

ARCADY 7

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File: E:\Projects\040-049\041 Barratt Homes\041.0025 Warblington Meadows, Havant\Reports\Modelling (July-SR)\Church Lane Rbt (southside)\2021 Baseline\2021 Report.arc7
Report generation date: 13/07/2016 11:18:45

» A1 - 2021 Baseline - D1 - 2021 Baseline, AM

» A1 - 2021 Baseline - D2 - 2021 Baseline, PM

Summary of roundabout performance

	AM			PM		
	Queue (Veh)	Delay (min)	RFC	Queue (Veh)	Delay (min)	RFC
2021 Baseline - 2021 Baseline						
Arm 1	0.10	0.07	0.09	0.20	0.09	0.17
Arm 2	22.32	1.01	0.99	1.75	0.12	0.64
Arm 3	0.00	0.00	0.00	0.00	0.00	0.00
Arm 5	4.90	0.22	0.84	8.66	0.37	0.91

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

2021 Baseline - AM runs from 07:45:00 to 09:15:00

2021 Baseline - PM runs from 16:45:00 to 18:15:00

File summary

File Description

Title	2021 Baseline
Location	A27/ Church Lane Roundabout
Site Number	
Date	01/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	041.0025
Enumerator	Bethany
Description	

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	False

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
False	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - 2021 Baseline - D1 - 2021 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Standard Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 Baseline		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 Baseline, AM	2021 Baseline	AM		False	True	False		07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Church Lane Roundabout	1,2,3,4,5	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 Off-Slip	
2	Havant Road	
3	Church Lane	
4	A27 On-Slip	
5	Emsworth Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00

4	0.00	99999.00	False	0.00
5	0.00	99999.00	False	0.00

Standard 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	6.08	7.10	10.00	19.00	40.00	27.10	False
2	3.69	6.74	42.00	13.00	40.00	26.50	False
3	3.14	6.18	3.97	12.00	40.00	46.00	False
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
5	5.06	7.40	12.00	15.00	40.00	48.90	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
5	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)
5	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None
5	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
5	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

5	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
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Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	False	((calculated))	((calculated))	0.722	2090.789
2	False	((calculated))	((calculated))	0.666	1841.461
3	False	((calculated))	((calculated))	0.498	1111.018
4	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
5	False	((calculated))	((calculated))	0.639	1808.478

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	True	127.00	100.000	N/A
2	ONE HOUR	True	837.00	100.000	N/A
3	ONE HOUR	True	0.00	100.000	N/A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
5	ONE HOUR	True	1353.00	100.000	N/A

Turning Proportions

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

	To					
	1	2	3	4	5	
From	1	0.000	44.000	0.000	0.000	83.000
	2	0.000	2.000	2.000	643.000	190.000
	3	0.000	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000	0.000
	5	0.000	1119.000	2.000	231.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

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

	To					
From		1	2	3	4	5
	1	0.00	0.43	0.00	0.03	0.54
	2	0.00	0.00	0.00	0.82	0.18
	3	0.00	0.00	0.00	0.75	0.25
	4	0.20	0.20	0.20	0.20	0.20

	5	0.00	0.70	0.00	0.30	0.00
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Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.100	1.100	1.100	1.100	1.100
	2	1.100	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100	1.100
	4	1.000	1.000	1.000	1.000	1.000
	5	1.100	1.100	1.100	1.100	1.100

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To				
		1	2	3	4	5
From	1	10.000	10.000	10.000	10.000	10.000
	2	10.000	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000	10.000
	4	0.000	0.000	0.000	0.000	0.000
	5	10.000	10.000	10.000	10.000	10.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.17	0.09	0.20	A	116.54	174.81	12.44	0.07	0.14	12.44	0.07	0.722	2090.789
2	0.64	0.12	1.75	A	768.05	1152.07	103.23	0.09	1.15	103.24	0.09	0.666	1841.461
3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.498	1111.018
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	0.91	0.37	8.66	C	1241.54	1862.30	362.81	0.19	4.03	362.86	0.19	0.639	1808.478

Main Results

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

Arm	Demand (Veh/hr)	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)
1	95.61	23.90	95.26	0.00	1013.69	0.00	1168.64	671.56	0.082	0.00	0.09
2	630.14	157.53	627.31	871.64	237.31	0.00	1516.04	1054.92	0.416	0.00	0.71
3	0.00	0.00	0.00	3.00	861.63	0.00	581.23	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	654.73	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1018.61	254.65	1012.19	205.40	1.50	0.00	1643.11	1287.44	0.620	0.00	1.60

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

	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation		Start	End
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Arm	Demand (Veh/hr)	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	Queue (Veh)	Queue (Veh)
1	114.17	28.54	114.03	0.00	1213.50	0.00	1024.34	671.56	0.111	0.09	0.12
2	752.45	188.11	751.20	1043.44	284.08	0.00	1484.90	1054.91	0.507	0.71	1.02
3	0.00	0.00	0.00	3.59	1031.70	0.00	496.59	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	783.97	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1216.32	304.08	1211.71	245.94	1.79	0.00	1642.92	1287.44	0.740	1.60	2.76

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

Arm	Demand (Veh/hr)	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)
1	139.83	34.96	139.53	0.00	1471.11	0.00	838.29	671.56	0.167	0.12	0.20
2	921.55	230.39	918.71	1265.41	345.24	0.00	1444.17	1054.92	0.638	1.02	1.73
3	0.00	0.00	0.00	4.37	1259.58	0.00	383.19	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	956.56	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1489.68	372.42	1468.92	300.82	2.20	0.00	1642.67	1287.44	0.907	2.76	7.95

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

Arm	Demand (Veh/hr)	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)
1	139.83	34.96	139.81	0.00	1489.02	0.00	825.36	671.56	0.169	0.20	0.20
2	921.55	230.39	921.46	1280.31	348.52	0.00	1441.99	1054.92	0.639	1.73	1.75
3	0.00	0.00	0.00	4.40	1265.58	0.00	380.20	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	961.73	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1489.68	372.42	1486.82	301.65	2.20	0.00	1642.66	1287.44	0.907	7.95	8.66

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

Arm	Demand (Veh/hr)	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)
1	114.17	28.54	114.47	0.00	1240.97	0.00	1004.50	671.56	0.114	0.20	0.13
2	752.45	188.11	755.28	1066.31	289.12	0.00	1481.54	1054.91	0.508	1.75	1.04
3	0.00	0.00	0.00	3.64	1040.76	0.00	492.08	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	791.78	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1216.32	304.08	1239.16	247.17	1.80	0.00	1642.92	1287.44	0.740	8.66	2.95

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

Arm	Demand (Veh/hr)	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)
1	95.61	23.90	95.77	0.00	1025.30	0.00	1160.26	671.56	0.082	0.13	0.09
2	630.14	157.53	631.44	881.41	239.65	0.00	1514.48	1054.92	0.416	1.04	0.72
3	0.00	0.00	0.00	3.02	868.07	0.00	578.02	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	659.88	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1018.61	254.65	1023.79	206.68	1.51	0.00	1643.11	1287.44	0.620	2.95	1.66

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.31	0.09	0.056	A	A

2	10.28	0.69	0.067	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	22.90	1.53	0.094	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.84	0.12	0.066	A	A
2	14.84	0.99	0.082	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	38.89	2.59	0.138	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.92	0.19	0.086	A	A
2	24.78	1.65	0.114	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	99.18	6.61	0.313	C	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.03	0.20	0.088	A	A
2	26.13	1.74	0.115	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	125.51	8.37	0.370	C	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.97	0.13	0.067	A	A
2	16.18	1.08	0.083	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	50.35	3.36	0.156	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.37	0.09	0.056	A	A
2	11.02	0.73	0.068	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	25.99	1.73	0.098	A	A

A1 - 2021 Baseline - D2 - 2021 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Standard Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 Baseline		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 Baseline, PM	2021 Baseline	PM		False	True	False		16:45	18:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Church Lane Roundabout	1,2,3,4,5	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 Off-Slip	
2	Havant Road	
3	Church Lane	
4	A27 On-Slip	
5	Emsworth Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00
5	0.00	99999.00	False	0.00

Standard 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	6.08	7.10	10.00	19.00	40.00	27.10	False
2	3.69	6.74	42.00	13.00	40.00	26.50	False
3	3.14	6.18	3.97	12.00	40.00	46.00	False
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True

5	5.06	7.40	12.00	15.00	40.00	48.90	False
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Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
5	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)
5	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None
5	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
5	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
5	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	False	((calculated))	((calculated))	0.722	2090.789
2	False	((calculated))	((calculated))	0.666	1841.461
3	False	((calculated))	((calculated))	0.498	1111.018
4	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)

5	False	((calculated))	((calculated))	0.639	1808.478
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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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	True	127.00	100.000	N/A
2	ONE HOUR	True	837.00	100.000	N/A
3	ONE HOUR	True	0.00	100.000	N/A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
5	ONE HOUR	True	1353.00	100.000	N/A

Turning Proportions

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

		To				
From		1	2	3	4	5
	1	0.000	44.000	0.000	0.000	83.000
	2	0.000	2.000	2.000	643.000	190.000
	3	0.000	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000	0.000
	5	0.000	1119.000	2.000	231.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

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

		To				
From		1	2	3	4	5
	1	0.00	0.35	0.00	0.00	0.65
	2	0.00	0.00	0.00	0.77	0.23
	3	0.20	0.20	0.20	0.20	0.20
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.83	0.00	0.17	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To				
		1	2	3	4	5
	1	1.100	1.100	1.100	1.100	1.100

From	2	1.100	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100	1.100
	4	1.000	1.000	1.000	1.000	1.000
	5	1.100	1.100	1.100	1.100	1.100

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

From	To					
		1	2	3	4	5
	1	10.000	10.000	10.000	10.000	10.000
	2	10.000	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000	10.000
	4	0.000	0.000	0.000	0.000	0.000
	5	10.000	10.000	10.000	10.000	10.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.17	0.09	0.20	A	116.54	174.81	12.44	0.07	0.14	12.44	0.07	0.722	2090.789
2	0.64	0.12	1.75	A	768.05	1152.07	103.23	0.09	1.15	103.24	0.09	0.666	1841.461
3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	16666666.65	0.498	1111.018
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	0.91	0.37	8.66	C	1241.54	1862.30	362.81	0.19	4.03	362.86	0.19	0.639	1808.478

Main Results

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

Arm	Demand (Veh/hr)	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)
1	95.61	23.90	95.26	0.00	1013.69	0.00	1168.64	671.56	0.082	0.00	0.09
2	630.14	157.53	627.31	871.64	237.31	0.00	1516.04	1054.92	0.416	0.00	0.71
3	0.00	0.00	0.00	3.00	861.63	0.00	581.23	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	654.73	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1018.61	254.65	1012.19	205.40	1.50	0.00	1643.11	1287.44	0.620	0.00	1.60

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

Arm	Demand (Veh/hr)	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)
1	114.17	28.54	114.03	0.00	1213.50	0.00	1024.34	671.56	0.111	0.09	0.12
2	752.45	188.11	751.20	1043.44	284.08	0.00	1484.90	1054.91	0.507	0.71	1.02
3	0.00	0.00	0.00	3.59	1031.70	0.00	496.59	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	783.97	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1216.32	304.08	1211.71	245.94	1.79	0.00	1642.92	1287.44	0.740	1.60	2.76

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

Arm	Demand (Veh/hr)	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)
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Arm	Demand (Veh/hr)	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)
1	139.83	34.96	139.53	0.00	1471.11	0.00	838.29	671.56	0.167	0.12	0.20
2	921.55	230.39	918.71	1265.41	345.24	0.00	1444.17	1054.92	0.638	1.02	1.73
3	0.00	0.00	0.00	4.37	1259.58	0.00	383.19	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	956.56	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1489.68	372.42	1468.92	300.82	2.20	0.00	1642.67	1287.44	0.907	2.76	7.95

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

Arm	Demand (Veh/hr)	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)
1	139.83	34.96	139.81	0.00	1489.02	0.00	825.36	671.56	0.169	0.20	0.20
2	921.55	230.39	921.46	1280.31	348.52	0.00	1441.99	1054.92	0.639	1.73	1.75
3	0.00	0.00	0.00	4.40	1265.58	0.00	380.20	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	961.73	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1489.68	372.42	1486.82	301.65	2.20	0.00	1642.66	1287.44	0.907	7.95	8.66

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

Arm	Demand (Veh/hr)	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)
1	114.17	28.54	114.47	0.00	1240.97	0.00	1004.50	671.56	0.114	0.20	0.13
2	752.45	188.11	755.28	1066.31	289.12	0.00	1481.54	1054.91	0.508	1.75	1.04
3	0.00	0.00	0.00	3.64	1040.76	0.00	492.08	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	791.78	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1216.32	304.08	1239.16	247.17	1.80	0.00	1642.92	1287.44	0.740	8.66	2.95

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

Arm	Demand (Veh/hr)	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)
1	95.61	23.90	95.77	0.00	1025.30	0.00	1160.26	671.56	0.082	0.13	0.09
2	630.14	157.53	631.44	881.41	239.65	0.00	1514.48	1054.92	0.416	1.04	0.72
3	0.00	0.00	0.00	3.02	868.07	0.00	578.02	96.04	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	659.88	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1018.61	254.65	1023.79	206.68	1.51	0.00	1643.11	1287.44	0.620	2.95	1.66

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.31	0.09	0.056	A	A
2	10.28	0.69	0.067	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	22.90	1.53	0.094	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.84	0.12	0.066	A	A
2	14.84	0.99	0.082	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	22.90	1.53	0.094	A	A

3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	38.89	2.59	0.138	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.92	0.19	0.086	A	A
2	24.78	1.65	0.114	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	99.18	6.61	0.313	C	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.03	0.20	0.088	A	A
2	26.13	1.74	0.115	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	125.51	8.37	0.370	C	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.97	0.13	0.067	A	A
2	16.18	1.08	0.083	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	50.35	3.36	0.156	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.37	0.09	0.056	A	A
2	11.02	0.73	0.068	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	25.99	1.73	0.098	A	A

ARCADY 7

Version: 7.1.0.228 [21st Feb 2011]
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File: E:\Projects\040-049\041 Barratt Homes\041.0025 Warblington Meadows, Havant\Reports\Modelling (July-SR)\Church Lane Rbt (southside)\2021 Baseline + Dev\2021 WITH DEVELOPMENT.arc7
Report generation date: 13/07/2016 11:19:38

- » A1 - 2021 Baseline +DEV - D1 - 2021 Baseline, AM
- » A1 - 2021 Baseline +DEV - D2 - 2021 Baseline, PM

Summary of roundabout performance

	AM			PM		
	Queue (Veh)	Delay (min)	RFC	Queue (Veh)	Delay (min)	RFC
2021 Baseline +DEV - 2021 Baseline						
Arm 1	0.10	0.07	0.09	0.25	0.10	0.20
Arm 2	38.27	1.54	1.03	1.90	0.12	0.66
Arm 3	0.00	0.00	0.00	0.00	0.00	0.00
Arm 5	5.41	0.24	0.85	21.34	0.82	0.98

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

2021 Baseline - AM runs from 07:45:00 to 09:15:00
2021 Baseline - PM runs from 16:45:00 to 18:15:00

File summary

File Description

Title	2021 Baseline
Location	A27/ Church Lane Roundabout
Site Number	
Date	01/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	041.0025
Enumerator	Bethany
Description	

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	False

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
False	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - 2021 Baseline +DEV - D1 - 2021 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Standard Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 Baseline +DEV		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 Baseline, AM	2021 Baseline	AM		False	True	False		07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Church Lane Roundabout	1,2,3,4,5	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 Off-Slip	
2	Havant Road	
3	Church Lane	
4	A27 On-Slip	
5	Emsworth Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00

4	0.00	99999.00	False	0.00
5	0.00	99999.00	False	0.00

Standard 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	6.08	7.10	10.00	19.00	40.00	27.10	False
2	3.69	6.74	42.00	13.00	40.00	26.50	False
3	3.14	6.18	3.97	12.00	40.00	46.00	False
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
5	5.06	7.40	12.00	15.00	40.00	48.90	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
5	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)
5	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None
5	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
5	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

5	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
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Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	False	((calculated))	((calculated))	0.722	2090.789
2	False	((calculated))	((calculated))	0.666	1841.461
3	False	((calculated))	((calculated))	0.498	1111.018
4	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
5	False	((calculated))	((calculated))	0.639	1808.478

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	True	135.00	100.000	N/A
2	ONE HOUR	True	863.00	100.000	N/A
3	ONE HOUR	True	0.00	100.000	N/A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
5	ONE HOUR	True	1463.00	100.000	N/A

Turning Proportions

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

		To				
From		1	2	3	4	5
	1	0.000	52.000	0.000	0.000	83.000
	2	0.000	2.000	2.000	663.000	196.000
	3	0.000	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000	0.000
	5	0.000	1229.000	2.000	231.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

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

		To				
From		1	2	3	4	5
	1	0.00	0.44	0.00	0.03	0.53
	2	0.00	0.00	0.00	0.82	0.18
	3	0.00	0.00	0.00	0.75	0.25
	4	0.20	0.20	0.20	0.20	0.20

	5	0.00	0.70	0.00	0.29	0.00
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Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.100	1.100	1.100	1.100	1.100
	2	1.100	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100	1.100
	4	1.000	1.000	1.000	1.000	1.000
	5	1.100	1.100	1.100	1.100	1.100

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To				
		1	2	3	4	5
From	1	10.000	10.000	10.000	10.000	10.000
	2	10.000	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000	10.000
	4	0.000	0.000	0.000	0.000	0.000
	5	10.000	10.000	10.000	10.000	10.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.20	0.10	0.25	A	123.88	185.82	14.69	0.08	0.16	14.69	0.08	0.722	2090.789
2	0.66	0.12	1.90	A	791.90	1187.86	110.68	0.09	1.23	110.69	0.09	0.666	1841.461
3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.498	1111.018
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	0.98	0.82	21.34	E	1342.47	2013.71	678.69	0.34	7.54	678.77	0.34	0.639	1808.478

Main Results

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

Arm	Demand (Veh/hr)	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)
1	101.64	25.41	101.23	0.00	1094.96	0.00	1109.94	671.03	0.092	0.00	0.10
2	649.71	162.43	646.74	959.06	237.13	0.00	1516.16	1081.41	0.429	0.00	0.74
3	0.00	0.00	0.00	2.99	880.88	0.00	571.65	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	669.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1101.42	275.36	1093.47	209.87	1.50	0.00	1643.11	1280.88	0.670	0.00	1.99

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

	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation		Start	End
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Arm	Demand (Veh/hr)	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	Queue (Veh)	Queue (Veh)
1	121.36	30.34	121.18	0.00	1309.77	0.00	954.82	671.03	0.127	0.10	0.14
2	775.82	193.95	774.47	1147.24	283.71	0.00	1485.14	1081.41	0.522	0.74	1.08
3	0.00	0.00	0.00	3.58	1054.60	0.00	485.20	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	801.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1315.21	328.80	1307.97	251.29	1.79	0.00	1642.92	1280.88	0.801	1.99	3.80

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

Arm	Demand (Veh/hr)	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)
1	148.64	37.16	148.27	0.00	1562.59	0.00	772.23	671.03	0.192	0.14	0.24
2	950.18	237.55	947.03	1370.12	340.74	0.00	1447.17	1081.41	0.657	1.08	1.87
3	0.00	0.00	0.00	4.33	1283.44	0.00	371.31	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	973.93	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1610.79	402.70	1560.39	307.31	2.19	0.00	1642.67	1280.88	0.981	3.80	16.40

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

Arm	Demand (Veh/hr)	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)
1	148.64	37.16	148.60	0.00	1593.23	0.00	750.10	671.03	0.198	0.24	0.25
2	950.18	237.55	950.06	1395.99	345.84	0.00	1443.77	1081.41	0.658	1.87	1.90
3	0.00	0.00	0.00	4.38	1291.52	0.00	367.29	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	981.10	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1610.79	402.70	1591.03	308.22	2.20	0.00	1642.66	1280.88	0.981	16.40	21.34

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

Arm	Demand (Veh/hr)	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)
1	121.36	30.34	121.72	0.00	1385.22	0.00	900.32	671.03	0.135	0.25	0.16
2	775.82	193.95	778.94	1210.83	296.10	0.00	1476.89	1081.41	0.525	1.90	1.12
3	0.00	0.00	0.00	3.70	1071.35	0.00	476.86	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	816.86	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1315.21	328.80	1383.42	252.69	1.81	0.00	1642.92	1280.88	0.801	21.34	4.29

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

Arm	Demand (Veh/hr)	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)
1	101.64	25.41	101.85	0.00	1111.77	0.00	1097.81	671.03	0.093	0.16	0.10
2	649.71	162.43	651.16	973.42	240.20	0.00	1514.12	1081.41	0.429	1.12	0.76
3	0.00	0.00	0.00	3.03	888.33	0.00	567.94	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	675.56	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1101.42	275.36	1110.26	211.27	1.51	0.00	1643.11	1280.88	0.670	4.29	2.08

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.48	0.10	0.059	A	A

2	10.83	0.72	0.069	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	28.11	1.87	0.108	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.14	0.14	0.072	A	A
2	15.76	1.05	0.084	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	52.31	3.49	0.175	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.46	0.23	0.096	A	A
2	26.72	1.78	0.119	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	176.94	11.80	0.538	D	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.65	0.24	0.100	A	A
2	28.33	1.89	0.121	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	286.16	19.08	0.823	E	D

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.40	0.16	0.077	A	A
2	17.39	1.16	0.086	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	102.16	6.81	0.284	C	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.56	0.10	0.060	A	A
2	11.65	0.78	0.070	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	33.01	2.20	0.114	A	A

A1 - 2021 Baseline +DEV - D2 - 2021 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Standard Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 Baseline +DEV		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 Baseline, PM	2021 Baseline	PM		False	True	False		16:45	18:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Church Lane Roundabout	1,2,3,4,5	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 Off-Slip	
2	Havant Road	
3	Church Lane	
4	A27 On-Slip	
5	Emsworth Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00
5	0.00	99999.00	False	0.00

Standard 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	6.08	7.10	10.00	19.00	40.00	27.10	False
2	3.69	6.74	42.00	13.00	40.00	26.50	False
3	3.14	6.18	3.97	12.00	40.00	46.00	False
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True

5	5.06	7.40	12.00	15.00	40.00	48.90	False
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Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
5	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)
5	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None
5	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
5	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
5	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	False	((calculated))	((calculated))	0.722	2090.789
2	False	((calculated))	((calculated))	0.666	1841.461
3	False	((calculated))	((calculated))	0.498	1111.018
4	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)

5	False	((calculated))	((calculated))	0.639	1808.478
---	-------	----------------	----------------	-------	----------

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	True	135.00	100.000	N/A
2	ONE HOUR	True	863.00	100.000	N/A
3	ONE HOUR	True	0.00	100.000	N/A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
5	ONE HOUR	True	1463.00	100.000	N/A

Turning Proportions

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

		To				
From		1	2	3	4	5
	1	0.000	52.000	0.000	0.000	83.000
	2	0.000	2.000	2.000	663.000	196.000
	3	0.000	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000	0.000
	5	0.000	1229.000	2.000	231.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

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

		To				
From		1	2	3	4	5
	1	0.00	0.39	0.00	0.00	0.61
	2	0.00	0.00	0.00	0.77	0.23
	3	0.20	0.20	0.20	0.20	0.20
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.84	0.00	0.16	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To				
		1	2	3	4	5
	1	1.100	1.100	1.100	1.100	1.100

From	2	1.100	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100	1.100
	4	1.000	1.000	1.000	1.000	1.000
	5	1.100	1.100	1.100	1.100	1.100

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

From	To					
		1	2	3	4	5
	1	10.000	10.000	10.000	10.000	10.000
	2	10.000	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000	10.000
	4	0.000	0.000	0.000	0.000	0.000
	5	10.000	10.000	10.000	10.000	10.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.20	0.10	0.25	A	123.88	185.82	14.69	0.08	0.16	14.69	0.08	0.722	2090.789
2	0.66	0.12	1.90	A	791.90	1187.86	110.68	0.09	1.23	110.69	0.09	0.666	1841.461
3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	16666666.65	0.498	1111.018
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	0.98	0.82	21.34	E	1342.47	2013.71	678.69	0.34	7.54	678.77	0.34	0.639	1808.478

Main Results

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

Arm	Demand (Veh/hr)	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)
1	101.64	25.41	101.23	0.00	1094.96	0.00	1109.94	671.03	0.092	0.00	0.10
2	649.71	162.43	646.74	959.06	237.13	0.00	1516.16	1081.41	0.429	0.00	0.74
3	0.00	0.00	0.00	2.99	880.88	0.00	571.65	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	669.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1101.42	275.36	1093.47	209.87	1.50	0.00	1643.11	1280.88	0.670	0.00	1.99

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

Arm	Demand (Veh/hr)	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)
1	121.36	30.34	121.18	0.00	1309.77	0.00	954.82	671.03	0.127	0.10	0.14
2	775.82	193.95	774.47	1147.24	283.71	0.00	1485.14	1081.41	0.522	0.74	1.08
3	0.00	0.00	0.00	3.58	1054.60	0.00	485.20	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	801.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1315.21	328.80	1307.97	251.29	1.79	0.00	1642.92	1280.88	0.801	1.99	3.80

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

										Start	End
--	--	--	--	--	--	--	--	--	--	-------	-----

Arm	Demand (Veh/hr)	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)
1	148.64	37.16	148.27	0.00	1562.59	0.00	772.23	671.03	0.192	0.14	0.24
2	950.18	237.55	947.03	1370.12	340.74	0.00	1447.17	1081.41	0.657	1.08	1.87
3	0.00	0.00	0.00	4.33	1283.44	0.00	371.31	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	973.93	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1610.79	402.70	1560.39	307.31	2.19	0.00	1642.67	1280.88	0.981	3.80	16.40

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

Arm	Demand (Veh/hr)	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)
1	148.64	37.16	148.60	0.00	1593.23	0.00	750.10	671.03	0.198	0.24	0.25
2	950.18	237.55	950.06	1395.99	345.84	0.00	1443.77	1081.41	0.658	1.87	1.90
3	0.00	0.00	0.00	4.38	1291.52	0.00	367.29	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	981.10	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1610.79	402.70	1591.03	308.22	2.20	0.00	1642.66	1280.88	0.981	16.40	21.34

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

Arm	Demand (Veh/hr)	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)
1	121.36	30.34	121.72	0.00	1385.22	0.00	900.32	671.03	0.135	0.25	0.16
2	775.82	193.95	778.94	1210.83	296.10	0.00	1476.89	1081.41	0.525	1.90	1.12
3	0.00	0.00	0.00	3.70	1071.35	0.00	476.86	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	816.86	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1315.21	328.80	1383.42	252.69	1.81	0.00	1642.92	1280.88	0.801	21.34	4.29

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

Arm	Demand (Veh/hr)	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)
1	101.64	25.41	101.85	0.00	1111.77	0.00	1097.81	671.03	0.093	0.16	0.10
2	649.71	162.43	651.16	973.42	240.20	0.00	1514.12	1081.41	0.429	1.12	0.76
3	0.00	0.00	0.00	3.03	888.33	0.00	567.94	104.05	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	675.56	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1101.42	275.36	1110.26	211.27	1.51	0.00	1643.11	1280.88	0.670	4.29	2.08

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.48	0.10	0.059	A	A
2	10.83	0.72	0.069	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	28.11	1.87	0.108	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.14	0.14	0.072	A	A
2	15.76	1.05	0.084	A	A

3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	52.31	3.49	0.175	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.46	0.23	0.096	A	A
2	26.72	1.78	0.119	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	176.94	11.80	0.538	D	C

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

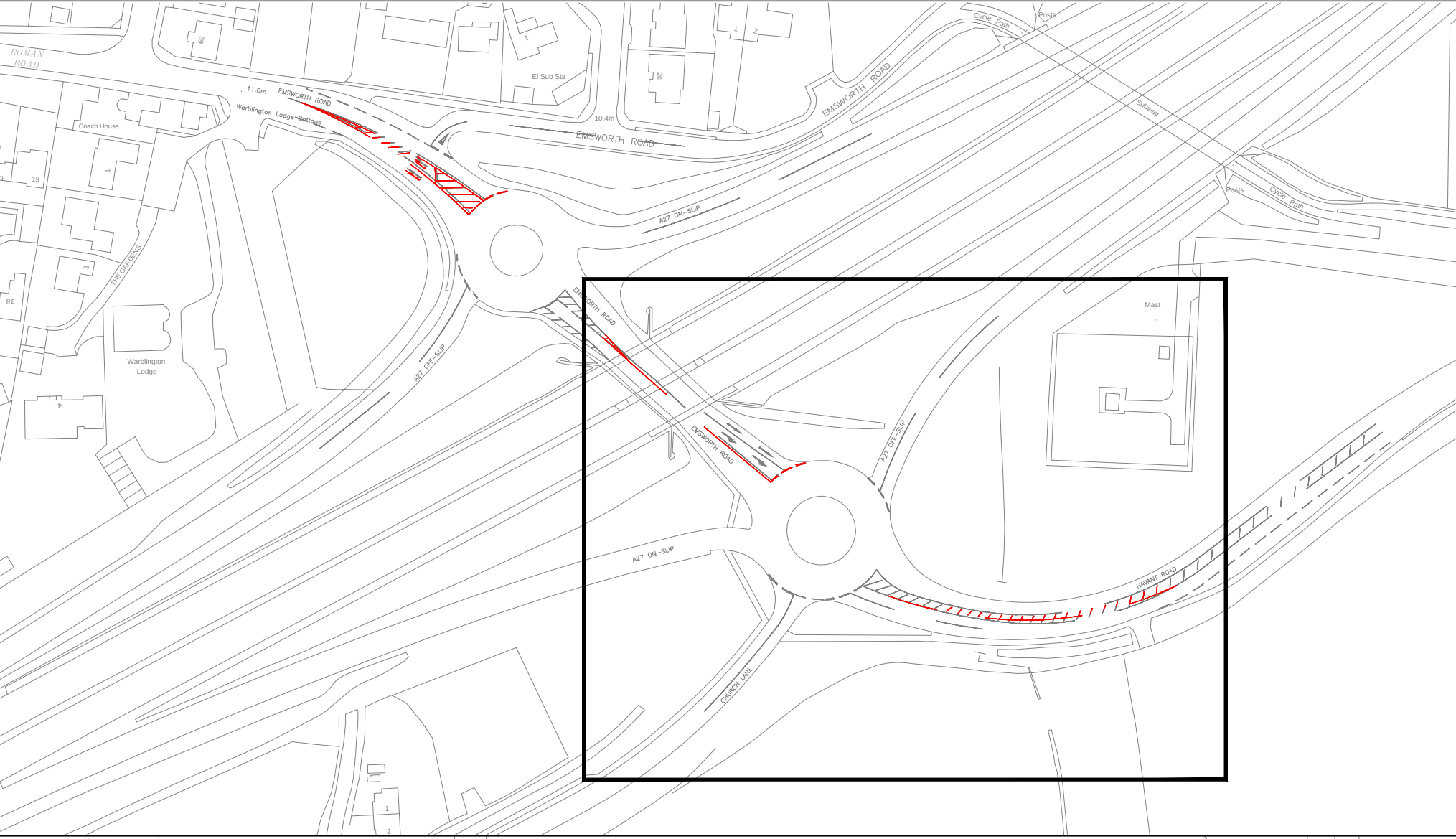
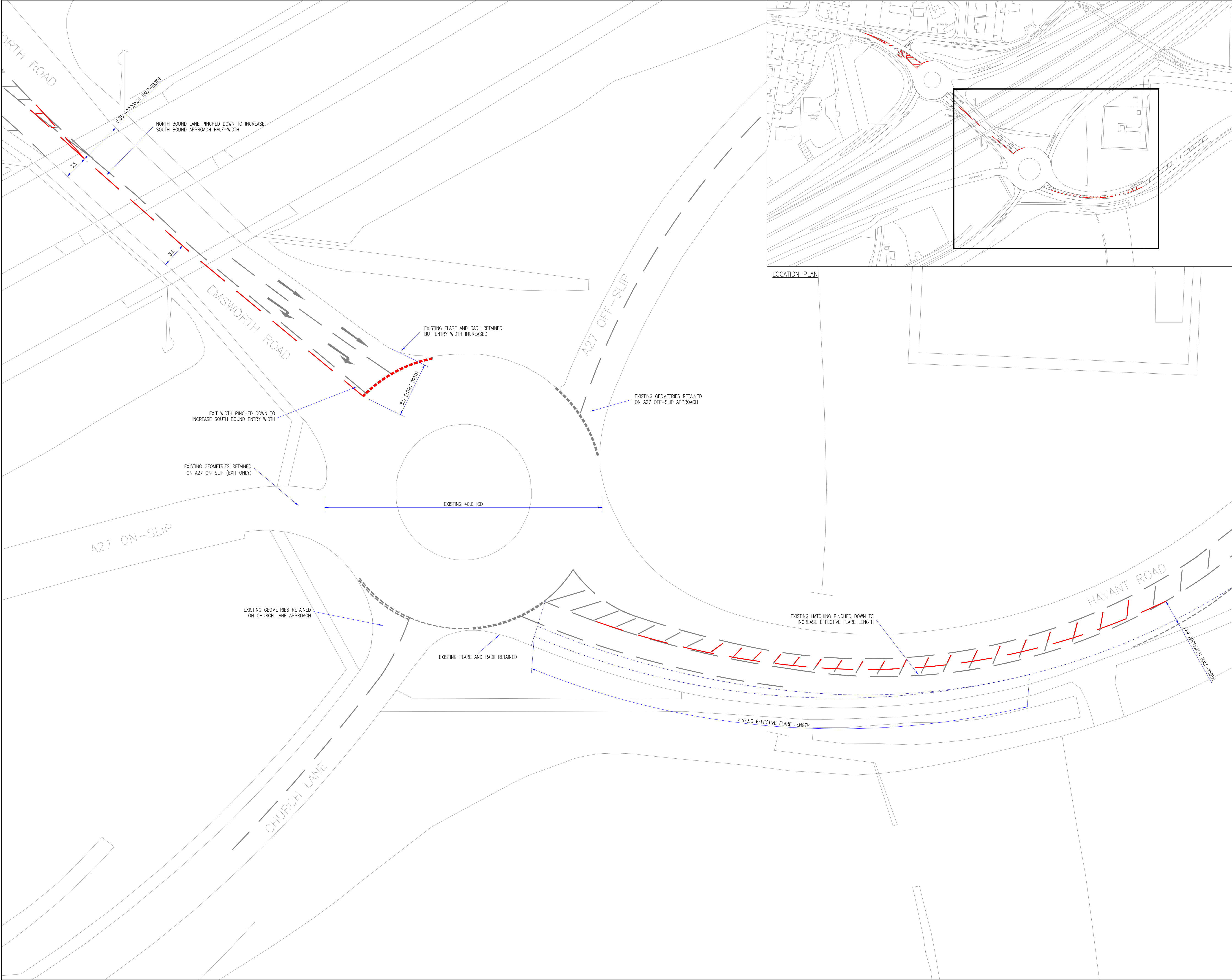
Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.65	0.24	0.100	A	A
2	28.33	1.89	0.121	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	286.16	19.08	0.823	E	D

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.40	0.16	0.077	A	A
2	17.39	1.16	0.086	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	102.16	6.81	0.284	C	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.56	0.10	0.060	A	A
2	11.65	0.78	0.070	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	33.01	2.20	0.114	A	A



LOCATION PLAN

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Client



**BARRATT
HOMES**

Project Name LAND AT HAVANT ROAD, EMSWORTH			
Title HAVANT ROAD / CHURCH LANE / A27 ROUNDABOUT - MITIGATION PROPOSALS			
Project Phase PRELIMINARY			
Checked By BW	Checked Date 19.07.16	Drawn By CL	Drawn Date 15.07.16
Client Drawing No. -		Scale 1:250	(AT A1 SIZE)
PBA Drawing No. 041.0025.004			Revision -

ARCADY 7

Version: 7.1.0.228 [21st Feb 2011]

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File: E:\Projects\040-049\041 Barratt Homes\041.0025 Warblington Meadows, Havant\Reports\Modelling (July-SR)\Church Lane Rbt (southside)\2021 Baseline + Dev + Miti\2021 B+D+Miti.arc7

Report generation date: 13/07/2016 11:24:30

» A1 - 2021 Baseline+DEV + Mitigation - D1 - 2021 Baseline, AM

» A1 - 2021 Baseline+DEV + Mitigation - D2 - 2021 Baseline, PM

Summary of roundabout performance

	AM			PM		
	Queue (Veh)	Delay (min)	RFC	Queue (Veh)	Delay (min)	RFC
2021 Baseline+DEV + Mitigation - 2021 Baseline						
Arm 1	0.10	0.07	0.09	0.25	0.10	0.20
Arm 2	23.48	1.02	0.99	1.72	0.11	0.64
Arm 3	0.00	0.00	0.00	0.00	0.00	0.00
Arm 5	2.77	0.12	0.74	5.44	0.21	0.85

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

2021 Baseline - AM runs from 07:45:00 to 09:15:00

2021 Baseline - PM runs from 16:45:00 to 18:15:00

File summary

File Description

Title	2021 Baseline
Location	A27/ Church Lane Roundabout
Site Number	
Date	01/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	041.0025
Enumerator	Bethany
Description	

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	False

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
False	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - 2021 Baseline+DEV + Mitigation - D1 - 2021 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Standard Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 Baseline+DEV + Mitigation		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 Baseline, AM	2021 Baseline	AM		False	True	False		07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Church Lane Roundabout	1,2,3,4,5	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 Off-Slip	
2	Havant Road	
3	Church Lane	
4	A27 On-Slip	
5	Emsworth Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00
5	0.00	99999.00	False	0.00

2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00
5	0.00	99999.00	False	0.00

Standard 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	6.08	7.10	10.00	19.00	40.00	27.10	False
2	3.69	6.74	73.00	13.00	40.00	26.50	False
3	3.14	6.18	3.97	12.00	40.00	46.00	False
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
5	6.35	8.00	12.00	15.00	40.00	48.90	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
5	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)
5	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None
5	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queuing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
5	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
5	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
5	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	False	((calculated))	((calculated))	0.722	2090.789
2	False	((calculated))	((calculated))	0.679	1905.809
3	False	((calculated))	((calculated))	0.498	1111.018
4	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
5	False	((calculated))	((calculated))	0.694	2085.262

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	True	135.00	100.000	N/A
2	ONE HOUR	True	863.00	100.000	N/A
3	ONE HOUR	True	0.00	100.000	N/A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
5	ONE HOUR	True	1463.00	100.000	N/A

Turning Proportions

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

		To				
From		1	2	3	4	5
	1	0.000	52.000	0.000	0.000	83.000
	2	0.000	2.000	2.000	663.000	196.000
	3	0.000	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000	0.000
	5	0.000	1229.000	2.000	231.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

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

		To				
From		1	2	3	4	5
	1	0.00	0.44	0.00	0.03	0.53
	2	0.00	0.00	0.00	0.82	0.18

3	0.00	0.00	0.00	0.75	0.25
4	0.20	0.20	0.20	0.20	0.20
5	0.00	0.70	0.00	0.29	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

	To					
From		1	2	3	4	5
	1	1.100	1.100	1.100	1.100	1.100
	2	1.100	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100	1.100
	4	1.000	1.000	1.000	1.000	1.000
	5	1.100	1.100	1.100	1.100	1.100

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

	To					
From		1	2	3	4	5
	1	10.000	10.000	10.000	10.000	10.000
	2	10.000	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000	10.000
	4	0.000	0.000	0.000	0.000	0.000
	5	10.000	10.000	10.000	10.000	10.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.20	0.10	0.25	A	123.88	185.82	14.83	0.08	0.16	14.83	0.08	0.722	2090.789
2	0.64	0.11	1.72	A	791.90	1187.86	101.96	0.09	1.13	101.97	0.09	0.679	1905.809
3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.498	1111.018
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	0.85	0.21	5.44	B	1342.47	2013.71	261.14	0.13	2.90	261.17	0.13	0.694	2085.262

Main Results

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

Arm	Demand (Veh/hr)	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)
1	101.64	25.41	101.23	0.00	1097.43	0.00	1108.16	510.40	0.092	0.00	0.10
2	649.71	162.43	646.91	961.14	237.53	0.00	1571.34	1163.37	0.413	0.00	0.70
3	0.00	0.00	0.00	3.00	881.44	0.00	571.37	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	670.03	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1101.42	275.36	1095.93	209.91	1.50	0.00	1894.65	1481.40	0.581	0.00	1.37

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

Arm	Demand (Veh/hr)	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)
1	121.36	30.34	121.18	0.00	1313.60	0.00	952.05	510.40	0.127	0.10	0.15
2	775.82	193.95	774.60	1150.46	284.32	0.00	1539.58	1163.37	0.504	0.70	1.01
3	0.00	0.00	0.00	3.59	1055.33	0.00	484.83	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	802.21	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1315.21	328.80	1311.81	251.32	1.80	0.00	1894.45	1481.40	0.694	1.37	2.22

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

Arm	Demand (Veh/hr)	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)
1	148.64	37.16	148.23	0.00	1600.93	0.00	744.54	510.40	0.200	0.15	0.25
2	950.18	237.55	947.39	1402.32	346.84	0.00	1497.15	1163.37	0.635	1.01	1.70
3	0.00	0.00	0.00	4.38	1289.85	0.00	368.12	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	980.26	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1610.79	402.70	1598.74	307.39	2.20	0.00	1894.17	1481.40	0.850	2.22	5.24

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

Arm	Demand (Veh/hr)	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)
1	148.64	37.16	148.62	0.00	1612.18	0.00	736.42	510.40	0.202	0.25	0.25
2	950.18	237.55	950.10	1411.92	348.88	0.00	1495.76	1163.37	0.635	1.70	1.72
3	0.00	0.00	0.00	4.40	1294.58	0.00	365.77	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	984.12	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1610.79	402.70	1609.98	308.26	2.20	0.00	1894.16	1481.40	0.850	5.24	5.44

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

Arm	Demand (Veh/hr)	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)
1	121.36	30.34	121.77	0.00	1329.49	0.00	940.57	510.40	0.129	0.25	0.15
2	775.82	193.95	778.60	1164.04	287.22	0.00	1537.61	1163.37	0.505	1.72	1.03
3	0.00	0.00	0.00	3.62	1062.20	0.00	481.41	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	807.79	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1315.21	328.80	1327.69	252.61	1.80	0.00	1894.44	1481.40	0.694	5.44	2.32

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

Arm	Demand (Veh/hr)	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)
1	101.64	25.41	101.82	0.00	1106.59	0.00	1101.55	510.40	0.092	0.15	0.10
2	649.71	162.43	650.98	969.06	239.36	0.00	1570.10	1163.37	0.414	1.03	0.71
3	0.00	0.00	0.00	3.02	887.32	0.00	568.44	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	674.61	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1101.42	275.36	1105.09	211.21	1.51	0.00	1894.65	1481.40	0.581	2.32	1.40

Queueing Delay Results

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

Arm	Queueing Total Delay (Veh-hr)	Queueing Rate Of Delay (Veh-hr)	Average Delay Per Arriving Vehicle (Veh-hr)	Unsignalised Level Of	Signalised Level Of
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	min)	min/min)	(min)	Service	Service
1	1.48	0.10	0.060	A	A
2	10.21	0.68	0.065	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	19.79	1.32	0.075	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.14	0.14	0.072	A	A
2	14.69	0.98	0.078	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	31.85	2.12	0.102	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.62	0.24	0.101	A	A
2	24.47	1.63	0.109	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	70.06	4.67	0.195	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.75	0.25	0.102	A	A
2	25.74	1.72	0.110	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	80.39	5.36	0.210	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.28	0.15	0.073	A	A
2	15.94	1.06	0.079	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	37.24	2.48	0.108	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.56	0.10	0.060	A	A
2	10.91	0.73	0.065	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	21.81	1.45	0.076	A	A

A1 - 2021 Baseline+DEV + Mitigation - D2 - 2021 Baseline. PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Standard Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 Baseline+DEV + Mitigation		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 Baseline, PM	2021 Baseline	PM		False	True	False		16:45	18:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Church Lane Roundabout	1,2,3,4,5	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 Off-Slip	
2	Havant Road	
3	Church Lane	
4	A27 On-Slip	
5	Emsworth Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00
5	0.00	99999.00	False	0.00

Standard 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
4	6.00	7.10	10.00	10.00	10.00	37.10	False

1	0.00	1.10	10.00	15.00	40.00	21.10	False
2	3.69	6.74	73.00	13.00	40.00	26.50	False
3	3.14	6.18	3.97	12.00	40.00	46.00	False
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
5	6.35	8.00	12.00	15.00	40.00	48.90	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
5	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)
5	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None
5	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queuing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
5	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
5	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
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1	False	((calculated))	((calculated))	0.722	2090.789
2	False	((calculated))	((calculated))	0.679	1905.809
3	False	((calculated))	((calculated))	0.498	1111.018
4	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
5	False	((calculated))	((calculated))	0.694	2085.262

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	True	135.00	100.000	N/A
2	ONE HOUR	True	863.00	100.000	N/A
3	ONE HOUR	True	0.00	100.000	N/A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
5	ONE HOUR	True	1463.00	100.000	N/A

Turning Proportions

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

		To				
From		1	2	3	4	5
	1	0.000	52.000	0.000	0.000	83.000
	2	0.000	2.000	2.000	663.000	196.000
	3	0.000	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000	0.000
	5	0.000	1229.000	2.000	231.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

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

		To				
From		1	2	3	4	5
	1	0.00	0.39	0.00	0.00	0.61
	2	0.00	0.00	0.00	0.77	0.23
	3	0.20	0.20	0.20	0.20	0.20
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.84	0.00	0.16	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To				
		1	2	3	4	5
From	1	1.100	1.100	1.100	1.100	1.100
	2	1.100	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100	1.100
	4	1.000	1.000	1.000	1.000	1.000
	5	1.100	1.100	1.100	1.100	1.100

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To				
		1	2	3	4	5
From	1	10.000	10.000	10.000	10.000	10.000
	2	10.000	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000	10.000
	4	0.000	0.000	0.000	0.000	0.000
	5	10.000	10.000	10.000	10.000	10.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.20	0.10	0.25	A	123.88	185.82	14.83	0.08	0.16	14.83	0.08	0.722	2090.789
2	0.64	0.11	1.72	A	791.90	1187.86	101.96	0.09	1.13	101.97	0.09	0.679	1905.809
3	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.498	1111.018
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	0.85	0.21	5.44	B	1342.47	2013.71	261.14	0.13	2.90	261.17	0.13	0.694	2085.262

Main Results

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

Arm	Demand (Veh/hr)	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)
1	101.64	25.41	101.23	0.00	1097.43	0.00	1108.16	510.40	0.092	0.00	0.10
2	649.71	162.43	646.91	961.14	237.53	0.00	1571.34	1163.37	0.413	0.00	0.70
3	0.00	0.00	0.00	3.00	881.44	0.00	571.37	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	670.03	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1101.42	275.36	1095.93	209.91	1.50	0.00	1894.65	1481.40	0.581	0.00	1.37

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

Arm	Demand (Veh/hr)	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)
1	121.36	30.34	121.18	0.00	1313.60	0.00	952.05	510.40	0.127	0.10	0.15
2	775.82	193.95	774.60	1150.46	284.32	0.00	1539.58	1163.37	0.504	0.70	1.01
3	0.00	0.00	0.00	3.59	1055.33	0.00	484.83	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	802.21	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

5	1315.21	328.80	1311.81	251.32	1.80	0.00	1894.45	1481.40	0.694	1.37	2.22
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Main results: (17:15-17:30)

Arm	Demand (Veh/hr)	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)
1	148.64	37.16	148.23	0.00	1600.93	0.00	744.54	510.40	0.200	0.15	0.25
2	950.18	237.55	947.39	1402.32	346.84	0.00	1497.15	1163.37	0.635	1.01	1.70
3	0.00	0.00	0.00	4.38	1289.85	0.00	368.12	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	980.26	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1610.79	402.70	1598.74	307.39	2.20	0.00	1894.17	1481.40	0.850	2.22	5.24

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

Arm	Demand (Veh/hr)	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)
1	148.64	37.16	148.62	0.00	1612.18	0.00	736.42	510.40	0.202	0.25	0.25
2	950.18	237.55	950.10	1411.92	348.88	0.00	1495.76	1163.37	0.635	1.70	1.72
3	0.00	0.00	0.00	4.40	1294.58	0.00	365.77	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	984.12	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1610.79	402.70	1609.98	308.26	2.20	0.00	1894.16	1481.40	0.850	5.24	5.44

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

Arm	Demand (Veh/hr)	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)
1	121.36	30.34	121.77	0.00	1329.49	0.00	940.57	510.40	0.129	0.25	0.15
2	775.82	193.95	778.60	1164.04	287.22	0.00	1537.61	1163.37	0.505	1.72	1.03
3	0.00	0.00	0.00	3.62	1062.20	0.00	481.41	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	807.79	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1315.21	328.80	1327.69	252.61	1.80	0.00	1894.44	1481.40	0.694	5.44	2.32

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

Arm	Demand (Veh/hr)	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)
1	101.64	25.41	101.82	0.00	1106.59	0.00	1101.55	510.40	0.092	0.15	0.10
2	649.71	162.43	650.98	969.06	239.36	0.00	1570.10	1163.37	0.414	1.03	0.71
3	0.00	0.00	0.00	3.02	887.32	0.00	568.44	92.30	0.000	0.00	0.00
4	(Exit-only)	(Exit-only)	(Exit-only)	674.61	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	1101.42	275.36	1105.09	211.21	1.51	0.00	1894.65	1481.40	0.581	2.32	1.40

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.48	0.10	0.060	A	A
2	10.21	0.68	0.065	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	19.79	1.32	0.075	A	A

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

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Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.14	0.14	0.072	A	A
2	14.69	0.98	0.078	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	31.85	2.12	0.102	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.62	0.24	0.101	A	A
2	24.47	1.63	0.109	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	70.06	4.67	0.195	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.75	0.25	0.102	A	A
2	25.74	1.72	0.110	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	80.39	5.36	0.210	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	2.28	0.15	0.073	A	A
2	15.94	1.06	0.079	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	37.24	2.48	0.108	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	1.56	0.10	0.060	A	A
2	10.91	0.73	0.065	A	A
3	0.00	0.00	0.000	A	A
4	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
5	21.81	1.45	0.076	A	A

ARCADY 7

Version: 7.1.0.228 [21st Feb 2011]

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File: E:\Projects\040-049\041 Barratt Homes\041.0025 Warblington Meadows, Havant\Reports\Modelling (July-SR)\Emsworth Road (northside)\2021 Base\2021 BAseline Report.arc7
Report generation date: 13/07/2016 10:40:51

» A1 - 2021 Baseline - D1 - 2021 Baseline, AM

» A1 - 2021 Baseline - D2 - 2021 Baseline, PM

Summary of roundabout performance

	AM			PM		
	Queue (Veh)	Delay (min)	RFC	Queue (Veh)	Delay (min)	RFC
2021 Baseline - 2021 Baseline						
Arm 2	0.44	0.09	0.31	0.49	0.09	0.33
Arm 3	2.31	0.12	0.70	28.17	1.05	1.00
Arm 4	18.28	1.69	1.00	32.23	3.37	1.11

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

2021 Baseline - AM runs from 07:45:00 to 09:15:00

2021 Baseline - PM runs from 16:45:00 to 18:15:00

File summary

File Description

Title	2021 Baseline
Location	A27/ Emsworth Road Roundabout
Site Number	
Date	01/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	041.0025
Enumerator	Bethany
Description	

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	False

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
False	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - 2021 Baseline - D1 - 2021 Baseline, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 Baseline		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 Baseline, AM	2021 Baseline	AM		False	True	False		07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Emsworth Road Roundabout	1,2,3,4	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 On-Slip	
2	Emsworth Road (S)	
3	A27 Off-Slip	
4	Emsworth Road (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00

Standard Geometry

Arm	V - Approach road half-	E - Entry width	I' - Effective flare	R - Entry radius	D - Inscribed circle	PHI - Conflict (entry) angle	Exit
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	width (m)	(m)	length (m)	(m)	diameter (m)	(deg)	Only
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
2	3.79	3.79	0.00	12.20	35.00	47.70	False
3	6.07	7.47	4.00	24.30	35.00	37.70	False
4	4.17	4.17	0.00	23.60	35.00	48.60	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
2	False	((calculated))	((calculated))	0.490	1041.936
3	False	((calculated))	((calculated))	0.707	2002.462
4	False	((calculated))	((calculated))	0.531	1191.385

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
2	ONE HOUR	True	283.00	100.000	N/A
3	ONE HOUR	True	1453.00	100.000	N/A
4	ONE HOUR	True	489.00	100.000	N/A

Turning Proportions

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

		To			
From		1	2	3	4
	1	0.000	0.000	0.000	0.000
	2	32.000	0.000	0.000	251.000
	3	9.000	1002.000	0.000	442.000
	4	72.000	416.000	0.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

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

		To			
From		1	2	3	4
	1	0.25	0.25	0.25	0.25
	2	0.09	0.00	0.00	0.91
	3	0.00	0.69	0.00	0.30
	4	0.09	0.91	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To			
From		1	2	3	4
	1	1.000	1.000	1.000	1.000
	2	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100
	4	1.100	1.100	1.100	1.100

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

	To				
From		1	2	3	4
	1	0.000	0.000	0.000	0.000
	2	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000
	4	10.000	10.000	10.000	10.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	0.33	0.09	0.49	A	259.69	389.53	34.16	0.09	0.38	34.16	0.09	0.490	1041.936
3	1.00	1.05	28.17	F	1333.30	1999.95	805.25	0.40	8.95	805.32	0.40	0.707	2002.462
4	1.11	3.37	32.23	F	448.71	673.07	931.91	1.38	10.35	931.98	1.38	0.531	1191.385

Main Results

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	84.20	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	213.06	53.26	211.90	1058.36	0.74	0.00	946.85	891.99	0.225	0.00	0.29
3	1093.89	273.47	1086.45	0.00	212.65	0.00	1670.01	1136.05	0.655	0.00	1.86
4	368.14	92.04	363.39	519.18	779.91	0.00	668.98	590.07	0.550	0.00	1.19

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	100.61	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	254.41	63.60	254.11	1264.50	0.89	0.00	946.78	891.99	0.269	0.29	0.36
3	1306.22	326.55	1298.83	0.00	254.99	0.00	1640.06	1136.05	0.796	1.86	3.71
4	439.60	109.90	433.55	621.36	932.46	0.00	587.98	590.08	0.748	1.19	2.70

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	115.02	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	311.59	77.90	311.10	1464.80	0.98	0.00	946.74	891.99	0.329	0.36	0.49
3	1599.78	399.95	1534.82	0.00	312.08	0.00	1599.68	1136.05	1.000	3.71	19.95
4	538.40	134.60	477.69	743.79	1103.11	0.00	497.37	590.08	1.082	2.70	17.88

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

Arm	Demand (Veh/hr)	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)
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1	(Exit-only)	(Exit-only)	(Exit-only)	115.76	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	311.59	77.90	311.58	1489.72	0.98	0.00	946.73	891.99	0.329	0.49	0.49
3	1599.78	399.95	1566.89	0.00	312.56	0.00	1599.34	1136.05	1.000	19.95	28.17
4	538.40	134.60	480.99	753.98	1125.47	0.00	485.50	590.08	1.109	17.88	32.23

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	116.02	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	254.41	63.60	254.88	1420.53	1.09	0.00	946.68	891.99	0.269	0.49	0.37
3	1306.22	326.55	1402.08	0.00	255.97	0.00	1639.37	1136.05	0.797	28.17	4.21
4	439.60	109.90	533.24	653.66	1004.39	0.00	549.79	590.08	0.800	32.23	8.82

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	89.60	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	213.06	53.26	213.37	1099.43	0.81	0.00	946.82	891.99	0.225	0.37	0.29
3	1093.89	273.47	1102.96	0.00	214.18	0.00	1668.93	1136.05	0.655	4.21	1.94
4	368.14	92.04	398.28	525.58	791.57	0.00	662.79	590.07	0.555	8.82	1.29

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.21	0.28	0.082	A	A
3	26.41	1.76	0.102	A	A
4	16.57	1.10	0.194	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.37	0.36	0.087	A	A
3	51.07	3.40	0.172	B	B
4	35.94	2.40	0.374	C	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.13	0.48	0.094	A	A
3	204.05	13.60	0.626	E	D
4	166.44	11.10	1.627	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.31	0.49	0.094	A	A
3	264.33	24.29	1.054	F	F

4	377.12	25.14	3.367	F	F
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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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.68	0.38	0.087	A	A
3	128.58	8.57	0.340	C	C
4	307.93	20.53	2.404	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.47	0.30	0.082	A	A
3	30.81	2.05	0.108	A	A
4	27.91	1.86	0.247	B	B

A1 - 2021 Baseline - D2 - 2021 Baseline, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 Baseline		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 Baseline, PM	2021 Baseline	PM		False	True	False		16:45	18:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Emsworth Road Roundabout	1,2,3,4	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
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ID	Name	Description
1	A27 On-Slip	
2	Emsworth Road (S)	
3	A27 Off-Slip	
4	Emsworth Road (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00

Standard 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	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
2	3.79	3.79	0.00	12.20	35.00	47.70	False
3	6.07	7.47	4.00	24.30	35.00	37.70	False
4	4.17	4.17	0.00	23.60	35.00	48.60	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time	Amber time regarded	Time from traffic red start	Time period green	Clearance	Traffic minimum	Space between crossing and
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Arm	preceding red (s)	as green (s)	to green man start (s)	man shown (s)	Period (s)	green (s)	junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
2	False	((calculated))	((calculated))	0.490	1041.936
3	False	((calculated))	((calculated))	0.707	2002.462
4	False	((calculated))	((calculated))	0.531	1191.385

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
2	ONE HOUR	True	283.00	100.000	N/A
3	ONE HOUR	True	1453.00	100.000	N/A
4	ONE HOUR	True	489.00	100.000	N/A

Turning Proportions

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

		To			
From		1	2	3	4
	1	0.000	0.000	0.000	0.000
	2	32.000	0.000	0.000	251.000
	3	9.000	1002.000	0.000	442.000
	4	72.000	416.000	0.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

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

		To			
From		1	2	3	4
	1	0.25	0.25	0.25	0.25
	2	0.11	0.00	0.00	0.89
	3	0.01	0.69	0.00	0.30

	4	0.15	0.85	0.00	0.00
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Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100
	4	1.100	1.100	1.100	1.100

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000
	4	10.000	10.000	10.000	10.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	0.33	0.09	0.49	A	259.69	389.53	34.16	0.09	0.38	34.16	0.09	0.490	1041.936
3	1.00	1.05	28.17	F	1333.30	1999.95	805.25	0.40	8.95	805.32	0.40	0.707	2002.462
4	1.11	3.37	32.23	F	448.71	673.07	931.91	1.38	10.35	931.98	1.38	0.531	1191.385

Main Results

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	84.20	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	213.06	53.26	211.90	1058.36	0.74	0.00	946.85	891.99	0.225	0.00	0.29
3	1093.89	273.47	1086.45	0.00	212.65	0.00	1670.01	1136.05	0.655	0.00	1.86
4	368.14	92.04	363.39	519.18	779.91	0.00	668.98	590.07	0.550	0.00	1.19

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	100.61	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	254.41	63.60	254.11	1264.50	0.89	0.00	946.78	891.99	0.269	0.29	0.36

3	1306.22	326.55	1298.83	0.00	254.99	0.00	1640.06	1136.05	0.796	1.86	3.71
4	439.60	109.90	433.55	621.36	932.46	0.00	587.98	590.08	0.748	1.19	2.70

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	115.02	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	311.59	77.90	311.10	1464.80	0.98	0.00	946.74	891.99	0.329	0.36	0.49
3	1599.78	399.95	1534.82	0.00	312.08	0.00	1599.68	1136.05	1.000	3.71	19.95
4	538.40	134.60	477.69	743.79	1103.11	0.00	497.37	590.08	1.082	2.70	17.88

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	115.76	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	311.59	77.90	311.58	1489.72	0.98	0.00	946.73	891.99	0.329	0.49	0.49
3	1599.78	399.95	1566.89	0.00	312.56	0.00	1599.34	1136.05	1.000	19.95	28.17
4	538.40	134.60	480.99	753.98	1125.47	0.00	485.50	590.08	1.109	17.88	32.23

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	116.02	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	254.41	63.60	254.88	1420.53	1.09	0.00	946.68	891.99	0.269	0.49	0.37
3	1306.22	326.55	1402.08	0.00	255.97	0.00	1639.37	1136.05	0.797	28.17	4.21
4	439.60	109.90	533.24	653.66	1004.39	0.00	549.79	590.08	0.800	32.23	8.82

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	89.60	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	213.06	53.26	213.37	1099.43	0.81	0.00	946.82	891.99	0.225	0.37	0.29
3	1093.89	273.47	1102.96	0.00	214.18	0.00	1668.93	1136.05	0.655	4.21	1.94
4	368.14	92.04	398.28	525.58	791.57	0.00	662.79	590.07	0.555	8.82	1.29

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.21	0.28	0.082	A	A
3	26.41	1.76	0.102	A	A
4	16.57	1.10	0.194	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.37	0.36	0.087	A	A
3	51.07	3.40	0.172	B	B

4	35.94	2.40	0.374	C	C
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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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.13	0.48	0.094	A	A
3	204.05	13.60	0.626	E	D
4	166.44	11.10	1.627	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.31	0.49	0.094	A	A
3	364.33	24.29	1.054	F	E
4	377.12	25.14	3.367	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.68	0.38	0.087	A	A
3	128.58	8.57	0.340	C	C
4	307.93	20.53	2.404	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.47	0.30	0.082	A	A
3	30.81	2.05	0.108	A	A
4	27.91	1.86	0.247	B	B

ARCADY 7

Version: 7.1.0.228 [21st Feb 2011]
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File: E:\Projects\040-049\041 Barratt Homes\041.0025 Warblington Meadows, Havant\Reports\Modelling (July-SR)\Emsworth Road (northside)\2021 Base + Dev\2021 with dev report.arc7

Report generation date: 13/07/2016 11:44:55

- » A1 - 2021 With Development - D1 - 2021 With Dev, AM
- » A1 - 2021 With Development - D2 - 2021 With Dev, PM

Summary of roundabout performance

	AM			PM		
	Queue (Veh)	Delay (min)	RFC	Queue (Veh)	Delay (min)	RFC
2021 With Development - 2021 With Dev						
Arm 2	0.47	0.09	0.32	0.50	0.10	0.34
Arm 3	2.44	0.13	0.71	38.81	1.36	1.02
Arm 4	23.44	2.06	1.03	41.46	4.26	1.16

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

2021 With Dev - AM runs from 07:45:00 to 09:15:00
2021 With Dev - PM runs from 16:45:00 to 18:15:00

File summary

File Description

Title	2021 With Developmetn
Location	A27/ Emsworth Road Roundabout
Site Number	
Date	01/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	041.0025
Enumerator	Bethany
Description	

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	False

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
False	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - 2021 With Development - D1 - 2021 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 With Development		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 With Dev, AM	2021 With Dev	AM		False	True	False		07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Emsworth Road	1,2,3,4	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 On-Slip	
2	Emsworth Road (S)	
3	A27 Off-Slip	
4	Emsworth Road (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00

Standard 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	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
2	3.79	3.79	0.00	12.20	35.00	47.70	False
3	6.07	7.47	4.00	24.30	35.00	37.70	False
4	4.17	4.17	0.00	23.60	35.00	48.60	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
2	False	((calculated))	((calculated))	0.490	1041.936
3	False	((calculated))	((calculated))	0.707	2002.462
4	False	((calculated))	((calculated))	0.531	1191.385

The slope and intercept shown above include any corrections and adjustments

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
2	ONE HOUR	True	289.00	100.000	N/A
3	ONE HOUR	True	1481.00	100.000	N/A
4	ONE HOUR	True	500.00	100.000	N/A

Turning Proportions

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

		To			
From		1	2	3	4
	1	0.000	0.000	0.000	0.000
	2	33.000	0.000	0.000	256.000
	3	9.000	1030.000	0.000	442.000
	4	72.000	427.000	0.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

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

		To			
From		1	2	3	4
	1	0.25	0.25	0.25	0.25
	2	0.09	0.00	0.00	0.91
	3	0.00	0.70	0.00	0.30
	4	0.09	0.91	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To			
From		1	2	3	4
	1	1.000	1.000	1.000	1.000
	2	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100
	4	1.100	1.100	1.100	1.100

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000
	4	10.000	10.000	10.000	10.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	0.34	0.10	0.50	A	265.19	397.79	35.17	0.09	0.39	35.18	0.09	0.490	1041.936
3	1.02	1.36	38.81	F	1358.99	2038.49	1053.14	0.52	11.70	1053.21	0.52	0.707	2002.462
4	1.16	4.26	41.46	F	458.81	688.21	1350.88	1.96	15.01	1350.98	1.96	0.531	1191.385

Main Results

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	84.90	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	217.57	54.39	216.39	1086.98	0.74	0.00	946.85	892.84	0.230	0.00	0.30
3	1114.97	278.74	1107.06	0.00	217.13	0.00	1666.84	1136.28	0.669	0.00	1.98
4	376.43	94.11	371.24	522.82	801.37	0.00	657.58	586.25	0.572	0.00	1.30

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	101.31	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	259.81	64.95	259.49	1297.46	0.88	0.00	946.78	892.84	0.274	0.30	0.38
3	1331.39	332.85	1322.89	0.00	260.37	0.00	1636.26	1136.28	0.814	1.98	4.10
4	449.49	112.37	441.94	625.56	957.71	0.00	574.57	586.25	0.782	1.30	3.18

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	113.90	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	318.19	79.55	317.69	1479.91	0.95	0.00	946.75	892.84	0.336	0.38	0.50
3	1630.61	407.65	1546.10	0.00	318.64	0.00	1595.05	1136.28	1.022	4.10	25.23
4	550.51	137.63	473.82	743.79	1120.95	0.00	487.90	586.25	1.128	3.18	22.36

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

Arm	Demand (Veh/hr)	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)
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	(Veh/hr)	(Veh)	(Veh/hr)	(Veh/hr)	(Veh/hr)	Demand (Ped/hr)	(Veh/hr)	Capacity (Veh/hr)		(Veh)	(Veh)
1	(Exit-only)	(Exit-only)	(Exit-only)	114.18	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	318.19	79.55	318.19	1501.15	0.95	0.00	946.75	892.84	0.336	0.50	0.50
3	1630.61	407.65	1576.28	0.00	319.13	0.00	1594.69	1136.28	1.023	25.23	38.81
4	550.51	137.63	474.11	753.24	1142.18	0.00	476.63	586.25	1.155	22.36	41.46

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	111.86	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	259.81	64.95	260.30	1454.69	1.02	0.00	946.72	892.84	0.274	0.50	0.38
3	1331.39	332.85	1467.27	0.00	261.31	0.00	1635.59	1136.28	0.814	38.81	4.84
4	449.49	112.37	508.48	669.49	1059.09	0.00	520.74	586.25	0.863	41.46	26.71

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	100.48	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	217.57	54.39	217.90	1190.93	0.95	0.00	946.75	892.84	0.230	0.38	0.30
3	1114.97	278.74	1126.07	0.00	218.85	0.00	1665.62	1136.28	0.669	4.84	2.07
4	376.43	94.11	477.49	530.04	814.88	0.00	650.41	586.25	0.579	26.71	1.44

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.32	0.29	0.082	A	A
3	27.97	1.86	0.106	A	A
4	17.97	1.20	0.206	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.52	0.37	0.087	A	A
3	55.93	3.73	0.186	B	B
4	41.47	2.76	0.430	D	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.35	0.49	0.095	A	A
3	245.52	16.37	0.740	E	D
4	201.57	13.44	1.956	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.54	0.50	0.095	A	A

3	483.37	32.22	1.361	F	F
4	479.43	31.96	4.256	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.84	0.39	0.087	A	A
3	207.20	13.81	0.552	D	C
4	511.28	34.09	3.974	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.59	0.31	0.082	A	A
3	33.15	2.21	0.113	A	A
4	99.17	6.61	0.563	D	C

A1 - 2021 With Development - D2 - 2021 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 With Development		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 With Dev, PM	2021 With Dev	PM		False	True	False		16:45	18:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Emsworth Road	1,2,3,4	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 On-Slip	
2	Emsworth Road (S)	
3	A27 Off-Slip	
4	Emsworth Road (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00

Standard 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	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
2	3.79	3.79	0.00	12.20	35.00	47.70	False
3	6.07	7.47	4.00	24.30	35.00	37.70	False
4	4.17	4.17	0.00	23.60	35.00	48.60	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Roundabout Arm Settings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
2	False	((calculated))	((calculated))	0.490	1041.936
3	False	((calculated))	((calculated))	0.707	2002.462
4	False	((calculated))	((calculated))	0.531	1191.385

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
2	ONE HOUR	True	289.00	100.000	N/A
3	ONE HOUR	True	1481.00	100.000	N/A
4	ONE HOUR	True	500.00	100.000	N/A

Turning Proportions

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

		To			
From		1	2	3	4
	1	0.000	0.000	0.000	0.000
	2	33.000	0.000	0.000	256.000
	3	9.000	1030.000	0.000	442.000
	4	72.000	427.000	0.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

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

		To			
From		1	2	3	4
	1	0.25	0.25	0.25	0.25
	2	0.11	0.00	0.00	0.89

	3	0.01	0.70	0.00	0.30
	4	0.14	0.85	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100
	4	1.100	1.100	1.100	1.100

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000
	4	10.000	10.000	10.000	10.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	0.34	0.10	0.50	A	265.19	397.79	35.17	0.09	0.39	35.18	0.09	0.490	1041.936
3	1.02	1.36	38.81	F	1358.99	2038.49	1053.14	0.52	11.70	1053.21	0.52	0.707	2002.462
4	1.16	4.26	41.46	F	458.81	688.21	1350.88	1.96	15.01	1350.98	1.96	0.531	1191.385

Main Results

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	84.90	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	217.57	54.39	216.39	1086.98	0.74	0.00	946.85	892.84	0.230	0.00	0.30
3	1114.97	278.74	1107.06	0.00	217.13	0.00	1666.84	1136.28	0.669	0.00	1.98
4	376.43	94.11	371.24	522.82	801.37	0.00	657.58	586.25	0.572	0.00	1.30

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	101.31	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

2	259.81	64.95	259.49	1297.46	0.88	0.00	946.78	892.84	0.274	0.30	0.38
3	1331.39	332.85	1322.89	0.00	260.37	0.00	1636.26	1136.28	0.814	1.98	4.10
4	449.49	112.37	441.94	625.56	957.71	0.00	574.57	586.25	0.782	1.30	3.18

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	113.90	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	318.19	79.55	317.69	1479.91	0.95	0.00	946.75	892.84	0.336	0.38	0.50
3	1630.61	407.65	1546.10	0.00	318.64	0.00	1595.05	1136.28	1.022	4.10	25.23
4	550.51	137.63	473.82	743.79	1120.95	0.00	487.90	586.25	1.128	3.18	22.36

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	114.18	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	318.19	79.55	318.19	1501.15	0.95	0.00	946.75	892.84	0.336	0.50	0.50
3	1630.61	407.65	1576.28	0.00	319.13	0.00	1594.69	1136.28	1.023	25.23	38.81
4	550.51	137.63	474.11	753.24	1142.18	0.00	476.63	586.25	1.155	22.36	41.46

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	111.86	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	259.81	64.95	260.30	1454.69	1.02	0.00	946.72	892.84	0.274	0.50	0.38
3	1331.39	332.85	1467.27	0.00	261.31	0.00	1635.59	1136.28	0.814	38.81	4.84
4	449.49	112.37	508.48	669.49	1059.09	0.00	520.74	586.25	0.863	41.46	26.71

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	100.48	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	217.57	54.39	217.90	1190.93	0.95	0.00	946.75	892.84	0.230	0.38	0.30
3	1114.97	278.74	1126.07	0.00	218.85	0.00	1665.62	1136.28	0.669	4.84	2.07
4	376.43	94.11	477.49	530.04	814.88	0.00	650.41	586.25	0.579	26.71	1.44

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.32	0.29	0.082	A	A
3	27.97	1.86	0.106	A	A
4	17.97	1.20	0.206	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.52	0.37	0.087	A	A

2	5.52	0.37	0.087	A	A
3	55.93	3.73	0.186	B	B
4	41.47	2.76	0.430	D	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.35	0.49	0.095	A	A
3	245.52	16.37	0.740	E	D
4	201.57	13.44	1.956	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.54	0.50	0.095	A	A
3	483.37	32.22	1.361	F	F
4	479.43	31.96	4.256	F	F

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

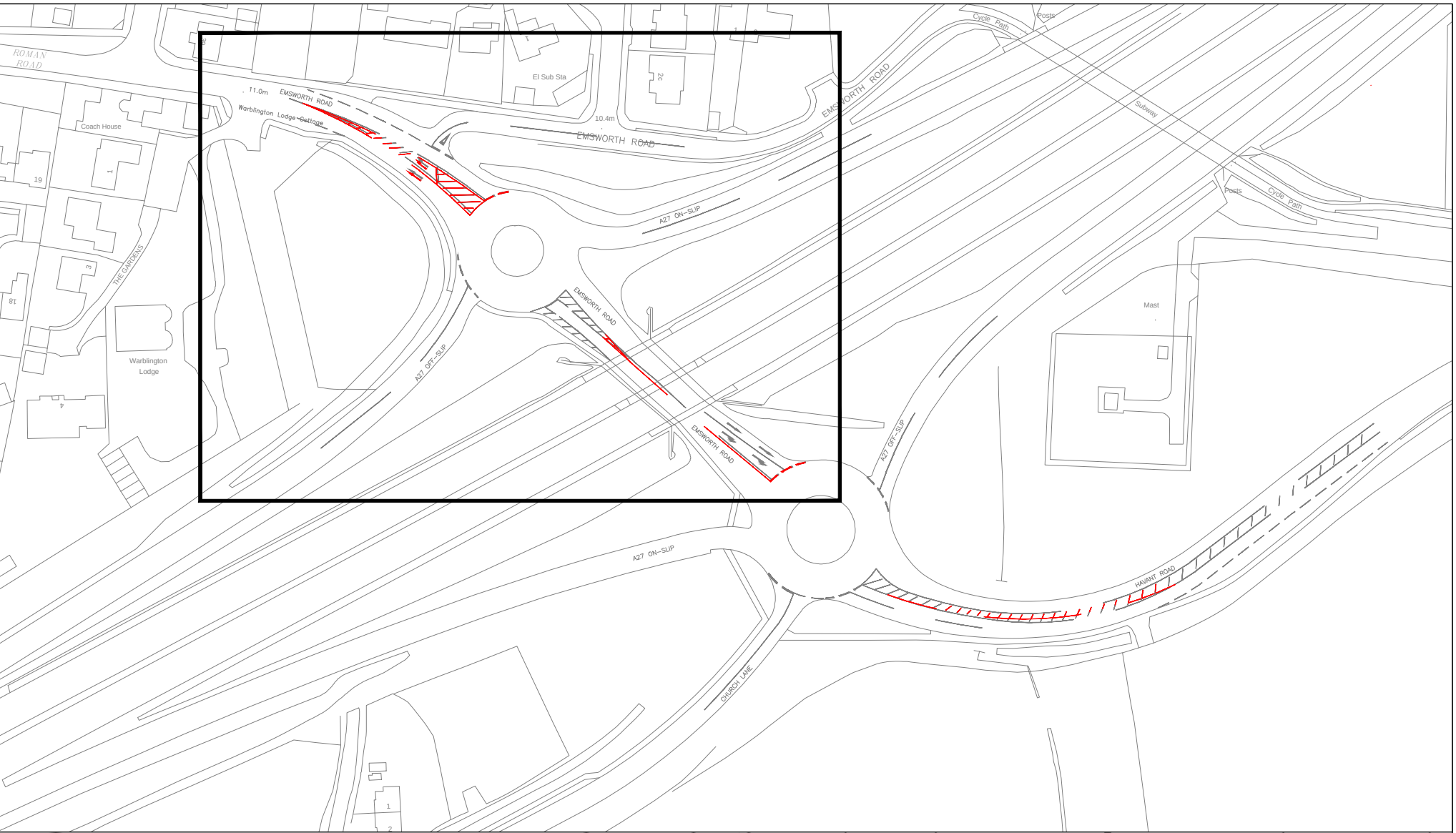
Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.84	0.39	0.087	A	A
3	207.20	13.81	0.552	D	C
4	511.28	34.09	3.974	F	F

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.59	0.31	0.082	A	A
3	33.15	2.21	0.113	A	A
4	99.17	6.61	0.563	D	C



LOCATION PLAN



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Rev	Description	Date	By	Chkd
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Client



**BARRATT
HOMES**

Project Name LAND AT HAVANT ROAD, EMSWORTH			
Title EMSWORTH ROAD / A27 ROUNDABOUT - MITIGATION PROPOSALS			
Project Phase PRELIMINARY			
Checked By BW	Checked Date 19.07.16	Drawn By CL	Drawn Date 15.07.16
Client Drawing No. -		Scale 1:250	(AT A1 SIZE)
PBA Drawing No. 041.0025.005			Revision -

ARCADY 7

Version: 7.1.0.228 [21st Feb 2011]

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File: E:\Projects\040-049\041 Barratt Homes\041.0025 Warblington Meadows, Havant\Reports\Modelling (July-SR)\Emsworth Road (northside)\2021 B + D + Miti\2021 B + D + Miti.arc7

Report generation date: 13/07/2016 11:46:08

- » A1 - 2021 With Development - D1 - 2021 With Dev, AM
- » A1 - 2021 With Development - D2 - 2021 With Dev, PM

Summary of roundabout performance

	AM			PM		
	Queue (Veh)	Delay (min)	RFC	Queue (Veh)	Delay (min)	RFC
2021 With Development - 2021 With Dev						
Arm 2	0.47	0.09	0.32	0.50	0.10	0.34
Arm 3	2.44	0.13	0.71	38.84	1.36	1.02
Arm 4	3.59	0.34	0.79	4.65	0.54	0.84

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

2021 With Dev - AM runs from 07:45:00 to 09:15:00

2021 With Dev - PM runs from 16:45:00 to 18:15:00

File summary

File Description

Title	2021 With Developmetn
Location	A27/ Emsworth Road Roundabout
Site Number	
Date	01/06/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	041.0025
Enumerator	Bethany
Description	

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	False

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
False	Order	Ascending	Numerical	By Destination	Absolute Time

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	min	-Min	perMin

A1 - 2021 With Development - D1 - 2021 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 With Development		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 With Dev, AM	2021 With Dev	AM		False	True	False		07:45	09:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Emsworth Road	1,2,3,4	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 On-Slip	
2	Emsworth Road (S)	
3	A27 Off-Slip	
4	Emsworth Road (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00

Standard 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	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
2	3.79	3.79	0.00	12.20	35.00	47.70	False
3	6.07	7.47	4.00	24.30	35.00	37.70	False
4	4.17	5.20	28.00	23.60	35.00	48.60	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
2	False	((calculated))	((calculated))	0.490	1041.936
3	False	((calculated))	((calculated))	0.707	2002.462
4	False	((calculated))	((calculated))	0.584	1454.668

The slope and intercept shown above include any corrections and adjustments

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
2	ONE HOUR	True	289.00	100.000	N/A
3	ONE HOUR	True	1481.00	100.000	N/A
4	ONE HOUR	True	500.00	100.000	N/A

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	33.000	0.000	0.000	256.000
	3	9.000	1030.000	0.000	442.000
	4	72.000	427.000	0.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

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

		To			
		1	2	3	4
From	1	0.25	0.25	0.25	0.25
	2	0.09	0.00	0.00	0.91
	3	0.00	0.70	0.00	0.30
	4	0.09	0.91	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100
	4	1.100	1.100	1.100	1.100

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000
	4	10.000	10.000	10.000	10.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	0.34	0.10	0.50	A	265.19	397.79	35.18	0.09	0.39	35.18	0.09	0.490	1041.936
3	1.02	1.36	38.84	F	1358.99	2038.49	1053.78	0.52	11.71	1053.86	0.52	0.707	2002.462
4	0.84	0.54	4.65	D	458.81	688.21	192.21	0.28	2.14	192.23	0.28	0.584	1454.668

Main Results

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	85.19	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	217.57	54.39	216.39	1088.75	0.75	0.00	946.85	918.88	0.230	0.00	0.30
3	1114.97	278.74	1107.06	0.00	217.14	0.00	1666.84	1142.84	0.669	0.00	1.98
4	376.43	94.11	373.32	522.83	801.37	0.00	854.17	781.67	0.441	0.00	0.78

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	102.04	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	259.81	64.95	259.49	1301.80	0.89	0.00	946.78	918.88	0.274	0.30	0.38
3	1331.39	332.85	1322.89	0.00	260.38	0.00	1636.25	1142.84	0.814	1.98	4.10
4	449.49	112.37	447.02	625.57	957.71	0.00	762.82	781.67	0.589	0.78	1.39

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	123.42	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	318.19	79.55	317.69	1536.34	1.08	0.00	946.69	918.88	0.336	0.38	0.50
3	1630.61	407.65	1546.04	0.00	318.77	0.00	1594.95	1142.84	1.022	4.10	25.24
4	550.51	137.63	539.94	743.90	1120.91	0.00	667.46	781.67	0.825	1.39	4.04

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

Arm	Demand (Veh/hr)	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)
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	(Veh/hr)	(Veh)	(Veh/hr)	(Veh/hr)	(Veh/hr)	Demand (Ped/hr)	(Veh/hr)	Capacity (Veh/hr)		(Veh)	(Veh)
1	(Exit-only)	(Exit-only)	(Exit-only)	124.83	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	318.19	79.55	318.19	1564.25	1.10	0.00	946.68	918.88	0.336	0.50	0.50
3	1630.61	407.65	1576.21	0.00	319.28	0.00	1594.59	1142.84	1.023	25.24	38.84
4	550.51	137.63	548.05	753.36	1142.13	0.00	655.06	781.67	0.840	4.04	4.65

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	104.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	259.81	64.95	260.30	1413.99	0.92	0.00	946.76	918.88	0.274	0.50	0.38
3	1331.39	332.85	1467.40	0.00	261.22	0.00	1635.66	1142.84	0.814	38.84	4.84
4	449.49	112.37	460.71	669.44	1059.18	0.00	703.52	781.67	0.639	4.65	1.84

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	86.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	217.57	54.39	217.90	1108.14	0.76	0.00	946.84	918.88	0.230	0.38	0.30
3	1114.97	278.74	1126.07	0.00	218.66	0.00	1665.76	1142.84	0.669	4.84	2.07
4	376.43	94.11	380.55	529.85	814.88	0.00	846.28	781.67	0.445	1.84	0.81

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.32	0.29	0.082	A	A
3	27.97	1.86	0.106	A	A
4	11.11	0.74	0.124	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.52	0.37	0.087	A	A
3	55.93	3.73	0.186	B	B
4	19.71	1.31	0.189	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.35	0.49	0.095	A	A
3	245.62	16.37	0.741	E	D
4	51.31	3.42	0.439	D	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.55	0.50	0.095	A	A

3	483.72	32.25	1.362	F	F
4	66.21	4.41	0.539	D	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.84	0.39	0.087	A	A
3	207.40	13.83	0.552	D	C
4	31.04	2.07	0.258	C	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.59	0.31	0.082	A	A
3	33.14	2.21	0.113	A	A
4	12.83	0.86	0.130	A	A

A1 - 2021 With Development - D2 - 2021 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
2021 With Development		True	False	(D1)	False	100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2021 With Dev, PM	2021 With Dev	PM		False	True	False		16:45	18:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	A27/ Emsworth Road	1,2,3,4	Standard	False	False	False

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	((Mini-roundabouts only))

Arms

Arms

ID	Name	Description
1	A27 On-Slip	
2	Emsworth Road (S)	
3	A27 Off-Slip	
4	Emsworth Road (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00	False	0.00
2	0.00	99999.00	False	0.00
3	0.00	99999.00	False	0.00
4	0.00	99999.00	False	0.00

Standard 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	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	True
2	3.79	3.79	0.00	12.20	35.00	47.70	False
3	6.07	7.47	4.00	24.30	35.00	37.70	False
4	4.17	5.20	28.00	23.60	35.00	48.60	False

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
2	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
3	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)
4	(3.00)	(3.00)	(3.00)	(0.00)	(5.00)	(2.00)	(0.00)	(False)

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	(0.00)	(0.00)
2	(0.00)	(0.00)
3	(0.00)	(0.00)
4	(0.00)	(0.00)

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
3	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
4	(0.00)	(0.00)	(False)	(Distance)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Pelican/ Puffin Crossings

Roundabout Arm Settings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
1	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
2	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
3	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)
4	(3.00)	(2.90)	(1.00)	(6.00)	(6.00)	(7.00)	(0.00)

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1	(Exit-only)	((calculated))	((calculated))	(Exit-only)	(Exit-only)
2	False	((calculated))	((calculated))	0.490	1041.936
3	False	((calculated))	((calculated))	0.707	2002.462
4	False	((calculated))	((calculated))	0.584	1454.668

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
True	False	True	True	HV Percentages	2.00	False	False	False	True	True

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)	PHF
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(N/A)
2	ONE HOUR	True	289.00	100.000	N/A
3	ONE HOUR	True	1481.00	100.000	N/A
4	ONE HOUR	True	500.00	100.000	N/A

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	33.000	0.000	0.000	256.000
	3	9.000	1030.000	0.000	442.000
	4	72.000	427.000	0.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

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

		To			
		1	2	3	4
From	1	0.25	0.25	0.25	0.25
	2	0.11	0.00	0.00	0.89

	3	0.01	0.70	0.00	0.30
	4	0.14	0.85	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.100	1.100	1.100	1.100
	3	1.100	1.100	1.100	1.100
	4	1.100	1.100	1.100	1.100

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	10.000	10.000	10.000	10.000
	3	10.000	10.000	10.000	10.000
	4	10.000	10.000	10.000	10.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/hr)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	0.34	0.10	0.50	A	265.19	397.79	35.18	0.09	0.39	35.18	0.09	0.490	1041.936
3	1.02	1.36	38.84	F	1358.99	2038.49	1053.78	0.52	11.71	1053.86	0.52	0.707	2002.462
4	0.84	0.54	4.65	D	458.81	688.21	192.21	0.28	2.14	192.23	0.28	0.584	1454.668

Main Results

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	85.19	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	217.57	54.39	216.39	1088.75	0.75	0.00	946.85	918.88	0.230	0.00	0.30
3	1114.97	278.74	1107.06	0.00	217.14	0.00	1666.84	1142.84	0.669	0.00	1.98
4	376.43	94.11	373.32	522.83	801.37	0.00	854.17	781.67	0.441	0.00	0.78

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	102.04	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

2	259.81	64.95	259.49	1301.80	0.89	0.00	946.78	918.88	0.274	0.30	0.38
3	1331.39	332.85	1322.89	0.00	260.38	0.00	1636.25	1142.84	0.814	1.98	4.10
4	449.49	112.37	447.02	625.57	957.71	0.00	762.82	781.67	0.589	0.78	1.39

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	123.42	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	318.19	79.55	317.69	1536.34	1.08	0.00	946.69	918.88	0.336	0.38	0.50
3	1630.61	407.65	1546.04	0.00	318.77	0.00	1594.95	1142.84	1.022	4.10	25.24
4	550.51	137.63	539.94	743.90	1120.91	0.00	667.46	781.67	0.825	1.39	4.04

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	124.83	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	318.19	79.55	318.19	1564.25	1.10	0.00	946.68	918.88	0.336	0.50	0.50
3	1630.61	407.65	1576.21	0.00	319.28	0.00	1594.59	1142.84	1.023	25.24	38.84
4	550.51	137.63	548.05	753.36	1142.13	0.00	655.06	781.67	0.840	4.04	4.65

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	104.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	259.81	64.95	260.30	1413.99	0.92	0.00	946.76	918.88	0.274	0.50	0.38
3	1331.39	332.85	1467.40	0.00	261.22	0.00	1635.66	1142.84	0.814	38.84	4.84
4	449.49	112.37	460.71	669.44	1059.18	0.00	703.52	781.67	0.639	4.65	1.84

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

Arm	Demand (Veh/hr)	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)
1	(Exit-only)	(Exit-only)	(Exit-only)	86.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	217.57	54.39	217.90	1108.14	0.76	0.00	946.84	918.88	0.230	0.38	0.30
3	1114.97	278.74	1126.07	0.00	218.66	0.00	1665.76	1142.84	0.669	4.84	2.07
4	376.43	94.11	380.55	529.85	814.88	0.00	846.28	781.67	0.445	1.84	0.81

Queueing Delay Results

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.32	0.29	0.082	A	A
3	27.97	1.86	0.106	A	A
4	11.11	0.74	0.124	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.52	0.37	0.087	A	A
3	27.97	1.86	0.106	A	A
4	11.11	0.74	0.124	A	A

2	5.52	0.37	0.087	A	A
3	55.93	3.73	0.186	B	B
4	19.71	1.31	0.189	B	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.35	0.49	0.095	A	A
3	245.62	16.37	0.741	E	D
4	51.31	3.42	0.439	D	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	7.55	0.50	0.095	A	A
3	483.72	32.25	1.362	F	F
4	66.21	4.41	0.539	D	C

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	5.84	0.39	0.087	A	A
3	207.40	13.83	0.552	D	C
4	31.04	2.07	0.258	C	B

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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
2	4.59	0.31	0.082	A	A
3	33.14	2.21	0.113	A	A
4	12.83	0.86	0.130	A	A