



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
A	MINOR AMENDMENT FOLLOWING STAGE 1 RSA	04.03.22	JC	GM
B	JUNCTION MITIGATION SCHEME UPDATED FOLLOWING JUNCTION MODELING AND RECEIPT OF TOPOGRAPHICAL SURVEY	26.01.22	JC	JP
C	JUNCTION LAYOUT AMENDED TO AVOID UNREGISTERED LAND	31.07.20	JC	JP
D	JUNCTION LAYOUT AMENDED	31.07.20	JC	GM



Hub Transport Planning Ltd
Ridley House
66/68 Hagley Road
Edgbaston
Birmingham
West Midlands
B16 9PF
T: 0121 454 5530

CLIENT
RICHBOROUGH ESTATES

PROJECT
NORTH HINCKLEY

TITLE
STOKE ROAD/A47 PROPOSED JUNCTION IMPROVEMENTS

DRAWN	AUTHORISED	SCALE	SHEET SIZE	DATE
JC	JP	1:1000	A3	17.12.19
PROJECT NO.	DRAWING NO.	REV		
T19595	002	D		

Appendix B Survey Traffic Flow Comparisons

Junctions 10									
ARCADY 10 - Roundabout Module									
Version: 10.0.2.1574 © Copyright TRL Software Limited, 2021									
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: A47 Stoke Road Roundabout Advanced Mode.j10

Path: C:\PJA\Phil Jones Associates\SharedData - 10046 Ashby Road, Hinckley\50 Technical\52 Models\Transport

Report generation date: 09/04/2026 15:23:32

»2027 + Dev (500 Dwellings), AM
 »2027 + Dev (500 Dwellings), PM
 »2032 + Dev (500 Dwellings), AM
 »2032 + Dev (500 Dwellings), PM
 »2032 + Dev (100 Dwellings), AM
 »2032 + Dev (100 Dwellings), PM
 »2032 + Dev (50 Dwellings), AM
 »2032 + Dev (50 Dwellings), PM
 »2032 Base, AM
 »2032 Base, PM
 »2027 + Dev + Com (500 Dwellings), AM
 »2027 + Dev + Com (500 Dwellings), PM
 »2032 + Dev + Com (500 Dwellings), AM
 »2032 + Dev + Com (500 Dwellings), PM
 »2032 + Dev + Com (100 Dwellings), AM
 »2032 + Dev + Com (100 Dwellings), PM
 »2032 + Dev + Com (50 Dwellings), AM
 »2032 + Dev + Com (50 Dwellings), PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2027 + Dev (500 Dwellings)										
Arm 1	D1	2.0	8.40	0.67	A	D2	0.7	5.36	0.40	A
Arm 2		5.3	14.83	0.84	B		5.5	14.15	0.85	B
Arm 3		1.0	6.54	0.50	A		0.8	5.86	0.44	A
Arm 4		0.2	6.49	0.14	A		0.2	6.16	0.17	A
Arm 5		2.7	11.75	0.72	B		32.7	98.49	1.03	F
2032 + Dev (500 Dwellings)										
Arm 1	D3	2.4	9.79	0.71	A	D4	0.7	5.60	0.42	A
Arm 2		7.5	20.48	0.89	C		7.8	19.58	0.89	C
Arm 3		1.2	7.26	0.54	A		0.9	6.41	0.48	A
Arm 4		0.2	6.99	0.16	A		0.2	6.63	0.19	A
Arm 5		3.5	14.53	0.77	B		64.1	174.32	1.10	F
2032 + Dev (100 Dwellings)										
Arm 1	D5	1.3	6.66	0.57	A	D6	0.6	5.42	0.37	A
Arm 2		5.2	14.11	0.84	B		5.6	14.39	0.85	B
Arm 3		1.0	6.48	0.50	A		0.7	5.55	0.42	A
Arm 4		0.2	6.45	0.15	A		0.2	6.01	0.18	A
Arm 5		3.0	12.54	0.74	B		21.4	68.77	0.99	F
2032 + Dev (50 Dwellings)										

Arm 1	D7	1.3	6.53	0.56	A	D8	0.6	5.41	0.37	A
Arm 2		5.1	13.87	0.83	B		5.5	14.15	0.85	B
Arm 3		1.0	6.44	0.50	A		0.7	5.50	0.41	A
Arm 4		0.2	6.42	0.15	A		0.2	5.98	0.18	A
Arm 5		3.0	12.44	0.74	B		19.8	64.53	0.98	F
	2032 Base									
Arm 1	D9	1.2	6.17	0.54	A	D10	0.6	5.34	0.36	A
Arm 2		4.8	13.10	0.83	B		5.2	13.42	0.84	B
Arm 3		1.0	6.31	0.49	A		0.7	5.37	0.40	A
Arm 4		0.2	6.33	0.15	A		0.2	5.88	0.18	A
Arm 5		2.9	12.12	0.73	B		15.8	53.22	0.97	F
	2027 + Dev + Com (500 Dwellings)									
Arm 1	D11	3.4	13.10	0.78	B	D12	0.8	5.93	0.45	A
Arm 2		27.1	63.18	1.00	F		37.2	75.29	1.02	F
Arm 3		1.6	9.32	0.61	A		1.1	7.80	0.53	A
Arm 4		0.1	7.73	0.11	A		0.2	7.75	0.17	A
Arm 5		6.1	23.28	0.86	C		115.4	322.19	1.20	F
	2032 + Dev + Com (500 Dwellings)									
Arm 1	D13	4.4	16.50	0.82	C	D14	0.9	6.15	0.47	A
Arm 2		51.1	105.26	1.05	F		66.1	120.48	1.06	F
Arm 3		1.8	10.20	0.64	B		1.2	8.28	0.55	A
Arm 4		0.1	8.11	0.12	A		0.2	8.08	0.19	A
Arm 5		9.0	33.36	0.91	D		151.7	475.00	1.27	F
	2032 + Dev + Com (100 Dwellings)									
Arm 1	D15	2.1	9.32	0.68	A	D16	0.8	6.04	0.43	A
Arm 2		24.6	56.68	0.99	F		38.4	76.59	1.02	F
Arm 3		1.6	9.25	0.61	A		1.0	7.24	0.49	A
Arm 4		0.1	7.70	0.12	A		0.2	7.51	0.18	A
Arm 5		7.0	26.41	0.88	D		95.1	243.47	1.16	F
	2032 + Dev + Com (50 Dwellings)									
Arm 1	D17	1.9	8.83	0.66	A	D18	0.7	6.02	0.42	A
Arm 2		22.5	52.53	0.98	F		35.3	71.55	1.01	F
Arm 3		1.5	9.12	0.61	A		0.9	7.13	0.49	A
Arm 4		0.1	7.64	0.12	A		0.2	7.44	0.18	A
Arm 5		6.8	25.57	0.88	D		88.4	226.42	1.15	F

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

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

File summary

File Description

Title	
Location	
Site number	
Date	30/03/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PJA\Lewis Griffiths
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 + Dev (500 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓
D2	2027 + Dev (500 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓
D3	2032 + Dev (500 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓
D4	2032 + Dev (500 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓
D5	2032 + Dev (100 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓
D6	2032 + Dev (100 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓
D7	2032 + Dev (50 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓
D8	2032 + Dev (50 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓
D9	2032 Base	AM	ONE HOUR	07:45	09:15	15	✓
D10	2032 Base	PM	ONE HOUR	16:45	18:15	15	✓
D11	2027 + Dev + Com (500 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓
D12	2027 + Dev + Com (500 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓
D13	2032 + Dev + Com (500 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓
D14	2032 + Dev + Com (500 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓
D15	2032 + Dev + Com (100 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓
D16	2032 + Dev + Com (100 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓
D17	2032 + Dev + Com (50 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓
D18	2032 + Dev + Com (50 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2027 + Dev (500 Dwellings), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	11.13	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.13	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Stoke Road North		
2	A47 East		
3	Stoke Road South		
4	Sword Drive		
5	A47		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	3.00	7.40	37.0	35.0	70.0	24.0		
2	3.40	10.00	30.0	34.0	70.0	43.0		
3	3.40	7.40	24.0	20.0	70.0	34.0		
4	3.50	7.30	13.0	16.0	70.0	57.0		
5	4.70	8.00	50.0	60.0	70.0	34.0		

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
1	None		
2	Percentage	Uneven Lane Usage	90.00
3	None		
4	None		
5	Percentage	Uneven Lane Usage	75.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.555	1953
2	0.570	1934
3	0.517	1795

4	0.446	1480
5	0.603	1719

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	2027 + Dev (500 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	801	100.000
2		ONE HOUR	✓	1201	100.000
3		ONE HOUR	✓	508	100.000
4		ONE HOUR	✓	87	100.000
5		ONE HOUR	✓	780	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		1	2	3	4	5
From	1	4	332	294	2	169
	2	231	77	198	18	677
	3	186	234	2	20	66
	4	7	32	27	0	21
	5	110	597	59	13	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.67	8.40	2.0	A	735	1103
2	0.84	14.83	5.3	B	1102	1653
3	0.50	6.54	1.0	A	466	699
4	0.14	6.49	0.2	A	80	120
5	0.72	11.75	2.7	B	716	1074

Main Results for each time segment

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
1	603	151	780	1520	0.397	600	403	0.0	0.7	3.962	A
2	904	226	428	1690	0.535	899	953	0.0	1.2	4.783	A
3	382	96	893	1334	0.287	381	435	0.0	0.4	3.820	A
4	65	16	1234	930	0.070	65	40	0.0	0.1	4.326	A
5	587	147	599	1357	0.433	584	700	0.0	0.8	4.991	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
1	720	180	935	1434	0.502	719	483	0.7	1.0	5.094	A
2	1080	270	512	1642	0.658	1077	1141	1.2	2.0	6.691	A
3	457	114	1069	1243	0.368	456	520	0.4	0.6	4.631	A
4	78	20	1477	822	0.095	78	48	0.1	0.1	5.033	A
5	701	175	718	1286	0.545	699	837	0.8	1.3	6.585	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	882	220	1141	1320	0.668	878	589	1.0	2.0	8.200	A
2	1322	331	626	1577	0.838	1310	1393	2.0	5.0	13.667	B
3	559	140	1301	1122	0.498	558	635	0.6	1.0	6.441	A
4	96	24	1801	677	0.141	96	58	0.1	0.2	6.430	A
5	859	215	876	1190	0.721	853	1020	1.3	2.7	11.308	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	882	220	1147	1316	0.670	882	592	2.0	2.0	8.400	A
2	1322	331	629	1575	0.839	1321	1400	5.0	5.3	14.829	B
3	559	140	1312	1117	0.501	559	638	1.0	1.0	6.538	A
4	96	24	1813	672	0.143	96	58	0.2	0.2	6.492	A
5	859	215	881	1188	0.723	859	1028	2.7	2.7	11.746	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	720	180	943	1429	0.504	724	488	2.0	1.0	5.207	A
2	1080	270	516	1640	0.659	1092	1151	5.3	2.1	7.104	A
3	457	114	1083	1235	0.370	458	525	1.0	0.6	4.703	A
4	78	20	1493	814	0.096	78	48	0.2	0.1	5.086	A
5	701	175	724	1282	0.547	707	848	2.7	1.3	6.804	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	603	151	787	1516	0.398	605	406	1.0	0.7	4.012	A
2	904	226	431	1688	0.536	908	960	2.1	1.2	4.895	A
3	382	96	901	1330	0.288	383	438	0.6	0.4	3.855	A
4	65	16	1244	926	0.071	66	40	0.1	0.1	4.351	A
5	587	147	604	1355	0.434	589	706	1.3	0.8	5.076	A

2027 + Dev (500 Dwellings), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	38.07	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	38.07	E

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	2027 + Dev (500 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	407	100.000
2		ONE HOUR	✓	1310	100.000
3		ONE HOUR	✓	446	100.000
4		ONE HOUR	✓	112	100.000
5		ONE HOUR	✓	1036	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	2	168	159	6	72
	2	243	212	209	16	630
	3	172	194	4	32	44
	4	8	45	38	0	21
	5	145	791	72	27	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.40	5.36	0.7	A	373	560
2	0.85	14.15	5.5	B	1202	1803
3	0.44	5.86	0.8	A	409	614
4	0.17	6.16	0.2	A	103	154
5	1.03	98.49	32.7	F	951	1426

Main Results for each time segment

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
1	306	77	1035	1378	0.222	305	427	0.0	0.3	3.403	A
2	986	247	285	1771	0.557	981	1055	0.0	1.3	4.601	A
3	336	84	906	1327	0.253	334	361	0.0	0.3	3.636	A
4	84	21	1179	954	0.088	84	61	0.0	0.1	4.134	A
5	780	195	688	1304	0.598	774	575	0.0	1.5	6.947	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
1	366	91	1238	1266	0.289	365	511	0.3	0.4	4.058	A
2	1178	294	342	1739	0.677	1174	1262	1.3	2.1	6.436	A
3	401	100	1084	1235	0.325	400	432	0.3	0.5	4.328	A
4	101	25	1412	851	0.118	101	73	0.1	0.1	4.796	A
5	931	233	824	1222	0.762	925	689	1.5	3.1	12.256	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	448	112	1460	1142	0.392	447	615	0.4	0.6	5.249	A
2	1442	361	412	1699	0.849	1430	1495	2.1	5.2	13.018	B
3	491	123	1318	1113	0.441	490	523	0.5	0.8	5.782	A
4	123	31	1721	713	0.173	123	87	0.1	0.2	6.101	A
5	1141	285	1005	1113	1.025	1069	839	3.1	20.9	53.160	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	448	112	1483	1129	0.397	448	621	0.6	0.7	5.364	A
2	1442	361	415	1697	0.850	1441	1516	5.2	5.5	14.153	B

3	491	123	1329	1108	0.443	491	527	0.8	0.8	5.857	A
4	123	31	1732	708	0.174	123	88	0.2	0.2	6.156	A
5	1141	285	1010	1109	1.028	1094	845	20.9	32.7	98.485	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	366	91	1347	1205	0.304	367	532	0.7	0.4	4.365	A
2	1178	294	354	1732	0.680	1191	1359	5.5	2.2	6.917	A
3	401	100	1101	1226	0.327	402	444	0.8	0.5	4.395	A
4	101	25	1427	844	0.119	101	76	0.2	0.1	4.847	A
5	931	233	831	1218	0.765	1047	697	32.7	3.7	34.134	D

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	306	77	1050	1370	0.224	307	431	0.4	0.3	3.442	A
2	986	247	288	1770	0.557	990	1069	2.2	1.3	4.714	A
3	336	84	914	1323	0.254	336	364	0.5	0.3	3.667	A
4	84	21	1189	950	0.089	84	61	0.1	0.1	4.158	A
5	780	195	693	1301	0.600	788	580	3.7	1.6	7.374	A

2032 + Dev (500 Dwellings), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	14.24	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	14.24	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2032 + Dev (500 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	829	100.000
2		ONE HOUR	✓	1257	100.000
3		ONE HOUR	✓	532	100.000
4		ONE HOUR	✓	92	100.000
5		ONE HOUR	✓	816	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	4	344	305	2	174
	2	241	80	208	19	709
	3	194	246	2	21	69
	4	7	34	29	0	22
	5	114	626	61	14	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.71	9.79	2.4	A	761	1141
2	0.89	20.48	7.5	C	1153	1730
3	0.54	7.26	1.2	A	488	732
4	0.16	6.99	0.2	A	84	127
5	0.77	14.53	3.5	B	749	1123

Main Results for each time segment

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
1	624	156	818	1499	0.416	621	419	0.0	0.7	4.150	A
2	946	237	444	1681	0.563	941	996	0.0	1.3	5.104	A
3	401	100	931	1314	0.305	399	453	0.0	0.4	3.978	A
4	69	17	1288	906	0.076	69	42	0.0	0.1	4.470	A
5	614	154	627	1341	0.458	611	730	0.0	0.9	5.286	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
1	745	186	980	1409	0.529	744	502	0.7	1.1	5.477	A
2	1130	283	531	1631	0.693	1126	1193	1.3	2.3	7.473	A
3	478	120	1115	1219	0.392	477	542	0.4	0.6	4.913	A
4	83	21	1542	793	0.104	83	50	0.1	0.1	5.269	A
5	734	183	751	1266	0.579	731	874	0.9	1.5	7.218	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	913	228	1194	1290	0.708	908	611	1.1	2.4	9.439	A
2	1384	346	648	1564	0.885	1366	1454	2.3	6.9	17.700	C
3	586	146	1353	1095	0.535	584	661	0.6	1.1	7.099	A
4	101	25	1876	644	0.157	101	61	0.1	0.2	6.891	A
5	898	225	915	1167	0.770	891	1062	1.5	3.4	13.662	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	913	228	1203	1285	0.710	912	616	2.4	2.4	9.786	A
2	1384	346	652	1562	0.886	1382	1464	6.9	7.5	20.485	C

3	586	146	1368	1088	0.538	586	666	1.1	1.2	7.257	A
4	101	25	1892	637	0.159	101	62	0.2	0.2	6.989	A
5	898	225	921	1163	0.772	898	1072	3.4	3.5	14.531	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	745	186	992	1402	0.531	750	509	2.4	1.2	5.644	A
2	1130	283	536	1628	0.694	1150	1206	7.5	2.5	8.269	A
3	478	120	1136	1208	0.396	480	550	1.2	0.7	5.028	A
4	83	21	1566	782	0.106	83	51	0.2	0.1	5.357	A
5	734	183	759	1261	0.582	742	889	3.5	1.5	7.574	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	624	156	826	1494	0.418	626	423	1.2	0.7	4.212	A
2	946	237	447	1679	0.564	951	1005	2.5	1.4	5.254	A
3	401	100	941	1309	0.306	401	457	0.7	0.4	4.021	A
4	69	17	1300	901	0.077	69	42	0.1	0.1	4.505	A
5	614	154	632	1338	0.459	617	737	1.5	0.9	5.396	A

2032 + Dev (500 Dwellings), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	64.04	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	64.04	F

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	2032 + Dev (500 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	423	100.000
2		ONE HOUR	✓	1373	100.000
3		ONE HOUR	✓	467	100.000
4		ONE HOUR	✓	118	100.000
5		ONE HOUR	✓	1083	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	2	175	166	6	74
	2	252	223	220	17	661
	3	178	204	4	34	47
	4	8	48	40	0	22
	5	148	830	75	29	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.42	5.60	0.7	A	388	582
2	0.89	19.58	7.8	C	1260	1890
3	0.48	6.41	0.9	A	429	643
4	0.19	6.63	0.2	A	108	162
5	1.10	174.32	64.1	F	994	1491

Main Results for each time segment

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
1	318	80	1087	1350	0.236	317	440	0.0	0.3	3.535	A
2	1034	258	297	1764	0.586	1028	1107	0.0	1.4	4.931	A
3	352	88	947	1305	0.269	350	378	0.0	0.4	3.778	A
4	89	22	1233	931	0.095	88	64	0.0	0.1	4.273	A
5	815	204	718	1286	0.634	808	603	0.0	1.8	7.693	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
1	380	95	1298	1232	0.309	380	526	0.3	0.5	4.284	A
2	1234	309	356	1731	0.713	1230	1322	1.4	2.5	7.241	A
3	420	105	1133	1209	0.347	419	452	0.4	0.5	4.570	A
4	106	27	1476	822	0.129	106	77	0.1	0.1	5.023	A
5	974	243	860	1200	0.811	964	721	1.8	4.1	15.204	C

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	466	116	1488	1127	0.413	465	626	0.5	0.7	5.502	A
2	1512	378	424	1692	0.893	1493	1528	2.5	7.2	16.919	C
3	514	129	1373	1085	0.474	513	544	0.5	0.9	6.296	A
4	130	32	1795	680	0.191	130	91	0.1	0.2	6.535	A
5	1192	298	1048	1087	1.097	1066	877	4.1	35.7	79.948	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	466	116	1502	1119	0.416	466	631	0.7	0.7	5.597	A
2	1512	378	426	1691	0.894	1509	1542	7.2	7.8	19.580	C

3	514	129	1388	1078	0.477	514	548	0.9	0.9	6.413	A
4	130	32	1810	673	0.193	130	92	0.2	0.2	6.625	A
5	1192	298	1055	1083	1.101	1079	885	35.7	64.1	174.323	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	380	95	1485	1128	0.337	381	560	0.7	0.5	4.897	A
2	1234	309	377	1719	0.718	1255	1489	7.8	2.7	8.211	A
3	420	105	1160	1195	0.351	421	472	0.9	0.5	4.677	A
4	106	27	1498	812	0.131	106	83	0.2	0.2	5.104	A
5	974	243	871	1194	0.816	1175	734	64.1	13.8	124.620	F

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	318	80	1137	1322	0.241	319	450	0.5	0.3	3.648	A
2	1034	258	304	1761	0.587	1038	1152	2.7	1.5	5.100	A
3	352	88	958	1300	0.270	352	385	0.5	0.4	3.815	A
4	89	22	1244	926	0.096	89	66	0.2	0.1	4.305	A
5	815	204	724	1282	0.636	863	609	13.8	1.9	9.901	A

2032 + Dev (100 Dwellings), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.83	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.83	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2032 + Dev (100 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	669	100.000
2		ONE HOUR	✓	1239	100.000
3		ONE HOUR	✓	516	100.000
4		ONE HOUR	✓	92	100.000
5		ONE HOUR	✓	797	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		1	2	3	4	5
From	1	4	293	255	2	115
	2	223	80	208	19	709
	3	178	246	2	21	69
	4	7	34	29	0	22
	5	95	626	61	14	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.57	6.66	1.3	A	614	921
2	0.84	14.11	5.2	B	1137	1705
3	0.50	6.48	1.0	A	473	710
4	0.15	6.45	0.2	A	84	127
5	0.74	12.54	3.0	B	731	1097

Main Results for each time segment

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
1	504	126	819	1498	0.336	502	380	0.0	0.5	3.657	A
2	933	233	362	1727	0.540	928	958	0.0	1.2	4.731	A
3	388	97	874	1343	0.289	387	416	0.0	0.4	3.806	A
4	69	17	1219	937	0.074	69	42	0.0	0.1	4.313	A
5	600	150	602	1356	0.443	597	686	0.0	0.8	5.087	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
1	601	150	980	1409	0.427	600	455	0.5	0.7	4.514	A
2	1114	278	433	1687	0.660	1111	1147	1.2	2.0	6.568	A
3	464	116	1046	1254	0.370	463	498	0.4	0.6	4.606	A
4	83	21	1459	830	0.100	83	50	0.1	0.1	5.011	A
5	716	179	720	1284	0.558	715	821	0.8	1.3	6.785	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	737	184	1196	1289	0.572	734	555	0.7	1.3	6.561	A
2	1364	341	530	1632	0.836	1352	1401	2.0	5.0	13.094	B
3	568	142	1275	1136	0.500	566	608	0.6	1.0	6.384	A
4	101	25	1780	687	0.148	101	61	0.1	0.2	6.388	A
5	878	219	880	1188	0.738	871	1001	1.3	2.9	12.005	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	737	184	1203	1285	0.573	737	558	1.3	1.3	6.658	A
2	1364	341	532	1631	0.837	1363	1408	5.0	5.2	14.112	B

3	568	142	1284	1131	0.502	568	611	1.0	1.0	6.476	A
4	101	25	1791	682	0.149	101	62	0.2	0.2	6.446	A
5	878	219	884	1186	0.740	877	1008	2.9	3.0	12.535	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	601	150	990	1403	0.429	604	459	1.3	0.8	4.583	A
2	1114	278	436	1685	0.661	1126	1157	5.2	2.1	6.950	A
3	464	116	1060	1247	0.372	466	502	1.0	0.6	4.674	A
4	83	21	1475	823	0.101	83	51	0.2	0.1	5.063	A
5	716	179	726	1281	0.559	723	831	3.0	1.4	7.033	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	504	126	825	1495	0.337	505	383	0.8	0.5	3.692	A
2	933	233	364	1726	0.540	936	966	2.1	1.3	4.838	A
3	388	97	882	1339	0.290	389	419	0.6	0.4	3.842	A
4	69	17	1229	932	0.074	69	42	0.1	0.1	4.337	A
5	600	150	606	1353	0.443	602	692	1.4	0.9	5.178	A

2032 + Dev (100 Dwellings), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	29.12	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	29.12	D

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	2032 + Dev (100 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	365	100.000
2		ONE HOUR	✓	1326	100.000
3		ONE HOUR	✓	421	100.000
4		ONE HOUR	✓	118	100.000
5		ONE HOUR	✓	1030	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	2	156	148	6	53
	2	205	223	220	17	661
	3	132	204	4	34	47
	4	8	48	40	0	22
	5	95	830	75	29	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.37	5.42	0.6	A	335	502
2	0.85	14.39	5.6	B	1217	1825
3	0.42	5.55	0.7	A	386	579
4	0.18	6.01	0.2	A	108	162
5	0.99	68.77	21.4	F	945	1418

Main Results for each time segment

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
1	275	69	1088	1349	0.204	274	331	0.0	0.3	3.398	A
2	998	250	268	1781	0.561	993	1093	0.0	1.3	4.615	A
3	317	79	897	1332	0.238	316	365	0.0	0.3	3.549	A
4	89	22	1148	968	0.092	88	64	0.0	0.1	4.089	A
5	775	194	649	1327	0.584	770	587	0.0	1.4	6.612	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
1	328	82	1301	1231	0.267	328	396	0.3	0.4	4.049	A
2	1192	298	321	1751	0.681	1189	1308	1.3	2.1	6.469	A
3	378	95	1073	1240	0.305	378	437	0.3	0.4	4.184	A
4	106	27	1374	868	0.122	106	77	0.1	0.1	4.724	A
5	926	231	777	1250	0.741	920	703	1.4	2.8	11.102	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	402	100	1552	1091	0.368	401	480	0.4	0.6	5.293	A
2	1460	365	388	1712	0.853	1447	1565	2.1	5.4	13.184	B
3	464	116	1306	1120	0.414	462	530	0.4	0.7	5.482	A
4	130	32	1675	733	0.177	130	93	0.1	0.2	5.959	A
5	1134	284	948	1147	0.989	1084	856	2.8	15.4	41.916	E

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	402	100	1579	1076	0.373	402	484	0.6	0.6	5.422	A
2	1460	365	392	1711	0.854	1459	1589	5.4	5.6	14.386	B

3	464	116	1316	1114	0.416	463	534	0.7	0.7	5.547	A
4	130	32	1686	729	0.178	130	94	0.2	0.2	6.012	A
5	1134	284	953	1144	0.991	1110	863	15.4	21.4	68.768	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	328	82	1376	1189	0.276	329	407	0.6	0.4	4.258	A
2	1192	298	330	1746	0.683	1206	1375	5.6	2.2	6.936	A
3	378	95	1090	1232	0.307	380	446	0.7	0.4	4.243	A
4	106	27	1389	861	0.123	106	80	0.2	0.1	4.775	A
5	926	231	784	1246	0.743	999	712	21.4	3.2	19.195	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	275	69	1102	1341	0.205	275	334	0.4	0.3	3.434	A
2	998	250	271	1780	0.561	1002	1107	2.2	1.3	4.728	A
3	317	79	905	1327	0.239	317	368	0.4	0.3	3.576	A
4	89	22	1157	964	0.092	89	65	0.1	0.1	4.114	A
5	775	194	654	1325	0.585	782	592	3.2	1.5	6.949	A

2032 + Dev (50 Dwellings), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.69	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.69	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2032 + Dev (50 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	659	100.000
2		ONE HOUR	✓	1238	100.000
3		ONE HOUR	✓	515	100.000
4		ONE HOUR	✓	92	100.000
5		ONE HOUR	✓	796	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		1	2	3	4	5
From	1	4	289	252	2	112
	2	222	80	208	19	709
	3	177	246	2	21	69
	4	7	34	29	0	22
	5	94	626	61	14	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.56	6.53	1.3	A	605	907
2	0.83	13.87	5.1	B	1136	1704
3	0.50	6.44	1.0	A	473	709
4	0.15	6.42	0.2	A	84	127
5	0.74	12.44	3.0	B	730	1096

Main Results for each time segment

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
1	496	124	819	1498	0.331	494	378	0.0	0.5	3.629	A
2	932	233	358	1730	0.539	927	955	0.0	1.2	4.712	A
3	388	97	871	1345	0.288	386	414	0.0	0.4	3.797	A
4	69	17	1215	938	0.074	69	42	0.0	0.1	4.305	A
5	599	150	600	1357	0.442	596	684	0.0	0.8	5.077	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
1	592	148	980	1409	0.421	592	452	0.5	0.7	4.466	A
2	1113	278	428	1690	0.659	1110	1144	1.2	2.0	6.525	A
3	463	116	1043	1256	0.369	462	495	0.4	0.6	4.590	A
4	83	21	1455	832	0.099	83	50	0.1	0.1	4.998	A
5	716	179	719	1285	0.557	714	819	0.8	1.3	6.762	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	726	181	1196	1289	0.563	723	552	0.7	1.3	6.435	A
2	1363	341	523	1636	0.833	1352	1396	2.0	4.9	12.903	B
3	567	142	1270	1138	0.498	565	604	0.6	1.0	6.348	A
4	101	25	1775	689	0.147	101	61	0.1	0.2	6.362	A
5	876	219	878	1190	0.737	870	998	1.3	2.9	11.924	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	726	181	1203	1285	0.565	726	555	1.3	1.3	6.527	A
2	1363	341	525	1634	0.834	1362	1403	4.9	5.1	13.871	B

3	567	142	1280	1133	0.500	567	608	1.0	1.0	6.437	A
4	101	25	1785	684	0.148	101	62	0.2	0.2	6.419	A
5	876	219	882	1187	0.738	876	1005	2.9	3.0	12.441	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	592	148	990	1403	0.422	595	457	1.3	0.7	4.531	A
2	1113	278	431	1688	0.659	1125	1154	5.1	2.1	6.893	A
3	463	116	1056	1249	0.371	465	500	1.0	0.6	4.658	A
4	83	21	1470	825	0.100	83	51	0.2	0.1	5.046	A
5	716	179	725	1282	0.558	722	828	3.0	1.4	7.006	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	496	124	825	1495	0.332	497	381	0.7	0.5	3.664	A
2	932	233	360	1729	0.539	935	963	2.1	1.3	4.816	A
3	388	97	879	1341	0.289	388	417	0.6	0.4	3.830	A
4	69	17	1225	934	0.074	69	42	0.1	0.1	4.331	A
5	599	150	605	1354	0.443	601	690	1.4	0.9	5.167	A

2032 + Dev (50 Dwellings), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	27.70	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	27.70	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2032 + Dev (50 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	362	100.000
2		ONE HOUR	✓	1323	100.000
3		ONE HOUR	✓	418	100.000
4		ONE HOUR	✓	118	100.000
5		ONE HOUR	✓	1027	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	2	155	147	6	52
	2	202	223	220	17	661
	3	129	204	4	34	47
	4	8	48	40	0	22
	5	92	830	75	29	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.37	5.41	0.6	A	332	498
2	0.85	14.15	5.5	B	1214	1821
3	0.41	5.50	0.7	A	384	575
4	0.18	5.98	0.2	A	108	162
5	0.98	64.53	19.8	F	942	1414

Main Results for each time segment

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
1	273	68	1088	1349	0.202	272	324	0.0	0.3	3.391	A
2	996	249	267	1782	0.559	991	1093	0.0	1.3	4.597	A
3	315	79	894	1333	0.236	313	364	0.0	0.3	3.536	A
4	89	22	1143	971	0.092	88	64	0.0	0.1	4.078	A
5	773	193	644	1330	0.581	768	587	0.0	1.4	6.556	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
1	325	81	1301	1230	0.264	325	388	0.3	0.4	4.037	A
2	1189	297	319	1752	0.679	1186	1307	1.3	2.1	6.427	A
3	376	94	1069	1242	0.303	375	436	0.3	0.4	4.164	A
4	106	27	1368	870	0.122	106	77	0.1	0.1	4.707	A
5	923	231	772	1254	0.737	918	702	1.4	2.8	10.921	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	399	100	1555	1090	0.366	398	470	0.4	0.6	5.280	A
2	1457	364	387	1713	0.850	1444	1566	2.1	5.3	13.003	B
3	460	115	1301	1122	0.410	459	529	0.4	0.7	5.430	A
4	130	32	1668	737	0.176	130	93	0.1	0.2	5.926	A
5	1131	283	942	1151	0.983	1084	855	2.8	14.6	40.233	E

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	399	100	1582	1075	0.371	399	475	0.6	0.6	5.408	A
2	1457	364	390	1712	0.851	1456	1590	5.3	5.5	14.149	B

3	460	115	1312	1117	0.412	460	533	0.7	0.7	5.500	A
4	130	32	1678	732	0.177	130	94	0.2	0.2	5.978	A
5	1131	283	947	1148	0.985	1110	862	14.6	19.8	64.534	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	81	1371	1192	0.273	326	398	0.6	0.4	4.229	A
2	1189	297	327	1747	0.681	1203	1370	5.5	2.2	6.873	A
3	376	94	1086	1234	0.305	377	444	0.7	0.4	4.218	A
4	106	27	1383	864	0.123	106	79	0.2	0.1	4.757	A
5	923	231	778	1249	0.739	990	711	19.8	3.1	17.829	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	273	68	1102	1341	0.203	273	327	0.4	0.3	3.424	A
2	996	249	269	1780	0.559	1000	1106	2.2	1.3	4.707	A
3	315	79	901	1329	0.237	315	367	0.4	0.3	3.562	A
4	89	22	1152	967	0.092	89	65	0.1	0.1	4.101	A
5	773	193	649	1327	0.583	780	591	3.1	1.5	6.879	A

2032 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.27	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	10.27	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2032 Base	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	629	100.000
2		ONE HOUR	✓	1235	100.000
3		ONE HOUR	✓	512	100.000
4		ONE HOUR	✓	92	100.000
5		ONE HOUR	✓	792	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	4	280	242	2	101
	2	219	80	208	19	709
	3	174	246	2	21	69
	4	7	34	29	0	22
	5	90	626	61	14	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.54	6.17	1.2	A	577	866
2	0.83	13.10	4.8	B	1133	1700
3	0.49	6.31	1.0	A	470	705
4	0.15	6.33	0.2	A	84	127
5	0.73	12.12	2.9	B	727	1090

Main Results for each time segment

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
1	474	118	819	1498	0.316	472	370	0.0	0.5	3.552	A
2	930	232	342	1739	0.535	925	948	0.0	1.2	4.648	A
3	385	96	861	1350	0.285	384	406	0.0	0.4	3.767	A
4	69	17	1203	944	0.073	69	42	0.0	0.1	4.277	A
5	596	149	596	1360	0.439	593	676	0.0	0.8	5.042	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
1	565	141	980	1409	0.401	565	443	0.5	0.7	4.324	A
2	1110	278	409	1701	0.653	1107	1136	1.2	1.9	6.382	A
3	460	115	1030	1262	0.365	460	486	0.4	0.6	4.538	A
4	83	21	1440	838	0.099	83	50	0.1	0.1	4.953	A
5	712	178	713	1289	0.553	710	809	0.8	1.3	6.686	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	693	173	1197	1289	0.537	691	541	0.7	1.2	6.090	A
2	1360	340	500	1649	0.825	1349	1387	1.9	4.6	12.283	B
3	564	141	1256	1146	0.492	562	594	0.6	1.0	6.232	A
4	101	25	1757	697	0.145	101	61	0.1	0.2	6.277	A
5	872	218	871	1193	0.731	866	986	1.3	2.8	11.647	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	693	173	1203	1285	0.539	692	544	1.2	1.2	6.166	A
2	1360	340	502	1648	0.825	1359	1394	4.6	4.8	13.103	B

3	564	141	1264	1141	0.494	564	597	1.0	1.0	6.312	A
4	101	25	1767	693	0.146	101	62	0.2	0.2	6.329	A
5	872	218	875	1191	0.732	872	993	2.8	2.9	12.121	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	565	141	990	1404	0.403	567	447	1.2	0.7	4.381	A
2	1110	278	412	1699	0.653	1121	1145	4.8	2.0	6.705	A
3	460	115	1043	1256	0.366	462	490	1.0	0.6	4.599	A
4	83	21	1454	832	0.099	83	51	0.2	0.1	4.998	A
5	712	178	719	1285	0.554	718	818	2.9	1.4	6.910	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	474	118	825	1495	0.317	474	373	0.7	0.5	3.583	A
2	930	232	344	1738	0.535	933	956	2.0	1.2	4.748	A
3	385	96	868	1346	0.286	386	409	0.6	0.4	3.802	A
4	69	17	1212	940	0.074	69	42	0.1	0.1	4.300	A
5	596	149	600	1357	0.439	598	681	1.4	0.9	5.128	A

2032 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	23.84	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	23.84	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2032 Base	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	351	100.000
2		ONE HOUR	✓	1314	100.000
3		ONE HOUR	✓	410	100.000
4		ONE HOUR	✓	118	100.000
5		ONE HOUR	✓	1017	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	2	152	143	6	48
	2	193	223	220	17	661
	3	121	204	4	34	47
	4	8	48	40	0	22
	5	82	830	75	29	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.36	5.34	0.6	A	322	483
2	0.84	13.42	5.2	B	1206	1809
3	0.40	5.37	0.7	A	376	564
4	0.18	5.88	0.2	A	108	162
5	0.97	53.22	15.8	F	933	1400

Main Results for each time segment

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
1	264	66	1088	1349	0.196	263	304	0.0	0.2	3.365	A
2	989	247	261	1785	0.554	984	1090	0.0	1.2	4.540	A
3	309	77	884	1338	0.231	307	361	0.0	0.3	3.500	A
4	89	22	1127	978	0.091	88	64	0.0	0.1	4.046	A
5	766	191	632	1338	0.572	760	584	0.0	1.4	6.391	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
1	316	79	1302	1230	0.256	315	364	0.2	0.3	3.995	A
2	1181	295	312	1756	0.673	1178	1305	1.2	2.0	6.296	A
3	369	92	1058	1248	0.295	368	432	0.3	0.4	4.101	A
4	106	27	1349	879	0.121	106	77	0.1	0.1	4.658	A
5	914	229	756	1263	0.724	909	699	1.4	2.6	10.395	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	386	97	1562	1085	0.356	386	442	0.3	0.6	5.219	A
2	1447	362	379	1718	0.842	1435	1569	2.0	5.0	12.435	B
3	451	113	1288	1129	0.400	450	525	0.4	0.7	5.312	A
4	130	32	1645	747	0.174	130	93	0.1	0.2	5.831	A
5	1120	280	923	1162	0.964	1081	851	2.6	12.3	35.545	E

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	386	97	1588	1071	0.361	386	446	0.6	0.6	5.340	A
2	1447	362	382	1716	0.843	1446	1593	5.0	5.2	13.422	B

3	451	113	1298	1124	0.402	451	530	0.7	0.7	5.368	A
4	130	32	1655	742	0.175	130	94	0.2	0.2	5.878	A
5	1120	280	928	1159	0.966	1106	857	12.3	15.8	53.219	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	316	79	1357	1199	0.263	316	371	0.6	0.4	4.145	A
2	1181	295	319	1752	0.674	1194	1355	5.2	2.1	6.689	A
3	369	92	1073	1241	0.297	370	440	0.7	0.4	4.151	A
4	106	27	1363	872	0.122	106	79	0.2	0.1	4.700	A
5	914	229	763	1259	0.726	966	707	15.8	2.9	14.816	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	264	66	1101	1342	0.197	265	307	0.4	0.3	3.396	A
2	989	247	263	1784	0.555	993	1103	2.1	1.3	4.645	A
3	309	77	892	1334	0.231	309	364	0.4	0.3	3.525	A
4	89	22	1136	974	0.091	89	65	0.1	0.1	4.068	A
5	766	191	636	1335	0.573	772	588	2.9	1.4	6.679	A

2027 + Dev + Com (500 Dwellings), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	33.45	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	33.45	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2027 + Dev + Com (500 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	873	100.000
2		ONE HOUR	✓	1405	100.000
3		ONE HOUR	✓	557	100.000
4		ONE HOUR	✓	53	100.000
5		ONE HOUR	✓	906	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	4	353	312	1	203
	2	254	79	207	13	852
	3	205	264	2	15	71
	4	5	22	17	0	9
	5	117	718	63	7	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.78	13.10	3.4	B	801	1202
2	1.00	63.18	27.1	F	1289	1934
3	0.61	9.32	1.6	A	511	767
4	0.11	7.73	0.1	A	49	73
5	0.86	23.28	6.1	C	831	1247

Main Results for each time segment

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
1	657	164	878	1466	0.448	654	438	0.0	0.8	4.480	A
2	1058	264	457	1673	0.632	1051	1075	0.0	1.8	6.052	A
3	419	105	1058	1248	0.336	417	450	0.0	0.5	4.378	A
4	40	10	1448	835	0.048	40	27	0.0	0.1	4.706	A
5	682	171	638	1334	0.511	678	850	0.0	1.1	5.871	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
1	785	196	1051	1370	0.573	783	524	0.8	1.3	6.198	A
2	1263	316	547	1622	0.779	1256	1287	1.8	3.5	10.216	B
3	501	125	1265	1141	0.439	500	538	0.5	0.8	5.675	A
4	48	12	1732	708	0.067	48	32	0.1	0.1	5.666	A
5	814	204	763	1259	0.647	811	1016	1.1	1.9	8.612	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	961	240	1274	1246	0.772	954	630	1.3	3.2	12.191	B
2	1547	387	666	1554	0.995	1484	1561	3.5	19.2	37.781	E
3	613	153	1501	1019	0.602	610	649	0.8	1.5	8.870	A
4	58	15	2073	556	0.105	58	39	0.1	0.1	7.515	A
5	998	249	921	1164	0.857	983	1211	1.9	5.6	20.021	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	961	240	1288	1238	0.776	961	638	3.2	3.4	13.098	B
2	1547	387	671	1551	0.997	1516	1577	19.2	27.1	63.176	F

3	613	153	1530	1004	0.611	613	657	1.5	1.6	9.317	A
4	58	15	2104	542	0.108	58	39	0.1	0.1	7.730	A
5	998	249	930	1158	0.862	995	1232	5.6	6.1	23.284	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	785	196	1075	1356	0.579	793	546	3.4	1.4	6.569	A
2	1263	316	554	1618	0.781	1355	1313	27.1	4.0	19.191	C
3	501	125	1352	1096	0.457	504	558	1.6	0.9	6.182	A
4	48	12	1822	668	0.071	48	33	0.1	0.1	6.037	A
5	814	204	790	1242	0.656	830	1079	6.1	2.1	9.770	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	657	164	888	1460	0.450	660	443	1.4	0.8	4.573	A
2	1058	264	461	1671	0.633	1066	1086	4.0	1.9	6.392	A
3	419	105	1072	1241	0.338	421	455	0.9	0.5	4.455	A
4	40	10	1466	827	0.048	40	27	0.1	0.1	4.757	A
5	682	171	645	1330	0.513	686	861	2.1	1.1	6.059	A

2027 + Dev + Com (500 Dwellings), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	134.14	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	134.14	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2027 + Dev + Com (500 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	454	100.000
2		ONE HOUR	✓	1557	100.000
3		ONE HOUR	✓	465	100.000
4		ONE HOUR	✓	89	100.000
5		ONE HOUR	✓	1169	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		1	2	3	4	5
From	1	2	168	166	5	113
	2	272	234	214	0	837
	3	185	214	4	15	47
	4	8	38	34	0	9
	5	144	940	65	19	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.45	5.93	0.8	A	417	625
2	1.02	75.29	37.2	F	1429	2143
3	0.53	7.80	1.1	A	427	640
4	0.17	7.75	0.2	A	82	123
5	1.20	322.19	115.4	F	1073	1609

Main Results for each time segment

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
1	342	85	1156	1311	0.261	340	457	0.0	0.4	3.757	A
2	1172	293	306	1759	0.666	1164	1190	0.0	2.0	6.078	A
3	350	88	1109	1222	0.287	348	361	0.0	0.4	4.131	A
4	67	17	1428	843	0.079	67	29	0.0	0.1	4.632	A
5	880	220	742	1271	0.692	871	753	0.0	2.3	9.115	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
1	408	102	1375	1189	0.343	407	545	0.4	0.5	4.666	A
2	1400	350	366	1725	0.811	1391	1417	2.0	4.1	10.697	B
3	418	105	1325	1110	0.377	417	432	0.4	0.6	5.214	A
4	80	20	1708	719	0.111	80	35	0.1	0.1	5.632	A
5	1051	263	887	1184	0.888	1033	900	2.3	6.7	22.492	C

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	500	125	1501	1119	0.447	499	631	0.5	0.8	5.873	A
2	1714	429	434	1687	1.016	1632	1566	4.1	24.7	41.764	E
3	512	128	1558	990	0.517	510	508	0.6	1.1	7.510	A
4	98	24	2029	576	0.170	98	39	0.1	0.2	7.524	A
5	1287	322	1063	1078	1.194	1070	1064	6.7	61.1	125.607	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	500	125	1507	1116	0.448	500	637	0.8	0.8	5.925	A
2	1714	429	434	1686	1.017	1664	1573	24.7	37.2	75.290	F

3	512	128	1586	975	0.525	512	513	1.1	1.1	7.797	A
4	98	24	2058	563	0.174	98	39	0.2	0.2	7.747	A
5	1287	322	1075	1071	1.202	1070	1082	61.1	115.4	299.549	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	408	102	1495	1123	0.364	409	584	0.8	0.6	5.123	A
2	1400	350	375	1720	0.814	1529	1529	37.2	4.9	29.165	D
3	418	105	1447	1047	0.399	420	458	1.1	0.7	5.776	A
4	80	20	1830	664	0.120	80	37	0.2	0.1	6.164	A
5	1051	263	935	1155	0.910	1145	975	115.4	91.9	322.188	F

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	342	85	1480	1131	0.302	342	506	0.6	0.4	4.633	A
2	1172	293	334	1743	0.672	1183	1488	4.9	2.1	6.665	A
3	350	88	1132	1210	0.289	351	385	0.7	0.4	4.215	A
4	67	17	1448	835	0.080	67	35	0.1	0.1	4.693	A
5	880	220	751	1266	0.695	1235	765	91.9	3.1	136.686	F

2032 + Dev + Com (500 Dwellings), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	52.37	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	52.37	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2032 + Dev + Com (500 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	901	100.000
2		ONE HOUR	✓	1461	100.000
3		ONE HOUR	✓	581	100.000
4		ONE HOUR	✓	58	100.000
5		ONE HOUR	✓	942	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		1	2	3	4	5
From	1	4	365	323	1	208
	2	264	82	217	14	884
	3	213	276	2	16	74
	4	5	24	19	0	10
	5	121	747	65	8	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.82	16.50	4.4	C	827	1240
2	1.05	105.26	51.1	F	1341	2011
3	0.64	10.20	1.8	B	533	800
4	0.12	8.11	0.1	A	53	80
5	0.91	33.36	9.0	D	864	1297

Main Results for each time segment

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
1	678	170	915	1445	0.470	675	454	0.0	0.9	4.721	A
2	1100	275	472	1664	0.661	1092	1118	0.0	2.0	6.568	A
3	437	109	1096	1228	0.356	435	468	0.0	0.6	4.584	A
4	44	11	1502	811	0.054	43	29	0.0	0.1	4.879	A
5	709	177	665	1318	0.538	704	880	0.0	1.2	6.278	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
1	810	202	1096	1345	0.602	808	543	0.9	1.5	6.766	A
2	1313	328	565	1611	0.815	1304	1338	2.0	4.4	12.039	B
3	522	131	1309	1118	0.467	521	560	0.6	0.9	6.094	A
4	52	13	1795	680	0.077	52	35	0.1	0.1	5.964	A
5	847	212	796	1239	0.684	843	1052	1.2	2.3	9.696	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	992	248	1321	1220	0.813	982	645	1.5	4.1	14.750	B
2	1609	402	687	1542	1.043	1503	1615	4.4	30.8	52.996	F
3	640	160	1521	1008	0.634	636	668	0.9	1.7	9.717	A
4	64	16	2116	537	0.119	64	42	0.1	0.1	7.910	A
5	1037	259	951	1145	0.905	1015	1229	2.3	7.8	26.175	D

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	992	248	1339	1210	0.820	991	653	4.1	4.4	16.503	C
2	1609	402	694	1538	1.046	1527	1636	30.8	51.1	105.264	F

3	640	160	1545	996	0.642	639	676	1.7	1.8	10.201	B
4	64	16	2142	525	0.122	64	42	0.1	0.1	8.113	A
5	1037	259	959	1140	0.910	1033	1246	7.8	9.0	33.356	D

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	810	202	1134	1323	0.612	821	583	4.4	1.6	7.424	A
2	1313	328	576	1606	0.818	1496	1379	51.1	5.5	54.634	F
3	522	131	1476	1032	0.506	525	596	1.8	1.1	7.237	A
4	52	13	1964	605	0.086	52	37	0.1	0.1	6.783	A
5	847	212	845	1209	0.700	872	1171	9.0	2.6	12.324	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	678	170	928	1438	0.472	681	461	1.6	0.9	4.845	A
2	1100	275	477	1662	0.662	1114	1132	5.5	2.1	7.119	A
3	437	109	1116	1218	0.359	439	475	1.1	0.6	4.696	A
4	44	11	1526	800	0.055	44	30	0.1	0.1	4.954	A
5	709	177	674	1312	0.540	715	895	2.6	1.3	6.551	A

2032 + Dev + Com (500 Dwellings), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	200.81	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	200.81	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2032 + Dev + Com (500 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	470	100.000
2		ONE HOUR	✓	1619	100.000
3		ONE HOUR	✓	486	100.000
4		ONE HOUR	✓	95	100.000
5		ONE HOUR	✓	1216	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	2	175	173	5	115
	2	281	245	225	0	868
	3	191	224	4	17	50
	4	8	41	36	0	10
	5	147	979	68	21	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.47	6.15	0.9	A	431	647
2	1.06	120.48	66.1	F	1486	2228
3	0.55	8.28	1.2	A	446	669
4	0.19	8.08	0.2	A	87	131
5	1.27	475.00	151.7	F	1116	1674

Main Results for each time segment

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
1	354	88	1207	1283	0.276	352	470	0.0	0.4	3.918	A
2	1219	305	318	1753	0.695	1210	1241	0.0	2.3	6.644	A
3	366	91	1149	1201	0.305	364	378	0.0	0.4	4.311	A
4	72	18	1482	820	0.087	71	32	0.0	0.1	4.807	A
5	915	229	772	1253	0.731	905	781	0.0	2.7	10.398	B

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	423	106	1427	1161	0.364	422	559	0.4	0.6	4.937	A
2	1455	364	379	1718	0.847	1444	1469	2.3	5.2	12.857	B
3	437	109	1372	1086	0.402	436	451	0.4	0.7	5.554	A
4	85	21	1770	691	0.124	85	38	0.1	0.1	5.939	A
5	1093	273	923	1162	0.941	1063	932	2.7	10.1	31.143	D

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	517	129	1513	1113	0.465	516	634	0.6	0.9	6.109	A
2	1783	446	446	1679	1.061	1649	1583	5.2	38.6	57.861	F
3	535	134	1573	982	0.545	533	522	0.7	1.2	8.018	A
4	105	26	2064	560	0.187	104	42	0.1	0.2	7.890	A
5	1339	335	1091	1061	1.262	1057	1077	10.1	80.7	165.456	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	517	129	1516	1111	0.466	517	639	0.9	0.9	6.150	A
2	1783	446	447	1679	1.062	1672	1587	38.6	66.1	120.477	F

3	535	134	1593	971	0.551	535	526	1.2	1.2	8.279	A
4	105	26	2086	550	0.190	105	42	0.2	0.2	8.075	A
5	1339	335	1100	1055	1.269	1055	1090	80.7	151.7	397.318	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	423	106	1502	1119	0.378	424	608	0.9	0.6	5.261	A
2	1455	364	384	1715	0.849	1686	1542	66.1	8.5	84.237	F
3	437	109	1582	977	0.447	438	488	1.2	0.8	6.726	A
4	85	21	1981	597	0.143	86	39	0.2	0.2	7.045	A
5	1093	273	1004	1113	0.982	1106	1063	151.7	148.5	474.998	F

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	354	88	1505	1117	0.317	354	517	0.6	0.5	4.792	A
2	1219	305	344	1738	0.701	1243	1515	8.5	2.5	7.753	A
3	366	91	1185	1183	0.309	367	403	0.8	0.5	4.442	A
4	72	18	1514	805	0.089	72	38	0.2	0.1	4.910	A
5	915	229	786	1245	0.736	1236	800	148.5	68.4	317.889	F

2032 + Dev + Com (100 Dwellings), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	31.84	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	31.84	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2032 + Dev + Com (100 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	741	100.000
2		ONE HOUR	✓	1443	100.000
3		ONE HOUR	✓	565	100.000
4		ONE HOUR	✓	58	100.000
5		ONE HOUR	✓	923	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		1	2	3	4	5
From	1	4	314	273	1	149
	2	246	82	217	14	884
	3	197	276	2	16	74
	4	5	24	19	0	10
	5	102	747	65	8	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.68	9.32	2.1	A	680	1020
2	0.99	56.68	24.6	F	1324	1986
3	0.61	9.25	1.6	A	518	778
4	0.12	7.70	0.1	A	53	80
5	0.88	26.41	7.0	D	847	1270

Main Results for each time segment

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
1	558	139	916	1444	0.386	555	415	0.0	0.6	4.095	A
2	1086	272	391	1711	0.635	1079	1080	0.0	1.8	5.970	A
3	425	106	1039	1258	0.338	423	431	0.0	0.5	4.360	A
4	44	11	1433	841	0.052	43	29	0.0	0.1	4.691	A
5	695	174	640	1333	0.521	690	836	0.0	1.2	6.001	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
1	666	167	1096	1344	0.496	665	496	0.6	1.0	5.363	A
2	1297	324	468	1667	0.778	1290	1293	1.8	3.5	9.938	A
3	508	127	1242	1153	0.441	507	516	0.5	0.8	5.638	A
4	52	13	1714	716	0.073	52	35	0.1	0.1	5.640	A
5	830	207	766	1257	0.660	826	1000	1.2	2.0	8.945	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	816	204	1328	1216	0.671	812	597	1.0	2.0	8.947	A
2	1589	397	571	1608	0.988	1531	1568	3.5	18.1	35.163	E
3	622	156	1479	1030	0.604	619	623	0.8	1.5	8.809	A
4	64	16	2056	564	0.113	64	42	0.1	0.1	7.485	A
5	1016	254	926	1161	0.876	999	1194	2.0	6.3	22.032	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	816	204	1344	1207	0.676	816	605	2.0	2.1	9.319	A
2	1589	397	574	1606	0.989	1563	1585	18.1	24.6	56.683	F

3	622	156	1507	1016	0.612	622	630	1.5	1.6	9.248	A
4	64	16	2086	550	0.116	64	43	0.1	0.1	7.699	A
5	1016	254	935	1155	0.880	1013	1215	6.3	7.0	26.413	D

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	666	167	1124	1329	0.501	670	515	2.1	1.0	5.577	A
2	1297	324	473	1664	0.780	1380	1321	24.6	4.0	16.975	C
3	508	127	1320	1113	0.456	511	533	1.6	0.9	6.089	A
4	52	13	1794	680	0.077	52	36	0.1	0.1	5.964	A
5	830	207	790	1242	0.668	849	1057	7.0	2.2	10.319	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	558	139	926	1439	0.388	559	419	1.0	0.6	4.160	A
2	1086	272	394	1709	0.636	1095	1092	4.0	1.9	6.289	A
3	425	106	1053	1251	0.340	427	436	0.9	0.5	4.433	A
4	44	11	1450	834	0.052	44	30	0.1	0.1	4.740	A
5	695	174	647	1329	0.523	699	847	2.2	1.2	6.206	A

2032 + Dev + Com (100 Dwellings), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	111.34	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	111.34	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D16	2032 + Dev + Com (100 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	412	100.000
2		ONE HOUR	✓	1572	100.000
3		ONE HOUR	✓	440	100.000
4		ONE HOUR	✓	95	100.000
5		ONE HOUR	✓	1163	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		1	2	3	4	5
From	1	2	156	155	5	94
	2	234	245	225	0	868
	3	145	224	4	17	50
	4	8	41	36	0	10
	5	94	979	68	21	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.43	6.04	0.8	A	378	567
2	1.02	76.59	38.4	F	1442	2164
3	0.49	7.24	1.0	A	404	606
4	0.18	7.51	0.2	A	87	131
5	1.16	243.47	95.1	F	1067	1601

Main Results for each time segment

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
1	310	78	1209	1282	0.242	309	361	0.0	0.3	3.749	A
2	1183	296	289	1769	0.669	1175	1229	0.0	2.0	6.092	A
3	331	83	1099	1227	0.270	330	365	0.0	0.4	4.020	A
4	72	18	1397	857	0.083	71	32	0.0	0.1	4.576	A
5	876	219	703	1295	0.676	867	765	0.0	2.1	8.558	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
1	370	93	1441	1153	0.321	370	432	0.3	0.5	4.659	A
2	1413	353	345	1737	0.814	1405	1465	2.0	4.2	10.748	B
3	396	99	1314	1116	0.354	395	436	0.4	0.5	5.003	A
4	85	21	1670	736	0.116	85	38	0.1	0.1	5.533	A
5	1046	261	841	1212	0.863	1031	915	2.1	5.6	19.304	C

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	454	113	1602	1063	0.427	453	504	0.5	0.7	5.968	A
2	1731	433	410	1700	1.018	1646	1644	4.2	25.3	42.172	E
3	484	121	1543	997	0.486	483	514	0.5	0.9	6.998	A
4	105	26	1981	597	0.175	104	44	0.1	0.2	7.303	A
5	1280	320	1007	1112	1.152	1100	1079	5.6	50.9	104.450	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	454	113	1612	1058	0.429	454	510	0.7	0.8	6.042	A
2	1731	433	411	1699	1.018	1678	1654	25.3	38.4	76.591	F

3	484	121	1570	983	0.493	484	519	0.9	1.0	7.238	A
4	105	26	2010	584	0.179	105	44	0.2	0.2	7.508	A
5	1280	320	1018	1105	1.159	1104	1097	50.9	95.1	243.471	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	370	93	1593	1068	0.347	371	465	0.8	0.5	5.245	A
2	1413	353	357	1730	0.817	1547	1607	38.4	5.0	30.674	D
3	396	99	1439	1051	0.376	397	466	1.0	0.6	5.531	A
4	85	21	1795	680	0.126	86	41	0.2	0.1	6.060	A
5	1046	261	886	1184	0.883	1172	994	95.1	63.6	243.336	F

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	310	78	1447	1150	0.270	311	385	0.5	0.4	4.357	A
2	1183	296	310	1757	0.674	1195	1447	5.0	2.1	6.644	A
3	331	83	1121	1215	0.273	332	384	0.6	0.4	4.093	A
4	72	18	1417	849	0.084	72	37	0.1	0.1	4.636	A
5	876	219	711	1290	0.679	1121	777	63.6	2.3	58.228	F

2032 + Dev + Com (50 Dwellings), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	30.02	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	30.02	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D17	2032 + Dev + Com (50 Dwellings)	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	721	100.000
2		ONE HOUR	✓	1441	100.000
3		ONE HOUR	✓	563	100.000
4		ONE HOUR	✓	58	100.000
5		ONE HOUR	✓	920	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	4	307	267	1	142
	2	244	82	217	14	884
	3	195	276	2	16	74
	4	5	24	19	0	10
	5	99	747	65	8	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
	1	0	2	1	22	1
	2	3	4	2	3	8
	3	1	2	0	0	0
	4	0	3	7	0	3
	5	4	9	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.66	8.83	1.9	A	662	992
2	0.98	52.53	22.5	F	1322	1983
3	0.61	9.12	1.5	A	517	775
4	0.12	7.64	0.1	A	53	80
5	0.88	25.57	6.8	D	844	1266

Main Results for each time segment

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
1	543	136	916	1444	0.376	540	409	0.0	0.6	4.029	A
2	1085	271	381	1716	0.632	1078	1075	0.0	1.8	5.906	A
3	424	106	1032	1261	0.336	422	427	0.0	0.5	4.334	A
4	44	11	1425	845	0.052	43	29	0.0	0.1	4.670	A
5	693	173	637	1335	0.519	688	831	0.0	1.1	5.967	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
1	648	162	1096	1344	0.482	647	490	0.6	0.9	5.227	A
2	1295	324	457	1674	0.774	1289	1287	1.8	3.5	9.737	A
3	506	127	1235	1157	0.438	505	511	0.5	0.8	5.588	A
4	52	13	1705	720	0.072	52	35	0.1	0.1	5.603	A
5	827	207	763	1259	0.657	824	994	1.1	2.0	8.850	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	794	198	1328	1215	0.653	790	590	0.9	1.9	8.512	A
2	1587	397	557	1616	0.982	1533	1562	3.5	17.0	33.488	D
3	620	155	1473	1034	0.600	617	617	0.8	1.5	8.698	A
4	64	16	2048	567	0.113	64	42	0.1	0.1	7.427	A
5	1013	253	922	1163	0.871	996	1189	2.0	6.1	21.510	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	794	198	1344	1207	0.658	794	598	1.9	1.9	8.830	A
2	1587	397	560	1615	0.983	1564	1577	17.0	22.5	52.534	F

3	620	155	1501	1019	0.608	620	624	1.5	1.5	9.120	A
4	64	16	2077	554	0.115	64	43	0.1	0.1	7.637	A
5	1013	253	932	1157	0.876	1010	1210	6.1	6.8	25.573	D

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	648	162	1123	1330	0.487	652	507	1.9	1.0	5.417	A
2	1295	324	461	1671	0.775	1370	1313	22.5	3.9	15.569	C
3	506	127	1305	1120	0.452	509	526	1.5	0.8	5.991	A
4	52	13	1778	688	0.076	52	36	0.1	0.1	5.896	A
5	827	207	784	1246	0.664	845	1046	6.8	2.2	10.123	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	543	136	926	1439	0.377	544	414	1.0	0.6	4.089	A
2	1085	271	384	1715	0.633	1093	1086	3.9	1.9	6.207	A
3	424	106	1046	1254	0.338	425	431	0.8	0.5	4.405	A
4	44	11	1442	837	0.052	44	30	0.1	0.1	4.719	A
5	693	173	644	1331	0.521	697	842	2.2	1.2	6.166	A

2032 + Dev + Com (50 Dwellings), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	103.95	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	103.95	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D18	2032 + Dev + Com (50 Dwellings)	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	404	100.000
2		ONE HOUR	✓	1566	100.000
3		ONE HOUR	✓	435	100.000
4		ONE HOUR	✓	95	100.000
5		ONE HOUR	✓	1156	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	2	154	152	5	91
	2	228	245	225	0	868
	3	140	224	4	17	50
	4	8	41	36	0	10
	5	87	979	68	21	1

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	4	0	0
	2	1	0	0	0	3
	3	1	0	0	0	0
	4	0	0	0	0	0
	5	2	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.42	6.02	0.7	A	371	556
2	1.01	71.55	35.3	F	1437	2155
3	0.49	7.13	0.9	A	399	599
4	0.18	7.44	0.2	A	87	131
5	1.15	226.42	88.4	F	1061	1591

Main Results for each time segment

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
1	304	76	1209	1282	0.237	303	348	0.0	0.3	3.727	A
2	1179	295	285	1772	0.665	1171	1227	0.0	2.0	6.025	A
3	327	82	1093	1230	0.266	326	363	0.0	0.4	3.988	A
4	72	18	1387	862	0.083	71	32	0.0	0.1	4.550	A
5	870	218	695	1300	0.670	862	763	0.0	2.0	8.372	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
1	363	91	1442	1153	0.315	363	416	0.3	0.5	4.622	A
2	1408	352	340	1740	0.809	1399	1464	2.0	4.1	10.509	B
3	391	98	1306	1120	0.349	390	434	0.4	0.5	4.946	A
4	85	21	1658	741	0.115	85	38	0.1	0.1	5.487	A
5	1039	260	831	1218	0.853	1026	912	2.0	5.3	18.331	C

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	445	111	1613	1057	0.421	444	487	0.5	0.7	5.945	A
2	1724	431	404	1703	1.012	1645	1652	4.1	23.8	40.310	E
3	479	120	1538	1000	0.479	477	512	0.5	0.9	6.892	A
4	105	26	1971	602	0.174	104	44	0.1	0.2	7.234	A
5	1273	318	996	1118	1.139	1104	1079	5.3	47.5	98.151	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	445	111	1624	1051	0.423	445	493	0.7	0.7	6.023	A
2	1724	431	406	1703	1.013	1678	1663	23.8	35.3	71.552	F

3	479	120	1566	985	0.486	479	518	0.9	0.9	7.127	A
4	105	26	2000	588	0.178	105	44	0.2	0.2	7.439	A
5	1273	318	1008	1111	1.146	1109	1097	47.5	88.4	226.419	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	363	91	1605	1062	0.342	364	447	0.7	0.5	5.239	A
2	1408	352	353	1733	0.813	1530	1615	35.3	4.8	26.736	D
3	391	98	1421	1060	0.369	392	462	0.9	0.6	5.416	A
4	85	21	1772	690	0.124	86	41	0.2	0.1	5.959	A
5	1039	260	873	1193	0.871	1179	985	88.4	53.5	217.064	F

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	304	76	1411	1170	0.260	305	367	0.5	0.4	4.226	A
2	1179	295	303	1761	0.669	1190	1413	4.8	2.1	6.530	A
3	327	82	1113	1220	0.269	328	379	0.6	0.4	4.058	A
4	72	18	1406	854	0.084	72	36	0.1	0.1	4.605	A
5	870	218	703	1295	0.672	1075	774	53.5	2.2	38.030	E