

Project :	South West Milton Keynes (SWMK)		
Date:	14-02-2017	Ref:	1067760/TN15
Subject:	Technical Note 15 - Buckingham Road Roundabout		

A further review has been completed of the proposed Buckingham Road access roundabout and a similar observation has been made with the Junctions8 model. This has now been corrected and the revised results are presented in Table 1 below.

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Buckingham Road (E)	0.85	5.4	0.99	17.0
Development Access (SE)	0.26	0.4	0.09	0.1
Development Access (SW)	0.20	0.3	0.22	0.3
Buckingham Road (W)	0.68	2.3	0.69	2.4

Table 1a – Buckingham Road access – ‘2026 Base plus development’

Arm	PM Peak	
	RFC	Queue
1645-1700	0.53	1.2
1700-1715	0.70	2.4
1715-1730	0.98	12.4
1730-1745	0.99	17.0
1745-1800	0.70	2.8
1800-1815	0.54	1.3

Table 1b – Buckingham Road access – ‘2026 Base plus development’

The revised 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 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 short 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 at detailed design to enhance capacity at the junction. When applying the increased flare length, the junction modelling results are as shown in Tables 2a and 2b.

Arm	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Buckingham Road (E)	0.73	2.9	0.85	5.5
Development Access (SE)	0.26	0.4	0.09	0.1
Development Access (SW)	0.20	0.3	0.22	0.3
Buckingham Road (W)	0.68	2.3	0.69	2.4

Table 2a - Whaddon Road access – ‘2026 Base plus development’ – lengthened flare

Arm	PM Peak	
	RFC	Queue
1645-1700	0.46	0.9
1700-1715	0.61	1.7
1715-1730	0.84	5.1
1730-1745	0.85	5.5
1745-1800	0.61	1.8
1800-1815	0.48	1.0

Table 2b - 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 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 proposed access junction operates well within capacity in the AM peak in 2026.

The assessment of the roundabout within this Technical Note 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.

The revised modelling within this Technical Note shows that the Buckingham Road junction will operate within capacity in the ‘2026 Base + Development’ scenario without the need for major changes to the concept design of the junction.

End.

Enclosed:

Buckingham Road access – revised modelling results

Junctions 8
ARCADY 8 - Roundabout Module
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2017
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 Report generation date: 10/02/2017 15:15:59

- » (Default Analysis Set) - 2026 DS, AM
- » (Default Analysis Set) - 2026 DS, PM

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 10/02/2017 15:15:57

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)	I' - 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)	I' - 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] © Copyright TRL Limited, 2017
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Filename: 2017-02-10 Roundabout Site Access_SH.arc8
 Path: L:\106xxx\1067760 South West Milton Keynes\09 Docs\C-Cals\02 Jn Modelling\Access Junctions\Corrected Flows\SH Nov 2016
 Report generation date: 10/02/2017 15:14:32

- » (Default Analysis Set) - 2026 DS, AM
- » (Default Analysis Set) - 2026 DS, PM

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2026 DS			
Arm A	2.87	16.06	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 10/02/2017 15:14:30

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				10.91	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)	I' - 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	12.00	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	1515.007
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	16.06	2.87	C	551.49	827.23	140.97	10.22	1.57	140.98	10.23
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	1103.59	582.97	0.410	0.00	0.76	6.026	A
B	170.90	42.72	170.05	688.15	441.28	0.00	1048.07	1017.96	0.163	0.00	0.21	4.507	A
C	185.20	46.30	184.53	566.91	44.41	0.00	1390.85	1259.39	0.133	0.00	0.17	3.281	A
D	530.76	132.69	527.34	6.21	222.73	0.00	1206.51	498.71	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	1019.47	593.99	0.530	0.76	1.22	8.200	A
B	204.07	51.02	203.83	869.32	488.14	0.00	1022.01	1039.50	0.200	0.21	0.27	4.839	A
C	221.15	55.29	220.98	622.35	69.63	0.00	1375.88	1206.20	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	655.50	107.81	1001.12	0.00	909.30	594.00	0.728	1.22	2.77	15.239	C
B	249.93	62.48	249.49	1061.52	595.10	0.00	962.54	1039.51	0.260	0.27	0.38	5.549	A
C	270.85	67.71	270.61	759.28	85.31	0.00	1366.57	1206.20	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	661.32	107.97	1005.12	0.00	906.88	594.00	0.730	2.77	2.87	16.060	C
B	249.93	62.48	249.92	1067.32	599.12	0.00	960.30	1039.50	0.260	0.38	0.39	5.573	A
C	270.85	67.71	270.85	763.58	85.46	0.00	1366.48	1206.19	0.198	0.27	0.27	3.613	A
D	776.22	194.05	776.06	19.28	337.03	0.00	1142.46	502.16	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	546.67	88.31	824.95	0.00	1015.89	594.00	0.532	2.87	1.27	8.549	A
B	204.07	51.02	204.50	877.97	493.65	0.00	1018.95	1039.51	0.200	0.39	0.28	4.864	A
C	221.15	55.29	221.39	628.23	69.93	0.00	1375.70	1206.20	0.161	0.27	0.21	3.433	A
D	633.78	158.45	637.72	15.77	275.55	0.00	1176.92	502.15	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	1101.40	699.92	0.411	1.27	0.78	6.141	A
B	170.90	42.72	171.22	851.16	286.91	0.00	1133.90	1089.68	0.151	0.28	0.20	4.116	A
C	185.20	46.30	185.36	374.02	84.12	0.00	1367.28	1098.78	0.135	0.21	0.17	3.352	A
D	530.76	132.69	532.38	10.33	259.14	0.00	1186.11	450.82	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	10.90	0.73	6.026	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	17.51	1.17	8.200	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	37.77	2.52	15.239	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	42.48	2.83	16.060	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	20.27	1.35	8.549	A	A
B	4.25	0.28	4.864	A	A
C	3.22	0.21	3.433	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	12.03	0.80	6.141	A	A
B	3.00	0.20	4.116	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				15.94	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)	I' - 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	12.00	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	1515.007
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	28.27	5.50	D	617.56	926.33	226.78	14.69	2.52	226.81	14.69
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	502.93	46.81	694.88	0.00	1094.59	640.22	0.463	0.00	0.94	6.653	A
B	70.02	17.50	69.74	978.50	219.31	0.00	1171.49	1140.93	0.060	0.00	0.07	3.594	A
C	213.06	53.26	212.27	260.47	28.58	0.00	1400.25	1139.62	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	602.09	29.49	861.39	0.00	993.84	513.57	0.609	0.94	1.67	10.032	B
B	83.61	20.90	83.54	1214.89	248.60	0.00	1155.21	1166.16	0.072	0.07	0.09	3.694	A
C	254.41	63.60	254.23	314.87	17.27	0.00	1406.96	1274.59	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	727.38	36.00	1052.94	0.00	877.95	513.57	0.844	1.67	5.07	24.383	C
B	102.39	25.60	102.30	1478.34	301.98	0.00	1125.52	1166.16	0.091	0.09	0.11	3.870	A
C	311.59	77.90	311.31	383.21	21.08	0.00	1404.70	1274.59	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	739.23	36.03	1057.18	0.00	875.38	513.57	0.846	5.07	5.50	28.273	D
B	102.39	25.60	102.39	1491.33	305.09	0.00	1123.80	1166.16	0.091	0.11	0.11	3.876	A
C	311.59	77.90	311.59	386.39	21.09	0.00	1404.69	1274.59	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	619.92	29.45	867.73	0.00	990.00	513.57	0.611	5.50	1.78	11.106	B
B	83.61	20.90	83.70	1234.49	253.16	0.00	1152.67	1166.16	0.073	0.11	0.09	3.706	A
C	254.41	63.60	254.69	319.61	17.24	0.00	1406.98	1274.59	0.181	0.31	0.24	3.436	A
D	662.55	165.64	666.73	41.48	230.45	0.00	1202.19	649.28	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	509.75	20.56	740.45	0.00	1067.01	494.44	0.475	1.78	1.01	7.143	A
B	70.02	17.50	70.09	1084.76	165.44	0.00	1201.45	1199.03	0.058	0.09	0.07	3.499	A
C	213.06	53.26	213.24	217.53	18.00	0.00	1406.53	1234.25	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	6.013	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	13.41	0.89	6.653	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	23.63	1.58	10.032	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	64.11	4.27	24.383	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	79.92	5.33	28.273	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	29.93	2.00	11.106	B	B
B	1.31	0.09	3.706	A	A
C	3.71	0.25	3.436	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	15.78	1.05	7.143	A	A
B	1.04	0.07	3.499	A	A
C	3.00	0.20	3.318	A	A
D	14.45	0.96	6.013	A	A