

Junctions 9				
ARCADY 9 - Roundabout Module				
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Filename: Import of 1232 SJ2.j9

Path: \\Aha-srv1\aha\AHA Data\Modelling\ARC8\1232

Report generation date: 29/09/2020 10:08:40

»(Default Analysis Set) - 2019 WITH, PM

»(Default Analysis Set) - 2019 WITH, AM

Summary of junction performance

	PM					AM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
A1 - 2019 WITH										
Arm 1	D1	0.7	4.93	0.40	A	D2	0.2	3.50	0.15	A
Arm 2		0.2	3.70	0.18	A		0.5	4.30	0.32	A
Arm 3		0.1	3.83	0.10	A		0.2	4.65	0.18	A

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

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	29/05/2013
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ANALYSIS4\AHA
Description	

Units

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2019 WITH	PM	ONE HOUR	16:15	17:45	15
D2	2019 WITH	AM	ONE HOUR	07:45	09:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - 2019 WITH, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	SJ2	Standard Roundabout		1, 2, 3	4.47	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Bangor Road (E)	
2	Bangor Road (W)	
3	Site	

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
1	2.90	4.60	17.0	15.0	30.0	35.0	
2	3.00	4.70	18.0	15.0	30.0	35.0	
3	2.75	4.60	10.0	15.0	30.0	35.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.551	1226
2	0.558	1261
3	0.534	1145

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2019 WITH	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	443	100.000
2		✓	190	100.000
3		✓	95	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1	2	3
From	1	0	313	130
	2	172	0	18
	3	80	15	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.40	4.93	0.7	A
2	0.18	3.70	0.2	A
3	0.10	3.83	0.1	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	334	11	1220	0.273	332	0.4	4.047	A
2	143	97	1206	0.119	143	0.1	3.382	A
3	72	129	1077	0.066	71	0.1	3.580	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	398	13	1219	0.327	398	0.5	4.383	A
2	171	117	1196	0.143	171	0.2	3.512	A
3	85	155	1063	0.080	85	0.1	3.681	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	488	17	1217	0.401	487	0.7	4.925	A
2	209	143	1181	0.177	209	0.2	3.703	A
3	105	189	1044	0.100	105	0.1	3.829	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	488	17	1217	0.401	488	0.7	4.935	A
2	209	143	1181	0.177	209	0.2	3.704	A
3	105	189	1044	0.100	105	0.1	3.829	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	398	13	1219	0.327	399	0.5	4.394	A
2	171	117	1195	0.143	171	0.2	3.514	A
3	85	155	1063	0.080	85	0.1	3.682	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	334	11	1220	0.273	334	0.4	4.066	A
2	143	98	1206	0.119	143	0.1	3.389	A
3	72	130	1076	0.066	72	0.1	3.585	A

(Default Analysis Set) - 2019 WITH, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	SJ2	Standard Roundabout		1, 2, 3	4.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2019 WITH	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	168	100.000
2		✓	355	100.000
3		✓	156	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1	2	3
From	1	0	114	54
	2	341	0	14
	3	136	20	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.15	3.50	0.2	A
2	0.32	4.30	0.5	A
3	0.18	4.65	0.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	126	15	1218	0.104	126	0.1	3.294	A
2	267	41	1238	0.216	266	0.3	3.701	A
3	117	256	1009	0.116	117	0.1	4.034	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	151	18	1216	0.124	151	0.1	3.378	A
2	319	49	1234	0.259	319	0.3	3.934	A
3	140	306	982	0.143	140	0.2	4.276	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	185	22	1214	0.152	185	0.2	3.497	A
2	391	59	1228	0.318	390	0.5	4.299	A
3	172	375	945	0.182	172	0.2	4.652	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	185	22	1214	0.152	185	0.2	3.497	A
2	391	59	1228	0.318	391	0.5	4.302	A
3	172	375	945	0.182	172	0.2	4.655	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	151	18	1216	0.124	151	0.1	3.379	A
2	319	49	1234	0.259	320	0.4	3.942	A
3	140	307	982	0.143	140	0.2	4.280	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	126	15	1218	0.104	127	0.1	3.300	A
2	267	41	1238	0.216	268	0.3	3.709	A
3	117	257	1008	0.116	118	0.1	4.042	A