

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	(untitled)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	
B	4.10	4.00	9.40	5.00	10.70	2.50	0.00	
C	3.10	3.10	6.20	20.90	16.60	16.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.607	1115.406
B		(calculated)	(calculated)	0.615	990.058
C		(calculated)	(calculated)	0.692	1246.737

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	380.00	100.000
B	ONE HOUR	✓	563.00	100.000
C	ONE HOUR	✓	873.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	78.000	302.000
	B	82.000	0.000	481.000
	C	363.000	510.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.21	0.79
	B	0.15	0.00	0.85
	C	0.42	0.58	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.026	1.003
	B	1.024	1.000	1.015
	C	1.014	1.039	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.6	0.3
	B	2.4	0.0	1.5
	C	1.4	3.9	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.55	10.67	1.22	B	348.70	523.04	71.63	8.22	0.80	71.64	8.22
B	0.80	23.16	3.82	C	516.62	774.93	185.59	14.37	2.06	185.63	14.37
C	0.84	18.74	4.80	C	801.08	1201.63	232.82	11.63	2.59	232.87	11.63

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	286.08	71.52	284.14	332.34	381.01	0.00	868.26	687.04	0.329	0.00	0.49	6.144	A
B	423.86	105.96	419.83	439.34	225.82	0.00	837.18	642.94	0.506	0.00	1.01	8.519	A
C	657.24	164.31	652.20	584.50	61.15	0.00	1169.93	1147.54	0.562	0.00	1.26	6.889	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	341.61	85.40	340.75	398.43	456.70	0.00	820.86	687.04	0.416	0.49	0.70	7.484	A
B	506.13	126.53	503.70	526.65	270.80	0.00	809.89	642.94	0.625	1.01	1.61	11.663	B
C	784.81	196.20	781.77	701.13	73.36	0.00	1161.52	1147.54	0.676	1.26	2.02	9.403	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	418.39	104.60	416.41	484.56	555.59	0.00	758.93	687.04	0.551	0.70	1.20	10.448	B
B	619.88	154.97	611.85	641.06	330.93	0.00	773.41	642.94	0.801	1.61	3.62	21.281	C
C	961.20	240.30	951.04	853.66	89.11	0.00	1150.66	1147.54	0.835	2.02	4.56	17.202	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	418.39	104.60	418.29	489.44	560.96	0.00	755.57	687.04	0.554	1.20	1.22	10.667	B
B	619.88	154.97	619.08	646.82	332.43	0.00	772.51	642.94	0.802	3.62	3.82	23.161	C
C	961.20	240.30	960.24	861.34	90.17	0.00	1149.94	1147.54	0.836	4.56	4.80	18.736	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	341.61	85.40	343.58	405.66	464.66	0.00	815.88	687.04	0.419	1.22	0.73	7.655	A
B	506.13	126.53	514.48	535.18	273.06	0.00	808.53	642.94	0.626	3.82	1.73	12.567	B
C	784.81	196.20	795.39	712.60	74.93	0.00	1160.43	1147.54	0.676	4.80	2.16	10.132	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	286.08	71.52	287.01	336.83	385.94	0.00	865.17	687.04	0.331	0.73	0.50	6.238	A
B	423.86	105.96	426.58	444.85	228.10	0.00	835.80	642.94	0.507	1.73	1.05	8.856	A
C	657.24	164.31	660.64	592.55	62.13	0.00	1169.26	1147.54	0.562	2.16	1.31	7.126	A

Queueing Delay Results for each time segment
Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	7.04	0.47	6.144	A	A
B	14.26	0.95	8.519	A	A
C	17.94	1.20	6.889	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.21	0.68	7.484	A	A
B	22.83	1.52	11.663	B	B
C	28.67	1.91	9.403	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	17.07	1.14	10.448	B	B
B	47.68	3.18	21.281	C	C
C	60.14	4.01	17.202	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.20	1.21	10.667	B	B
B	56.09	3.74	23.161	C	C
C	70.54	4.70	18.736	C	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.40	0.76	7.655	A	A
B	28.23	1.88	12.567	B	B
C	35.06	2.34	10.132	B	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	7.70	0.51	6.238	A	A
B	16.49	1.10	8.856	A	A
C	20.47	1.36	7.126	A	A

Existing layout - 2022 observed, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relatio
2022 observed, PM	2022 observed	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	54.97	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	(untitled)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	
B	4.10	4.00	9.40	5.00	10.70	2.50	0.00	
C	3.10	3.10	6.20	20.90	16.60	16.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.607	1115.406
B		(calculated)	(calculated)	0.615	990.058
C		(calculated)	(calculated)	0.692	1246.737

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	481.00	100.000
B	ONE HOUR	✓	643.00	100.000
C	ONE HOUR	✓	1022.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	113.000	368.000
	B	110.000	0.000	533.000
	C	411.000	611.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.17	0.00	0.83
	C	0.40	0.60	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.027	1.016
	B	1.027	1.000	1.013
	C	1.007	1.007	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.7	1.6
	B	2.7	0.0	1.3
	C	0.7	0.7	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.76	21.20	2.99	C	441.38	662.06	145.69	13.20	1.62	145.71	13.21
B	0.97	76.34	14.44	F	590.03	895.04	471.37	31.96	5.24	471.47	31.96
C	0.97	57.48	17.25	F	937.81	1406.71	573.16	24.45	6.37	573.25	24.45

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	362.12	90.53	359.02	388.31	455.63	0.00	821.46	679.02	0.441	0.00	0.78	7.734	A
B	484.08	121.02	478.25	539.98	274.67	0.00	806.11	655.53	0.601	0.00	1.46	10.798	B
C	769.42	192.35	762.13	671.11	81.82	0.00	1180.31	1158.90	0.652	0.00	1.82	8.468	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	432.41	108.10	430.49	464.87	545.41	0.00	767.55	679.02	0.563	0.78	1.26	10.619	B
B	578.04	144.51	572.80	646.54	329.35	0.00	772.48	655.53	0.748	1.46	2.77	17.564	C
C	918.76	229.69	912.29	804.17	97.99	0.00	1168.89	1158.90	0.786	1.82	3.44	13.682	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	529.59	132.40	523.48	552.33	649.28	0.00	705.18	679.02	0.751	1.26	2.78	19,190	C
B	707.95	176.99	675.65	772.26	400.50	0.00	728.72	655.53	0.972	2.77	10.84	50,136	F
C	1125.24	281.31	1086.03	960.57	115.59	0.00	1156.47	1158.90	0.973	3.44	13.24	38,270	E

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	529.59	132.40	528.76	564.72	663.14	0.00	696.86	679.02	0.760	2.78	2.99	21,200	C
B	707.95	176.99	693.58	787.35	404.53	0.00	726.24	655.53	0.975	10.84	14.44	76,340	F
C	1125.24	281.31	1109.21	979.46	118.65	0.00	1154.31	1158.90	0.975	13.24	17.25	57,484	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	432.41	108.10	438.72	497.16	580.77	0.00	746.32	679.02	0.579	2.99	1.42	11,932	B
B	578.04	144.51	622.52	683.84	335.65	0.00	768.60	655.53	0.752	14.44	3.32	30,298	D
C	918.76	229.69	971.43	851.68	106.50	0.00	1162.89	1158.90	0.790	17.25	4.08	22,889	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	362.12	90.53	364.55	396.90	465.14	0.00	815.75	679.02	0.444	1.42	0.81	8,020	A
B	484.08	121.02	491.11	550.78	278.91	0.00	803.50	655.53	0.602	3.32	1.56	11,770	B
C	769.42	192.35	778.03	686.00	84.02	0.00	1178.76	1158.90	0.653	4.08	1.93	9,167	A

Queueing Delay Results for each time segment
Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.10	0.74	7.734	A	A
B	20.29	1.35	10.798	B	B
C	25.50	1.70	8.468	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	17.92	1.19	10.619	B	B
B	37.65	2.51	17.564	C	B
C	46.98	3.13	13.682	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	37.37	2.49	19.190	C	B
B	117.43	7.83	50,136	F	D
C	144.81	9.65	38,270	E	D

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	43.75	2.92	21.200	C	C
B	191.83	12.79	76.340	F	E
C	231.37	15.42	57.484	F	E

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	22.86	1.52	11.932	B	B
B	78.94	5.26	30.298	D	C
C	93.48	6.23	22.889	C	C

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.69	0.85	8.020	A	A
B	25.24	1.68	11.770	B	B
C	31.02	2.07	9.167	A	A

Existing layout - 2032 background, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Re
2032 background, AM	2032 background	AM		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	30.70	D

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	(untitled)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	
B	4.10	4.00	9.40	5.00	10.70	2.50	0.00	
C	3.10	3.10	6.20	20.90	16.60	16.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.607	1115.406
B		(calculated)	(calculated)	0.615	990.058
C		(calculated)	(calculated)	0.692	1246.737

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	413.00	100.000
B	ONE HOUR	✓	612.00	100.000
C	ONE HOUR	✓	950.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	85.000	328.000
	B	89.000	0.000	523.000
	C	395.000	555.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.21	0.79
	B	0.15	0.00	0.85
	C	0.42	0.58	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.003
	B	1.022	1.000	1.015
	C	1.013	1.040	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	0.3
	B	2.2	0.0	1.5
	C	1.3	4.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.63	13.26	1.64	B	378.98	568.47	90.71	9.57	1.01	90.73	9.58
B	0.89	39.57	6.92	E	561.58	842.37	282.98	20.16	3.14	283.04	20.16
C	0.91	32.47	8.84	D	871.74	1307.61	359.04	16.47	3.99	359.11	16.48

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	310.93	77.73	308.64	361.09	414.21	0.00	847.56	686.90	0.367	0.00	0.57	6.652	A
B	460.74	115.19	455.82	477.73	245.12	0.00	825.71	643.42	0.558	0.00	1.23	9.611	A
C	715.21	178.80	709.01	634.64	66.29	0.00	1166.29	1147.53	0.613	0.00	1.55	7.771	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	371.28	92.82	370.13	432.69	496.27	0.00	796.10	686.90	0.466	0.57	0.86	8.429	A
B	550.17	137.54	546.57	572.45	293.95	0.00	796.07	643.42	0.691	1.23	2.13	14.218	B
C	854.03	213.51	849.47	761.04	79.49	0.00	1157.21	1147.53	0.738	1.55	2.69	11.523	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	454.72	113.68	451.82	522.03	599.07	0.00	731.63	686.90	0.622	0.86	1.58	12.733	B
B	673.82	168.46	657.84	692.06	358.83	0.00	756.71	643.42	0.890	2.13	6.13	32.236	D
C	1045.97	261.49	1025.44	921.01	95.67	0.00	1146.09	1147.53	0.913	2.69	7.82	26.212	D

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	454.72	113.68	454.50	530.75	608.70	0.00	725.59	686.90	0.627	1.58	1.64	13.255	B
B	673.82	168.46	670.66	702.24	360.96	0.00	755.42	643.42	0.892	6.13	6.92	39.568	E
C	1045.97	261.49	1041.93	934.09	97.53	0.00	1144.80	1147.53	0.914	7.82	8.84	32.475	D

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	371.28	92.82	374.19	447.49	512.62	0.00	785.84	686.90	0.472	1.64	0.91	8.805	A
B	550.17	137.54	568.36	589.63	297.18	0.00	794.12	643.42	0.693	6.92	2.37	17.082	C
C	854.03	213.51	877.46	782.89	82.65	0.00	1155.03	1147.53	0.739	8.84	2.98	13.949	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	310.93	77.73	312.21	367.26	421.00	0.00	843.30	686.90	0.369	0.91	0.59	6.794	A
B	460.74	115.19	465.04	485.26	247.95	0.00	823.99	643.42	0.559	2.37	1.30	10.147	B
C	715.21	178.80	720.63	645.37	67.63	0.00	1165.37	1147.53	0.614	2.98	1.62	8.191	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.25	0.55	6.652	A	A
B	17.31	1.15	9.611	A	A
C	21.87	1.46	7.771	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.42	0.83	8.429	A	A
B	29.68	1.98	14.218	B	B
C	37.50	2.50	11.523	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	22.24	1.48	12.733	B	B
B	74.54	4.97	32.236	D	C
C	94.99	6.33	26.212	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	24.30	1.62	13.255	B	B
B	98.80	6.59	39.568	E	D
C	126.14	8.41	32.475	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	14.34	0.96	8.805	A	A
B	42.02	2.80	17.082	C	B
C	52.82	3.52	13.949	B	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.16	0.61	6.794	A	A
B	20.63	1.38	10.147	B	B
C	25.72	1.71	8.191	A	A

Existing layout - 2032 background, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Re
2032 background, PM	2032 background	PM		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	123.93	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	(untitled)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	
B	4.10	4.00	9.40	5.00	10.70	2.50	0.00	
C	3.10	3.10	6.20	20.90	16.60	16.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.607	1115.406
B		(calculated)	(calculated)	0.615	990.058
C		(calculated)	(calculated)	0.692	1246.737

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	523.00	100.000
B	ONE HOUR	✓	699.00	100.000
C	ONE HOUR	✓	1111.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	123.000	400.000
	B	120.000	0.000	579.000
	C	447.000	664.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.24	0.76
	B	0.17	0.00	0.83
	C	0.40	0.60	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.018
	B	1.025	1.000	1.014
	C	1.007	1.006	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	1.8
	B	2.5	0.0	1.4
	C	0.7	0.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.84	31.74	4.78	D	479.91	719.87	214.76	17.90	2.39	214.80	17.90
B	1.09	182.15	41.81	F	641.41	962.12	1301.35	81.16	14.46	1301.52	81.17
C	1.06	130.90	48.00	F	1019.48	1529.21	1493.47	58.60	16.59	1493.64	58.60

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	393.74	98.44	389.92	421.75	494.23	0.00	797.93	678.78	0.493	0.00	0.96	8.744	A
B	526.24	131.56	518.62	585.93	298.22	0.00	790.88	654.80	0.665	0.00	1.90	12.890	B
C	836.42	209.11	826.95	727.81	89.03	0.00	1176.04	1159.56	0.711	0.00	2.37	10.059	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	470.17	117.54	467.29	503.38	589.95	0.00	740.56	678.78	0.635	0.96	1.67	13.035	B
B	628.39	157.10	618.80	699.85	357.39	0.00	754.43	654.80	0.833	1.90	4.30	24.903	C
C	998.77	249.69	987.11	869.97	106.23	0.00	1163.92	1159.56	0.858	2.37	5.28	19.171	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	575.83	143.96	565.37	572.57	674.68	0.00	689.77	678.78	0.835	1.67	4.29	26.908	D
B	769.61	192.40	689.57	807.64	432.40	0.00	708.23	654.80	1.087	4.30	24.31	91.116	F
C	1223.24	305.81	1128.87	1003.59	118.38	0.00	1155.35	1159.56	1.059	5.28	28.88	66.967	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	575.83	143.96	573.87	581.49	685.36	0.00	683.37	678.78	0.843	4.29	4.78	31.744	D
B	769.61	192.40	699.63	820.33	438.91	0.00	704.22	654.80	1.093	24.31	41.81	182.149	F
C	1223.24	305.81	1146.74	1018.44	120.11	0.00	1154.13	1159.56	1.060	28.88	48.00	130.904	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	470.17	117.54	480.31	578.85	673.49	0.00	690.48	678.78	0.681	4.78	2.25	17.869	C
B	628.39	157.10	730.82	786.45	367.35	0.00	748.30	654.80	0.840	41.81	16.20	148.175	F
C	998.77	249.69	1126.88	972.71	125.46	0.00	1150.36	1159.56	0.868	48.00	15.97	107.151	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	393.74	98.44	398.52	457.99	531.77	0.00	775.43	678.78	0.508	2.25	1.05	9.669	A
B	526.24	131.56	582.51	625.49	304.79	0.00	786.83	654.80	0.669	16.20	2.13	22.238	C
C	836.42	209.11	889.75	787.30	100.00	0.00	1168.31	1159.56	0.716	15.97	2.64	15.268	C

Queueing Delay Results for each time segment
Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.55	0.90	8.744	A	A
B	26.01	1.73	12.890	B	B
C	32.56	2.17	10.059	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	23.50	1.57	13.035	B	B
B	55.56	3.70	24.903	C	C
C	68.73	4.58	19.171	C	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	54.66	3.64	26.908	D	C
B	226.27	15.08	91.116	F	F
C	272.03	18.14	66.967	F	E

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	68.81	4.59	31.744	D	C
B	497.09	33.14	182.149	F	F
C	578.32	38.55	130.904	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	37.47	2.50	17.869	C	B
B	435.02	29.00	148.175	F	F
C	479.78	31.99	107.151	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	16.75	1.12	9.669	A	A
B	61.41	4.09	22.238	C	C
C	62.05	4.14	15.268	C	B

Existing layout - 2032 with development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2032 with development, AM	2032 with development	AM		ONE HOUR	07:45	09:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	41.66	E

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	(untitled)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	
B	4.10	4.00	9.40	5.00	10.70	2.50	0.00	
C	3.10	3.10	6.20	20.90	16.60	16.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.607	1115.406
B		(calculated)	(calculated)	0.615	990.058
C		(calculated)	(calculated)	0.692	1246.737

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	421.00	100.000
B	ONE HOUR	✓	623.00	100.000
C	ONE HOUR	✓	1000.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	85.000	336.000
	B	89.000	0.000	534.000
	C	413.000	587.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.14	0.00	0.86
	C	0.41	0.59	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.003
	B	1.022	1.000	1.015
	C	1.012	1.037	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	0.3
	B	2.2	0.0	1.5
	C	1.2	3.7	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.66	14.71	1.85	B	386.32	579.48	99.58	10.31	1.11	99.60	10.31
B	0.91	46.69	8.29	E	571.68	857.51	320.56	22.43	3.56	320.63	22.43
C	0.96	49.69	14.37	E	917.61	1376.42	503.82	21.96	5.60	503.91	21.97

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	316.95	79.24	314.53	374.28	437.78	0.00	833.63	684.87	0.380	0.00	0.61	6.904	A
B	469.03	117.26	463.85	501.29	251.02	0.00	822.14	642.79	0.570	0.00	1.29	9.911	A
C	752.85	188.21	745.79	648.61	66.26	0.00	1168.68	1151.07	0.644	0.00	1.76	8.377	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	378.47	94.62	377.19	448.27	524.22	0.00	779.58	684.87	0.485	0.61	0.93	8.918	A
B	560.06	140.02	556.07	600.37	301.03	0.00	791.79	642.79	0.707	1.29	2.29	15.013	C
C	898.98	224.74	893.04	777.67	79.44	0.00	1159.60	1151.07	0.775	1.76	3.25	13.207	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	463.53	115.88	460.18	536.21	626.77	0.00	715.46	684.87	0.648	0.93	1.76	13.917	B
B	685.94	171.48	666.64	719.68	367.27	0.00	751.60	642.79	0.913	2.29	7.12	36.122	E
C	1101.02	275.25	1067.74	938.68	95.23	0.00	1148.72	1151.07	0.958	3.25	11.57	34.960	D

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	463.53	115.88	463.20	547.40	639.71	0.00	707.36	684.87	0.655	1.76	1.85	14.705	B
B	685.94	171.48	681.23	733.23	369.68	0.00	750.14	642.79	0.914	7.12	8.29	46.689	E
C	1101.02	275.25	1089.78	953.59	97.32	0.00	1147.28	1151.07	0.960	11.57	14.37	49.686	E

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	378.47	94.62	381.83	472.12	552.67	0.00	761.79	684.87	0.497	1.85	1.01	9.555	A
B	560.06	140.02	582.89	629.76	304.74	0.00	789.55	642.79	0.709	8.29	2.59	19.086	C
C	898.98	224.74	941.52	804.36	83.27	0.00	1156.96	1151.07	0.777	14.37	3.74	19.456	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	316.95	79.24	318.47	381.73	446.33	0.00	828.29	684.87	0.383	1.01	0.63	7.081	A
B	469.03	117.26	473.89	510.63	254.17	0.00	820.23	642.79	0.572	2.59	1.37	10.536	B
C	752.85	188.21	760.35	660.37	67.70	0.00	1167.69	1151.07	0.645	3.74	1.86	8.995	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.72	0.58	6.904	A	A
B	18.14	1.21	9.911	A	A
C	24.71	1.65	8.377	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.35	0.89	8.918	A	A
B	31.71	2.11	15.013	C	B
C	44.58	2.97	13.207	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	24.59	1.64	13.917	B	B
B	84.17	5.61	36.122	E	D
C	130.10	8.67	34.960	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	27.27	1.82	14.705	B	B
B	116.82	7.79	46.689	E	D
C	196.81	13.12	49.686	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.91	1.06	9.555	A	A
B	47.90	3.19	19.086	C	B
C	77.87	5.19	19.456	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.75	0.65	7.081	A	A
B	21.82	1.45	10.536	B	B
C	29.75	1.98	8.995	A	A

Existing layout - 2032 with development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2032 with development, PM	2032 with development	PM		ONE HOUR	16:45	18:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	156.51	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	(untitled)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	
B	4.10	4.00	9.40	5.00	10.70	2.50	0.00	
C	3.10	3.10	6.20	20.90	16.60	16.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.607	1115.406
B		(calculated)	(calculated)	0.615	990.058
C		(calculated)	(calculated)	0.692	1246.737

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	542.00	100.000
B	ONE HOUR	✓	728.00	100.000
C	ONE HOUR	✓	1127.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	123.000	419.000
	B	120.000	0.000	608.000
	C	452.000	675.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.16	0.00	0.84
	C	0.40	0.60	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.017
	B	1.025	1.000	1.013
	C	1.007	1.006	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	1.7
	B	2.5	0.0	1.3
	C	0.7	0.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queuing Delay (Veh-min)	Average Queuing Delay (s)	Rate Of Queuing Delay (Veh-min/min)	Inclusive Total Queuing Delay (Veh-min)	Inclusive Average Queuing Delay (s)
A	0.88	38.77	6.01	E	497.35	746.02	254.36	20.46	2.83	254.42	20.46
B	1.16	263.61	61.90	F	668.02	1002.04	2208.87	132.26	24.54	2209.17	132.28
C	1.07	144.04	53.94	F	1034.16	1551.23	1730.12	66.92	19.22	1730.34	66.93

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	408.05	102.01	403.90	425.19	502.23	0.00	793.78	677.23	0.514	0.00	1.04	9.141	A
B	548.08	137.02	539.23	593.88	312.24	0.00	783.13	653.00	0.700	0.00	2.21	14.291	B
C	848.47	212.12	838.53	762.59	88.88	0.00	1176.15	1162.93	0.721	0.00	2.48	10.380	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	487.25	121.81	483.88	506.73	599.03	0.00	735.71	677.23	0.662	1.04	1.88	14.106	B
B	654.46	163.61	640.67	708.84	374.07	0.00	745.05	653.00	0.878	2.21	5.66	30.981	D
C	1013.15	253.29	1000.16	909.13	105.60	0.00	1164.36	1162.93	0.870	2.48	5.73	20.431	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	596.75	149.19	583.30	568.92	680.45	0.00	686.86	677.23	0.869	1.88	5.24	31.328	D
B	801.54	200.39	687.15	812.83	450.93	0.00	697.72	653.00	1.149	5.66	34.26	120.695	F
C	1240.85	310.21	1136.11	1024.81	113.27	0.00	1158.96	1162.93	1.071	5.73	31.92	72.100	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	596.75	149.19	593.69	576.22	690.42	0.00	680.88	677.23	0.876	5.24	6.01	38.767	E
B	801.54	200.39	690.97	825.15	458.96	0.00	692.77	653.00	1.157	34.26	61.90	259.555	F
C	1240.85	310.21	1152.75	1036.04	113.90	0.00	1158.51	1162.93	1.071	31.92	53.94	144.042	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	487.25	121.81	500.93	574.15	678.90	0.00	687.79	677.23	0.708	6.01	2.59	20.477	C
B	654.46	163.61	725.22	792.58	387.25	0.00	736.94	653.00	0.888	61.90	44.21	263.610	F
C	1013.15	253.29	1133.52	992.93	119.54	0.00	1154.53	1162.93	0.878	53.94	23.85	127.237	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	408.05	102.01	413.64	491.51	558.30	0.00	760.14	677.23	0.537	2.59	1.19	10.551	B
B	548.08	137.02	713.81	652.17	319.77	0.00	778.50	653.00	0.704	44.21	2.77	97.258	F
C	848.47	212.12	932.15	915.92	117.66	0.00	1155.86	1162.93	0.734	23.85	2.93	21.854	C

Queueing Delay Results for each time segment
Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	14.64	0.98	9.141	A	A
B	29.80	1.99	14.291	B	B
C	34.01	2.27	10.380	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	26.15	1.74	14.106	B	B
B	70.08	4.67	30.981	D	C
C	73.73	4.92	20.431	C	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	64.73	4.32	31.328	D	C
B	307.33	20.49	120.695	F	F
C	296.90	19.79	72.100	F	E

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	85.39	5.69	38.767	E	D
B	721.74	48.12	259.555	F	F
C	645.43	43.03	144.042	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	44.44	2.96	20.477	C	C
B	795.80	53.05	263.610	F	F
C	583.45	38.90	127.237	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.01	1.27	10.551	B	B
B	284.12	18.94	97.258	F	F
C	96.60	6.44	21.854	C	C

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APPENDIX R

JUNCTION 5: B6139 COXMOOR ROAD/HAMILTON ROAD MINI-
ROUNDBOUT (MITIGATED)

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Jct 5 Coxmoor Rd-Hamilton Rd Improved Mini - Hamilton Road.arc8

Path: C:\Users\ADC\Dropbox (ADC Infrastructure)\!!! ADC Projects\ADC1580 Newark Road, Sutton In Ashfield\Calculations\7. 2022 NEW Transport Assessment\2. Proposed Models

Report generation date: 08/06/2022 10:36:02

» Proposed Layout - 2032 with development, AM

» Proposed Layout - 2032 with development, PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	Junction Delay (s)
Proposed Layout - 2032 with development								
Arm A	1.37	10.82	0.58	27.16	3.24	20.29	0.77	74.54
Arm B	1.81	9.62	0.65		3.81	17.78	0.80	
Arm C	12.85	44.71	0.95		51.63	137.91	1.07	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

*D5 - 2032 with development, AM * model duration: 07:45 - 09:15

D6 - 2032 with development, PM model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 08/06/2022 10:36:00

File summary

Title	Jct 5 Coxmoor Rd/Hamilton Rd mini (existing layout)
Location	
Site Number	
Date	07/06/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ADCteam
Description	geometry from OS mapping

Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Proposed Layout - 2032 with development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2032 with development, AM	2032 with development	AM		ONE HOUR	07:45	09:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	27.16	D

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	Coxmoor Road (S)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	✓
B	7.40	7.40	10.00	2.10	10.60	2.50	0.00	✓
C	3.10	3.10	6.20	20.90	16.60	16.00	0.00	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.475	1117.536
B		(calculated)	(calculated)	0.618	1306.240
C		(calculated)	(calculated)	0.560	1246.737

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	421.00	100.000
B	ONE HOUR	✓	623.00	100.000
C	ONE HOUR	✓	1000.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	85.000	336.000
	B	89.000	0.000	534.000
	C	413.000	587.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.14	0.00	0.86
	C	0.41	0.59	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.003
	B	1.022	1.000	1.015
	C	1.012	1.037	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	0.3
	B	2.2	0.0	1.5
	C	1.2	3.7	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.58	10.82	1.37	B	386.32	579.48	80.21	8.31	0.89	80.22	8.31
B	0.65	9.62	1.81	A	571.68	857.51	104.54	7.31	1.16	104.55	7.32
C	0.95	44.71	12.85	E	917.61	1376.42	467.22	20.37	5.19	467.31	20.37

Main Results for each time segment
Main results: (07:45-08:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	316.95	79.24	314.78	374.67	437.86	0.00	895.20	781.34	0.354	0.00	0.54	6.181	A
B	469.03	117.26	466.23	501.42	251.23	0.00	1132.33	905.04	0.414	0.00	0.70	5.382	A
C	752.85	188.21	745.93	650.85	66.60	0.00	1177.20	1142.24	0.640	0.00	1.73	8.223	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	378.47	94.62	377.49	448.78	524.40	0.00	852.85	781.34	0.444	0.54	0.79	7.558	A
B	560.06	140.02	558.79	600.62	301.28	0.00	1101.78	905.04	0.508	0.70	1.02	6.613	A
C	898.98	224.74	893.35	780.24	79.83	0.00	1169.82	1142.24	0.768	1.73	3.14	12.758	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	463.53	115.88	461.34	539.82	628.59	0.00	801.85	781.34	0.578	0.79	1.33	10.502	B
B	685.94	171.48	682.90	721.74	368.19	0.00	1060.93	905.04	0.647	1.02	1.78	9.445	A
C	1101.02	275.25	1070.85	953.53	97.56	0.00	1159.94	1142.24	0.949	3.14	10.68	32.693	D

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	463.53	115.88	463.38	549.11	641.20	0.00	795.68	781.34	0.583	1.33	1.37	10.822	B
B	685.94	171.48	685.82	734.76	369.82	0.00	1059.94	905.04	0.647	1.78	1.81	9.615	A
C	1101.02	275.25	1092.33	957.67	97.97	0.00	1159.70	1142.24	0.949	10.68	12.85	44.715	E

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	378.47	94.62	380.63	467.10	549.55	0.00	840.54	781.34	0.450	1.37	0.83	7.863	A
B	560.06	140.02	563.08	626.40	303.78	0.00	1100.25	905.04	0.509	1.81	1.05	6.740	A
C	898.98	224.74	936.20	786.42	80.44	0.00	1169.48	1142.24	0.769	12.85	3.54	17.535	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	316.95	79.24	318.05	380.97	445.96	0.00	891.24	781.34	0.356	0.83	0.56	6.294	A
B	469.03	117.26	470.37	510.18	253.83	0.00	1130.73	905.04	0.415	1.05	0.72	5.464	A
C	752.85	188.21	759.73	657.01	67.20	0.00	1176.87	1142.24	0.640	3.54	1.82	8.768	A

Queueing Delay Results for each time segment
Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	7.84	0.52	6.181	A	A
B	10.13	0.68	5.382	A	A
C	24.27	1.62	8.223	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.41	0.76	7.558	A	A
B	14.79	0.99	6.613	A	A
C	43.21	2.88	12.758	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.97	1.26	10.502	B	B
B	25.20	1.68	9.445	A	A
C	122.23	8.15	32.693	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.37	1.36	10.822	B	B
B	26.93	1.80	9.615	A	A
C	178.38	11.89	44.715	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.00	0.87	7.863	A	A
B	16.44	1.10	6.740	A	A
C	70.17	4.68	17.535	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.62	0.57	6.294	A	A
B	11.05	0.74	5.464	A	A
C	28.98	1.93	8.768	A	A

Proposed Layout - 2032 with development, PM

Data Errors and Warnings
No errors or warnings
Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2032 with development, PM	2032 with development	PM		ONE HOUR	16:45	18:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	74.54	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	Coxmoor Road (S)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	✓
B	7.40	7.40	10.00	2.10	10.60	2.50	0.00	✓
C	3.10	3.10	6.20	20.90	16.60	16.00	0.00	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.475	1117.536
B		(calculated)	(calculated)	0.618	1306.240
C		(calculated)	(calculated)	0.560	1246.737

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	542.00	100.000
B	ONE HOUR	✓	728.00	100.000
C	ONE HOUR	✓	1127.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	123.000	419.000
	B	120.000	0.000	608.000
	C	452.000	675.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.16	0.00	0.84
	C	0.40	0.60	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.017
	B	1.025	1.000	1.013
	C	1.007	1.006	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	1.7
	B	2.5	0.0	1.3
	C	0.7	0.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.77	20.29	3.24	C	497.35	746.02	165.07	13.28	1.83	165.10	13.28
B	0.80	17.78	3.81	C	668.02	1002.04	185.00	11.08	2.06	185.03	11.08
C	1.07	137.91	51.63	F	1034.16	1551.23	1580.68	61.14	17.56	1580.85	61.15

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	408.05	102.01	404.50	426.12	502.41	0.00	861.25	773.03	0.474	0.00	0.89	7.823	A
B	548.08	137.02	544.11	594.21	312.71	0.00	1093.23	916.74	0.501	0.00	0.99	6.509	A
C	848.47	212.12	838.85	767.13	89.69	0.00	1187.64	1152.59	0.714	0.00	2.41	10.064	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	487.25	121.81	485.02	509.06	599.70	0.00	815.58	773.03	0.597	0.89	1.44	10.816	B
B	654.46	163.61	652.04	709.77	374.95	0.00	1054.67	916.74	0.621	0.99	1.60	8.887	A
C	1013.15	253.29	1001.28	919.51	107.48	0.00	1177.49	1152.59	0.860	2.41	5.37	19.214	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	596.75	149.19	590.31	587.82	682.52	0.00	776.89	773.03	0.768	1.44	3.05	18.687	C
B	801.54	200.39	793.39	816.49	456.35	0.00	1004.24	916.74	0.798	1.60	3.63	16.462	C
C	1240.85	310.21	1139.56	1118.96	130.78	0.00	1164.19	1152.59	1.066	5.37	30.70	69.395	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	596.75	149.19	596.02	596.07	693.03	0.00	771.76	773.03	0.773	3.05	3.24	20.294	C
B	801.54	200.39	800.82	828.29	460.76	0.00	1001.51	916.74	0.800	3.63	3.81	17.780	C
C	1240.85	310.21	1157.11	1129.58	132.00	0.00	1163.49	1152.59	1.066	30.70	51.63	137.911	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	487.25	121.81	493.11	572.15	691.24	0.00	772.60	773.03	0.631	3.24	1.77	13.136	B
B	654.46	163.61	662.94	803.14	381.21	0.00	1050.80	916.74	0.623	3.81	1.69	9.476	A
C	1013.15	253.29	1154.11	934.87	109.28	0.00	1176.46	1152.59	0.861	51.63	16.39	110.981	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	408.05	102.01	411.30	453.16	541.17	0.00	843.06	773.03	0.484	1.77	0.95	8.399	A
B	548.08	137.02	550.75	634.51	317.96	0.00	1089.98	916.74	0.503	1.69	1.03	6.710	A
C	848.47	212.12	903.55	777.93	90.78	0.00	1187.01	1152.59	0.715	16.39	2.62	15.057	C

Queueing Delay Results for each time segment
Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.63	0.84	7.823	A	A
B	14.19	0.95	6.509	A	A
C	33.03	2.20	10.064	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.50	1.37	10.816	B	B
B	22.77	1.52	8.887	A	A
C	69.81	4.65	19.214	C	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	40.96	2.73	18.687	C	B
B	48.56	3.24	16.462	C	B
C	286.02	19.07	69.395	F	E

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	47.48	3.17	20.294	C	C
B	56.16	3.74	17.780	C	B
C	619.07	41.27	137.911	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	28.50	1.90	13.136	B	B
B	27.31	1.82	9.476	A	A
C	510.20	34.01	110.981	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.01	1.00	8.399	A	A
B	16.01	1.07	6.710	A	A
C	62.54	4.17	15.057	C	B

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Jct 5 Coxmoor Rd-Hamilton Rd Improved Mini - Max Scheme.arc8

Path: C:\Users\ADC\Dropbox (ADC Infrastructure)\!!! ADC Projects\ADC1580 Newark Road, Sutton In Ashfield\Calculations\7. 2022 NEW Transport Assessment\2. Proposed Models

Report generation date: 08/06/2022 10:40:51

- » Existing layout - 2032 with development, AM
- » Existing layout - 2032 with development, PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	Junction Delay (s)
Existing layout - 2032 with development								
Arm A	1.38	10.91	0.58	10.63	3.68	23.24	0.80	19.30
Arm B	1.73	9.20	0.64		3.54	16.44	0.79	
Arm C	3.40	11.39	0.78		6.32	19.25	0.87	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

*D5 - 2032 with development, AM * model duration: 07:45 - 09:15

D6 - 2032 with development, PM model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 08/06/2022 10:40:49

File summary

Title	Jct 5 Coxmoor Rd/Hamilton Rd mini (existing layout)
Location	
Site Number	
Date	07/06/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ADCteam
Description	geometry from OS mapping

Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Existing layout - 2032 with development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2032 with development, AM	2032 with development	AM		ONE HOUR	07:45	09:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	10.63	B

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	Coxmoor Road (S)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	✓
B	7.40	7.40	10.00	2.10	10.60	2.50	0.00	✓
C	3.10	3.10	8.00	35.40	15.80	15.90	0.00	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.475	1117.536
B		(calculated)	(calculated)	0.618	1323.280
C		(calculated)	(calculated)	0.621	1515.636

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	421.00	100.000
B	ONE HOUR	✓	623.00	100.000
C	ONE HOUR	✓	1000.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	85.000	336.000
	B	89.000	0.000	534.000
	C	413.000	587.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.14	0.00	0.86
	C	0.41	0.59	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.003
	B	1.022	1.000	1.015
	C	1.012	1.037	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	0.3
	B	2.2	0.0	1.5
	C	1.2	3.7	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.58	10.91	1.38	B	386.32	579.48	80.57	8.34	0.90	80.58	8.34
B	0.64	9.20	1.73	A	571.68	857.51	100.98	7.07	1.12	100.99	7.07
C	0.78	11.39	3.40	B	917.61	1376.42	180.85	7.88	2.01	180.88	7.88

Main Results for each time segment
Main results: (07:45-08:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	316.95	79.24	314.78	375.74	439.36	0.00	894.47	709.66	0.354	0.00	0.54	6.189	A
B	469.03	117.26	466.30	502.92	251.22	0.00	1149.10	956.74	0.408	0.00	0.68	5.251	A
C	752.85	188.21	748.49	650.91	66.61	0.00	1435.07	1391.75	0.525	0.00	1.09	5.212	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	378.47	94.62	377.49	450.16	526.34	0.00	851.90	709.66	0.444	0.54	0.79	7.573	A
B	560.06	140.02	558.84	602.55	301.28	0.00	1118.55	956.74	0.501	0.68	0.99	6.417	A
C	898.98	224.74	896.66	780.28	79.83	0.00	1426.89	1391.75	0.630	1.09	1.67	6.759	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	463.53	115.88	461.24	549.58	642.43	0.00	795.08	709.66	0.583	0.79	1.36	10.708	B
B	685.94	171.48	683.07	735.55	368.12	0.00	1077.75	956.74	0.636	0.99	1.70	9.054	A
C	1101.02	275.25	1094.42	953.60	97.58	0.00	1415.92	1391.75	0.778	1.67	3.32	10.973	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	463.53	115.88	463.43	552.56	646.10	0.00	793.29	709.66	0.584	1.36	1.38	10.905	B
B	685.94	171.48	685.83	739.66	369.87	0.00	1076.68	956.74	0.637	1.70	1.73	9.203	A
C	1101.02	275.25	1100.68	957.72	97.98	0.00	1415.68	1391.75	0.778	3.32	3.40	11.395	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	378.47	94.62	380.74	454.45	531.61	0.00	849.32	709.66	0.446	1.38	0.82	7.719	A
B	560.06	140.02	562.91	608.49	303.87	0.00	1116.96	956.74	0.501	1.73	1.02	6.532	A
C	898.98	224.74	905.64	786.37	80.42	0.00	1426.53	1391.75	0.630	3.40	1.74	6.998	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	316.95	79.24	317.99	379.14	443.38	0.00	892.50	709.66	0.355	0.82	0.56	6.276	A
B	469.03	117.26	470.31	507.58	253.79	0.00	1147.54	956.74	0.409	1.02	0.70	5.327	A
C	752.85	188.21	755.33	656.92	67.19	0.00	1434.71	1391.75	0.525	1.74	1.12	5.319	A

Queueing Delay Results for each time segment
Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	7.85	0.52	6.189	A	A
B	9.89	0.66	5.251	A	A
C	15.71	1.05	5.212	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.43	0.76	7.573	A	A
B	14.37	0.96	6.417	A	A
C	24.03	1.60	6.759	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.32	1.29	10.708	B	B
B	24.23	1.62	9.054	A	A
C	45.76	3.05	10.973	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.63	1.38	10.905	B	B
B	25.81	1.72	9.203	A	A
C	50.57	3.37	11.395	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.75	0.85	7.719	A	A
B	15.91	1.06	6.532	A	A
C	27.45	1.83	6.998	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.60	0.57	6.276	A	A
B	10.77	0.72	5.327	A	A
C	17.33	1.16	5.319	A	A

Existing layout - 2032 with development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2032 with development, PM	2032 with development	PM		ONE HOUR	16:45	18:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	19.30	C

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	Coxmoor Road (S)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	✓
B	7.40	7.40	10.00	2.10	10.60	2.50	0.00	✓
C	3.10	3.10	8.00	35.40	15.80	15.90	0.00	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.475	1117.536
B		(calculated)	(calculated)	0.618	1323.280
C		(calculated)	(calculated)	0.621	1515.636

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	542.00	100.000
B	ONE HOUR	✓	728.00	100.000
C	ONE HOUR	✓	1127.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	123.000	419.000
	B	120.000	0.000	608.000
	C	452.000	675.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.16	0.00	0.84
	C	0.40	0.60	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.017
	B	1.025	1.000	1.013
	C	1.007	1.006	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	1.7
	B	2.5	0.0	1.3
	C	0.7	0.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.80	23.24	3.68	C	497.35	746.02	172.72	13.89	1.92	172.75	13.89
B	0.79	16.44	3.54	C	668.02	1002.04	175.02	10.48	1.94	175.04	10.48
C	0.87	19.25	6.32	C	1034.16	1551.23	284.96	11.02	3.17	285.00	11.02

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	408.05	102.01	404.49	427.77	504.84	0.00	860.11	702.02	0.474	0.00	0.89	7.844	A
B	548.08	137.02	544.23	596.64	312.70	0.00	1110.03	967.53	0.494	0.00	0.96	6.320	A
C	848.47	212.12	842.91	767.22	89.71	0.00	1449.25	1405.12	0.585	0.00	1.39	5.886	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	487.25	121.81	484.99	512.35	604.60	0.00	813.28	702.02	0.599	0.89	1.45	10.890	B
B	654.46	163.61	652.17	714.66	374.93	0.00	1071.47	967.53	0.611	0.96	1.53	8.537	A
C	1013.15	253.29	1009.45	919.60	107.50	0.00	1438.00	1405.12	0.705	1.39	2.31	8.327	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	596.75	149.19	588.74	622.76	734.52	0.00	752.28	702.02	0.793	1.45	3.46	21.041	C
B	801.54	200.39	794.16	868.12	455.13	0.00	1021.79	967.53	0.784	1.53	3.38	15.333	C
C	1240.85	310.21	1226.37	1118.38	130.91	0.00	1423.19	1405.12	0.872	2.31	5.93	17.139	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	596.75	149.19	595.84	629.05	742.26	0.00	748.65	702.02	0.797	3.46	3.68	23.239	C
B	801.54	200.39	800.91	877.48	460.62	0.00	1018.39	967.53	0.787	3.38	3.54	16.437	C
C	1240.85	310.21	1239.29	1129.52	132.02	0.00	1422.49	1405.12	0.872	5.93	6.32	19.250	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	487.25	121.81	495.72	521.66	616.06	0.00	807.90	702.02	0.603	3.68	1.57	11.827	B
B	654.46	163.61	662.09	728.55	383.22	0.00	1066.34	967.53	0.614	3.54	1.63	9.066	A
C	1013.15	253.29	1028.59	936.18	109.14	0.00	1436.96	1405.12	0.705	6.32	2.47	9.129	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	408.05	102.01	410.62	432.70	510.64	0.00	857.39	702.02	0.476	1.57	0.92	8.104	A
B	548.08	137.02	550.61	603.82	317.43	0.00	1107.09	967.53	0.495	1.63	0.99	6.497	A
C	848.47	212.12	852.58	777.29	90.76	0.00	1448.59	1405.12	0.586	2.47	1.44	6.080	A

Queueing Delay Results for each time segment
Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.66	0.84	7.844	A	A
B	13.80	0.92	6.320	A	A
C	19.87	1.32	5.866	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.62	1.37	10.890	B	B
B	21.93	1.46	8.537	A	A
C	32.82	2.19	8.327	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	45.50	3.03	21.041	C	C
B	45.56	3.04	15.333	C	B
C	76.59	5.11	17.139	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	53.92	3.59	23.239	C	C
B	52.14	3.48	16.437	C	B
C	92.50	6.17	19.250	C	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	25.56	1.70	11.827	B	B
B	26.09	1.74	9.066	A	A
C	40.72	2.71	9.129	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	14.47	0.96	8.104	A	A
B	15.49	1.03	6.497	A	A
C	22.47	1.50	6.080	A	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Jct 5 Coxmoor Rd-Hamilton Rd Improved Mini - Smaller Scheme.arc8

Path: C:\Users\ADC\Dropbox (ADC Infrastructure)\!!! ADC Projects\ADC1580 Newark Road, Sutton In Ashfield\Calculations\7. 2022 NEW Transport Assessment\2. Proposed Models

Report generation date: 08/06/2022 10:45:21

» Proposed Layout - 2032 with development, AM

» Proposed Layout - 2032 with development, PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	Junction Delay (s)
Proposed Layout - 2032 with development								
Arm A	1.38	10.89	0.58	15.75	3.57	22.54	0.79	37.12
Arm B	1.81	9.62	0.65		3.81	17.76	0.80	
Arm C	6.26	21.53	0.87		18.89	56.82	0.98	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

*D5 - 2032 with development, AM * model duration: 07:45 - 09:15

D6 - 2032 with development, PM model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 08/06/2022 10:45:20

File summary

Title	Jct 5 Coxmoor Rd/Hamilton Rd mini (existing layout)
Location	
Site Number	
Date	07/06/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ADCteam
Description	geometry from OS mapping

Analysis Options

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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Proposed Layout - 2032 with development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2032 with development, AM	2032 with development	AM		ONE HOUR	07:45	09:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	15.75	C

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	Coxmoor Road (S)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	✓
B	7.40	7.40	10.00	2.10	10.60	2.50	0.00	✓
C	3.10	3.10	7.00	25.40	16.60	16.00	0.00	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.475	1117.536
B		(calculated)	(calculated)	0.618	1306.240
C		(calculated)	(calculated)	0.586	1354.957

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	421.00	100.000
B	ONE HOUR	✓	623.00	100.000
C	ONE HOUR	✓	1000.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	85.000	336.000
	B	89.000	0.000	534.000
	C	413.000	587.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.20	0.80
	B	0.14	0.00	0.86
	C	0.41	0.59	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.003
	B	1.022	1.000	1.015
	C	1.012	1.037	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	0.3
	B	2.2	0.0	1.5
	C	1.2	3.7	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.58	10.89	1.38	B	386.32	579.48	80.45	8.33	0.89	80.46	8.33
B	0.65	9.62	1.81	A	571.68	857.51	104.54	7.31	1.16	104.55	7.32
C	0.87	21.53	6.26	C	917.61	1376.42	283.39	12.35	3.15	283.43	12.36

Main Results for each time segment
Main results: (07:45-08:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	316.95	79.24	314.78	375.22	438.64	0.00	894.82	752.35	0.354	0.00	0.54	6.185	A
B	469.03	117.26	466.23	502.19	251.23	0.00	1132.33	919.17	0.414	0.00	0.70	5.382	A
C	752.85	188.21	747.25	650.85	66.60	0.00	1280.91	1243.17	0.588	0.00	1.40	6.678	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	378.47	94.62	377.49	449.58	525.54	0.00	852.29	752.35	0.444	0.54	0.79	7.567	A
B	560.06	140.02	558.79	601.75	301.28	0.00	1101.78	919.17	0.508	0.70	1.02	6.613	A
C	898.98	224.74	895.29	780.23	79.83	0.00	1273.19	1243.17	0.706	1.40	2.32	9.431	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	463.53	115.88	461.27	546.45	638.01	0.00	797.24	752.35	0.581	0.79	1.35	10.643	B
B	685.94	171.48	682.90	731.14	368.14	0.00	1060.96	919.17	0.647	1.02	1.78	9.445	A
C	1101.02	275.25	1086.90	953.48	97.56	0.00	1262.85	1243.17	0.872	2.32	5.85	19.069	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	463.53	115.88	463.41	552.03	645.34	0.00	793.66	752.35	0.584	1.35	1.38	10.891	B
B	685.94	171.48	685.82	738.91	369.85	0.00	1059.92	919.17	0.647	1.78	1.81	9.616	A
C	1101.02	275.25	1099.38	957.69	97.97	0.00	1262.61	1243.17	0.872	5.85	6.26	21.533	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	378.47	94.62	380.71	457.95	536.55	0.00	846.90	752.35	0.447	1.38	0.82	7.760	A
B	560.06	140.02	563.08	613.42	303.85	0.00	1100.21	919.17	0.509	1.81	1.05	6.738	A
C	898.98	224.74	914.06	786.49	80.44	0.00	1272.84	1243.17	0.706	6.26	2.49	10.425	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	316.95	79.24	318.00	379.84	444.36	0.00	892.02	752.35	0.355	0.82	0.56	6.282	A
B	469.03	117.26	470.37	508.56	253.80	0.00	1130.76	919.17	0.415	1.05	0.72	5.461	A
C	752.85	188.21	757.00	656.98	67.20	0.00	1280.56	1243.17	0.588	2.49	1.45	6.931	A

Queueing Delay Results for each time segment
Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	7.84	0.52	6.185	A	A
B	10.13	0.68	5.382	A	A
C	19.92	1.33	6.678	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.42	0.76	7.567	A	A
B	14.79	0.99	6.613	A	A
C	32.80	2.19	9.431	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.20	1.28	10.643	B	B
B	25.20	1.68	9.445	A	A
C	75.09	5.01	19.069	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.56	1.37	10.891	B	B
B	26.93	1.80	9.616	A	A
C	91.41	6.09	21.533	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.82	0.85	7.760	A	A
B	16.44	1.10	6.738	A	A
C	41.37	2.76	10.425	B	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.61	0.57	6.282	A	A
B	11.05	0.74	5.461	A	A
C	22.80	1.52	6.931	A	A

Proposed Layout - 2032 with development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2032 with development, PM	2032 with development	PM		ONE HOUR	16:45	18:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	37.12	E

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Coxmoor Rd (N)	
B	B	Hamilton Rd	
C	C	Coxmoor Road (S)	

Capacity Options

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

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
A	3.70	3.70	7.60	6.70	12.00	4.60	0.00	✓
B	7.40	7.40	10.00	2.10	10.60	2.50	0.00	✓
C	3.10	3.10	7.00	25.40	16.60	16.00	0.00	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.475	1117.536
B		(calculated)	(calculated)	0.618	1306.240
C		(calculated)	(calculated)	0.586	1354.957

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	542.00	100.000
B	ONE HOUR	✓	728.00	100.000
C	ONE HOUR	✓	1127.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	123.000	419.000
	B	120.000	0.000	608.000
	C	452.000	675.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.16	0.00	0.84
	C	0.40	0.60	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.024	1.017
	B	1.025	1.000	1.013
	C	1.007	1.006	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	2.4	1.7
	B	2.5	0.0	1.3
	C	0.7	0.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.79	22.54	3.57	C	497.35	746.02	170.22	13.69	1.89	170.25	13.69
B	0.80	17.76	3.81	C	668.02	1002.04	184.89	11.07	2.05	184.92	11.07
C	0.98	56.82	18.89	F	1034.16	1551.23	611.77	23.66	6.80	611.86	23.67

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	408.05	102.01	404.50	426.99	503.72	0.00	860.64	744.28	0.474	0.00	0.89	7.834	A
B	548.08	137.02	544.11	595.51	312.70	0.00	1093.24	930.50	0.501	0.00	0.99	6.509	A
C	848.47	212.12	841.02	767.13	89.69	0.00	1292.83	1254.82	0.656	0.00	1.86	7.844	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	487.25	121.81	485.00	511.13	602.80	0.00	814.12	744.28	0.598	0.89	1.45	10.862	B
B	654.46	163.61	652.04	712.86	374.94	0.00	1054.68	930.50	0.621	0.99	1.60	8.887	A
C	1013.15	253.29	1006.45	919.50	107.48	0.00	1282.21	1254.82	0.790	1.86	3.54	12.744	B

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	596.75	149.19	589.31	610.96	717.07	0.00	760.47	744.28	0.785	1.45	3.31	20.194	C
B	801.54	200.39	793.42	850.80	455.57	0.00	1004.72	930.50	0.798	1.60	3.63	16.430	C
C	1240.85	310.21	1197.24	1118.21	130.78	0.00	1268.31	1254.82	0.978	3.54	14.44	37.342	E

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	596.75	149.19	595.70	622.51	732.52	0.00	753.22	744.28	0.792	3.31	3.57	22.540	C
B	801.54	200.39	800.80	867.71	460.52	0.00	1001.66	930.50	0.800	3.63	3.81	17.763	C
C	1240.85	310.21	1223.04	1129.32	132.00	0.00	1267.58	1254.82	0.979	14.44	18.89	56.824	F

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	487.25	121.81	495.01	539.37	642.30	0.00	795.58	744.28	0.612	3.57	1.63	12.267	B
B	654.46	163.61	662.91	754.64	382.67	0.00	1049.89	930.50	0.623	3.81	1.70	9.497	A
C	1013.15	253.29	1072.41	936.31	109.27	0.00	1281.14	1254.82	0.791	18.89	4.08	21.258	C

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	408.05	102.01	410.87	434.48	513.25	0.00	856.17	744.28	0.477	1.63	0.93	8.134	A
B	548.08	137.02	550.77	606.49	317.63	0.00	1090.19	930.50	0.503	1.70	1.03	6.705	A
C	848.47	212.12	856.94	777.61	90.79	0.00	1292.17	1254.82	0.657	4.08	1.96	8.425	A

Queueing Delay Results for each time segment
Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.64	0.84	7.834	A	A
B	14.19	0.95	6.509	A	A
C	26.12	1.74	7.844	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.58	1.37	10.862	B	B
B	22.77	1.52	8.887	A	A
C	48.41	3.23	12.744	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	43.87	2.92	20.194	C	C
B	48.47	3.23	16.430	C	B
C	156.17	10.41	37.342	E	D

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	52.08	3.47	22.540	C	C
B	56.08	3.74	17.763	C	B
C	252.78	16.85	56.824	F	E

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	26.52	1.77	12.267	B	B
B	27.37	1.82	9.497	A	A
C	96.93	6.46	21.258	C	C

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	14.52	0.97	8.134	A	A
B	16.01	1.07	6.705	A	A
C	31.37	2.09	8.425	A	A

APPENDIX S

JUNCTION 6: A611 DERBY ROAD/B6139 COXMOOR ROAD SIGNAL CONTROLLED JUNCTION

User and Project Details

Project:	Newark Road, Sutton in Ashfield
Title:	Derby Road/Coxmoor Road Junction
Location:	
Additional detail:	
File name:	Jct 6 - Derby Road-Coxmoor Road Existing LinSig Model.lsg3x
Author:	
Company:	ADC Infrastructure Limited
Address:	

Network Layout Diagram

