Appendix 52
A508/Roade Bypass southern roundabout assessment results

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

Filename: A508-Roade Bypass South Roundabout.arc8
Path: C:\Users\ADCteam\Dropbox\~ JN8 TEMP
Report generation date: 15/03/2018 19:50:24

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
	2031 Traffic Flows - 2031 J1d development case					
Arm 1	4.02	9.38	0.80	2.73	7.38	0.73
Arm 2	0.41	7.15	0.29	0.38	6.01	0.28
Arm 3	1.77	5.24	0.64	2.38	6.03	0.71

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

"D1 - 2031 J1d development case, AM " model duration: 07:45 - 09:15
"D2 - 2031 J1d development case, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 15/03/2018 19:50:21

File summary

Title	Roade Bypass (southern roundabout)
Location	Northampton
Site Number	
Date	21/08/2017
Version	
Status	Preliminary
Identifier	M Tatler
Client	Roxhill (Junction 15) Ltd
Jobnumber	ADC1475
Enumerator	ADCteam
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	Veh	Veh	perHour	s	-Min	perMin

2031 Traffic Flows - 2031 J1d development case, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

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
2031 Traffic Flows	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	R
2031 J1d development case, AM	2031 J1d development case	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	A508/Roade Bypass (N)	Roundabout	1,2,3				7.52	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A508 N	
2	2	Roade	
3	3	A508 S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	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
1	3.65	9.00	58.00	20.00	80.00	47.00	
2	3.00	6.00	19.00	20.00	80.00	41.00	
3	3.65	9.00	57.00	20.00	80.00	44.00	

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)
1		(calculated)	(calculated)	0.535	2218.487
2		(calculated)	(calculated)	0.428	1455.134
3		(calculated)	(calculated)	0.540	2238.287

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1431.00	100.000
2	ONE HOUR	✓	187.00	100.000
3	ONE HOUR	✓	1111.00	100.000

Turning Proportions

Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	30.000	1401.000
	2	30.000	0.000	157.000
	3	1095.000	16.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.02	0.98
	2	0.16	0.00	0.84
	3	0.99	0.01	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.131
	2	1.000	1.000	1.000
	3	1.165	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	13.1
	2	0.0	0.0	0.0
	3	16.5	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.80	9.38	4.02	A	1313.11	1969.67	208.14	6.34	2.31	208.16	6.34
2	0.29	7.15	0.41	A	171.59	257.39	24.64	5.74	0.27	24.64	5.74
3	0.64	5.24	1.77	A	1019.48	1529.21	107.88	4.23	1.20	107.89	4.23

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1077.34	269.33	1072.50	843.81	12.00	0.00	1960.61	1953.43	0.549	0.00	1.21	4.032	A
2	140.78	35.20	140.09	34.49	1050.02	0.00	947.15	529.91	0.149	0.00	0.17	4.457	A
3	836.42	209.11	833.34	1167.64	22.47	0.00	1914.76	1885.69	0.437	0.00	0.77	3.319	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1286.44	321.61	1283.75	1010.08	14.37	0.00	1959.49	1953.43	0.657	1.21	1.88	5.306	A
2	168.11	42.03	167.82	41.28	1256.84	0.00	847.09	529.91	0.198	0.17	0.25	5.297	A
3	998.77	249.69	997.52	1397.74	26.92	0.00	1912.69	1885.69	0.522	0.77	1.08	3.928	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1575.57	393.89	1567.39	1235.91	17.58	0.00	1957.97	1953.43	0.805	1.88	3.92	9.031	A
2	205.89	51.47	205.27	50.44	1534.53	0.00	712.75	529.91	0.289	0.25	0.40	7.085	A
3	1223.24	305.81	1220.56	1706.87	32.93	0.00	1909.90	1885.69	0.640	1.08	1.75	5.201	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1575.57	393.89	1575.19	1238.59	17.62	0.00	1957.95	1953.43	0.805	3.92	4.02	9.379	A
2	205.89	51.47	205.87	50.64	1542.17	0.00	709.06	529.91	0.290	0.40	0.41	7.153	A
3	1223.24	305.81	1223.18	1715.01	33.03	0.00	1909.86	1885.69	0.640	1.75	1.77	5.242	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1286.44	321.61	1294.73	1014.07	14.42	0.00	1959.47	1953.43	0.657	4.02	1.94	5.483	A
2	168.11	42.03	168.73	41.57	1267.59	0.00	841.89	529.91	0.200	0.41	0.25	5.352	A
3	998.77	249.69	1001.43	1409.25	27.07	0.00	1912.63	1885.69	0.522	1.77	1.10	3.962	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1077.34	269.33	1080.18	848.27	12.06	0.00	1960.58	1953.43	0.550	1.94	1.23	4.103	A
2	140.78	35.20	141.08	34.71	1057.53	0.00	943.51	529.91	0.149	0.25	0.18	4.489	A
3	836.42	209.11	837.71	1175.98	22.63	0.00	1914.69	1885.69	0.437	1.10	0.78	3.345	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.50	1.17	4.032	A	A
2	2.54	0.17	4.457	A	A
3	11.27	0.75	3.319	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.15	1.81	5.306	A	A
2	3.61	0.24	5.297	A	A
3	15.87	1.06	3.928	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	54.15	3.61	9.031	A	A
2	5.85	0.39	7.085	A	A
3	25.34	1.69	5.201	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	59.69	3.98	9.379	A	A
2	6.07	0.40	7.153	A	A
3	26.43	1.76	5.242	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	30.62	2.04	5.483	A	A
2	3.87	0.26	5.352	A	A
3	17.01	1.13	3.962	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	19.03	1.27	4.103	A	A
2	2.70	0.18	4.489	A	A
3	11.95	0.80	3.345	A	A

2031 Traffic Flows - 2031 J1d development case, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

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
2031 Traffic Flows	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	R
2031 J1d development case, PM	2031 J1d development case	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	A508/Roade Bypass (N)	Roundabout	1,2,3				6.65	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	A508 N	
2	2	Roade	
3	3	A508 S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	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
1	3.65	9.00	58.00	20.00	80.00	47.00	
2	3.00	6.00	19.00	20.00	80.00	41.00	
3	3.65	9.00	57.00	20.00	80.00	44.00	

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)
1		(calculated)	(calculated)	0.535	2218.487
2		(calculated)	(calculated)	0.428	1455.134
3		(calculated)	(calculated)	0.540	2238.287

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1225.00	100.000
2	ONE HOUR	✓	207.00	100.000
3	ONE HOUR	✓	1301.00	100.000

Turning Proportions

Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	30.000	1195.000
	2	30.000	0.000	177.000
	3	1007.000	294.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.02	0.98
	2	0.14	0.00	0.86
	3	0.77	0.23	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.003	1.117
	2	1.000	1.000	1.000
	3	1.122	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.3	11.7
	2	0.0	0.0	0.0
	3	12.2	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.73	7.38	2.73	A	1124.08	1686.12	150.90	5.37	1.68	150.92	5.37
2	0.28	6.01	0.38	A	189.95	284.92	23.93	5.04	0.27	23.94	5.04
3	0.71	6.03	2.38	A	1193.82	1790.73	137.73	4.61	1.53	137.75	4.62

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	922.24	230.56	918.44	777.75	220.51	0.00	1885.16	1773.96	0.489	0.00	0.95	3.711	A
2	155.84	38.96	155.13	243.00	895.95	0.00	1027.05	628.30	0.152	0.00	0.18	4.125	A
3	979.46	244.87	975.77	1028.60	22.48	0.00	2034.06	2000.20	0.482	0.00	0.92	3.391	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1101.25	275.31	1099.35	930.90	263.92	0.00	1864.31	1773.96	0.591	0.95	1.43	4.695	A
2	186.09	46.52	185.82	290.84	1072.43	0.00	942.73	628.30	0.197	0.18	0.24	4.755	A
3	1169.57	292.39	1167.89	1231.32	26.93	0.00	2031.86	2000.20	0.576	0.92	1.34	4.158	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1348.75	337.19	1343.70	1138.56	322.79	0.00	1836.03	1773.96	0.735	1.43	2.69	7.236	A
2	227.91	56.98	227.39	355.70	1310.79	0.00	828.84	628.30	0.275	0.24	0.38	5.980	A
3	1432.43	358.11	1428.40	1505.22	32.95	0.00	2028.89	2000.20	0.706	1.34	2.35	5.954	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1348.75	337.19	1348.59	1141.68	323.68	0.00	1835.60	1773.96	0.735	2.69	2.73	7.384	A
2	227.91	56.98	227.90	356.70	1315.56	0.00	826.56	628.30	0.276	0.38	0.38	6.012	A
3	1432.43	358.11	1432.33	1510.43	33.03	0.00	2028.85	2000.20	0.706	2.35	2.38	6.032	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1101.25	275.31	1106.31	935.43	265.21	0.00	1863.69	1773.96	0.591	2.73	1.46	4.784	A
2	186.09	46.52	186.61	292.30	1079.22	0.00	939.49	628.30	0.198	0.38	0.25	4.786	A
3	1169.57	292.39	1173.59	1238.78	27.04	0.00	2031.81	2000.20	0.576	2.38	1.37	4.213	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	922.24	230.56	924.23	782.10	221.73	0.00	1884.57	1773.96	0.489	1.46	0.97	3.755	A
2	155.84	38.96	156.11	244.37	901.60	0.00	1024.35	628.30	0.152	0.25	0.18	4.148	A
3	979.46	244.87	981.20	1035.09	22.63	0.00	2033.99	2000.20	0.482	1.37	0.94	3.424	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.83	0.92	3.711	A	A
2	2.61	0.17	4.125	A	A
3	13.45	0.90	3.391	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.74	1.38	4.695	A	A
2	3.60	0.24	4.755	A	A
3	19.59	1.31	4.158	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	38.00	2.53	7.236	A	A
2	5.50	0.37	5.980	A	A
3	33.60	2.24	5.954	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	40.69	2.71	7.384	A	A
2	5.67	0.38	6.012	A	A
3	35.48	2.37	6.032	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	22.78	1.52	4.784	A	A
2	3.81	0.25	4.786	A	A
3	21.26	1.42	4.213	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	14.86	0.99	3.755	A	A
2	2.75	0.18	4.148	A	A
3	14.35	0.96	3.424	A	A