Project :	South West Milton Keynes (SWMK)		
Date:	20-03-2017	Ref:	1067760/TN16
Subject:	**Technical Note 16 – Amended Access Modelling**		

Mouchel submitted TN14 and TN15 to Buckinghamshire County Council (BCC) on 14th February 2017. Following a review by BCC, further assessment has been requested to amend the designs of the Whaddon Road priority access and the Buckingham Road roundabout access junctions to ensure that the operational capacity is at/under an RFC of 0.85 during the peak hours. This Technical Note responds to BCCs request for further assessments.

Whaddon Road Access

The Whaddon Road 'Ghosted Right Turn' access, as shown on Drawing D014C, includes 'through' lane widths of 3.0m, with a turning lane width of 3.5m. The results of the Junctions8 modelling for that arrangement are shown in Table 1a and Table 1b.

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Whaddon Road (N)	-	-	-	-
Development Access	0.976	13.39	0.218	0.3
Whaddon Road (S)	0.051	0.06	0.287	0.44

Table 1a - Whaddon Road access – '2026 Base plus development'

Arm	AM Peak	
	RFC	Queue
0745-0800	0.519	1.15
0800-0815	0.719	2.58
0815-0830	0.976	10.0
0830-0845	0.976	13.39
0845-0900	0.719	3.14
0900-0915	0.536	1.32

Table 1b - Whaddon Road Development Access arm – '2026 Base plus development'

The modelling results for 2026 show that the junction would operate with an RFC of 0.98 during the busiest 0815-0845 30 minute period, and with an RFC of under 0.72 between 0745-0815 and 0845-0915. Therefore for the majority of the peak period, the junction will operate well below capacity, with a little pressure and a minor maximum queue of 13 vehicles at the junction for a short period of half an hour. The queue would be for traffic turning right out of the development, and can be fully accommodated within the development without blocking left turning traffic or traffic on Whaddon Road.

An amended layout providing 3.65m through lanes and a 3.5m turning lane (in accordance with DMRB TD 42/95[1]) as shown in Drawing D014D increases the capacity of the junction and reduces the RFCs during the peak hours, as shown in Table 2a and Table 2b.

[1] DfT, *The Strategic Road Network And The Delivery Of Sustainable Development*, September 2013 [Paragraphs 7.20 and 7.35]

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Whaddon Road (N)	-	-	-	-
Development Access	0.945	10.48	0.208	0.29
Whaddon Road (S)	0.051	0.06	0.281	0.43

Table 2a - Whaddon Road access – '2026 Base plus development'- Widened lanes

Arm	AM Peak	
	RFC	Queue
0745-0800	0.509	1.11
0800-0815	0.702	2.39
0815-0830	0.945	8.35
0830-0845	0.945	10.48
0845-0900	0.702	2.83
0900-0915	0.526	1.26

Table 2b- Whaddon Road access – '2026 Base plus development' – Widened lanes

However, within the modelling assumptions, no allowance has been made for mode shift to alternative sustainable transport, which will occur following the implementation of comprehensive site-wide Travel Plans.

The Framework Travel Plan, agreed with MKC, BCC and Highways England, suggests a reduction in car mode share from 82% to 74% in the first 5 years of the development. This 8%-point mode shift is equivalent to a 10% reduction in traffic from the development. Over time, it is anticipated that the development will influence a higher shift to sustainable travel modes of between 11-13%-points as behavioural changes occur across the development and residents become accustomed to the opportunities to use alternative travel modes.

In accordance with DfT Circular 02/2013, paragraph 25, the 'overall forecast demand' is defined as:

> *"The overall forecast demand will be the existing flow plus traffic likely to be generated by development already committed, plus traffic likely to be generated by the development under consideration, less any reduction arising from any travel plan or demand management measures that are being proposed."*

The Circular clearly outlines that the benefit of mode shift created through Travel Planning for a development site should be deducted from the traffic flows prior to completing assessments of network capacity. Although a reduction in traffic as a result of the proposed Travel Planning was not included within the TA, it is a perfectly valid methodology to use to reduce the development trips by the travel plan target mode share.

Furthermore, the DfT 'Guidance on Transport Assessment'[2] states that:

> *"In some circumstances, the extent of access by non-car modes of transport may suggest an adjustment of development-generated vehicle trips. This is likely to be the case where new sustainable transport infrastructure, such as cycleway or bus services, is proposed by the developer."*

[2] DfT, DCLG, *Guidance on Transport Assessment*, TSO, March 2007 [paragraph 4.67]. Although this Guidance is officially revoked, the principal of reducing development-generated traffic as a result of the introduction of sustainable transport infrastructure is still a valid methodology.

The proposed development is committed to providing significant investment to sustainable travel. A new/enhanced bus service to serve the site, to ensure high-quality alternative modes of travel are available for all new residents will be implemented through a Service Level Agreement. The bus service will have a 30-minute frequency during daytimes, and a 60-minute frequency during evenings and at weekends, which is agreed by both BCC and MKC to be a good level of service. Improvements to cycling and walking through new and upgraded routes and crossings are also to be implemented as part of the proposed development.

Given the guidance from the DfT in two separate documents, it is considered that including a reduction for Travel Planning to the development traffic for the SWMK development is entirely appropriate. The same methodology has been applied to other developments within Buckinghamshire where it is proposed to implement a comprehensive Travel Plan, with the methodology accepted and endorsed by BCC.

For clarification, it is not intended to revisit the junction models for the wider highway network to account for Travel Planning. The wider highway network has been assessed to include all development traffic, and 'nil detriment' schemes have been designed to accommodate that development traffic. For avoidance of doubt, no allowance has been made for Travel Planning and a worse case has therefore been considered.

Table 3a and Table 3b provide the revised modelling assessment results for the Whaddon Road access junction when the 10% reduction in traffic to account for Travel Planning is applied to the development flows.

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Whaddon Road (N)	-	-	-	-
Development Access	0.848	5.29	0.183	0.25
Whaddon Road (S)	0.046	0.05	0.251	0.37

Table 3a - Whaddon Road access – '2026 Base plus development'- Widened lanes & Travel Planning

Arm	AM Peak	
	RFC	Queue
0745-0800	0.458	0.91
0800-0815	0.630	1.78
0815-0830	0.848	4.77
0830-0845	0.848	5.29
0845-0900	0.630	1.98
0900-0915	0.472	1.01

Table 3b- Whaddon Road access – '2026 Base plus development' – Widened lanes & Travel Planning

The results show that the Whaddon Road junction will operate within an RFC of 0.85 during the AM peak hour, with a queue of just 5 vehicles. The junction is therefore forecast to operate within capacity in 2026 with the development fully operational.

Buckingham Road access

The Buckingham Road access, as designed in Drawing D017B includes a flare length on 'Buckingham Road (E)' of approximately 4m. The results of the Junctions8 modelling for that arrangement are shown in Table 4a and Table 4b.

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Buckingham Road (E)	0.846	5.42	0.985	17.02
Development Access (SE)	0.260	0.38	0.091	0.11
Development Access (SW)	0.198	0.27	0.222	0.31
Buckingham Road (W)	0.679	2.29	0.692	2.42

Table 4a – Buckingham Road access – '2026 Base plus development'

Arm	PM Peak	
	RFC	Queue
1645-1700	0.527	1.20
1700-1715	0.699	2.43
1715-1730	0.981	12.40
1730-1745	0.985	17.02
1745-1800	0.702	2.77
1800-1815	0.542	1.33

Table 4b – Buckingham Road E arm – '2026 Base plus development'

The modelling results show that the junction would operate with an RFC of 0.98/0.99 during the busiest 1715-1745 30 minute period of the PM peak in 2026, and with an RFC of at/under 0.70 between 1645-1715 and 1745-1815. Therefore for the majority of the peak period, the junction will operate well below capacity, with a little pressure and a queue at the junction for a period of half an hour.

A minor design amendment to the flare length on the Buckingham Road east arm (westbound) from 4m to 12m can be easily accommodated to enhance capacity at the junction, as shown on Drawing D017C. When applying the increased flare length, the junction modelling results are as shown in Table 5a and Table 5b.

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Buckingham Road (E)	0.730	2.88	0.847	5.53
Development Access (SE)	0.260	0.39	0.091	0.11
Development Access (SW)	0.198	0.27	0.222	0.31
Buckingham Road (W)	0.679	2.29	0.692	2.42

Table 5a - Whaddon Road access – '2026 Base plus development' – lengthened flare

Arm	PM Peak	
	RFC	Queue
1645-1700	0.463	0.94
1700-1715	0.609	1.67
1715-1730	0.845	5.09
1730-1745	0.847	5.53
1745-1800	0.612	1.78
1800-1815	0.475	1.01

Table 5b - Whaddon Road access – '2026 Base plus development' – lengthened flare

The proposed access at Buckingham Road is therefore predicted to operate with an RFC of 0.84/0.85 for a 30 minute period in the PM peak in 2026, with plenty of capacity in the time segments either side. This shows that in reality, residents unhappy with sitting in a queue of 5.5 vehicles, could amend their travel time slightly, and not have to queue to leave the junction.

Furthermore, during the PM Peak in 2026 when the Buckingham Road access may become busy (albeit with a maximum queue of only 5.5 vehicles), the Whaddon Road access operates with more than sufficient spare capacity for some residents to change their route choice if they so desired.

The assessment of the roundabout within Tables 4a, 4b, 5a and 5b takes no account of mode shift as a result of the implementation of the Travel Plan, which will reduce car mode share from 82% to 74%, a reduction of 8%-points of car use, equivalent to 10% reduction in development traffic. Over time, it is anticipated that the development will influence a higher shift in travel mode to alternative travel modes of between 11-13%-points as behavioural changes occur across the development. For avoidance of doubt - the modelling is therefore considered to be robust.

When applying the 10% reduction to account for Travel Planning to the assessment for the Buckingham Road access roundabout, the RFCs reduce further, as shown in Table 6a and Table 6b.

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Buckingham Road (E)	0.698	2.48	0.809	4.38
Development Access (SE)	0.232	0.33	0.082	0.10
Development Access (SW)	0.178	0.24	0.200	0.27
Buckingham Road (W)	0.645	1.97	0.669	2.19

Table 6a - Whaddon Road access – '2026 Base plus development' – lengthened flare & Travel Planning

Arm	PM Peak	
	RFC	Queue
1645-1700	0.448	0.88
1700-1715	0.586	1.52
1715-1730	0.807	4.13
1730-1745	0.809	4.38
1745-1800	0.588	1.61
1800-1815	0.458	0.94

Table 6b - Whaddon Road access – '2026 Base plus development' – lengthened flare & Travel Planning

The junction will operate with a maximum RFC of 0.81 and a queue of 4 vehicles during the busiest half an hour in the PM peak. It is therefore considered that the Buckingham Road access roundabout will provide spare capacity over and above that required to accommodate the proposed development.

Any increase in traffic flows generated at the roundabout in the future as a result of the construction of a 'Grid Road' will need to be assessed and accommodated at the time the Grid Road is designed. It was previously agreed with BCC that there is no requirement for the development access junction to accommodate traffic associated with a new Grid Road.

Summary

The revised modelling within this Technical Note shows that both the Whaddon Road and Buckingham Road access junctions will operate within capacity in the '2026 Base + Development'.

Enclosures

Whaddon Road access – Drawing D014D

Whaddon Road access – revised modelling results

Buckingham Road access – Drawing D017C

Buckingham Road access – revised modelling results

End.

Manual for Streets 2

85th Percentile Speed = 51.9mph

Sight Stopping Distance = 159m

(calculated as per Manual for Streets 2 Sections 10.1 and 10.2)

SSD = $vt + v^2/2$ (d+0.1a)

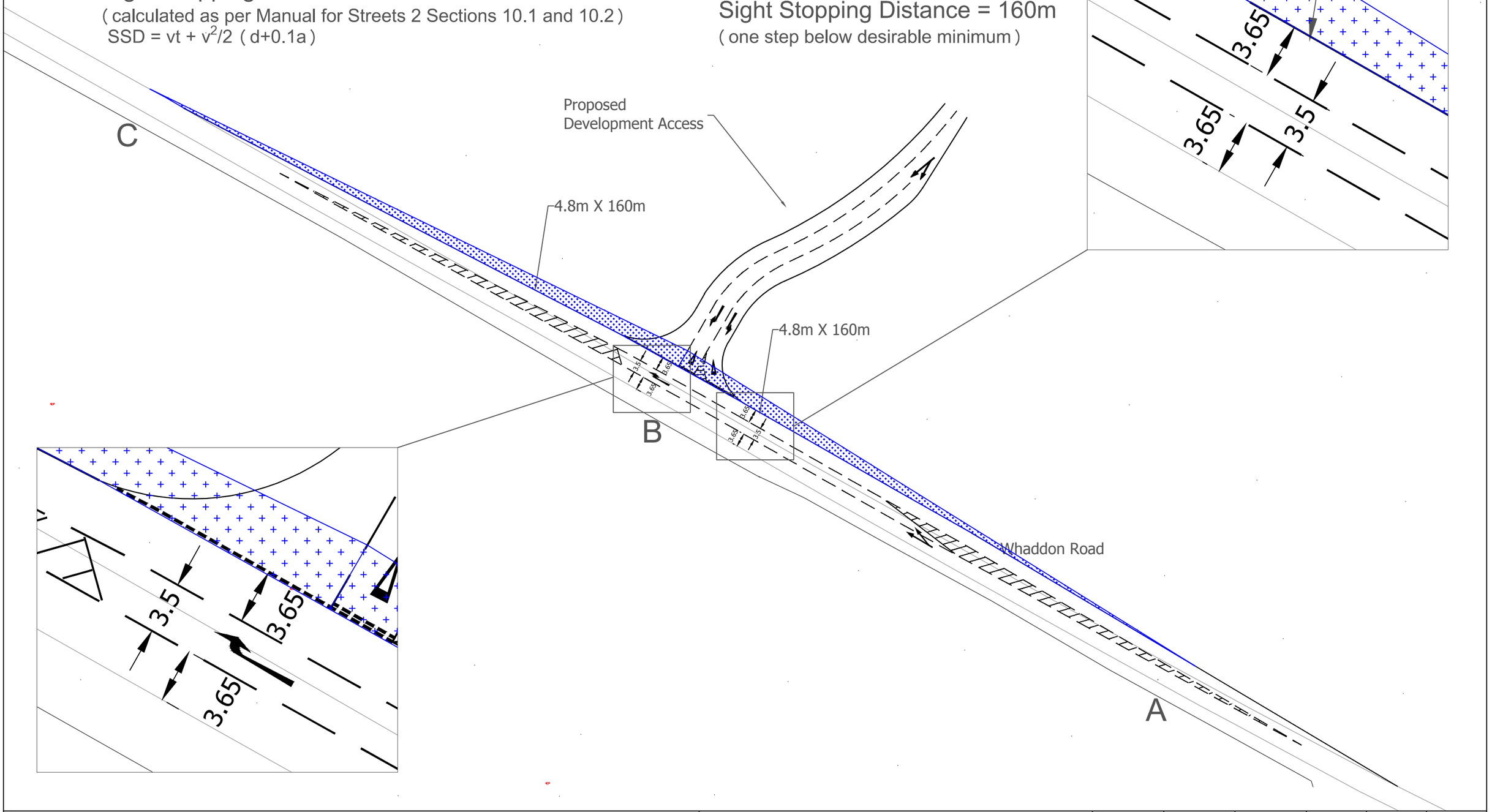
DMRB TD 9/93

Speed Limit = 60mph

Design Speed = 100A

Sight Stopping Distance = 160m

(one step below desirable minimum)



At original drawing size (A3) this line measures 50mm

Cad Ref. No. L:\106xxx\1067760 South West Milton Keynes\12 Dwgs

Drawn	Date	Checked	Date	Approved	Date
CEW	11-12-2015	SH	17-12-15	MP	17-12-15

Notes

Rev.	Amendment	By	Chkd.	Date	Appd.
D	AMENDED THROUGH LANE WIDTHS	EC	SH	20/03/2016	MP
C	AMENDED RIGHT TURN LANE	CEW	SH	04/08/2016	MP
B	AMENDED ACCESS	CEW	SH	03/06/2016	MP
A	AMENDED LANE WIDTHS	CEW	SH	24/03/2016	

PRELIMINARY FOR APPROVAL

Project: SOUTH WEST MILTON KEYNES

Title: WHADDON ROAD PROPOSED ACCESS

mouchel

Export House
Woking, Surrey. GU21 6QX
Tel: +44 (0)1483 731000
Fax: +44 (0)1483 731010

Scale: 1:1000@A3

Job No.: 1067760

Client: SWMK Consortium

Drawing No.: D014

Rev.: D

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 2017-03-20 Priority Site Access_SH.arc8
Path: L:\106xxx\1067760 South West Milton Keynes\09 Docs\C-Cals\02 Jn Modelling\Access Junctions\Corrected Flows
Report generation date: 20/03/2017 11:03:03

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2026 Base + Dev			
Stream B-C	0.71	11.92	0.40	B
Stream B-A	13.39	104.34	0.98	F
Stream C-A	-	-	-	-
Stream C-B	0.06	6.55	0.05	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - 2026 Base + Dev, AM " model duration: 07:45 - 09:15
"D2 - 2026 Base + Dev, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 20/03/2017 11:03:02

File summary

Title	(untitled)
Location	
Site Number	
Date	08/03/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	rsanthak
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - 2026 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D1 - 2026 Base + Dev, AM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2026 Base + Dev, AM	2026 Base + Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	71.21	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Whaddon Road (North)		Major
B	B	Development Access		Minor
C	C	Whaddon Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00	✓	3.50	180.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		5.00	5.00								240	180

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	784.936	0.143	0.361	0.227	0.516
1	B-C	884.876	0.136	0.343	-	-
1	C-B	774.158	0.300	0.300	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		415.00	100.000
B	ONE HOUR		635.00	100.000
C	ONE HOUR		494.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	312.43	312.43		
07:45-08:00	B	478.06	478.06		
07:45-08:00	C	371.91	371.91		
08:00-08:15	A	373.08	373.08		
08:00-08:15	B	570.85	570.85		
08:00-08:15	C	444.10	444.10		
08:15-08:30	A	456.92	456.92		
08:15-08:30	B	699.15	699.15		
08:15-08:30	C	543.90	543.90		
08:30-08:45	A	456.92	456.92		
08:30-08:45	B	699.15	699.15		
08:30-08:45	C	543.90	543.90		
08:45-09:00	A	373.08	373.08		
08:45-09:00	B	570.85	570.85		
08:45-09:00	C	444.10	444.10		
09:00-09:15	A	312.43	312.43		
09:00-09:15	B	478.06	478.06		
09:00-09:15	C	371.91	371.91		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (07:45-08:00)

		To		
		A	B	C
From	A	0.000	36.560	419.970
	B	453.880	0.000	259.830
	C	452.800	33.060	0.000

Turning Proportions (PCU) - Junction 1 - (07:45-08:00)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.64	0.00	0.36
	C	0.93	0.07	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.000	28.730	453.120
	B	507.280	0.000	230.130
	C	539.500	34.470	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.69	0.00	0.31
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.000	28.200	444.810
	B	497.970	0.000	225.910
	C	529.600	33.840	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.69	0.00	0.31
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.000	23.850	376.220
	B	421.180	0.000	191.070
	C	447.910	28.620	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.69	0.00	0.31
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.000	18.180	286.840
	B	321.120	0.000	145.680
	C	341.520	21.820	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.69	0.00	0.31
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (09:00-09:15)

		To		
		A	B	C
From	A	0.000	12.120	223.100
	B	224.790	0.000	119.190
	C	357.040	29.940	0.000

Turning Proportions (PCU) - Junction 1 - (09:00-09:15)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.65	0.00	0.35
	C	0.92	0.08	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.40	11.92	0.71	B
B-A	0.98	104.34	13.39	F
C-A	-	-	-	-
C-B	0.05	6.55	0.06	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	174.04	172.55	0.00	681.33	0.255	0.37	7.761	A
B-A	304.02	299.42	0.00	585.64	0.519	1.15	13.629	B
C-A	346.60	346.60	0.00	-	-	-	-	-
C-B	25.31	25.14	0.00	680.44	0.037	0.04	6.041	A
A-B	25.02	25.02	0.00	-	-	-	-	-
A-C	287.41	287.41	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	178.15	177.90	0.00	623.09	0.286	0.43	8.888	A
B-A	392.70	387.00	0.00	546.23	0.719	2.58	24.042	C
C-A	417.43	417.43	0.00	-	-	-	-	-
C-B	26.67	26.66	0.00	662.25	0.040	0.05	6.229	A
A-B	22.24	22.24	0.00	-	-	-	-	-
A-C	350.83	350.83	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.19	217.11	0.00	550.89	0.396	0.71	11.825	B
B-A	480.96	451.26	0.00	492.59	0.976	10.00	68.813	F
C-A	511.24	511.24	0.00	-	-	-	-	-
C-B	32.67	32.61	0.00	637.10	0.051	0.06	6.550	A
A-B	27.24	27.24	0.00	-	-	-	-	-
A-C	429.68	429.68	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.19	218.16	0.00	550.40	0.396	0.71	11.917	B
B-A	480.96	467.42	0.00	492.56	0.976	13.39	104.341	F
C-A	511.24	511.24	0.00	-	-	-	-	-
C-B	32.67	32.67	0.00	637.10	0.051	0.06	6.550	A
A-B	27.24	27.24	0.00	-	-	-	-	-
A-C	429.68	429.68	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	178.15	179.15	0.00	606.02	0.294	0.46	9.299	A
B-A	392.70	433.69	0.00	546.19	0.719	3.14	43.690	E
C-A	417.43	417.43	0.00	-	-	-	-	-
C-B	26.67	26.72	0.00	662.25	0.040	0.05	6.230	A
A-B	22.24	22.24	0.00	-	-	-	-	-
A-C	350.84	350.84	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	165.65	166.05	0.00	672.17	0.246	0.36	7.831	A
B-A	312.41	319.70	0.00	582.59	0.536	1.32	15.451	C
C-A	343.14	343.14	0.00	-	-	-	-	-
C-B	28.77	28.77	0.00	680.44	0.042	0.05	6.076	A
A-B	16.10	16.10	0.00	-	-	-	-	-
A-C	296.34	296.34	0.00	-	-	-	-	-

(Default Analysis Set) - 2026 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D2 - 2026 Base + Dev, PM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2026 Base + Dev, PM	2026 Base + Dev	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	9.66	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Whaddon Road (North)		Major
B	B	Development Access		Minor
C	C	Whaddon Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00	✓	3.50	180.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		5.00	5.00								240	180

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	784.936	0.143	0.361	0.227	0.516
1	B-C	884.876	0.136	0.343	-	-
1	C-B	774.158	0.300	0.300	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		578.00	100.000
B	ONE HOUR		134.00	100.000
C	ONE HOUR		511.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	435.15	435.15		
16:45-17:00	B	100.88	100.88		
16:45-17:00	C	384.71	384.71		
17:00-17:15	A	519.61	519.61		
17:00-17:15	B	120.46	120.46		
17:00-17:15	C	459.38	459.38		
17:15-17:30	A	636.39	636.39		
17:15-17:30	B	147.54	147.54		
17:15-17:30	C	562.62	562.62		
17:30-17:45	A	636.39	636.39		
17:30-17:45	B	147.54	147.54		
17:30-17:45	C	562.62	562.62		
17:45-18:00	A	519.61	519.61		
17:45-18:00	B	120.46	120.46		
17:45-18:00	C	459.38	459.38		
18:00-18:15	A	435.15	435.15		
18:00-18:15	B	100.88	100.88		
18:00-18:15	C	384.71	384.71		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (16:45-17:00)

		To		
		A	B	C
From	A	0.000	165.990	254.800
	B	62.750	0.000	53.630
	C	295.950	133.800	0.000

Turning Proportions (PCU) - Junction 1 - (16:45-17:00)

		To		
		A	B	C
From	A	0.00	0.39	0.61
	B	0.54	0.00	0.46
	C	0.69	0.31	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.000	165.990	415.780
	B	83.660	0.000	51.640
	C	361.710	152.920	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.62	0.00	0.38
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.000	203.700	510.140
	B	102.650	0.000	63.360
	C	443.800	187.620	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.62	0.00	0.38
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.000	154.220	386.290
	B	77.730	0.000	47.980
	C	336.060	142.070	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.62	0.00	0.38
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.000	135.390	339.110
	B	68.230	0.000	42.120
	C	295.010	124.720	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.62	0.00	0.38
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (18:00-18:15)

		To		
		A	B	C
From	A	0.000	135.390	376.790
	B	48.330	0.000	50.540
	C	350.330	163.090	0.000

Turning Proportions (PCU) - Junction 1 - (18:00-18:15)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.49	0.00	0.51
	C	0.68	0.32	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	6.50	0.10	A
B-A	0.22	12.13	0.30	B
C-A	-	-	-	-
C-B	0.29	9.52	0.44	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	46.49	46.20	0.00	751.95	0.062	0.07	5.608	A
B-A	54.39	53.91	0.00	543.12	0.100	0.12	8.085	A
C-A	264.93	264.93	0.00	-	-	-	-	-
C-B	119.78	118.78	0.00	643.64	0.186	0.25	7.531	A
A-B	171.65	171.65	0.00	-	-	-	-	-
A-C	263.49	263.49	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	45.98	45.96	0.00	708.96	0.065	0.08	5.972	A
B-A	74.49	74.18	0.00	485.17	0.154	0.20	9.628	A
C-A	322.88	322.88	0.00	-	-	-	-	-
C-B	136.50	136.26	0.00	618.30	0.221	0.31	8.210	A
A-B	148.25	148.25	0.00	-	-	-	-	-
A-C	371.36	371.36	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	56.31	56.21	0.00	665.54	0.085	0.10	6.499	A
B-A	91.23	90.81	0.00	417.79	0.218	0.30	12.094	B
C-A	395.44	395.44	0.00	-	-	-	-	-
C-B	167.18	166.67	0.00	583.27	0.287	0.44	9.494	A
A-B	181.60	181.60	0.00	-	-	-	-	-
A-C	454.79	454.79	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	56.31	56.31	0.00	665.34	0.085	0.10	6.501	A
B-A	91.23	91.22	0.00	417.53	0.218	0.30	12.135	B
C-A	395.45	395.45	0.00	-	-	-	-	-
C-B	167.18	167.16	0.00	583.27	0.287	0.44	9.516	A
A-B	181.58	181.58	0.00	-	-	-	-	-
A-C	454.81	454.81	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	45.98	46.08	0.00	708.66	0.065	0.08	5.979	A
B-A	74.48	74.89	0.00	484.78	0.154	0.20	9.670	A
C-A	322.88	322.88	0.00	-	-	-	-	-
C-B	136.50	137.00	0.00	618.30	0.221	0.32	8.235	A
A-B	148.26	148.26	0.00	-	-	-	-	-
A-C	371.35	371.35	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	51.57	51.55	0.00	741.54	0.070	0.08	5.738	A
B-A	49.31	49.67	0.00	529.40	0.093	0.11	8.261	A
C-A	262.50	262.50	0.00	-	-	-	-	-
C-B	122.20	122.42	0.00	643.64	0.190	0.26	7.600	A
A-B	115.03	115.03	0.00	-	-	-	-	-
A-C	320.12	320.12	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 2017-03-20 Priority Site Access_SH_widened.arc8
Path: L:\106xxx\1067760 South West Milton Keynes\09 Docs\C-Cals\02 Jn Modelling\Access Junctions\Corrected Flows
Report generation date: 20/03/2017 11:06:30

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2026 Base + Dev			
Stream B-C	0.70	11.69	0.39	B
Stream B-A	10.48	83.40	0.94	F
Stream C-A	-	-	-	-
Stream C-B	0.06	6.47	0.05	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - 2026 Base + Dev, AM " model duration: 07:45 - 09:15
"D2 - 2026 Base + Dev, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 20/03/2017 11:06:29

File summary

Title	(untitled)
Location	
Site Number	
Date	08/03/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	rsanthak
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - 2026 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D1 - 2026 Base + Dev, AM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2026 Base + Dev, AM	2026 Base + Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	57.64	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Whaddon Road (North)		Major
B	B	Development Access		Minor
C	C	Whaddon Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.30		0.00	✓	3.50	180.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		5.00	5.00								240	180

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	784.936	0.135	0.341	0.214	0.487
1	B-C	884.876	0.128	0.323	-	-
1	C-B	774.158	0.283	0.283	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		415.00	100.000
B	ONE HOUR		635.00	100.000
C	ONE HOUR		494.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	312.43	312.43		
07:45-08:00	B	478.06	478.06		
07:45-08:00	C	371.91	371.91		
08:00-08:15	A	373.08	373.08		
08:00-08:15	B	570.85	570.85		
08:00-08:15	C	444.10	444.10		
08:15-08:30	A	456.92	456.92		
08:15-08:30	B	699.15	699.15		
08:15-08:30	C	543.90	543.90		
08:30-08:45	A	456.92	456.92		
08:30-08:45	B	699.15	699.15		
08:30-08:45	C	543.90	543.90		
08:45-09:00	A	373.08	373.08		
08:45-09:00	B	570.85	570.85		
08:45-09:00	C	444.10	444.10		
09:00-09:15	A	312.43	312.43		
09:00-09:15	B	478.06	478.06		
09:00-09:15	C	371.91	371.91		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (07:45-08:00)

		To		
		A	B	C
From	A	0.000	36.560	419.970
	B	453.880	0.000	259.830
	C	452.800	33.060	0.000

Turning Proportions (PCU) - Junction 1 - (07:45-08:00)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	0.64	0.00	0.36
	C	0.93	0.07	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.000	28.730	453.120
	B	507.280	0.000	230.130
	C	539.500	34.470	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.69	0.00	0.31
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.000	28.200	444.810
	B	497.970	0.000	225.910
	C	529.600	33.840	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.69	0.00	0.31
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.000	23.850	376.220
	B	421.180	0.000	191.070
	C	447.910	28.620	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.69	0.00	0.31
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.000	18.180	286.840
	B	321.120	0.000	145.680
	C	341.520	21.820	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.00	0.06	0.94
	B	0.69	0.00	0.31
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (09:00-09:15)

		To		
		A	B	C
From	A	0.000	12.120	223.100
	B	224.790	0.000	119.190
	C	357.040	29.940	0.000

Turning Proportions (PCU) - Junction 1 - (09:00-09:15)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.65	0.00	0.35
	C	0.92	0.08	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.39	11.69	0.70	B
B-A	0.94	83.40	10.48	F
C-A	-	-	-	-
C-B	0.05	6.47	0.06	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	174.04	172.57	0.00	688.28	0.253	0.37	7.658	A
B-A	304.02	299.59	0.00	596.91	0.509	1.11	13.134	B
C-A	346.60	346.60	0.00	-	-	-	-	-
C-B	25.31	25.14	0.00	685.74	0.037	0.04	5.993	A
A-B	25.02	25.02	0.00	-	-	-	-	-
A-C	287.41	287.41	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	178.15	177.92	0.00	632.23	0.282	0.43	8.712	A
B-A	392.70	387.56	0.00	559.73	0.702	2.39	22.353	C
C-A	417.43	417.43	0.00	-	-	-	-	-
C-B	26.67	26.66	0.00	668.58	0.040	0.05	6.168	A
A-B	22.24	22.24	0.00	-	-	-	-	-
A-C	350.83	350.83	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.19	217.17	0.00	563.58	0.387	0.68	11.397	B
B-A	480.96	457.15	0.00	509.12	0.945	8.35	59.065	F
C-A	511.24	511.24	0.00	-	-	-	-	-
C-B	32.67	32.62	0.00	644.86	0.051	0.06	6.467	A
A-B	27.24	27.24	0.00	-	-	-	-	-
A-C	429.68	429.68	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	218.19	218.12	0.00	556.80	0.392	0.70	11.687	B
B-A	480.96	472.43	0.00	509.10	0.945	10.48	83.396	F
C-A	511.24	511.24	0.00	-	-	-	-	-
C-B	32.67	32.67	0.00	644.86	0.051	0.06	6.467	A
A-B	27.24	27.24	0.00	-	-	-	-	-
A-C	429.68	429.68	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	178.15	179.15	0.00	619.35	0.288	0.45	9.015	A
B-A	392.70	423.31	0.00	559.69	0.702	2.83	33.960	D
C-A	417.43	417.43	0.00	-	-	-	-	-
C-B	26.67	26.72	0.00	668.58	0.040	0.05	6.169	A
A-B	22.24	22.24	0.00	-	-	-	-	-
A-C	350.84	350.84	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	165.65	166.02	0.00	679.75	0.244	0.36	7.713	A
B-A	312.41	318.68	0.00	594.04	0.526	1.26	14.686	B
C-A	343.14	343.14	0.00	-	-	-	-	-
C-B	28.77	28.77	0.00	685.74	0.042	0.05	6.026	A
A-B	16.10	16.10	0.00	-	-	-	-	-
A-C	296.34	296.34	0.00	-	-	-	-	-

(Default Analysis Set) - 2026 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D2 - 2026 Base + Dev, PM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2026 Base + Dev, PM	2026 Base + Dev	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	9.31	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Whaddon Road (North)		Major
B	B	Development Access		Minor
C	C	Whaddon Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.30		0.00	✓	3.50	180.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		5.00	5.00								240	180

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	784.936	0.135	0.341	0.214	0.487
1	B-C	884.876	0.128	0.323	-	-
1	C-B	774.158	0.283	0.283	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		578.00	100.000
B	ONE HOUR		134.00	100.000
C	ONE HOUR		511.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	435.15	435.15		
16:45-17:00	B	100.88	100.88		
16:45-17:00	C	384.71	384.71		
17:00-17:15	A	519.61	519.61		
17:00-17:15	B	120.46	120.46		
17:00-17:15	C	459.38	459.38		
17:15-17:30	A	636.39	636.39		
17:15-17:30	B	147.54	147.54		
17:15-17:30	C	562.62	562.62		
17:30-17:45	A	636.39	636.39		
17:30-17:45	B	147.54	147.54		
17:30-17:45	C	562.62	562.62		
17:45-18:00	A	519.61	519.61		
17:45-18:00	B	120.46	120.46		
17:45-18:00	C	459.38	459.38		
18:00-18:15	A	435.15	435.15		
18:00-18:15	B	100.88	100.88		
18:00-18:15	C	384.71	384.71		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (16:45-17:00)

		To		
		A	B	C
From	A	0.000	165.990	254.800
	B	62.750	0.000	53.630
	C	295.950	133.800	0.000

Turning Proportions (PCU) - Junction 1 - (16:45-17:00)

		To		
		A	B	C
From	A	0.00	0.39	0.61
	B	0.54	0.00	0.46
	C	0.69	0.31	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.000	165.990	415.780
	B	83.660	0.000	51.640
	C	361.710	152.920	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.62	0.00	0.38
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.000	203.700	510.140
	B	102.650	0.000	63.360
	C	443.800	187.620	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.62	0.00	0.38
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.000	154.220	386.290
	B	77.730	0.000	47.980
	C	336.060	142.070	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.62	0.00	0.38
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.000	135.390	339.110
	B	68.230	0.000	42.120
	C	295.010	124.720	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.62	0.00	0.38
	C	0.70	0.30	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (18:00-18:15)

		To		
		A	B	C
From	A	0.000	135.390	376.790
	B	48.330	0.000	50.540
	C	350.330	163.090	0.000

Turning Proportions (PCU) - Junction 1 - (18:00-18:15)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.49	0.00	0.51
	C	0.68	0.32	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	6.38	0.10	A
B-A	0.21	11.41	0.29	B
C-A	-	-	-	-
C-B	0.28	9.28	0.43	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	46.49	46.20	0.00	758.69	0.061	0.07	5.554	A
B-A	54.39	53.92	0.00	556.80	0.098	0.12	7.868	A
C-A	264.93	264.93	0.00	-	-	-	-	-
C-B	119.78	118.79	0.00	651.02	0.184	0.25	7.427	A
A-B	171.65	171.65	0.00	-	-	-	-	-
A-C	263.49	263.49	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	45.98	45.96	0.00	717.95	0.064	0.07	5.892	A
B-A	74.49	74.20	0.00	502.13	0.148	0.19	9.248	A
C-A	322.88	322.88	0.00	-	-	-	-	-
C-B	136.50	136.27	0.00	627.12	0.218	0.30	8.064	A
A-B	148.25	148.25	0.00	-	-	-	-	-
A-C	371.36	371.36	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	56.31	56.21	0.00	677.07	0.083	0.10	6.378	A
B-A	91.23	90.85	0.00	438.57	0.208	0.28	11.375	B
C-A	395.44	395.44	0.00	-	-	-	-	-
C-B	167.18	166.69	0.00	594.07	0.281	0.42	9.258	A
A-B	181.60	181.60	0.00	-	-	-	-	-
A-C	454.79	454.79	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	56.31	56.31	0.00	676.89	0.083	0.10	6.380	A
B-A	91.23	91.22	0.00	438.33	0.208	0.29	11.408	B
C-A	395.45	395.45	0.00	-	-	-	-	-
C-B	167.18	167.16	0.00	594.07	0.281	0.43	9.275	A
A-B	181.58	181.58	0.00	-	-	-	-	-
A-C	454.81	454.81	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	45.98	46.07	0.00	717.69	0.064	0.08	5.896	A
B-A	74.48	74.85	0.00	501.77	0.148	0.19	9.285	A
C-A	322.88	322.88	0.00	-	-	-	-	-
C-B	136.50	136.97	0.00	627.12	0.218	0.31	8.086	A
A-B	148.26	148.26	0.00	-	-	-	-	-
A-C	371.35	371.35	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	51.57	51.55	0.00	748.96	0.069	0.08	5.677	A
B-A	49.31	49.65	0.00	543.86	0.091	0.11	8.017	A
C-A	262.50	262.50	0.00	-	-	-	-	-
C-B	122.20	122.41	0.00	651.02	0.188	0.26	7.493	A
A-B	115.03	115.03	0.00	-	-	-	-	-
A-C	320.12	320.12	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 2017-03-20 Priority Site Access_SH_widened_TP.arc8
Path: L:\106xxx\1067760 South West Milton Keynes\09 Docs\C-Cals\02 Jn Modelling\Access Junctions\Corrected Flows
Report generation date: 20/03/2017 11:07:42

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2026 Base + Dev			
Stream B-C	0.56	10.37	0.34	B
Stream B-A	5.29	47.07	0.85	E
Stream C-A	-	-	-	-
Stream C-B	0.05	6.43	0.05	A
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

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

"D1 - 2026 Base + Dev, AM " model duration: 07:45 - 09:15
"D2 - 2026 Base + Dev, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 20/03/2017 11:07:41

File summary

Title	(untitled)
Location	
Site Number	
Date	08/03/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	rsanthak
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - 2026 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D1 - 2026 Base + Dev, AM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2026 Base + Dev, AM	2026 Base + Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	33.87	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Whaddon Road (North)		Major
B	B	Development Access		Minor
C	C	Whaddon Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.30		0.00	✓	3.50	180.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		5.00	5.00								240	180

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	784.936	0.135	0.341	0.214	0.487
1	B-C	884.876	0.128	0.323	-	-
1	C-B	774.158	0.283	0.283	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		413.00	100.000
B	ONE HOUR		572.00	100.000
C	ONE HOUR		491.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	310.93	310.93		
07:45-08:00	B	430.63	430.63		
07:45-08:00	C	369.65	369.65		
08:00-08:15	A	371.28	371.28		
08:00-08:15	B	514.22	514.22		
08:00-08:15	C	441.40	441.40		
08:15-08:30	A	454.72	454.72		
08:15-08:30	B	629.78	629.78		
08:15-08:30	C	540.60	540.60		
08:30-08:45	A	454.72	454.72		
08:30-08:45	B	629.78	629.78		
08:30-08:45	C	540.60	540.60		
08:45-09:00	A	371.28	371.28		
08:45-09:00	B	514.22	514.22		
08:45-09:00	C	441.40	441.40		
09:00-09:15	A	310.93	310.93		
09:00-09:15	B	430.63	430.63		
09:00-09:15	C	369.65	369.65		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (07:45-08:00)

		To		
		A	B	C
From	A	0.000	32.900	419.970
	B	408.490	0.000	233.840
	C	452.800	29.760	0.000

Turning Proportions (PCU) - Junction 1 - (07:45-08:00)

		To		
		A	B	C
From	A	0.00	0.07	0.93
	B	0.64	0.00	0.36
	C	0.94	0.06	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.000	25.850	453.120
	B	456.550	0.000	207.120
	C	539.500	31.020	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.69	0.00	0.31
	C	0.95	0.05	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.000	25.380	444.810
	B	448.170	0.000	203.320
	C	529.600	30.450	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.69	0.00	0.31
	C	0.95	0.05	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.000	21.470	376.220
	B	379.060	0.000	171.970
	C	447.940	25.760	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.69	0.00	0.31
	C	0.95	0.05	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.000	16.370	286.840
	B	289.010	0.000	131.110
	C	341.520	19.640	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.69	0.00	0.31
	C	0.95	0.05	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (09:00-09:15)

		To		
		A	B	C
From	A	0.000	10.910	223.100
	B	202.310	0.000	107.270
	C	357.040	22.440	0.000

Turning Proportions (PCU) - Junction 1 - (09:00-09:15)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.65	0.00	0.35
	C	0.94	0.06	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.34	10.37	0.56	B
B-A	0.85	47.07	5.29	E
C-A	-	-	-	-
C-B	0.05	6.43	0.05	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	156.77	155.51	0.00	698.43	0.224	0.32	7.278	A
B-A	273.86	270.23	0.00	598.09	0.458	0.91	11.952	B
C-A	346.85	346.85	0.00	-	-	-	-	-
C-B	22.80	22.65	0.00	686.17	0.033	0.04	5.966	A
A-B	22.59	22.59	0.00	-	-	-	-	-
A-C	288.34	288.34	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	160.48	160.30	0.00	646.33	0.248	0.36	8.148	A
B-A	353.74	350.24	0.00	561.20	0.630	1.78	18.466	C
C-A	417.40	417.40	0.00	-	-	-	-	-
C-B	24.00	23.99	0.00	669.09	0.036	0.04	6.137	A
A-B	20.04	20.04	0.00	-	-	-	-	-
A-C	351.24	351.24	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	196.55	195.78	0.00	582.59	0.337	0.55	10.217	B
B-A	433.24	421.27	0.00	510.93	0.848	4.77	39.706	E
C-A	511.21	511.21	0.00	-	-	-	-	-
C-B	29.39	29.35	0.00	645.48	0.046	0.05	6.426	A
A-B	24.55	24.55	0.00	-	-	-	-	-
A-C	430.18	430.18	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	196.55	196.51	0.00	578.23	0.340	0.56	10.372	B
B-A	433.24	431.17	0.00	510.91	0.848	5.29	47.073	E
C-A	511.20	511.20	0.00	-	-	-	-	-
C-B	29.40	29.40	0.00	645.48	0.046	0.05	6.426	A
A-B	24.55	24.55	0.00	-	-	-	-	-
A-C	430.17	430.17	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	160.48	161.23	0.00	640.32	0.251	0.37	8.279	A
B-A	353.74	366.98	0.00	561.17	0.630	1.98	21.610	C
C-A	417.40	417.40	0.00	-	-	-	-	-
C-B	24.00	24.05	0.00	669.09	0.036	0.04	6.141	A
A-B	20.04	20.04	0.00	-	-	-	-	-
A-C	351.23	351.23	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	149.21	149.48	0.00	691.70	0.216	0.31	7.306	A
B-A	281.42	285.31	0.00	596.60	0.472	1.01	12.872	B
C-A	347.79	347.79	0.00	-	-	-	-	-
C-B	21.86	21.88	0.00	686.17	0.032	0.04	5.963	A
A-B	14.50	14.50	0.00	-	-	-	-	-
A-C	296.43	296.43	0.00	-	-	-	-	-

(Default Analysis Set) - 2026 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D2 - 2026 Base + Dev, PM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2026 Base + Dev, PM	2026 Base + Dev	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.87	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Whaddon Road (North)		Major
B	B	Development Access		Minor
C	C	Whaddon Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.30		0.00	✓	3.50	180.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	Two lanes		5.00	5.00								240	180

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	784.936	0.135	0.341	0.214	0.487
1	B-C	884.876	0.128	0.323	-	-
1	C-B	774.158	0.283	0.283	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		561.00	100.000
B	ONE HOUR		121.00	100.000
C	ONE HOUR		496.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	422.35	422.35		
16:45-17:00	B	91.10	91.10		
16:45-17:00	C	373.41	373.41		
17:00-17:15	A	504.33	504.33		
17:00-17:15	B	108.78	108.78		
17:00-17:15	C	445.89	445.89		
17:15-17:30	A	617.67	617.67		
17:15-17:30	B	133.22	133.22		
17:15-17:30	C	546.11	546.11		
17:30-17:45	A	617.67	617.67		
17:30-17:45	B	133.22	133.22		
17:30-17:45	C	546.11	546.11		
17:45-18:00	A	504.33	504.33		
17:45-18:00	B	108.78	108.78		
17:45-18:00	C	445.89	445.89		
18:00-18:15	A	422.35	422.35		
18:00-18:15	B	91.10	91.10		
18:00-18:15	C	373.41	373.41		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (16:45-17:00)

		To		
		A	B	C
From	A	0.000	149.400	254.800
	B	56.470	0.000	48.270
	C	295.950	120.420	0.000

Turning Proportions (PCU) - Junction 1 - (16:45-17:00)

		To		
		A	B	C
From	A	0.00	0.37	0.63
	B	0.54	0.00	0.46
	C	0.71	0.29	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.000	149.400	415.780
	B	75.290	0.000	46.480
	C	361.710	137.620	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.62	0.00	0.38
	C	0.72	0.28	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.000	183.300	510.140
	B	92.380	0.000	57.030
	C	443.800	168.860	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.62	0.00	0.38
	C	0.72	0.28	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.000	138.800	386.290
	B	69.950	0.000	43.180
	C	336.060	127.860	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.62	0.00	0.38
	C	0.72	0.28	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.000	121.850	339.110
	B	61.410	0.000	37.910
	C	295.010	112.250	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.62	0.00	0.38
	C	0.72	0.28	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (18:00-18:15)

		To		
		A	B	C
From	A	0.000	121.850	376.790
	B	43.500	0.000	45.490
	C	350.330	146.780	0.000

Turning Proportions (PCU) - Junction 1 - (18:00-18:15)

		To		
		A	B	C
From	A	0.00	0.24	0.76
	B	0.49	0.00	0.51
	C	0.70	0.30	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	10.0	10.0	10.0
	B	10.0	10.0	10.0
	C	10.0	10.0	10.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.07	6.26	0.09	A
B-A	0.18	10.80	0.25	B
C-A	-	-	-	-
C-B	0.25	8.82	0.37	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	41.98	41.73	0.00	761.82	0.055	0.06	5.498	A
B-A	49.11	48.70	0.00	563.59	0.087	0.10	7.684	A
C-A	265.42	265.42	0.00	-	-	-	-	-
C-B	108.00	107.14	0.00	654.64	0.165	0.22	7.233	A
A-B	156.11	156.11	0.00	-	-	-	-	-
A-C	266.24	266.24	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	41.52	41.51	0.00	723.05	0.057	0.07	5.809	A
B-A	67.26	67.01	0.00	510.92	0.132	0.16	8.916	A
C-A	323.00	323.00	0.00	-	-	-	-	-
C-B	122.89	122.70	0.00	631.44	0.195	0.26	7.784	A
A-B	133.31	133.31	0.00	-	-	-	-	-
A-C	371.01	371.01	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	50.85	50.77	0.00	683.88	0.074	0.09	6.254	A
B-A	82.37	82.06	0.00	449.33	0.183	0.24	10.773	B
C-A	395.59	395.59	0.00	-	-	-	-	-
C-B	150.52	150.11	0.00	599.37	0.251	0.36	8.806	A
A-B	163.27	163.27	0.00	-	-	-	-	-
A-C	454.40	454.40	0.00	-	-	-	-	-

Main results: (17:30-17:45)

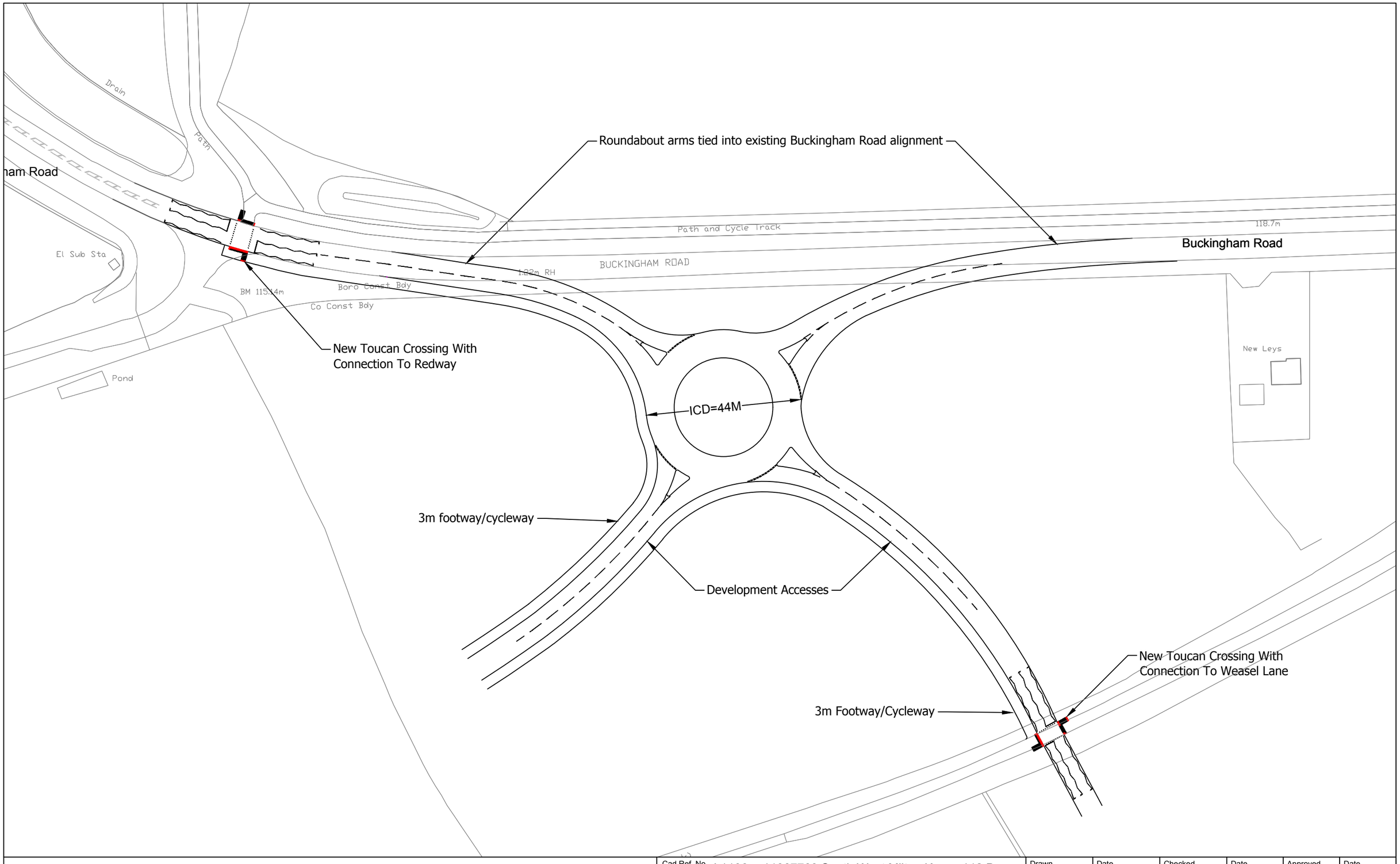
Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	50.85	50.85	0.00	683.74	0.074	0.09	6.256	A
B-A	82.37	82.37	0.00	449.14	0.183	0.25	10.796	B
C-A	395.60	395.60	0.00	-	-	-	-	-
C-B	150.51	150.50	0.00	599.37	0.251	0.37	8.822	A
A-B	163.27	163.27	0.00	-	-	-	-	-
A-C	454.40	454.40	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	41.52	41.60	0.00	722.83	0.057	0.07	5.815	A
B-A	67.26	67.56	0.00	510.62	0.132	0.17	8.945	A
C-A	323.00	323.00	0.00	-	-	-	-	-
C-B	122.90	123.29	0.00	631.44	0.195	0.27	7.800	A
A-B	133.31	133.31	0.00	-	-	-	-	-
A-C	371.01	371.01	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	46.57	46.55	0.00	752.70	0.062	0.07	5.607	A
B-A	44.53	44.81	0.00	551.55	0.081	0.10	7.820	A
C-A	263.16	263.16	0.00	-	-	-	-	-
C-B	110.26	110.43	0.00	654.64	0.168	0.22	7.278	A
A-B	103.21	103.21	0.00	-	-	-	-	-
A-C	319.14	319.14	0.00	-	-	-	-	-



At original drawing size (A3) this line measures 50mm

Notes

PRELIMINARY FOR APPROVAL

Rev.	Amendment	By	Chkd.	Date	Appd.
C	Extended flare length on Buckingham Road East	EC	SH	20-03-17	MP
B	Minor Amendments	SH	SH	04-08-16	MP
A	Amended Location and Alignment of Roundabout	CEW	SH	03-06-16	MP

Cad Ref. No. L:\106xxx\1067760 South West Milton Keynes\12 Dwgs

Drawn	Date	Checked	Date	Approved	Date
RJP	14-12-2015	SH	18-12-15	MJP	18-12-15

Project: SOUTH WEST MILTON KEYNES

Title: ALTERNATIVE JUNCTION ARRANGEMENT FOR PROPOSED ACCESS ON BUCKINGHAM ROAD

mouchel

Export House
Woking, Surrey. GU21 6QX
Tel: +44 (0)1483 731000
Fax: +44 (0)1483 731010

Scale: 1:1000@A3

Job No.: 1067760

Client: SWMK Consortium

Drawing No.: D017

Rev.: C

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]

Filename: 2017-02-20 Roundabout Site Access_SH.arc8
Path: L:\106xxx\1067760 South West Milton Keynes\09 Docs\C-Cals\02 Jn Modelling\Access Junctions\Corrected Flows
Report generation date: 20/03/2017 11:09:47

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2026 DS			
Arm A	5.42	31.27	0.85	D
Arm B	0.38	5.57	0.26	A
Arm C	0.27	3.61	0.20	A
Arm D	2.29	10.79	0.68	B

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

"D1 - 2026 DS, AM " model duration: 07:45 - 09:15
"D2 - 2026 DS, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 20/03/2017 11:09:46

File summary

Title	(untitled)
Location	
Site Number	
Date	08/12/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	rprag
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - 2026 DS, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D1 - 2026 DS, AM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2026 DS, AM	2026 DS	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Buckingham Road Access	Roundabout	A,B,C,D				16.05	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	(untitled)	Buckingham Road (East)
B	B	(untitled)	Development Access SE
C	C	(untitled)	Development Access SW
D	D	untitled	Buckingham Road (West)

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.64	5.39	3.72	23.28	44.00	22.00	
B	3.53	5.25	3.55	24.67	44.00	28.00	
C	4.09	4.79	1.89	37.50	44.00	19.00	
D	3.65	5.47	3.80	19.52	44.00	28.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	1360.049
B		(calculated)	(calculated)	0.556	1293.442
C		(calculated)	(calculated)	0.594	1417.216
D		(calculated)	(calculated)	0.560	1331.327

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		601.00	100.000
B	ONE HOUR		227.00	100.000
C	ONE HOUR		246.00	100.000
D	ONE HOUR		705.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	452.46	452.46		
07:45-08:00	B	170.90	170.90		
07:45-08:00	C	185.20	185.20		
07:45-08:00	D	530.76	530.76		
08:00-08:15	A	540.29	540.29		
08:00-08:15	B	204.07	204.07		
08:00-08:15	C	221.15	221.15		
08:00-08:15	D	633.78	633.78		
08:15-08:30	A	661.71	661.71		
08:15-08:30	B	249.93	249.93		
08:15-08:30	C	270.85	270.85		
08:15-08:30	D	776.22	776.22		
08:30-08:45	A	661.71	661.71		
08:30-08:45	B	249.93	249.93		
08:30-08:45	C	270.85	270.85		
08:30-08:45	D	776.22	776.22		
08:45-09:00	A	540.29	540.29		
08:45-09:00	B	204.07	204.07		
08:45-09:00	C	221.15	221.15		
08:45-09:00	D	633.78	633.78		
09:00-09:15	A	452.46	452.46		
09:00-09:15	B	170.90	170.90		
09:00-09:15	C	185.20	185.20		
09:00-09:15	D	530.76	530.76		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (07:45-08:00)

		To			
		A	B	C	D
From	A	0.000	114.250	111.800	0.000
	B	296.240	0.000	909.590	25.260
	C	90.270	472.400	0.000	8.410
	D	0.000	172.600	122.580	0.000

Turning Proportions (PCU) - Junction 1 - (07:45-08:00)

		To			
		A	B	C	D
From	A	0.00	0.51	0.49	0.00
	B	0.24	0.00	0.74	0.02
	C	0.16	0.83	0.00	0.01
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:00-08:15)

		To			
		A	B	C	D
From	A	0.000	167.030	118.780	0.000
	B	236.990	0.000	539.020	43.090
	C	91.920	590.500	0.000	15.800
	D	0.000	153.420	110.120	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.29	0.00	0.66	0.05
	C	0.13	0.85	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:15-08:30)

		To			
		A	B	C	D
From	A	0.000	163.970	116.600	0.000
	B	232.640	0.000	529.130	42.300
	C	90.240	579.670	0.000	15.510
	D	0.000	150.610	108.100	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.29	0.00	0.66	0.05
	C	0.13	0.85	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:30-08:45)

		To			
		A	B	C	D
From	A	0.000	138.680	98.620	0.000
	B	196.770	0.000	447.530	35.780
	C	76.320	490.280	0.000	13.120
	D	0.000	127.380	91.430	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.29	0.00	0.66	0.05
	C	0.13	0.85	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	105.740	75.190	0.000
	B	150.020	0.000	341.210	27.280
	C	58.190	373.800	0.000	10.000
	D	0.000	97.120	69.710	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.29	0.00	0.66	0.05
	C	0.13	0.85	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	105.740	69.110	0.000
	B	214.320	0.000	238.850	17.230
	C	63.780	320.400	0.000	8.570
	D	0.000	203.070	50.510	0.000

Turning Proportions (PCU) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.00	0.60	0.40	0.00
	B	0.46	0.00	0.51	0.04
	C	0.16	0.82	0.00	0.02
	D	0.00	0.80	0.20	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	10.0	10.0	10.0	10.0
	B	10.0	10.0	10.0	10.0
	C	10.0	10.0	10.0	10.0
	D	10.0	10.0	10.0	10.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.85	31.27	5.42	D	551.49	827.23	223.42	16.21	2.48	223.45	16.21
B	0.26	5.57	0.38	A	208.30	312.45	25.75	4.94	0.29	25.75	4.94
C	0.20	3.61	0.27	A	225.73	338.60	19.50	3.45	0.22	19.50	3.45
D	0.68	10.79	2.29	B	646.92	970.38	130.76	8.09	1.45	130.78	8.09

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	452.46	113.12	448.67	70.09	679.99	0.00	969.32	477.85	0.467	0.00	0.95	7.552	A
B	170.90	42.72	170.05	687.76	440.90	0.00	1048.28	1047.20	0.163	0.00	0.21	4.505	A
C	185.20	46.30	184.53	566.53	44.41	0.00	1390.85	1254.86	0.133	0.00	0.17	3.281	A
D	530.76	132.69	527.34	6.21	222.73	0.00	1206.51	497.27	0.440	0.00	0.85	5.802	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	540.29	135.07	537.47	88.04	819.03	0.00	889.43	488.50	0.607	0.95	1.65	11.162	B
B	204.07	51.02	203.83	868.70	487.80	0.00	1022.20	1064.17	0.200	0.21	0.27	4.837	A
C	221.15	55.29	220.98	622.00	69.63	0.00	1375.88	1201.19	0.161	0.17	0.21	3.428	A
D	633.78	158.45	632.15	15.69	274.92	0.00	1177.27	500.90	0.538	0.85	1.26	7.242	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	661.71	165.43	648.45	107.81	1001.12	0.00	784.79	488.50	0.843	1.65	4.97	26.794	D
B	249.93	62.48	249.49	1057.40	592.17	0.00	964.17	1064.18	0.259	0.27	0.38	5.537	A
C	270.85	67.71	270.61	756.35	85.31	0.00	1366.57	1201.19	0.198	0.21	0.27	3.613	A
D	776.22	194.05	772.26	19.25	336.67	0.00	1142.66	500.90	0.679	1.26	2.25	10.578	B

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	661.71	165.43	659.89	107.97	1005.12	0.00	782.49	488.50	0.846	4.97	5.42	31.273	D
B	249.93	62.48	249.92	1066.49	598.52	0.00	960.63	1064.17	0.260	0.38	0.38	5.571	A
C	270.85	67.71	270.85	762.98	85.46	0.00	1366.48	1201.19	0.198	0.27	0.27	3.613	A
D	776.22	194.05	776.06	19.28	337.03	0.00	1142.46	500.90	0.679	2.25	2.29	10.795	B

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	540.29	135.07	554.88	88.31	824.95	0.00	886.03	488.50	0.610	5.42	1.77	12.449	B
B	204.07	51.02	204.50	882.76	497.07	0.00	1017.05	1064.18	0.201	0.38	0.28	4.875	A
C	221.15	55.29	221.39	631.64	69.93	0.00	1375.70	1201.19	0.161	0.27	0.21	3.433	A
D	633.78	158.45	637.72	15.77	275.55	0.00	1176.92	500.90	0.539	2.29	1.31	7.398	A

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	452.46	113.12	455.63	107.90	683.61	0.00	967.24	590.60	0.468	1.77	0.98	7.788	A
B	170.90	42.72	171.22	851.83	287.42	0.00	1133.62	1113.96	0.151	0.28	0.20	4.115	A
C	185.20	46.30	185.36	374.53	84.12	0.00	1367.28	1091.68	0.135	0.21	0.17	3.352	A
D	530.76	132.69	532.38	10.33	259.14	0.00	1186.11	448.51	0.447	1.31	0.90	6.071	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.54	0.90	7.552	A	A
B	3.12	0.21	4.505	A	A
C	2.48	0.17	3.281	A	A
D	12.32	0.82	5.802	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	23.37	1.56	11.162	B	B
B	4.02	0.27	4.837	A	A
C	3.11	0.21	3.428	A	A
D	18.24	1.22	7.242	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	62.49	4.17	26.794	D	C
B	5.60	0.37	5.537	A	A
C	4.00	0.27	3.613	A	A
D	31.65	2.11	10.578	B	B

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	78.57	5.24	31.273	D	C
B	5.76	0.38	5.571	A	A
C	4.06	0.27	3.613	A	A
D	34.11	2.27	10.795	B	B

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	30.06	2.00	12.449	B	B
B	4.26	0.28	4.875	A	A
C	3.22	0.21	3.433	A	A
D	20.49	1.37	7.398	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.39	1.03	7.788	A	A
B	3.00	0.20	4.115	A	A
C	2.63	0.18	3.352	A	A
D	13.95	0.93	6.071	A	A

(Default Analysis Set) - 2026 DS, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D2 - 2026 DS, PM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2026 DS, PM	2026 DS	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Buckingham Road Access	Roundabout	A,B,C,D				37.23	E

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	(untitled)	Buckingham Road (East)
B	B	(untitled)	Development Access SE
C	C	(untitled)	Development Access SW
D	D	untitled	Buckingham Road (West)

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.64	5.39	3.72	23.28	44.00	22.00	
B	3.53	5.25	3.55	24.67	44.00	28.00	
C	4.09	4.79	1.89	37.50	44.00	19.00	
D	3.65	5.47	3.80	19.52	44.00	28.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	1360.049
B		(calculated)	(calculated)	0.556	1293.442
C		(calculated)	(calculated)	0.594	1417.216
D		(calculated)	(calculated)	0.560	1331.327

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		673.00	100.000
B	ONE HOUR		93.00	100.000
C	ONE HOUR		283.00	100.000
D	ONE HOUR		737.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	506.67	506.67		
16:45-17:00	B	70.02	70.02		
16:45-17:00	C	213.06	213.06		
16:45-17:00	D	554.85	554.85		
17:00-17:15	A	605.01	605.01		
17:00-17:15	B	83.61	83.61		
17:00-17:15	C	254.41	254.41		
17:00-17:15	D	662.55	662.55		
17:15-17:30	A	740.99	740.99		
17:15-17:30	B	102.39	102.39		
17:15-17:30	C	311.59	311.59		
17:15-17:30	D	811.45	811.45		
17:30-17:45	A	740.99	740.99		
17:30-17:45	B	102.39	102.39		
17:30-17:45	C	311.59	311.59		
17:30-17:45	D	811.45	811.45		
17:45-18:00	A	605.01	605.01		
17:45-18:00	B	83.61	83.61		
17:45-18:00	C	254.41	254.41		
17:45-18:00	D	662.55	662.55		
18:00-18:15	A	506.67	506.67		
18:00-18:15	B	70.02	70.02		
18:00-18:15	C	213.06	213.06		
18:00-18:15	D	554.85	554.85		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (16:45-17:00)

		To			
		A	B	C	D
From	A	0.000	185.200	57.390	0.000
	B	72.890	0.000	221.000	80.580
	C	61.890	267.420	0.000	65.920
	D	0.000	98.020	21.810	0.000

Turning Proportions (PCU) - Junction 1 - (16:45-17:00)

		To			
		A	B	C	D
From	A	0.00	0.76	0.24	0.00
	B	0.19	0.00	0.59	0.22
	C	0.16	0.68	0.00	0.17
	D	0.00	0.82	0.18	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:00-17:15)

		To			
		A	B	C	D
From	A	0.000	229.290	55.770	0.000
	B	63.380	0.000	589.340	89.540
	C	59.360	534.840	0.000	83.500
	D	0.000	75.400	18.590	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.09	0.00	0.79	0.12
	C	0.09	0.79	0.00	0.12
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:15-17:30)

		To			
		A	B	C	D
From	A	0.000	281.330	68.430	0.000
	B	77.760	0.000	723.090	109.860
	C	72.830	656.230	0.000	102.450
	D	0.000	92.510	22.810	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.09	0.00	0.79	0.12
	C	0.09	0.79	0.00	0.12
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:30-17:45)

		To			
		A	B	C	D
From	A	0.000	213.030	51.820	0.000
	B	58.880	0.000	547.540	83.190
	C	55.150	496.910	0.000	77.580
	D	0.000	70.050	17.270	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.09	0.00	0.79	0.12
	C	0.09	0.79	0.00	0.12
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:45-18:00)

		To			
		A	B	C	D
From	A	0.000	187.010	45.490	0.000
	B	51.690	0.000	480.660	73.030
	C	48.410	436.220	0.000	68.100
	D	0.000	61.490	15.160	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.09	0.00	0.79	0.12
	C	0.09	0.79	0.00	0.12
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	210.390	50.790	0.000
	B	61.540	0.000	443.690	91.960
	C	42.140	581.630	0.000	50.660
	D	0.000	87.850	11.790	0.000

Turning Proportions (PCU) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.00	0.81	0.19	0.00
	B	0.10	0.00	0.74	0.15
	C	0.06	0.86	0.00	0.08
	D	0.00	0.88	0.12	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	10.0	10.0	10.0	10.0
	B	10.0	10.0	10.0	10.0
	C	10.0	10.0	10.0	10.0
	D	10.0	10.0	10.0	10.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.98	84.79	17.02	F	617.56	926.33	498.70	32.30	5.54	498.76	32.31
B	0.09	3.87	0.11	A	85.34	128.01	7.91	3.71	0.09	7.91	3.71
C	0.22	3.62	0.31	A	259.69	389.53	22.48	3.46	0.25	22.48	3.46
D	0.69	10.92	2.42	B	676.28	1014.43	137.61	8.14	1.53	137.63	8.14

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	506.67	126.67	501.86	46.81	694.88	0.00	960.77	530.57	0.527	0.00	1.20	8.543	A
B	70.02	17.50	69.74	977.68	219.06	0.00	1171.64	1155.35	0.060	0.00	0.07	3.593	A
C	213.06	53.26	212.27	260.21	28.58	0.00	1400.25	1136.11	0.152	0.00	0.20	3.332	A
D	554.85	138.71	551.25	50.41	190.44	0.00	1224.61	674.84	0.453	0.00	0.90	5.851	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	605.01	151.25	600.10	29.49	861.39	0.00	865.08	409.51	0.699	1.20	2.43	14.675	B
B	83.61	20.90	83.54	1213.24	248.25	0.00	1155.40	1177.47	0.072	0.07	0.09	3.693	A
C	254.41	63.60	254.23	314.53	17.27	0.00	1406.96	1273.20	0.181	0.20	0.24	3.435	A
D	662.55	165.64	660.84	41.46	230.04	0.00	1202.42	649.42	0.551	0.90	1.33	7.288	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	740.99	185.25	701.12	36.00	1052.94	0.00	755.02	409.51	0.981	2.43	12.40	53.008	F
B	102.39	25.60	102.30	1457.21	296.85	0.00	1128.38	1177.47	0.091	0.09	0.11	3.859	A
C	311.59	77.90	311.31	378.07	21.08	0.00	1404.70	1273.21	0.222	0.24	0.31	3.621	A
D	811.45	202.86	807.25	50.70	281.69	0.00	1173.48	649.42	0.691	1.33	2.38	10.690	B

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	740.99	185.25	722.49	36.03	1057.18	0.00	752.58	409.51	0.985	12.40	17.02	84.795	F
B	102.39	25.60	102.39	1477.86	301.82	0.00	1125.62	1177.47	0.091	0.11	0.11	3.869	A
C	311.59	77.90	311.59	383.11	21.09	0.00	1404.69	1273.21	0.222	0.31	0.31	3.621	A
D	811.45	202.86	811.28	50.74	281.94	0.00	1173.34	649.42	0.692	2.38	2.42	10.922	B

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	605.01	151.25	662.02	29.45	867.73	0.00	861.44	409.51	0.702	17.02	2.77	24.887	C
B	83.61	20.90	83.70	1268.35	261.40	0.00	1148.09	1177.47	0.073	0.11	0.09	3.719	A
C	254.41	63.60	254.69	327.85	17.24	0.00	1406.98	1273.20	0.181	0.31	0.24	3.436	A
D	662.55	165.64	666.73	41.48	230.45	0.00	1202.19	649.42	0.551	2.42	1.37	7.454	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	506.67	126.67	512.42	20.56	740.45	0.00	934.58	391.50	0.542	2.77	1.33	9.502	A
B	70.02	17.50	70.09	1086.91	165.96	0.00	1201.16	1210.14	0.058	0.09	0.07	3.503	A
C	213.06	53.26	213.24	218.05	18.00	0.00	1406.53	1232.55	0.151	0.24	0.20	3.320	A
D	554.85	138.71	556.62	26.85	204.40	0.00	1216.79	622.63	0.456	1.37	0.93	6.013	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	17.03	1.14	8.543	A	A
B	1.02	0.07	3.593	A	A
C	2.89	0.19	3.332	A	A
D	12.98	0.87	5.851	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	33.50	2.23	14.675	B	B
B	1.27	0.08	3.693	A	A
C	3.58	0.24	3.435	A	A
D	19.17	1.28	7.288	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	130.07	8.67	53.008	F	D
B	1.62	0.11	3.859	A	A
C	4.61	0.31	3.621	A	A
D	33.37	2.22	10.690	B	B

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	223.12	14.87	84.795	F	F
B	1.64	0.11	3.869	A	A
C	4.69	0.31	3.621	A	A
D	36.05	2.40	10.922	B	B

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	73.81	4.92	24.887	C	C
B	1.32	0.09	3.719	A	A
C	3.71	0.25	3.436	A	A
D	21.59	1.44	7.454	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	21.18	1.41	9.502	A	A
B	1.04	0.07	3.503	A	A
C	3.00	0.20	3.320	A	A
D	14.45	0.96	6.013	A	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 2017-02-20 Roundabout Site Access_SH_additional flare.arc8
Path: L:\106xxx\1067760 South West Milton Keynes\09 Docs\C-Cals\02 Jn Modelling\Access Junctions\Corrected Flows
Report generation date: 20/03/2017 11:11:11

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2026 DS			
Arm A	2.88	16.11	0.73	C
Arm B	0.39	5.57	0.26	A
Arm C	0.27	3.61	0.20	A
Arm D	2.29	10.79	0.68	B

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

"D1 - 2026 DS, AM " model duration: 07:45 - 09:15
"D2 - 2026 DS, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 20/03/2017 11:11:10

File summary

Title	(untitled)
Location	
Site Number	
Date	08/12/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	rprag
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - 2026 DS, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D1 - 2026 DS, AM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2026 DS, AM	2026 DS	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Buckingham Road Access	Roundabout	A,B,C,D				10.93	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	(untitled)	Buckingham Road (East)
B	B	(untitled)	Development Access SE
C	C	(untitled)	Development Access SW
D	D	untitled	Buckingham Road (West)

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.64	5.39	11.90	23.28	44.00	22.00	
B	3.53	5.25	3.55	24.67	44.00	28.00	
C	4.09	4.79	1.89	37.50	44.00	19.00	
D	3.65	5.47	3.80	19.52	44.00	28.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.605	1514.011
B		(calculated)	(calculated)	0.556	1293.442
C		(calculated)	(calculated)	0.594	1417.216
D		(calculated)	(calculated)	0.560	1331.327

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		601.00	100.000
B	ONE HOUR		227.00	100.000
C	ONE HOUR		246.00	100.000
D	ONE HOUR		705.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	452.46	452.46		
07:45-08:00	B	170.90	170.90		
07:45-08:00	C	185.20	185.20		
07:45-08:00	D	530.76	530.76		
08:00-08:15	A	540.29	540.29		
08:00-08:15	B	204.07	204.07		
08:00-08:15	C	221.15	221.15		
08:00-08:15	D	633.78	633.78		
08:15-08:30	A	661.71	661.71		
08:15-08:30	B	249.93	249.93		
08:15-08:30	C	270.85	270.85		
08:15-08:30	D	776.22	776.22		
08:30-08:45	A	661.71	661.71		
08:30-08:45	B	249.93	249.93		
08:30-08:45	C	270.85	270.85		
08:30-08:45	D	776.22	776.22		
08:45-09:00	A	540.29	540.29		
08:45-09:00	B	204.07	204.07		
08:45-09:00	C	221.15	221.15		
08:45-09:00	D	633.78	633.78		
09:00-09:15	A	452.46	452.46		
09:00-09:15	B	170.90	170.90		
09:00-09:15	C	185.20	185.20		
09:00-09:15	D	530.76	530.76		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (07:45-08:00)

		To			
		A	B	C	D
From	A	0.000	114.250	111.800	0.000
	B	296.240	0.000	909.590	25.260
	C	90.270	472.400	0.000	8.410
	D	0.000	172.600	122.580	0.000

Turning Proportions (PCU) - Junction 1 - (07:45-08:00)

		To			
		A	B	C	D
From	A	0.00	0.51	0.49	0.00
	B	0.24	0.00	0.74	0.02
	C	0.16	0.83	0.00	0.01
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:00-08:15)

		To			
		A	B	C	D
From	A	0.000	167.030	118.780	0.000
	B	236.990	0.000	539.020	43.090
	C	91.920	590.500	0.000	15.800
	D	0.000	153.420	110.120	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.29	0.00	0.66	0.05
	C	0.13	0.85	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:15-08:30)

		To			
		A	B	C	D
From	A	0.000	163.970	116.600	0.000
	B	232.640	0.000	529.130	42.300
	C	90.240	579.670	0.000	15.510
	D	0.000	150.610	108.100	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.29	0.00	0.66	0.05
	C	0.13	0.85	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:30-08:45)

		To			
		A	B	C	D
From	A	0.000	138.680	98.620	0.000
	B	196.770	0.000	447.530	35.780
	C	76.320	490.280	0.000	13.120
	D	0.000	127.380	91.430	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.29	0.00	0.66	0.05
	C	0.13	0.85	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	105.740	75.190	0.000
	B	150.020	0.000	341.210	27.280
	C	58.190	373.800	0.000	10.000
	D	0.000	97.120	69.710	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.29	0.00	0.66	0.05
	C	0.13	0.85	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	105.740	69.110	0.000
	B	214.320	0.000	238.850	17.230
	C	63.780	320.400	0.000	8.570
	D	0.000	203.070	50.510	0.000

Turning Proportions (PCU) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.00	0.60	0.40	0.00
	B	0.46	0.00	0.51	0.04
	C	0.16	0.82	0.00	0.02
	D	0.00	0.80	0.20	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	10.0	10.0	10.0	10.0
	B	10.0	10.0	10.0	10.0
	C	10.0	10.0	10.0	10.0
	D	10.0	10.0	10.0	10.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.73	16.11	2.88	C	551.49	827.23	141.29	10.25	1.57	141.31	10.25
B	0.26	5.57	0.39	A	208.30	312.45	25.76	4.95	0.29	25.76	4.95
C	0.20	3.61	0.27	A	225.73	338.60	19.50	3.45	0.22	19.50	3.45
D	0.68	10.79	2.29	B	646.92	970.38	130.76	8.09	1.45	130.78	8.09

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	452.46	113.12	449.44	70.09	679.99	0.00	1102.73	582.30	0.410	0.00	0.76	6.034	A
B	170.90	42.72	170.05	688.15	441.27	0.00	1048.07	1018.15	0.163	0.00	0.21	4.507	A
C	185.20	46.30	184.53	566.91	44.41	0.00	1390.85	1259.37	0.133	0.00	0.17	3.281	A
D	530.76	132.69	527.34	6.21	222.73	0.00	1206.51	498.70	0.440	0.00	0.85	5.802	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	540.29	135.07	538.44	88.04	819.03	0.00	1018.64	593.32	0.530	0.76	1.22	8.215	A
B	204.07	51.02	203.83	869.32	488.14	0.00	1022.01	1039.66	0.200	0.21	0.27	4.839	A
C	221.15	55.29	220.98	622.35	69.63	0.00	1375.88	1206.17	0.161	0.17	0.21	3.428	A
D	633.78	158.45	632.15	15.69	274.92	0.00	1177.27	502.15	0.538	0.85	1.26	7.242	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	661.71	165.43	655.47	107.81	1001.12	0.00	908.50	593.33	0.728	1.22	2.78	15.284	C
B	249.93	62.48	249.49	1061.51	595.09	0.00	962.54	1039.66	0.260	0.27	0.38	5.549	A
C	270.85	67.71	270.61	759.27	85.31	0.00	1366.57	1206.17	0.198	0.21	0.27	3.613	A
D	776.22	194.05	772.26	19.25	336.67	0.00	1142.66	502.15	0.679	1.26	2.25	10.578	B

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	661.71	165.43	661.31	107.97	1005.12	0.00	906.08	593.33	0.730	2.78	2.88	16.112	C
B	249.93	62.48	249.92	1067.32	599.12	0.00	960.30	1039.66	0.260	0.38	0.39	5.573	A
C	270.85	67.71	270.85	763.58	85.46	0.00	1366.48	1206.16	0.198	0.27	0.27	3.613	A
D	776.22	194.05	776.06	19.28	337.03	0.00	1142.46	502.15	0.679	2.25	2.29	10.795	B

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	540.29	135.07	546.70	88.31	824.95	0.00	1015.06	593.33	0.532	2.88	1.28	8.566	A
B	204.07	51.02	204.50	877.98	493.66	0.00	1018.94	1039.66	0.200	0.39	0.28	4.864	A
C	221.15	55.29	221.39	628.24	69.93	0.00	1375.70	1206.16	0.161	0.27	0.21	3.430	A
D	633.78	158.45	637.72	15.77	275.55	0.00	1176.92	502.14	0.539	2.29	1.31	7.395	A

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	452.46	113.12	454.46	107.90	683.61	0.00	1100.54	699.23	0.411	1.28	0.78	6.149	A
B	170.90	42.72	171.22	851.16	286.92	0.00	1133.90	1089.84	0.151	0.28	0.20	4.116	A
C	185.20	46.30	185.36	374.02	84.12	0.00	1367.28	1098.74	0.135	0.21	0.17	3.350	A
D	530.76	132.69	532.38	10.33	259.14	0.00	1186.11	450.80	0.447	1.31	0.90	6.071	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.92	0.73	6.034	A	A
B	3.12	0.21	4.507	A	A
C	2.48	0.17	3.281	A	A
D	12.32	0.82	5.802	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	17.54	1.17	8.215	A	A
B	4.02	0.27	4.839	A	A
C	3.11	0.21	3.428	A	A
D	18.24	1.22	7.242	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	37.87	2.52	15.284	C	B
B	5.61	0.37	5.549	A	A
C	4.00	0.27	3.613	A	A
D	31.65	2.11	10.578	B	B

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	42.61	2.84	16.112	C	B
B	5.76	0.38	5.573	A	A
C	4.06	0.27	3.613	A	A
D	34.11	2.27	10.795	B	B

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.31	1.35	8.566	A	A
B	4.25	0.28	4.864	A	A
C	3.22	0.21	3.430	A	A
D	20.49	1.37	7.395	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.05	0.80	6.149	A	A
B	3.00	0.20	4.116	A	A
C	2.63	0.18	3.350	A	A
D	13.95	0.93	6.071	A	A

(Default Analysis Set) - 2026 DS, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D2 - 2026 DS, PM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2026 DS, PM	2026 DS	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Buckingham Road Access	Roundabout	A,B,C,D				15.99	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	(untitled)	Buckingham Road (East)
B	B	(untitled)	Development Access SE
C	C	(untitled)	Development Access SW
D	D	untitled	Buckingham Road (West)

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.64	5.39	11.90	23.28	44.00	22.00	
B	3.53	5.25	3.55	24.67	44.00	28.00	
C	4.09	4.79	1.89	37.50	44.00	19.00	
D	3.65	5.47	3.80	19.52	44.00	28.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.605	1514.011
B		(calculated)	(calculated)	0.556	1293.442
C		(calculated)	(calculated)	0.594	1417.216
D		(calculated)	(calculated)	0.560	1331.327

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		673.00	100.000
B	ONE HOUR		93.00	100.000
C	ONE HOUR		283.00	100.000
D	ONE HOUR		737.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	506.67	506.67		
16:45-17:00	B	70.02	70.02		
16:45-17:00	C	213.06	213.06		
16:45-17:00	D	554.85	554.85		
17:00-17:15	A	605.01	605.01		
17:00-17:15	B	83.61	83.61		
17:00-17:15	C	254.41	254.41		
17:00-17:15	D	662.55	662.55		
17:15-17:30	A	740.99	740.99		
17:15-17:30	B	102.39	102.39		
17:15-17:30	C	311.59	311.59		
17:15-17:30	D	811.45	811.45		
17:30-17:45	A	740.99	740.99		
17:30-17:45	B	102.39	102.39		
17:30-17:45	C	311.59	311.59		
17:30-17:45	D	811.45	811.45		
17:45-18:00	A	605.01	605.01		
17:45-18:00	B	83.61	83.61		
17:45-18:00	C	254.41	254.41		
17:45-18:00	D	662.55	662.55		
18:00-18:15	A	506.67	506.67		
18:00-18:15	B	70.02	70.02		
18:00-18:15	C	213.06	213.06		
18:00-18:15	D	554.85	554.85		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (16:45-17:00)

		To			
		A	B	C	D
From	A	0.000	185.200	57.390	0.000
	B	72.890	0.000	221.000	80.580
	C	61.890	267.420	0.000	65.920
	D	0.000	98.020	21.810	0.000

Turning Proportions (PCU) - Junction 1 - (16:45-17:00)

		To			
		A	B	C	D
From	A	0.00	0.76	0.24	0.00
	B	0.19	0.00	0.59	0.22
	C	0.16	0.68	0.00	0.17
	D	0.00	0.82	0.18	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:00-17:15)

		To			
		A	B	C	D
From	A	0.000	229.290	55.770	0.000
	B	63.380	0.000	589.340	89.540
	C	59.360	534.840	0.000	83.500
	D	0.000	75.400	18.590	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.09	0.00	0.79	0.12
	C	0.09	0.79	0.00	0.12
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:15-17:30)

		To			
		A	B	C	D
From	A	0.000	281.330	68.430	0.000
	B	77.760	0.000	723.090	109.860
	C	72.830	656.230	0.000	102.450
	D	0.000	92.510	22.810	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.09	0.00	0.79	0.12
	C	0.09	0.79	0.00	0.12
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:30-17:45)

		To			
		A	B	C	D
From	A	0.000	213.030	51.820	0.000
	B	58.880	0.000	547.540	83.190
	C	55.150	496.910	0.000	77.580
	D	0.000	70.050	17.270	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.09	0.00	0.79	0.12
	C	0.09	0.79	0.00	0.12
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:45-18:00)

		To			
		A	B	C	D
From	A	0.000	187.010	45.490	0.000
	B	51.690	0.000	480.660	73.030
	C	48.410	436.220	0.000	68.100
	D	0.000	61.490	15.160	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.09	0.00	0.79	0.12
	C	0.09	0.79	0.00	0.12
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	210.390	50.790	0.000
	B	61.540	0.000	443.690	91.960
	C	42.140	581.630	0.000	50.660
	D	0.000	87.850	11.790	0.000

Turning Proportions (PCU) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.00	0.81	0.19	0.00
	B	0.10	0.00	0.74	0.15
	C	0.06	0.86	0.00	0.08
	D	0.00	0.88	0.12	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	10.0	10.0	10.0	10.0
	B	10.0	10.0	10.0	10.0
	C	10.0	10.0	10.0	10.0
	D	10.0	10.0	10.0	10.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.85	28.42	5.53	D	617.56	926.33	227.57	14.74	2.53	227.59	14.74
B	0.09	3.88	0.11	A	85.34	128.01	7.91	3.71	0.09	7.91	3.71
C	0.22	3.62	0.31	A	259.69	389.53	22.48	3.46	0.25	22.48	3.46
D	0.69	10.92	2.42	B	676.28	1014.43	137.61	8.14	1.53	137.63	8.14

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	506.67	126.67	502.92	46.81	694.88	0.00	1093.73	639.52	0.463	0.00	0.94	6.662	A
B	70.02	17.50	69.74	978.49	219.31	0.00	1171.50	1141.03	0.060	0.00	0.07	3.594	A
C	213.06	53.26	212.27	260.47	28.58	0.00	1400.25	1139.60	0.152	0.00	0.20	3.332	A
D	554.85	138.71	551.25	50.41	190.44	0.00	1224.61	674.77	0.453	0.00	0.90	5.851	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	605.01	151.25	602.08	29.49	861.39	0.00	993.01	512.91	0.609	0.94	1.67	10.054	B
B	83.61	20.90	83.54	1214.88	248.60	0.00	1155.21	1166.24	0.072	0.07	0.09	3.694	A
C	254.41	63.60	254.23	314.87	17.27	0.00	1406.96	1274.58	0.181	0.20	0.24	3.435	A
D	662.55	165.64	660.84	41.46	230.04	0.00	1202.42	649.28	0.551	0.90	1.33	7.288	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	740.99	185.25	727.31	36.00	1052.94	0.00	877.16	512.91	0.845	1.67	5.09	24.484	C
B	102.39	25.60	102.30	1478.27	301.97	0.00	1125.53	1166.23	0.091	0.09	0.11	3.870	A
C	311.59	77.90	311.31	383.19	21.08	0.00	1404.70	1274.58	0.222	0.24	0.31	3.621	A
D	811.45	202.86	807.25	50.70	281.69	0.00	1173.48	649.28	0.691	1.33	2.38	10.690	B

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	740.99	185.25	739.21	36.03	1057.18	0.00	874.60	512.91	0.847	5.09	5.53	28.422	D
B	102.39	25.60	102.39	1491.31	305.09	0.00	1123.80	1166.24	0.091	0.11	0.11	3.876	A
C	311.59	77.90	311.59	386.39	21.09	0.00	1404.69	1274.58	0.222	0.31	0.31	3.621	A
D	811.45	202.86	811.28	50.74	281.94	0.00	1173.34	649.28	0.692	2.38	2.42	10.922	B

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	605.01	151.25	620.01	29.45	867.73	0.00	989.18	512.90	0.612	5.53	1.78	11.135	B
B	83.61	20.90	83.70	1234.56	253.18	0.00	1152.66	1166.24	0.073	0.11	0.09	3.706	A
C	254.41	63.60	254.69	319.63	17.24	0.00	1406.98	1274.58	0.181	0.31	0.24	3.439	A
D	662.55	165.64	666.73	41.48	230.45	0.00	1202.19	649.28	0.551	2.42	1.37	7.451	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	506.67	126.67	509.76	20.56	740.45	0.00	1066.17	493.78	0.475	1.78	1.01	7.155	A
B	70.02	17.50	70.09	1084.77	165.44	0.00	1201.45	1199.10	0.058	0.09	0.07	3.502	A
C	213.06	53.26	213.24	217.53	18.00	0.00	1406.53	1234.24	0.151	0.24	0.20	3.318	A
D	554.85	138.71	556.62	26.85	204.40	0.00	1216.79	622.39	0.456	1.37	0.93	6.016	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.43	0.90	6.662	A	A
B	1.02	0.07	3.594	A	A
C	2.89	0.19	3.332	A	A
D	12.98	0.87	5.851	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	23.67	1.58	10.054	B	B
B	1.27	0.08	3.694	A	A
C	3.58	0.24	3.435	A	A
D	19.17	1.28	7.288	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	64.35	4.29	24.484	C	C
B	1.62	0.11	3.870	A	A
C	4.61	0.31	3.621	A	A
D	33.37	2.22	10.690	B	B

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	80.29	5.35	28.422	D	C
B	1.65	0.11	3.876	A	A
C	4.69	0.31	3.621	A	A
D	36.05	2.40	10.922	B	B

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	30.02	2.00	11.135	B	B
B	1.31	0.09	3.706	A	A
C	3.71	0.25	3.439	A	A
D	21.59	1.44	7.451	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.80	1.05	7.155	A	A
B	1.04	0.07	3.502	A	A
C	3.00	0.20	3.318	A	A
D	14.45	0.96	6.016	A	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]

Filename: 2017-02-20 Roundabout Site Access_SH_additional flare_TP.arc8
Path: L:\106xxx\1067760 South West Milton Keynes\09 Docs\C-Cals\02 Jn Modelling\Access Junctions\Corrected Flows
Report generation date: 20/03/2017 11:28:55

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2026 DS			
Arm A	2.48	14.01	0.70	B
Arm B	0.33	5.32	0.23	A
Arm C	0.24	3.50	0.18	A
Arm D	1.97	9.57	0.64	A

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

"D1 - 2026 DS, AM " model duration: 07:45 - 09:15
"D2 - 2026 DS, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 20/03/2017 11:28:54

File summary

Title	(untitled)
Location	
Site Number	
Date	08/12/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	rprag
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - 2026 DS, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D1 - 2026 DS, AM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2026 DS, AM	2026 DS	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Buckingham Road Access	Roundabout	A,B,C,D				9.81	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	(untitled)	Buckingham Road (East)
B	B	(untitled)	Development Access SE
C	C	(untitled)	Development Access SW
D	D	untitled	Buckingham Road (West)

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.64	5.39	11.90	23.28	44.00	22.00	
B	3.53	5.25	3.55	24.67	44.00	28.00	
C	4.09	4.79	1.89	37.50	44.00	19.00	
D	3.65	5.47	3.80	19.52	44.00	28.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.605	1514.011
B		(calculated)	(calculated)	0.556	1293.442
C		(calculated)	(calculated)	0.594	1417.216
D		(calculated)	(calculated)	0.560	1331.327

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		592.00	100.000
B	ONE HOUR		204.00	100.000
C	ONE HOUR		222.00	100.000
D	ONE HOUR		681.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	445.69	445.69		
07:45-08:00	B	153.58	153.58		
07:45-08:00	C	167.13	167.13		
07:45-08:00	D	512.69	512.69		
08:00-08:15	A	532.20	532.20		
08:00-08:15	B	183.39	183.39		
08:00-08:15	C	199.57	199.57		
08:00-08:15	D	612.21	612.21		
08:15-08:30	A	651.80	651.80		
08:15-08:30	B	224.61	224.61		
08:15-08:30	C	244.43	244.43		
08:15-08:30	D	749.79	749.79		
08:30-08:45	A	651.80	651.80		
08:30-08:45	B	224.61	224.61		
08:30-08:45	C	244.43	244.43		
08:30-08:45	D	749.79	749.79		
08:45-09:00	A	532.20	532.20		
08:45-09:00	B	183.39	183.39		
08:45-09:00	C	199.57	199.57		
08:45-09:00	D	612.21	612.21		
09:00-09:15	A	445.69	445.69		
09:00-09:15	B	153.58	153.58		
09:00-09:15	C	167.13	167.13		
09:00-09:15	D	512.69	512.69		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (07:45-08:00)

		To			
		A	B	C	D
From	A	0.000	129.830	100.620	0.000
	B	266.610	0.000	909.590	22.730
	C	81.250	472.400	0.000	7.570
	D	0.000	155.340	110.320	0.000

Turning Proportions (PCU) - Junction 1 - (07:45-08:00)

		To			
		A	B	C	D
From	A	0.00	0.56	0.44	0.00
	B	0.22	0.00	0.76	0.02
	C	0.14	0.84	0.00	0.01
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:00-08:15)

		To			
		A	B	C	D
From	A	0.000	150.330	106.900	0.000
	B	213.290	0.000	539.020	38.780
	C	82.730	590.500	0.000	14.220
	D	0.000	138.080	99.100	0.000

Turning Proportions (PCU) - Junction 1 - (08:00-08:15)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.27	0.00	0.68	0.05
	C	0.12	0.86	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:15-08:30)

		To			
		A	B	C	D
From	A	0.000	147.570	104.940	0.000
	B	209.380	0.000	529.130	38.070
	C	81.210	579.670	0.000	13.960
	D	0.000	135.550	97.290	0.000

Turning Proportions (PCU) - Junction 1 - (08:15-08:30)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.27	0.00	0.68	0.05
	C	0.12	0.86	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:30-08:45)

		To			
		A	B	C	D
From	A	0.000	124.810	88.760	0.000
	B	177.090	0.000	447.530	32.200
	C	68.690	490.280	0.000	11.810
	D	0.000	114.640	82.280	0.000

Turning Proportions (PCU) - Junction 1 - (08:30-08:45)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.27	0.00	0.68	0.05
	C	0.12	0.86	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.000	95.160	67.670	0.000
	B	135.020	0.000	341.210	24.550
	C	52.370	373.800	0.000	9.000
	D	0.000	87.410	62.740	0.000

Turning Proportions (PCU) - Junction 1 - (08:45-09:00)

		To			
		A	B	C	D
From	A	0.00	0.58	0.42	0.00
	B	0.27	0.00	0.68	0.05
	C	0.12	0.86	0.00	0.02
	D	0.00	0.58	0.42	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.000	95.160	62.200	0.000
	B	192.880	0.000	238.850	15.500
	C	57.410	320.400	0.000	7.720
	D	0.000	182.760	45.460	0.000

Turning Proportions (PCU) - Junction 1 - (09:00-09:15)

		To			
		A	B	C	D
From	A	0.00	0.60	0.40	0.00
	B	0.43	0.00	0.53	0.03
	C	0.15	0.83	0.00	0.02
	D	0.00	0.80	0.20	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	10.0	10.0	10.0	10.0
	B	10.0	10.0	10.0	10.0
	C	10.0	10.0	10.0	10.0
	D	10.0	10.0	10.0	10.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.70	14.01	2.48	B	543.23	814.84	126.77	9.33	1.41	126.78	9.34
B	0.23	5.32	0.33	A	187.19	280.79	22.28	4.76	0.25	22.28	4.76
C	0.18	3.50	0.24	A	203.71	305.57	17.15	3.37	0.19	17.15	3.37
D	0.64	9.57	1.97	A	624.90	937.35	115.91	7.42	1.29	115.92	7.42

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	445.69	111.42	442.82	58.10	649.72	0.00	1121.04	565.61	0.398	0.00	0.72	5.814	A
B	153.58	38.40	152.85	687.60	404.94	0.00	1068.28	1040.53	0.144	0.00	0.18	4.322	A
C	167.13	41.78	166.54	520.90	36.89	0.00	1395.32	1268.14	0.120	0.00	0.15	3.220	A
D	512.69	128.17	509.54	5.14	198.28	0.00	1220.22	500.61	0.420	0.00	0.79	5.548	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	532.20	133.05	530.54	73.37	782.09	0.00	1040.98	575.28	0.511	0.72	1.13	7.732	A
B	183.39	45.85	183.18	836.89	475.74	0.00	1028.90	1043.35	0.178	0.18	0.24	4.681	A
C	199.57	49.89	199.43	600.61	58.31	0.00	1382.60	1219.85	0.144	0.15	0.18	3.346	A
D	612.21	153.05	610.80	13.08	244.66	0.00	1194.22	504.25	0.513	0.79	1.14	6.771	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	651.80	162.95	646.69	89.85	956.38	0.00	935.57	575.27	0.697	1.13	2.41	13.474	B
B	224.61	56.15	224.24	1022.35	580.72	0.00	970.54	1043.35	0.231	0.24	0.33	5.304	A
C	244.43	61.11	244.22	733.50	71.45	0.00	1374.80	1219.85	0.178	0.18	0.24	3.502	A
D	749.79	187.45	746.60	16.04	299.63	0.00	1163.42	504.25	0.644	1.14	1.94	9.427	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	651.80	162.95	651.53	89.97	959.64	0.00	933.59	575.28	0.698	2.41	2.48	14.005	B
B	224.61	56.15	224.60	1027.15	584.02	0.00	968.70	1043.34	0.232	0.33	0.33	5.321	A
C	244.43	61.11	244.42	737.06	71.57	0.00	1374.73	1219.85	0.178	0.24	0.24	3.502	A
D	749.79	187.45	749.69	16.07	299.92	0.00	1163.26	504.26	0.645	1.94	1.97	9.567	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	532.20	133.05	537.40	73.58	786.97	0.00	1038.03	575.28	0.513	2.48	1.18	7.991	A
B	183.39	45.85	183.75	843.90	480.47	0.00	1026.28	1043.34	0.179	0.33	0.24	4.703	A
C	199.57	49.89	199.78	605.67	58.55	0.00	1382.46	1219.85	0.144	0.24	0.19	3.350	A
D	612.21	153.05	615.37	13.14	245.19	0.00	1193.93	504.25	0.513	1.97	1.18	6.883	A

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	445.69	111.42	447.46	91.09	653.12	0.00	1118.99	678.64	0.398	1.18	0.74	5.911	A
B	153.58	38.40	153.85	820.18	280.39	0.00	1137.53	1093.90	0.135	0.24	0.17	4.028	A
C	167.13	41.78	167.27	362.70	71.54	0.00	1374.74	1114.63	0.122	0.19	0.15	3.279	A
D	512.69	128.17	514.09	8.70	230.12	0.00	1202.37	454.85	0.426	1.18	0.83	5.764	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.38	0.69	5.814	A	A
B	2.69	0.18	4.322	A	A
C	2.20	0.15	3.220	A	A
D	11.40	0.76	5.548	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	16.32	1.09	7.732	A	A
B	3.50	0.23	4.681	A	A
C	2.74	0.18	3.346	A	A
D	16.54	1.10	6.771	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	33.29	2.22	13.474	B	B
B	4.83	0.32	5.304	A	A
C	3.50	0.23	3.502	A	A
D	27.51	1.83	9.427	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	36.78	2.45	14.005	B	B
B	4.95	0.33	5.321	A	A
C	3.56	0.24	3.502	A	A
D	29.33	1.96	9.567	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.60	1.24	7.991	A	A
B	3.68	0.25	4.703	A	A
C	2.83	0.19	3.350	A	A
D	18.36	1.22	6.883	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.39	0.76	5.911	A	A
B	2.63	0.18	4.028	A	A
C	2.32	0.15	3.279	A	A
D	12.76	0.85	5.764	A	A

(Default Analysis Set) - 2026 DS, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Profile Type	D2 - 2026 DS, PM	'Turning counts vary over time' option has been selected but all arms use ONE HOUR profile types. Are you sure this is correct?

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2026 DS, PM	2026 DS	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Buckingham Road Access	Roundabout	A,B,C,D				13.64	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	(untitled)	Buckingham Road (East)
B	B	(untitled)	Development Access SE
C	C	(untitled)	Development Access SW
D	D	untitled	Buckingham Road (West)

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	3.64	5.39	11.90	23.28	44.00	22.00	
B	3.53	5.25	3.55	24.67	44.00	28.00	
C	4.09	4.79	1.89	37.50	44.00	19.00	
D	3.65	5.47	3.80	19.52	44.00	28.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.605	1514.011
B		(calculated)	(calculated)	0.556	1293.442
C		(calculated)	(calculated)	0.594	1417.216
D		(calculated)	(calculated)	0.560	1331.327

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
✓		✓	✓	HV Percentages	2.00			✓	✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR		659.00	100.000
B	ONE HOUR		84.00	100.000
C	ONE HOUR		255.00	100.000
D	ONE HOUR		722.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	496.13	496.13		
16:45-17:00	B	63.24	63.24		
16:45-17:00	C	191.98	191.98		
16:45-17:00	D	543.56	543.56		
17:00-17:15	A	592.43	592.43		
17:00-17:15	B	75.51	75.51		
17:00-17:15	C	229.24	229.24		
17:00-17:15	D	649.06	649.06		
17:15-17:30	A	725.57	725.57		
17:15-17:30	B	92.49	92.49		
17:15-17:30	C	280.76	280.76		
17:15-17:30	D	794.94	794.94		
17:30-17:45	A	725.57	725.57		
17:30-17:45	B	92.49	92.49		
17:30-17:45	C	280.76	280.76		
17:30-17:45	D	794.94	794.94		
17:45-18:00	A	592.43	592.43		
17:45-18:00	B	75.51	75.51		
17:45-18:00	C	229.24	229.24		
17:45-18:00	D	649.06	649.06		
18:00-18:15	A	496.13	496.13		
18:00-18:15	B	63.24	63.24		
18:00-18:15	C	191.98	191.98		
18:00-18:15	D	543.56	543.56		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 - (16:45-17:00)

		To			
		A	B	C	D
From	A	0.000	166.680	51.650	0.000
	B	65.600	0.000	221.000	72.520
	C	55.700	267.420	0.000	59.330
	D	0.000	88.220	19.630	0.000

Turning Proportions (PCU) - Junction 1 - (16:45-17:00)

		To			
		A	B	C	D
From	A	0.00	0.76	0.24	0.00
	B	0.18	0.00	0.62	0.20
	C	0.15	0.70	0.00	0.16
	D	0.00	0.82	0.18	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:00-17:15)

		To			
		A	B	C	D
From	A	0.000	206.360	50.200	0.000
	B	57.040	0.000	589.340	80.580
	C	53.420	534.840	0.000	75.150
	D	0.000	67.860	16.730	0.000

Turning Proportions (PCU) - Junction 1 - (17:00-17:15)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.08	0.00	0.81	0.11
	C	0.08	0.81	0.00	0.11
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:15-17:30)

		To			
		A	B	C	D
From	A	0.000	253.200	61.590	0.000
	B	69.990	0.000	723.090	98.870
	C	65.540	656.230	0.000	92.210
	D	0.000	83.260	20.530	0.000

Turning Proportions (PCU) - Junction 1 - (17:15-17:30)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.08	0.00	0.81	0.11
	C	0.08	0.81	0.00	0.11
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:30-17:45)

		To			
		A	B	C	D
From	A	0.000	191.730	46.640	0.000
	B	53.000	0.000	547.540	74.870
	C	49.630	496.910	0.000	69.820
	D	0.000	63.050	15.550	0.000

Turning Proportions (PCU) - Junction 1 - (17:30-17:45)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.08	0.00	0.81	0.11
	C	0.08	0.81	0.00	0.11
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (17:45-18:00)

		To			
		A	B	C	D
From	A	0.000	168.310	40.940	0.000
	B	46.520	0.000	480.660	65.720
	C	43.570	436.220	0.000	61.290
	D	0.000	55.340	13.650	0.000

Turning Proportions (PCU) - Junction 1 - (17:45-18:00)

		To			
		A	B	C	D
From	A	0.00	0.80	0.20	0.00
	B	0.08	0.00	0.81	0.11
	C	0.08	0.81	0.00	0.11
	D	0.00	0.80	0.20	0.00

Turning Counts / Proportions (PCU/hr) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.000	189.350	45.710	0.000
	B	55.390	0.000	443.690	82.760
	C	37.920	581.630	0.000	45.600
	D	0.000	79.060	10.610	0.000

Turning Proportions (PCU) - Junction 1 - (18:00-18:15)

		To			
		A	B	C	D
From	A	0.00	0.81	0.19	0.00
	B	0.10	0.00	0.76	0.14
	C	0.06	0.87	0.00	0.07
	D	0.00	0.88	0.12	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	10.0	10.0	10.0	10.0
	B	10.0	10.0	10.0	10.0
	C	10.0	10.0	10.0	10.0
	D	10.0	10.0	10.0	10.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.81	22.72	4.38	C	604.71	907.06	193.52	12.80	2.15	193.54	12.80
B	0.08	3.83	0.10	A	77.08	115.62	7.07	3.67	0.08	7.07	3.67
C	0.20	3.52	0.27	A	233.99	350.99	19.76	3.38	0.22	19.76	3.38
D	0.67	10.07	2.19	B	662.52	993.78	127.25	7.68	1.41	127.27	7.68

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	496.13	124.03	492.60	39.36	673.89	0.00	1106.42	621.76	0.448	0.00	0.88	6.416	A
B	63.24	15.81	62.99	951.64	214.84	0.00	1173.98	1144.16	0.054	0.00	0.06	3.564	A
C	191.98	47.99	191.28	253.61	24.23	0.00	1402.83	1155.97	0.137	0.00	0.17	3.267	A
D	543.56	135.89	540.14	42.39	173.12	0.00	1234.32	666.92	0.440	0.00	0.86	5.678	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	592.43	148.11	589.88	24.44	832.13	0.00	1010.72	499.31	0.586	0.88	1.52	9.352	A
B	75.51	18.88	75.46	1178.43	243.57	0.00	1158.00	1168.62	0.065	0.06	0.08	3.657	A
C	229.24	57.31	229.08	304.70	14.33	0.00	1408.71	1285.88	0.163	0.17	0.21	3.356	A
D	649.06	162.27	647.51	34.37	209.05	0.00	1214.18	640.99	0.535	0.86	1.24	6.968	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	725.57	181.39	715.15	29.84	1017.44	0.00	898.63	499.31	0.807	1.52	4.13	20.513	C
B	92.49	23.12	92.40	1436.15	296.44	0.00	1128.61	1168.62	0.082	0.08	0.10	3.820	A
C	280.76	70.19	280.52	371.35	17.49	0.00	1406.83	1285.87	0.200	0.21	0.27	3.515	A
D	794.94	198.73	791.29	42.02	255.99	0.00	1187.87	640.99	0.669	1.24	2.16	9.892	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	725.57	181.39	724.56	29.86	1021.15	0.00	896.39	499.31	0.809	4.13	4.38	22.724	C
B	92.49	23.12	92.48	1446.70	299.01	0.00	1127.18	1168.60	0.082	0.10	0.10	3.826	A
C	280.76	70.19	280.76	373.98	17.51	0.00	1406.82	1285.87	0.200	0.27	0.27	3.515	A
D	794.94	198.73	794.80	42.06	256.21	0.00	1187.75	640.99	0.669	2.16	2.19	10.068	B

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	592.43	148.11	603.51	24.41	837.69	0.00	1007.35	499.31	0.588	4.38	1.61	10.062	B
B	75.51	18.88	75.60	1193.98	247.21	0.00	1155.98	1168.60	0.065	0.10	0.08	3.667	A
C	229.24	57.31	229.48	308.50	14.31	0.00	1408.72	1285.88	0.163	0.27	0.21	3.357	A
D	649.06	162.27	652.68	34.37	209.41	0.00	1213.98	640.99	0.535	2.19	1.28	7.101	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	496.13	124.03	498.80	17.00	713.12	0.00	1082.70	481.49	0.458	1.61	0.94	6.814	A
B	63.24	15.81	63.30	1050.00	161.92	0.00	1203.41	1200.86	0.053	0.08	0.06	3.475	A
C	191.98	47.99	192.14	210.21	15.02	0.00	1408.30	1247.94	0.136	0.21	0.17	3.258	A
D	543.56	135.89	545.16	22.21	184.95	0.00	1227.69	615.88	0.443	1.28	0.88	5.817	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.69	0.85	6.416	A	A
B	0.92	0.06	3.564	A	A
C	2.56	0.17	3.267	A	A
D	12.35	0.82	5.678	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	21.68	1.45	9.352	A	A
B	1.13	0.08	3.657	A	A
C	3.15	0.21	3.356	A	A
D	18.00	1.20	6.968	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	53.87	3.59	20.513	C	C
B	1.45	0.10	3.820	A	A
C	4.04	0.27	3.515	A	A
D	30.46	2.03	9.892	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	64.20	4.28	22.724	C	C
B	1.47	0.10	3.826	A	A
C	4.10	0.27	3.515	A	A
D	32.65	2.18	10.068	B	B

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	26.38	1.76	10.062	B	B
B	1.17	0.08	3.667	A	A
C	3.27	0.22	3.357	A	A
D	20.12	1.34	7.101	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	14.70	0.98	6.814	A	A
B	0.93	0.06	3.475	A	A
C	2.65	0.18	3.258	A	A
D	13.67	0.91	5.817	A	A