

ARCADY 7
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File: C:\Users\collinsja\Desktop\Mill Lane Roundabout.arc7
Report generation date: 05/09/2014 13:58:21

- « **A1 - (Default Analysis Set) - D1 - 2023 Do Nothing, AM**
 - » Roundabout Network
 - » Arms
 - » Traffic Flows
 - » Entry Flows
 - » Direct/Resultant Flows
 - » Turning Proportions
 - » Vehicle Mix
 - » Results
 - » Overview: Standard Roundabout Geometry
 - » Overview: Time Segment Results

File summary

File Description

Title	(untitled)
Date	21/08/2014
Status	(new file)
Enumerator	CORP\CollinsJa
Results Upto Date	True

Analysis Options

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

Sorting and Display

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

Units

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

A1 - (Default Analysis Set) - D1 - 2023 Do Nothing, AM

Data Errors and Warnings

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

Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
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Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Angles between arms expected to sum to 360 degrees.
Warning	Geometric Delay	Distance between arms 1 and 3 must be greater than distance between 1 and 2
Warning	Geometric Delay	Distance between arms 1 and 4 must be greater than distance between 1 and 3
Warning	Geometric Delay	Distance between arms 1 and 1 must be greater than distance between 1 and 4
Warning	Geometric Delay	Distance between arms 2 and 4 must be greater than distance between 2 and 3
Warning	Geometric Delay	Distance between arms 2 and 1 must be greater than distance between 2 and 4
Warning	Geometric Delay	Distance between arms 2 and 2 must be greater than distance between 2 and 1
Warning	Geometric Delay	Distance between arms 3 and 1 must be greater than distance between 3 and 4
Warning	Geometric Delay	Distance between arms 3 and 2 must be greater than distance between 3 and 1
Warning	Geometric Delay	Distance between arms 3 and 3 must be greater than distance between 3 and 2
Warning	Geometric Delay	Distance between arms 4 and 2 must be greater than distance between 4 and 1
Warning	Geometric Delay	Distance between arms 4 and 3 must be greater than distance between 4 and 2
Warning	Geometric Delay	Distance between arms 4 and 4 must be greater than distance between 4 and 3

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2023 Do Nothing, AM	2023 Do Nothing	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Mill Lane / Moss Lane / High Park Place / Roe Lane Roundabout	1,2,3,4	Standard			Yes

Roundabout Network Options

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

Arms

Arms

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ID	Name	Description
1	Mill Lane	
2	Moss Lane	
3	High Park Place	
4	Roe Lane	

Capacity Options

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

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.34	11.03	36.80	8.00	24.00	65.00	
2	3.85	3.85	0.00	18.70	24.00	70.00	
3	3.80	8.33	35.00	3.00	13.00	60.00	
4	5.38	5.38	0.00	38.00	24.00	60.00	

Geometric Delay

Arm	Entry speed (kph)	Exit speed (kph)	Entry angle (deg)	Exit angle (deg)	Entry radius (m)	Exit radius (m)	Sight distance (m)	Entry-to-centre distance (m)	Centre-to-exit distance (m)	Angle to next arm (%)	Distance included up/down-stream (m)
1	48.00	48.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	10.00
2	48.00	48.00	0.00	0.00	18.70	0.00	0.00	0.00	0.00	0.00	10.00
3	48.00	48.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	10.00
4	48.00	48.00	0.00	0.00	38.00	0.00	0.00	0.00	0.00	0.00	10.00

Geometric Delay: Distances through junction (m) - Roundabout 1

		To			
		1	2	3	4
From	1	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.682	2090.754
2		((calculated))	((calculated))	0.474	1000.667
3		((calculated))	((calculated))	0.467	1313.092
4		((calculated))	((calculated))	0.596	1498.202

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
		Yes	Yes	HV Percentages	2.30				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	859.00	100.000	N/A
2	ONE HOUR	Yes	76.00	100.000	N/A
3	ONE HOUR	Yes	407.00	100.000	N/A
4	ONE HOUR		6.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	646.70	646.70	N/A	N/A
08:00-08:15	2	57.22	57.22	N/A	N/A
08:00-08:15	3	306.41	306.41	N/A	N/A
08:00-08:15	4	4.52	4.52	N/A	N/A
08:15-08:30	1	772.22	772.22	N/A	N/A
08:15-08:30	2	68.32	68.32	N/A	N/A
08:15-08:30	3	365.88	365.88	N/A	N/A
08:15-08:30	4	5.39	5.39	N/A	N/A
08:30-08:45	1	945.78	945.78	N/A	N/A
08:30-08:45	2	83.68	83.68	N/A	N/A
08:30-08:45	3	448.12	448.12	N/A	N/A
08:30-08:45	4	6.61	6.61	N/A	N/A
08:45-09:00	1	945.78	945.78	N/A	N/A
08:45-09:00	2	83.68	83.68	N/A	N/A
08:45-09:00	3	448.12	448.12	N/A	N/A
08:45-09:00	4	6.61	6.61	N/A	N/A
09:00-09:15	1	772.22	772.22	N/A	N/A
09:00-09:15	2	68.32	68.32	N/A	N/A
09:00-09:15	3	365.88	365.88	N/A	N/A
09:00-09:15	4	5.39	5.39	N/A	N/A
09:15-09:30	1	646.70	646.70	N/A	N/A
09:15-09:30	2	57.22	57.22	N/A	N/A
09:15-09:30	3	306.41	306.41	N/A	N/A
09:15-09:30	4	4.52	4.52	N/A	N/A

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.00	57.00	617.00	185.00
	2	43.00	0.00	10.00	23.00
	3	340.00	20.00	5.00	42.00
	4	242.00	59.00	35.00	0.00

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

		To			
		1	2	3	4
From	1	0.00	0.07	0.72	0.22
	2	0.57	0.00	0.13	0.30
	3	0.84	0.05	0.01	0.10
	4	0.72	0.18	0.10	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.00	1.00	1.01	1.10
	2	1.00	1.00	1.00	1.00
	3	1.04	1.00	2.30	1.07
	4	1.04	1.00	1.13	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	1.00	8.00
	2	0.00	0.00	0.00	0.00
	3	3.00	0.00	100.00	5.00
	4	3.00	0.00	10.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.46	0.05	0.86	A	788.23	1182.35	57.90	0.05	0.64	57.90	0.05	0.682	2090.754
2	0.14	0.12	0.17	A	69.74	104.61	11.06	0.11	0.12	11.07	0.11	0.474	1000.667
3	0.38	0.09	0.63	A	373.47	560.21	42.86	0.08	0.48	42.86	0.08	0.467	1313.092
4	0.01	0.05	0.01	A	5.51	8.26	0.41	0.05	0.00	0.41	0.05	0.596	1498.202

Main Results

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	646.70	161.68	644.84	290.23	20.00	0.00	2077.11	1877.13	0.311	0.00	0.46
2	57.22	14.30	56.87	58.57	606.27	0.00	713.28	120.03	0.080	0.00	0.09
3	306.41	76.60	305.02	474.88	188.27	0.00	1225.26	1075.85	0.250	0.00	0.35
4	4.52	1.13	4.50	187.57	305.72	0.00	1316.09	883.02	0.003	0.00	0.00

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	772.22	193.06	771.65	347.78	23.96	0.00	2074.41	1877.13	0.372	0.46	0.61
2	68.32	17.08	68.21	70.11	725.49	0.00	656.76	120.03	0.104	0.09	0.12
3	365.88	91.47	365.47	568.28	225.42	0.00	1207.92	1075.85	0.303	0.35	0.45
4	5.39	1.35	5.39	224.54	366.34	0.00	1279.98	883.02	0.004	0.00	0.00

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	945.78	236.44	944.77	425.73	29.33	0.00	2070.75	1877.13	0.457	0.61	0.86
2	83.68	20.92	83.47	85.84	888.26	0.00	579.61	120.03	0.144	0.12	0.17
3	448.12	112.03	447.40	695.77	275.96	0.00	1184.35	1075.85	0.378	0.45	0.63
4	6.61	1.65	6.60	274.90	448.45	0.00	1231.07	883.02	0.005	0.00	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	945.78	236.44	945.77	426.44	29.37	0.00	2070.71	1877.13	0.457	0.86	0.86
2	83.68	20.92	83.67	85.94	889.20	0.00	579.16	120.03	0.144	0.17	0.17
3	448.12	112.03	448.10	696.52	276.35	0.00	1184.16	1075.85	0.378	0.63	0.63
4	6.61	1.65	6.61	275.25	449.20	0.00	1230.62	883.02	0.005	0.01	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	772.22	193.06	773.22	348.90	24.03	0.00	2074.36	1877.13	0.372	0.86	0.61
2	68.32	17.08	68.53	70.27	726.98	0.00	656.06	120.03	0.104	0.17	0.12
3	365.88	91.47	366.59	569.47	226.04	0.00	1207.64	1075.85	0.303	0.63	0.46
4	5.39	1.35	5.40	225.09	367.53	0.00	1279.27	883.02	0.004	0.01	0.00

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	646.70	161.68	647.29	292.02	20.11	0.00	2077.03	1877.13	0.311	0.61	0.47
2	57.22	14.30	57.33	58.82	608.57	0.00	712.18	120.03	0.080	0.12	0.09
3	306.41	76.60	306.84	476.71	189.19	0.00	1224.83	1075.85	0.250	0.46	0.35
4	4.52	1.13	4.52	188.42	307.61	0.00	1314.96	883.02	0.003	0.00	0.00

Queueing Delay Results

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.83	0.46	0.043	A	A
2	1.26	0.08	0.091	A	A
3	5.08	0.34	0.068	A	A

4	0.05	0.00	0.048	A	A
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Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.99	0.60	0.047	A	A
2	1.69	0.11	0.102	A	A
3	6.65	0.44	0.075	A	A
4	0.07	0.00	0.049	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.66	0.84	0.055	A	A
2	2.45	0.16	0.121	A	A
3	9.25	0.62	0.085	A	A
4	0.08	0.01	0.051	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.93	0.86	0.055	A	A
2	2.52	0.17	0.121	A	A
3	9.50	0.63	0.085	A	A
4	0.08	0.01	0.051	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.37	0.62	0.048	A	A
2	1.80	0.12	0.102	A	A
3	7.02	0.47	0.075	A	A
4	0.07	0.00	0.049	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.11	0.47	0.043	A	A
2	1.34	0.09	0.092	A	A
3	5.36	0.36	0.068	A	A
4	0.05	0.00	0.048	A	A

Geometric Delay Results

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	24.05	1.60
2	1.85	0.12
3	12.47	0.83
4	0.12	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	28.78	1.92
2	2.21	0.15

3	14.94	1.00
4	0.14	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	35.24	2.35
2	2.71	0.18
3	18.29	1.22
4	0.18	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	35.28	2.35
2	2.72	0.18
3	18.32	1.22
4	0.18	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	28.84	1.92
2	2.22	0.15
3	14.99	1.00
4	0.14	0.01

Geometric Delay results: (09:15-09:30)

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	24.14	1.61
2	1.86	0.12
3	12.55	0.84
4	0.12	0.01

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (08:00-08:15)

		To			
		1	2	3	4
From	1	0.00	1.59	17.24	5.22
	2	1.04	0.00	0.24	0.56
	3	10.40	0.61	0.18	1.29
	4	0.09	0.02	0.01	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (08:15-08:30)

		To			
		1	2	3	4
From	1	0.00	1.90	20.63	6.25
	2	1.25	0.00	0.29	0.67
	3	12.46	0.73	0.21	1.54
	4	0.10	0.03	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (08:30-08:45)

		To			
		1	2	3	4
From	1	0.00	2.33	25.26	7.65
	2	1.53	0.00	0.36	0.82
	3	15.25	0.89	0.26	1.89

	4	0.13	0.03	0.02	0.00
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Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (08:45-09:00)

		To			
		1	2	3	4
From	1	0.00	2.33	25.28	7.66
	2	1.54	0.00	0.36	0.82
	3	15.28	0.89	0.26	1.89
	4	0.13	0.03	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (09:00-09:15)

		To			
		1	2	3	4
From	1	0.00	1.91	20.67	6.26
	2	1.26	0.00	0.29	0.67
	3	12.50	0.73	0.21	1.55
	4	0.10	0.03	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (09:15-09:30)

		To			
		1	2	3	4
From	1	0.00	1.60	17.30	5.24
	2	1.05	0.00	0.24	0.56
	3	10.46	0.61	0.18	1.30
	4	0.09	0.02	0.01	0.00

Inclusive Geometric Delay By Turn (PCU-min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.00	11.66	128.07	42.29
	2	7.68	0.00	1.79	4.11
	3	79.37	4.47	2.96	10.08
	4	0.66	0.15	0.11	0.00

Geometric Delay Per Light Vehicle By Turn (min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.15	0.15	0.15	0.15
	2	0.13	0.13	0.13	0.13
	3	0.16	0.16	0.16	0.16
	4	0.11	0.11	0.11	0.11

Point to Point Journey Times By Turn (min) - Roundabout 1 - (08:00-08:15)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.25	0.25	0.25	0.25
	3	0.26	0.26	0.28	0.26
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (08:15-08:30)

		To			
		1	2	3	4

		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.26	0.26	0.26	0.26
	3	0.26	0.26	0.29	0.26
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (08:30-08:45)

		To			
		1	2	3	4
From	1	0.23	0.23	0.23	0.23
	2	0.28	0.28	0.28	0.28
	3	0.27	0.27	0.30	0.27
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (08:45-09:00)

		To			
		1	2	3	4
From	1	0.23	0.23	0.23	0.23
	2	0.28	0.28	0.28	0.28
	3	0.27	0.27	0.30	0.27
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (09:00-09:15)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.26	0.26	0.26	0.26
	3	0.26	0.26	0.29	0.26
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (09:15-09:30)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.25	0.25	0.25	0.25
	3	0.26	0.26	0.28	0.26
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times Summary (min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.26	0.26	0.26	0.26
	3	0.26	0.26	0.26	0.26
	4	0.18	0.18	0.18	0.18

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.34	11.03	36.80	8.00	24.00	65.00		0.682	2090.754

2	3.85	3.85	0.00	18.70	24.00	70.00		0.474	1000.667
3	3.80	8.33	35.00	3.00	13.00	60.00		0.467	1313.092
4	5.38	5.38	0.00	38.00	24.00	60.00		0.596	1498.202

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
08:00-08:15	1	646.70	2077.11	0.311	0.00	0.00	0.46	6.83	24.05	0.043
08:00-08:15	2	57.22	713.28	0.080	0.00	0.00	0.09	1.26	1.85	0.091
08:00-08:15	3	306.41	1225.26	0.250	0.00	0.00	0.35	5.08	12.47	0.068
08:00-08:15	4	4.52	1316.09	0.003	0.00	0.00	0.00	0.05	0.12	0.048
08:15-08:30	1	772.22	2074.41	0.372	0.00	0.46	0.61	8.99	28.78	0.047
08:15-08:30	2	68.32	656.76	0.104	0.00	0.09	0.12	1.69	2.21	0.102
08:15-08:30	3	365.88	1207.92	0.303	0.00	0.35	0.45	6.65	14.94	0.075
08:15-08:30	4	5.39	1279.98	0.004	0.00	0.00	0.00	0.07	0.14	0.049
08:30-08:45	1	945.78	2070.75	0.457	0.00	0.61	0.86	12.66	35.24	0.055
08:30-08:45	2	83.68	579.61	0.144	0.00	0.12	0.17	2.45	2.71	0.121
08:30-08:45	3	448.12	1184.35	0.378	0.00	0.45	0.63	9.25	18.29	0.085
08:30-08:45	4	6.61	1231.07	0.005	0.00	0.00	0.01	0.08	0.18	0.051
08:45-09:00	1	945.78	2070.71	0.457	0.00	0.86	0.86	12.93	35.28	0.055
08:45-09:00	2	83.68	579.16	0.144	0.00	0.17	0.17	2.52	2.72	0.121
08:45-09:00	3	448.12	1184.16	0.378	0.00	0.63	0.63	9.50	18.32	0.085
08:45-09:00	4	6.61	1230.62	0.005	0.00	0.01	0.01	0.08	0.18	0.051
09:00-09:15	1	772.22	2074.36	0.372	0.00	0.86	0.61	9.37	28.84	0.048
09:00-09:15	2	68.32	656.06	0.104	0.00	0.17	0.12	1.80	2.22	0.102
09:00-09:15	3	365.88	1207.64	0.303	0.00	0.63	0.46	7.02	14.99	0.075
09:00-09:15	4	5.39	1279.27	0.004	0.00	0.01	0.00	0.07	0.14	0.049
09:15-09:30	1	646.70	2077.03	0.311	0.00	0.61	0.47	7.11	24.14	0.043
09:15-09:30	2	57.22	712.18	0.080	0.00	0.12	0.09	1.34	1.86	0.092
09:15-09:30	3	306.41	1224.83	0.250	0.00	0.46	0.35	5.36	12.55	0.068
09:15-09:30	4	4.52	1314.96	0.003	0.00	0.00	0.00	0.05	0.12	0.048

ARCADY 7
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File: C:\Users\collinsja\Desktop\Mill Lane Roundabout.arc7
Report generation date: 05/09/2014 13:59:05

« **A1 - (Default Analysis Set) - D2 - 2023 Do Nothing, PM**

- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

File summary

File Description

Title	(untitled)
Date	21/08/2014
Status	(new file)
Enumerator	CORP\CollinsJa
Results Upto Date	True

Analysis Options

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

Sorting and Display

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

Units

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

A1 - (Default Analysis Set) - D2 - 2023 Do Nothing, PM

Data Errors and Warnings

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

Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Angles between arms expected to sum to 360 degrees.
Warning	Geometric Delay	Distance between arms 1 and 3 must be greater than distance between 1 and 2
Warning	Geometric Delay	Distance between arms 1 and 4 must be greater than distance between 1 and 3
Warning	Geometric Delay	Distance between arms 1 and 1 must be greater than distance between 1 and 4
Warning	Geometric Delay	Distance between arms 2 and 4 must be greater than distance between 2 and 3
Warning	Geometric Delay	Distance between arms 2 and 1 must be greater than distance between 2 and 4
Warning	Geometric Delay	Distance between arms 2 and 2 must be greater than distance between 2 and 1
Warning	Geometric Delay	Distance between arms 3 and 1 must be greater than distance between 3 and 4
Warning	Geometric Delay	Distance between arms 3 and 2 must be greater than distance between 3 and 1
Warning	Geometric Delay	Distance between arms 3 and 3 must be greater than distance between 3 and 2
Warning	Geometric Delay	Distance between arms 4 and 2 must be greater than distance between 4 and 1
Warning	Geometric Delay	Distance between arms 4 and 3 must be greater than distance between 4 and 2
Warning	Geometric Delay	Distance between arms 4 and 4 must be greater than distance between 4 and 3

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2023 Do Nothing, FM	2023 Do Nothing	FM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Mill Lane / Moss Lane / High Park Place / Roe Lane Roundabout	1,2,3,4	Standard			Yes

Roundabout Network Options

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

Arms

Arms

ID	Name	Description
1	Mill Lane	
2	Moss Lane	
3	High Park Place	
4	Roe Lane	

Capacity Options

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

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.34	11.03	36.80	8.00	24.00	65.00	
2	3.85	3.85	0.00	18.70	24.00	70.00	
3	3.80	8.33	35.00	3.00	13.00	60.00	
4	5.38	5.38	0.00	38.00	24.00	60.00	

Geometric Delay

Arm	Entry speed (kph)	Exit speed (kph)	Entry angle (deg)	Exit angle (deg)	Entry radius (m)	Exit radius (m)	Sight distance (m)	Entry-to-centre distance (m)	Centre-to-exit distance (m)	Angle to next arm (%)	Distance included up/down-stream (m)
1	48.00	48.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	10.00
2	48.00	48.00	0.00	0.00	18.70	0.00	0.00	0.00	0.00	0.00	10.00
3	48.00	48.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	10.00
4	48.00	48.00	0.00	0.00	38.00	0.00	0.00	0.00	0.00	0.00	10.00

Geometric Delay: Distances through junction (m) - Roundabout 1

		To			
		1	2	3	4
From	1	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.682	2090.754
2		((calculated))	((calculated))	0.474	1000.667
3		((calculated))	((calculated))	0.467	1313.092
4		((calculated))	((calculated))	0.596	1498.202

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
		Yes	Yes	HV Percentages	2.30				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	628.00	100.000	N/A
2	ONE HOUR	Yes	153.00	100.000	N/A
3	ONE HOUR	Yes	682.00	100.000	N/A
4	ONE HOUR		6.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:00-17:15	1	472.79	472.79	N/A	N/A
17:00-17:15	2	115.19	115.19	N/A	N/A
17:00-17:15	3	513.45	513.45	N/A	N/A
17:00-17:15	4	4.52	4.52	N/A	N/A
17:15-17:30	1	564.56	564.56	N/A	N/A
17:15-17:30	2	137.54	137.54	N/A	N/A
17:15-17:30	3	613.10	613.10	N/A	N/A
17:15-17:30	4	5.39	5.39	N/A	N/A
17:30-17:45	1	691.44	691.44	N/A	N/A
17:30-17:45	2	168.46	168.46	N/A	N/A
17:30-17:45	3	750.90	750.90	N/A	N/A
17:30-17:45	4	6.61	6.61	N/A	N/A
17:45-18:00	1	691.44	691.44	N/A	N/A
17:45-18:00	2	168.46	168.46	N/A	N/A
17:45-18:00	3	750.90	750.90	N/A	N/A
17:45-18:00	4	6.61	6.61	N/A	N/A
18:00-18:15	1	564.56	564.56	N/A	N/A
18:00-18:15	2	137.54	137.54	N/A	N/A
18:00-18:15	3	613.10	613.10	N/A	N/A
18:00-18:15	4	5.39	5.39	N/A	N/A
18:15-18:30	1	472.79	472.79	N/A	N/A
18:15-18:30	2	115.19	115.19	N/A	N/A
18:15-18:30	3	513.45	513.45	N/A	N/A
18:15-18:30	4	4.52	4.52	N/A	N/A

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.00	52.00	358.00	218.00
	2	67.00	0.00	22.00	64.00
	3	632.00	15.00	5.00	30.00
	4	170.00	45.00	40.00	0.00

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

		To			
		1	2	3	4
From	1	0.00	0.08	0.57	0.35
	2	0.44	0.00	0.14	0.42
	3	0.93	0.02	0.01	0.04
	4	0.67	0.18	0.16	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.00	1.00	1.04	1.05
	2	1.00	1.00	1.00	1.00
	3	1.03	1.00	1.43	1.18
	4	1.10	1.00	1.08	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	3.00	4.00
	2	0.00	0.00	0.00	0.00
	3	2.00	0.00	33.00	14.00
	4	8.00	0.00	6.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.33	0.05	0.52	A	576.26	864.40	36.25	0.04	0.40	36.26	0.04	0.682	2090.754
2	0.24	0.11	0.32	A	140.40	210.59	21.16	0.10	0.24	21.16	0.10	0.474	1000.667
3	0.66	0.16	2.00	A	625.82	938.72	115.54	0.12	1.28	115.56	0.12	0.467	1313.092
4	0.01	0.06	0.01	A	5.51	8.26	0.49	0.06	0.01	0.49	0.06	0.596	1498.202

Main Results

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	472.79	118.20	471.57	526.08	16.47	0.00	2079.52	1862.65	0.227	0.00	0.31
2	115.19	28.80	114.51	51.07	436.97	0.00	793.53	119.20	0.145	0.00	0.17
3	513.45	128.36	510.35	289.74	261.74	0.00	1190.98	963.82	0.431	0.00	0.77
4	4.52	1.13	4.50	234.05	538.04	0.00	1177.70	918.24	0.004	0.00	0.00

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	564.56	141.14	564.23	630.58	19.73	0.00	2077.29	1862.65	0.272	0.31	0.39
2	137.54	34.39	137.33	61.12	522.84	0.00	752.82	119.20	0.183	0.17	0.22
3	613.10	153.28	611.70	346.73	313.45	0.00	1166.86	963.82	0.525	0.77	1.13
4	5.39	1.35	5.39	280.22	644.93	0.00	1114.03	918.24	0.005	0.00	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	691.44	172.86	690.92	770.74	24.12	0.00	2074.30	1862.65	0.333	0.39	0.52
2	168.46	42.11	168.08	74.82	640.22	0.00	697.18	119.20	0.242	0.22	0.32
3	750.90	187.72	747.54	424.55	383.75	0.00	1134.06	963.82	0.662	1.13	1.97
4	6.61	1.65	6.60	343.03	788.26	0.00	1028.65	918.24	0.006	0.01	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	691.44	172.86	691.44	773.90	24.22	0.00	2074.23	1862.65	0.333	0.52	0.52
2	168.46	42.11	168.45	74.93	640.72	0.00	696.94	119.20	0.242	0.32	0.32
3	750.90	187.72	750.78	424.92	384.25	0.00	1133.82	963.82	0.662	1.97	2.00
4	6.61	1.65	6.61	343.51	791.52	0.00	1026.71	918.24	0.006	0.01	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	564.56	141.14	565.08	635.23	19.88	0.00	2077.19	1862.65	0.272	0.52	0.39
2	137.54	34.39	137.91	61.30	523.65	0.00	752.44	119.20	0.183	0.32	0.23
3	613.10	153.28	616.43	347.33	314.24	0.00	1166.49	963.82	0.526	2.00	1.16
4	5.39	1.35	5.40	280.96	649.71	0.00	1111.18	918.24	0.005	0.01	0.01

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	472.79	118.20	473.12	530.73	16.61	0.00	2079.42	1862.65	0.227	0.39	0.31
2	115.19	28.80	115.40	51.30	438.43	0.00	792.84	119.20	0.145	0.23	0.17
3	513.45	128.36	514.93	290.79	263.05	0.00	1190.37	963.82	0.431	1.16	0.79
4	4.52	1.13	4.52	235.16	542.81	0.00	1174.86	918.24	0.004	0.01	0.00

Queueing Delay Results

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.50	0.30	0.039	A	A
2	2.46	0.16	0.088	A	A
3	11.20	0.75	0.091	A	A

4	0.06	0.00	0.055	A	A
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Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.73	0.38	0.041	A	A
2	3.26	0.22	0.097	A	A
3	16.34	1.09	0.111	A	A
4	0.08	0.01	0.058	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.66	0.51	0.045	A	A
2	4.62	0.31	0.113	A	A
3	27.82	1.85	0.159	A	A
4	0.10	0.01	0.063	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.78	0.52	0.045	A	A
2	4.75	0.32	0.114	A	A
3	29.76	1.98	0.162	A	A
4	0.10	0.01	0.064	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.92	0.39	0.041	A	A
2	3.46	0.23	0.098	A	A
3	18.19	1.21	0.113	A	A
4	0.08	0.01	0.059	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.66	0.31	0.039	A	A
2	2.62	0.17	0.089	A	A
3	12.24	0.82	0.092	A	A
4	0.06	0.00	0.055	A	A

Geometric Delay Results

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	17.61	1.17
2	3.72	0.25
3	20.82	1.39
4	0.12	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	21.07	1.40
2	4.46	0.30

3	24.95	1.66
4	0.15	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	25.80	1.72
2	5.45	0.36
3	30.49	2.03
4	0.18	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	25.81	1.72
2	5.47	0.36
3	30.63	2.04
4	0.18	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	21.10	1.41
2	4.48	0.30
3	25.15	1.68
4	0.15	0.01

Geometric Delay results: (18:15-18:30)

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	17.66	1.18
2	3.75	0.25
3	21.00	1.40
4	0.12	0.01

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (17:00-17:15)

		To			
		1	2	3	4
From	1	0.00	1.45	10.04	6.12
	2	1.63	0.00	0.53	1.55
	3	19.27	0.46	0.16	0.93
	4	0.08	0.02	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (17:15-17:30)

		To			
		1	2	3	4
From	1	0.00	1.74	12.01	7.32
	2	1.95	0.00	0.64	1.86
	3	23.10	0.55	0.19	1.12
	4	0.10	0.03	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (17:30-17:45)

		To			
		1	2	3	4
From	1	0.00	2.13	14.70	8.97
	2	2.39	0.00	0.78	2.28
	3	28.23	0.67	0.23	1.36

	4	0.12	0.03	0.03	0.00
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Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (17:45-18:00)

		To			
		1	2	3	4
From	1	0.00	2.13	14.71	8.97
	2	2.39	0.00	0.79	2.29
	3	28.35	0.67	0.23	1.37
	4	0.12	0.03	0.03	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (18:00-18:15)

		To			
		1	2	3	4
From	1	0.00	1.74	12.02	7.33
	2	1.96	0.00	0.64	1.87
	3	23.28	0.55	0.19	1.12
	4	0.10	0.03	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (18:15-18:30)

		To			
		1	2	3	4
From	1	0.00	1.46	10.07	6.14
	2	1.64	0.00	0.54	1.57
	3	19.44	0.46	0.16	0.94
	4	0.08	0.02	0.02	0.00

Inclusive Geometric Delay By Turn (PCU-min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.00	10.64	76.45	47.20
	2	11.97	0.00	3.93	11.44
	3	145.47	3.36	1.68	8.10
	4	0.66	0.16	0.15	0.00

Geometric Delay Per Light Vehicle By Turn (min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.15	0.15	0.15	0.15
	2	0.13	0.13	0.13	0.13
	3	0.16	0.16	0.16	0.16
	4	0.11	0.11	0.11	0.11

Point to Point Journey Times By Turn (min) - Roundabout 1 - (17:00-17:15)

		To			
		1	2	3	4
From	1	0.21	0.21	0.21	0.21
	2	0.24	0.24	0.24	0.24
	3	0.28	0.28	0.29	0.28
	4	0.19	0.19	0.19	0.19

Point to Point Journey Times By Turn (min) - Roundabout 1 - (17:15-17:30)

		To			
		1	2	3	4

		1	2	3	4
From	1	0.21	0.21	0.22	0.22
	2	0.25	0.25	0.25	0.25
	3	0.30	0.30	0.31	0.30
	4	0.19	0.19	0.19	0.19

Point to Point Journey Times By Turn (min) - Roundabout 1 - (17:30-17:45)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.27	0.27	0.27	0.27
	3	0.35	0.35	0.36	0.35
	4	0.20	0.20	0.20	0.20

Point to Point Journey Times By Turn (min) - Roundabout 1 - (17:45-18:00)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.27	0.27	0.27	0.27
	3	0.35	0.35	0.36	0.35
	4	0.20	0.20	0.20	0.20

Point to Point Journey Times By Turn (min) - Roundabout 1 - (18:00-18:15)

		To			
		1	2	3	4
From	1	0.21	0.21	0.22	0.22
	2	0.25	0.25	0.25	0.25
	3	0.30	0.30	0.31	0.30
	4	0.19	0.19	0.19	0.19

Point to Point Journey Times By Turn (min) - Roundabout 1 - (18:15-18:30)

		To			
		1	2	3	4
From	1	0.21	0.21	0.21	0.21
	2	0.24	0.24	0.24	0.24
	3	0.28	0.28	0.29	0.28
	4	0.19	0.19	0.19	0.19

Point to Point Journey Times Summary (min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.26	0.26	0.26	0.26
	3	0.31	0.31	0.31	0.31
	4	0.19	0.19	0.19	0.19

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.34	11.03	36.80	8.00	24.00	65.00		0.682	2090.754

2	3.85	3.85	0.00	18.70	24.00	70.00		0.474	1000.667
3	3.80	8.33	35.00	3.00	13.00	60.00		0.467	1313.092
4	5.38	5.38	0.00	38.00	24.00	60.00		0.596	1498.202

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
17:00-17:15	1	472.79	2079.52	0.227	0.00	0.00	0.31	4.50	17.61	0.039
17:00-17:15	2	115.19	793.53	0.145	0.00	0.00	0.17	2.46	3.72	0.088
17:00-17:15	3	513.45	1190.98	0.431	0.00	0.00	0.77	11.20	20.82	0.091
17:00-17:15	4	4.52	1177.70	0.004	0.00	0.00	0.00	0.06	0.12	0.055
17:15-17:30	1	564.56	2077.29	0.272	0.00	0.31	0.39	5.73	21.07	0.041
17:15-17:30	2	137.54	752.82	0.183	0.00	0.17	0.22	3.26	4.46	0.097
17:15-17:30	3	613.10	1166.86	0.525	0.00	0.77	1.13	16.34	24.95	0.111
17:15-17:30	4	5.39	1114.03	0.005	0.00	0.00	0.01	0.08	0.15	0.058
17:30-17:45	1	691.44	2074.30	0.333	0.00	0.39	0.52	7.66	25.80	0.045
17:30-17:45	2	168.46	697.18	0.242	0.00	0.22	0.32	4.62	5.45	0.113
17:30-17:45	3	750.90	1134.06	0.662	0.00	1.13	1.97	27.82	30.49	0.159
17:30-17:45	4	6.61	1028.65	0.006	0.00	0.01	0.01	0.10	0.18	0.063
17:45-18:00	1	691.44	2074.23	0.333	0.00	0.52	0.52	7.78	25.81	0.045
17:45-18:00	2	168.46	696.94	0.242	0.00	0.32	0.32	4.75	5.47	0.114
17:45-18:00	3	750.90	1133.82	0.662	0.00	1.97	2.00	29.76	30.63	0.162
17:45-18:00	4	6.61	1026.71	0.006	0.00	0.01	0.01	0.10	0.18	0.064
18:00-18:15	1	564.56	2077.19	0.272	0.00	0.52	0.39	5.92	21.10	0.041
18:00-18:15	2	137.54	752.44	0.183	0.00	0.32	0.23	3.46	4.48	0.098
18:00-18:15	3	613.10	1166.49	0.526	0.00	2.00	1.16	18.19	25.15	0.113
18:00-18:15	4	5.39	1111.18	0.005	0.00	0.01	0.01	0.08	0.15	0.059
18:15-18:30	1	472.79	2079.42	0.227	0.00	0.39	0.31	4.66	17.66	0.039
18:15-18:30	2	115.19	792.84	0.145	0.00	0.23	0.17	2.62	3.75	0.089
18:15-18:30	3	513.45	1190.37	0.431	0.00	1.16	0.79	12.24	21.00	0.092
18:15-18:30	4	4.52	1174.86	0.004	0.00	0.01	0.00	0.06	0.12	0.055

ARCADY 7
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File: C:\Users\collinsja\Desktop\Mill Lane Roundabout.arc7
Report generation date: 05/09/2014 13:59:51

« A1 - (Default Analysis Set) - D3 - 2023 Do Something, AM

- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

File summary

File Description

Title	(untitled)
Date	21/08/2014
Status	(new file)
Enumerator	CORP\CollinsJa
Results Upto Date	True

Analysis Options

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

Sorting and Display

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

Units

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

A1 - (Default Analysis Set) - D3 - 2023 Do Something, AM

Data Errors and Warnings

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

Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Angles between arms expected to sum to 360 degrees.
Warning	Geometric Delay	Distance between arms 1 and 3 must be greater than distance between 1 and 2
Warning	Geometric Delay	Distance between arms 1 and 4 must be greater than distance between 1 and 3
Warning	Geometric Delay	Distance between arms 1 and 1 must be greater than distance between 1 and 4
Warning	Geometric Delay	Distance between arms 2 and 4 must be greater than distance between 2 and 3
Warning	Geometric Delay	Distance between arms 2 and 1 must be greater than distance between 2 and 4
Warning	Geometric Delay	Distance between arms 2 and 2 must be greater than distance between 2 and 1
Warning	Geometric Delay	Distance between arms 3 and 1 must be greater than distance between 3 and 4
Warning	Geometric Delay	Distance between arms 3 and 2 must be greater than distance between 3 and 1
Warning	Geometric Delay	Distance between arms 3 and 3 must be greater than distance between 3 and 2
Warning	Geometric Delay	Distance between arms 4 and 2 must be greater than distance between 4 and 1
Warning	Geometric Delay	Distance between arms 4 and 3 must be greater than distance between 4 and 2
Warning	Geometric Delay	Distance between arms 4 and 4 must be greater than distance between 4 and 3

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2023 Do Something, AM	2023 Do Something	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Mill Lane / Moss Lane / High Park Place / Roe Lane Roundabout	1,2,3,4	Standard			Yes

Roundabout Network Options

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

Arms

Arms

ID	Name	Description
1	Mill Lane	
2	Moss Lane	
3	High Park Place	
4	Roe Lane	

Capacity Options

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

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.34	11.03	36.80	8.00	24.00	65.00	
2	3.85	3.85	0.00	18.70	24.00	70.00	
3	3.80	8.33	35.00	3.00	13.00	60.00	
4	5.38	5.38	0.00	38.00	24.00	60.00	

Geometric Delay

Arm	Entry speed (kph)	Exit speed (kph)	Entry angle (deg)	Exit angle (deg)	Entry radius (m)	Exit radius (m)	Sight distance (m)	Entry-to-centre distance (m)	Centre-to-exit distance (m)	Angle to next arm (%)	Distance included up/down-stream (m)
1	48.00	48.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	10.00
2	48.00	48.00	0.00	0.00	18.70	0.00	0.00	0.00	0.00	0.00	10.00
3	48.00	48.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	10.00
4	48.00	48.00	0.00	0.00	38.00	0.00	0.00	0.00	0.00	0.00	10.00

Geometric Delay: Distances through junction (m) - Roundabout 1

		To			
		1	2	3	4
From	1	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.682	2090.754
2		((calculated))	((calculated))	0.474	1000.667
3		((calculated))	((calculated))	0.467	1313.092

4	((calculated))	((calculated))	0.596	1498.202
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The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.30				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	884.00	100.000	N/A
2	ONE HOUR	Yes	280.00	100.000	N/A
3	ONE HOUR	Yes	441.00	100.000	N/A
4	ONE HOUR		6.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	665.52	665.52	N/A	N/A
08:00-08:15	2	210.80	210.80	N/A	N/A
08:00-08:15	3	332.01	332.01	N/A	N/A
08:00-08:15	4	4.52	4.52	N/A	N/A
08:15-08:30	1	794.70	794.70	N/A	N/A
08:15-08:30	2	251.71	251.71	N/A	N/A
08:15-08:30	3	396.45	396.45	N/A	N/A
08:15-08:30	4	5.39	5.39	N/A	N/A
08:30-08:45	1	973.30	973.30	N/A	N/A
08:30-08:45	2	308.29	308.29	N/A	N/A
08:30-08:45	3	485.55	485.55	N/A	N/A
08:30-08:45	4	6.61	6.61	N/A	N/A
08:45-09:00	1	973.30	973.30	N/A	N/A
08:45-09:00	2	308.29	308.29	N/A	N/A
08:45-09:00	3	485.55	485.55	N/A	N/A
08:45-09:00	4	6.61	6.61	N/A	N/A
09:00-09:15	1	794.70	794.70	N/A	N/A
09:00-09:15	2	251.71	251.71	N/A	N/A
09:00-09:15	3	396.45	396.45	N/A	N/A
09:00-09:15	4	5.39	5.39	N/A	N/A
09:15-09:30	1	665.52	665.52	N/A	N/A
09:15-09:30	2	210.80	210.80	N/A	N/A
09:15-09:30	3	332.01	332.01	N/A	N/A
09:15-09:30	4	4.52	4.52	N/A	N/A

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.00	82.00	617.00	185.00
	2	74.00	0.00	45.00	161.00
	3	340.00	54.00	5.00	42.00
	4	242.00	135.00	35.00	0.00

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

		To			
		1	2	3	4
From	1	0.00	0.09	0.70	0.21
	2	0.26	0.00	0.16	0.58
	3	0.77	0.12	0.01	0.10
	4	0.59	0.33	0.08	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.00	1.00	1.01	1.10
	2	1.00	1.00	1.00	1.00
	3	1.04	1.00	2.30	1.07
	4	1.04	1.00	1.13	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	1.00	8.00
	2	0.00	0.00	0.00	0.00
	3	3.00	0.00	100.00	5.00
	4	3.00	0.00	10.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.48	0.06	0.93	A	811.17	1216.76	61.85	0.05	0.69	61.86	0.05	0.682	2090.754
2	0.53	0.22	1.12	B	256.93	385.40	63.62	0.17	0.71	63.63	0.17	0.474	1000.667
3	0.44	0.10	0.82	A	404.67	607.00	53.42	0.09	0.59	53.42	0.09	0.467	1313.092
4	0.01	0.05	0.01	A	5.51	8.26	0.42	0.05	0.00	0.42	0.05	0.596	1498.202

Main Results

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	665.52	166.38	663.56	312.62	46.06	0.00	2059.33	1742.41	0.323	0.00	0.49
2	210.80	52.70	209.14	103.48	606.14	0.00	713.34	209.65	0.296	0.00	0.41
3	332.01	83.00	330.36	500.88	314.40	0.00	1166.41	1060.88	0.285	0.00	0.41
4	4.52	1.13	4.50	290.59	354.17	0.00	1287.23	893.44	0.004	0.00	0.00

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	794.70	198.67	794.07	374.70	55.19	0.00	2053.10	1742.41	0.387	0.49	0.65
2	251.71	62.93	250.93	123.90	725.36	0.00	656.83	209.65	0.383	0.41	0.61
3	396.45	99.11	395.88	599.50	376.78	0.00	1137.31	1060.88	0.349	0.41	0.55
4	5.39	1.35	5.39	348.17	424.50	0.00	1245.34	893.44	0.004	0.00	0.00

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	973.30	243.33	972.17	458.37	67.54	0.00	2044.67	1742.41	0.476	0.65	0.93
2	308.29	77.07	306.32	151.67	888.05	0.00	579.71	209.65	0.532	0.61	1.10
3	485.55	121.39	484.50	733.83	460.55	0.00	1098.23	1060.88	0.442	0.55	0.82
4	6.61	1.65	6.60	425.73	519.31	0.00	1188.86	893.44	0.006	0.00	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	973.30	243.33	973.29	459.67	67.68	0.00	2044.58	1742.41	0.476	0.93	0.93
2	308.29	77.07	308.22	151.90	889.07	0.00	579.22	209.65	0.532	1.10	1.12
3	485.55	121.39	485.53	734.92	462.37	0.00	1097.38	1060.88	0.442	0.82	0.82
4	6.61	1.65	6.61	427.15	520.74	0.00	1188.00	893.44	0.006	0.01	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	794.70	198.67	795.81	376.66	55.41	0.00	2052.95	1742.41	0.387	0.93	0.65
2	251.71	62.93	253.67	124.26	726.96	0.00	656.07	209.65	0.384	1.12	0.63
3	396.45	99.11	397.48	601.18	379.44	0.00	1136.07	1060.88	0.349	0.82	0.56
4	5.39	1.35	5.40	350.26	426.67	0.00	1244.04	893.44	0.004	0.01	0.00

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	665.52	166.38	666.16	315.00	46.36	0.00	2059.12	1742.41	0.323	0.65	0.49
2	210.80	52.70	211.63	104.00	608.52	0.00	712.21	209.65	0.296	0.63	0.43
3	332.01	83.00	332.59	503.12	317.03	0.00	1165.19	1060.88	0.285	0.56	0.42
4	4.52	1.13	4.52	292.77	356.84	0.00	1285.64	893.44	0.004	0.00	0.00

Queueing Delay Results

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.20	0.48	0.044	A	A

2	5.98	0.40	0.119	A	A
3	6.01	0.40	0.075	A	A
4	0.05	0.00	0.048	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.55	0.64	0.049	A	A
2	8.86	0.59	0.148	A	A
3	8.12	0.54	0.084	A	A
4	0.07	0.00	0.050	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.64	0.91	0.058	A	A
2	15.59	1.04	0.218	B	B
3	11.90	0.79	0.102	A	A
4	0.09	0.01	0.052	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.96	0.93	0.058	A	A
2	16.70	1.11	0.221	B	B
3	12.30	0.82	0.102	A	A
4	0.09	0.01	0.052	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.98	0.67	0.049	A	A
2	9.91	0.66	0.150	A	A
3	8.67	0.58	0.085	A	A
4	0.07	0.00	0.050	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.51	0.50	0.044	A	A
2	6.58	0.44	0.120	A	A
3	6.41	0.43	0.075	A	A
4	0.06	0.00	0.048	A	A

Geometric Delay Results

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	24.75	1.65
2	6.79	0.45
3	13.50	0.90
4	0.12	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
-----	---------------------------------	---------------------------------------

1	29.61	1.97
2	8.14	0.54
3	16.18	1.08
4	0.14	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	36.26	2.42
2	9.94	0.66
3	19.80	1.32
4	0.18	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	36.30	2.42
2	10.00	0.67
3	19.84	1.32
4	0.18	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	29.68	1.98
2	8.23	0.55
3	16.24	1.08
4	0.14	0.01

Geometric Delay results: (09:15-09:30)

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	24.84	1.66
2	6.87	0.46
3	13.59	0.91
4	0.12	0.01

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (08:00-08:15)

		To			
		1	2	3	4
From	1	0.00	2.29	17.24	5.22
	2	1.79	0.00	1.09	3.90
	3	10.39	1.64	0.17	1.29
	4	0.07	0.04	0.01	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (08:15-08:30)

		To			
		1	2	3	4
From	1	0.00	2.74	20.63	6.25
	2	2.15	0.00	1.31	4.68
	3	12.46	1.97	0.21	1.54
	4	0.08	0.05	0.01	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (08:30-08:45)

		To			
		1	2	3	4
1	0.00	3.35	25.25	7.65	

From	2	2.63	0.00	1.60	5.72
	3	15.24	2.41	0.26	1.89
	4	0.10	0.06	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (08:45-09:00)

		To			
		1	2	3	4
From	1	0.00	3.36	25.28	7.66
	2	2.64	0.00	1.61	5.75
	3	15.28	2.42	0.26	1.89
	4	0.10	0.06	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (09:00-09:15)

		To			
		1	2	3	4
From	1	0.00	2.74	20.67	6.26
	2	2.18	0.00	1.32	4.73
	3	12.51	1.98	0.21	1.55
	4	0.09	0.05	0.01	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (09:15-09:30)

		To			
		1	2	3	4
From	1	0.00	2.30	17.30	5.24
	2	1.82	0.00	1.10	3.95
	3	10.46	1.65	0.18	1.30
	4	0.07	0.04	0.01	0.00

Inclusive Geometric Delay By Turn (PCU-min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.00	16.78	128.07	42.29
	2	13.22	0.00	8.04	28.77
	3	79.37	12.08	2.96	10.08
	4	0.54	0.29	0.09	0.00

Geometric Delay Per Light Vehicle By Turn (min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.15	0.15	0.15	0.15
	2	0.13	0.13	0.13	0.13
	3	0.16	0.16	0.16	0.16
	4	0.11	0.11	0.11	0.11

Point to Point Journey Times By Turn (min) - Roundabout 1 - (08:00-08:15)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.27	0.27	0.27	0.27
	3	0.26	0.26	0.29	0.26
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (08:15-08:30)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.30	0.30	0.30	0.30
	3	0.27	0.27	0.30	0.27
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (08:30-08:45)

		To			
		1	2	3	4
From	1	0.23	0.23	0.23	0.23
	2	0.37	0.37	0.37	0.37
	3	0.29	0.29	0.32	0.29
	4	0.18	0.18	0.19	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (08:45-09:00)

		To			
		1	2	3	4
From	1	0.23	0.23	0.23	0.23
	2	0.38	0.38	0.38	0.38
	3	0.29	0.29	0.32	0.29
	4	0.18	0.18	0.19	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (09:00-09:15)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.30	0.30	0.30	0.30
	3	0.27	0.27	0.30	0.27
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times By Turn (min) - Roundabout 1 - (09:15-09:30)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.27	0.27	0.27	0.27
	3	0.26	0.26	0.29	0.26
	4	0.18	0.18	0.18	0.18

Point to Point Journey Times Summary (min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.32	0.32	0.32	0.32
	3	0.28	0.28	0.28	0.28
	4	0.18	0.18	0.18	0.18

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.34	11.03	36.80	8.00	24.00	65.00		0.682	2090.754
2	3.85	3.85	0.00	18.70	24.00	70.00		0.474	1000.667
3	3.80	8.33	35.00	3.00	13.00	60.00		0.467	1313.092
4	5.38	5.38	0.00	38.00	24.00	60.00		0.596	1498.202

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
08:00-08:15	1	665.52	2059.33	0.323	0.00	0.00	0.49	7.20	24.75	0.044
08:00-08:15	2	210.80	713.34	0.296	0.00	0.00	0.41	5.98	6.79	0.119
08:00-08:15	3	332.01	1166.41	0.285	0.00	0.00	0.41	6.01	13.50	0.075
08:00-08:15	4	4.52	1287.23	0.004	0.00	0.00	0.00	0.05	0.12	0.048
08:15-08:30	1	794.70	2053.10	0.387	0.00	0.49	0.65	9.55	29.61	0.049
08:15-08:30	2	251.71	656.83	0.383	0.00	0.41	0.61	8.86	8.14	0.148
08:15-08:30	3	396.45	1137.31	0.349	0.00	0.41	0.55	8.12	16.18	0.084
08:15-08:30	4	5.39	1245.34	0.004	0.00	0.00	0.00	0.07	0.14	0.050
08:30-08:45	1	973.30	2044.67	0.476	0.00	0.65	0.93	13.64	36.26	0.058
08:30-08:45	2	308.29	579.71	0.532	0.00	0.61	1.10	15.59	9.94	0.218
08:30-08:45	3	485.55	1098.23	0.442	0.00	0.55	0.82	11.90	19.80	0.102
08:30-08:45	4	6.61	1188.86	0.006	0.00	0.00	0.01	0.09	0.18	0.052
08:45-09:00	1	973.30	2044.58	0.476	0.00	0.93	0.93	13.96	36.30	0.058
08:45-09:00	2	308.29	579.22	0.532	0.00	1.10	1.12	16.70	10.00	0.221
08:45-09:00	3	485.55	1097.38	0.442	0.00	0.82	0.82	12.30	19.84	0.102
08:45-09:00	4	6.61	1188.00	0.006	0.00	0.01	0.01	0.09	0.18	0.052
09:00-09:15	1	794.70	2052.95	0.387	0.00	0.93	0.65	9.98	29.68	0.049
09:00-09:15	2	251.71	656.07	0.384	0.00	1.12	0.63	9.91	8.23	0.150
09:00-09:15	3	396.45	1136.07	0.349	0.00	0.82	0.56	8.67	16.24	0.085
09:00-09:15	4	5.39	1244.04	0.004	0.00	0.01	0.00	0.07	0.14	0.050
09:15-09:30	1	665.52	2059.12	0.323	0.00	0.65	0.49	7.51	24.84	0.044
09:15-09:30	2	210.80	712.21	0.296	0.00	0.63	0.43	6.58	6.87	0.120
09:15-09:30	3	332.01	1165.19	0.285	0.00	0.56	0.42	6.41	13.59	0.075
09:15-09:30	4	4.52	1285.64	0.004	0.00	0.00	0.00	0.06	0.12	0.048

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« A1 - (Default Analysis Set) - D4 - 2023 Do Something, PM

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- » Arms
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- » Direct/Resultant Flows
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- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

File summary

File Description

Title	(untitled)
Date	21/08/2014
Status	(new file)
Enumerator	CORP\CollinsJa
Results Upto Date	True

Analysis Options

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

Sorting and Display

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

Units

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

A1 - (Default Analysis Set) - D4 - 2023 Do Something, PM

Data Errors and Warnings

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

Warning	Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Distance included up/down-stream should be increased to 108.00 m to allow for acceleration/deceleration to/from junction speed
Warning	Geometric Delay	Geometric delay: Distances through junction should be non-zero.
Warning	Geometric Delay	Geometric delay: Angles between arms expected to sum to 360 degrees.
Warning	Geometric Delay	Distance between arms 1 and 3 must be greater than distance between 1 and 2
Warning	Geometric Delay	Distance between arms 1 and 4 must be greater than distance between 1 and 3
Warning	Geometric Delay	Distance between arms 1 and 1 must be greater than distance between 1 and 4
Warning	Geometric Delay	Distance between arms 2 and 4 must be greater than distance between 2 and 3
Warning	Geometric Delay	Distance between arms 2 and 1 must be greater than distance between 2 and 4
Warning	Geometric Delay	Distance between arms 2 and 2 must be greater than distance between 2 and 1
Warning	Geometric Delay	Distance between arms 3 and 1 must be greater than distance between 3 and 4
Warning	Geometric Delay	Distance between arms 3 and 2 must be greater than distance between 3 and 1
Warning	Geometric Delay	Distance between arms 3 and 3 must be greater than distance between 3 and 2
Warning	Geometric Delay	Distance between arms 4 and 2 must be greater than distance between 4 and 1
Warning	Geometric Delay	Distance between arms 4 and 3 must be greater than distance between 4 and 2
Warning	Geometric Delay	Distance between arms 4 and 4 must be greater than distance between 4 and 3

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2023 Do Something, FM	2023 Do Something	FM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Mill Lane / Moss Lane / High Park Place / Roe Lane Roundabout	1,2,3,4	Standard			Yes

Roundabout Network Options

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

Arms

Arms

ID	Name	Description
1	Mill Lane	
2	Moss Lane	
3	High Park Place	
4	Roe Lane	

Capacity Options

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

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.34	11.03	36.80	8.00	24.00	65.00	
2	3.85	3.85	0.00	18.70	24.00	70.00	
3	3.80	8.33	35.00	3.00	13.00	60.00	
4	5.38	5.38	0.00	38.00	24.00	60.00	

Geometric Delay

Arm	Entry speed (kph)	Exit speed (kph)	Entry angle (deg)	Exit angle (deg)	Entry radius (m)	Exit radius (m)	Sight distance (m)	Entry-to-centre distance (m)	Centre-to-exit distance (m)	Angle to next arm (%)	Distance included up/down-stream (m)
1	48.00	48.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	10.00
2	48.00	48.00	0.00	0.00	18.70	0.00	0.00	0.00	0.00	0.00	10.00
3	48.00	48.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	10.00
4	48.00	48.00	0.00	0.00	38.00	0.00	0.00	0.00	0.00	0.00	10.00

Geometric Delay: Distances through junction (m) - Roundabout 1

		To			
		1	2	3	4
From	1	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.682	2090.754
2		((calculated))	((calculated))	0.474	1000.667
3		((calculated))	((calculated))	0.467	1313.092

4	((calculated))	((calculated))	0.596	1498.202
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The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.30				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	666.00	100.000	N/A
2	ONE HOUR	Yes	257.00	100.000	N/A
3	ONE HOUR	Yes	726.00	100.000	N/A
4	ONE HOUR		6.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:00-17:15	1	501.40	501.40	N/A	N/A
17:00-17:15	2	193.48	193.48	N/A	N/A
17:00-17:15	3	546.57	546.57	N/A	N/A
17:00-17:15	4	4.52	4.52	N/A	N/A
17:15-17:30	1	598.72	598.72	N/A	N/A
17:15-17:30	2	231.04	231.04	N/A	N/A
17:15-17:30	3	652.66	652.66	N/A	N/A
17:15-17:30	4	5.39	5.39	N/A	N/A
17:30-17:45	1	733.28	733.28	N/A	N/A
17:30-17:45	2	282.96	282.96	N/A	N/A
17:30-17:45	3	799.34	799.34	N/A	N/A
17:30-17:45	4	6.61	6.61	N/A	N/A
17:45-18:00	1	733.28	733.28	N/A	N/A
17:45-18:00	2	282.96	282.96	N/A	N/A
17:45-18:00	3	799.34	799.34	N/A	N/A
17:45-18:00	4	6.61	6.61	N/A	N/A
18:00-18:15	1	598.72	598.72	N/A	N/A
18:00-18:15	2	231.04	231.04	N/A	N/A
18:00-18:15	3	652.66	652.66	N/A	N/A
18:00-18:15	4	5.39	5.39	N/A	N/A
18:15-18:30	1	501.40	501.40	N/A	N/A
18:15-18:30	2	193.48	193.48	N/A	N/A
18:15-18:30	3	546.57	546.57	N/A	N/A
18:15-18:30	4	4.52	4.52	N/A	N/A

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.00	90.00	358.00	218.00
	2	86.00	0.00	49.00	122.00
	3	632.00	59.00	5.00	30.00
	4	170.00	213.00	40.00	0.00

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

		To			
		1	2	3	4
From	1	0.00	0.14	0.54	0.33
	2	0.33	0.00	0.19	0.47
	3	0.87	0.08	0.01	0.04
	4	0.40	0.50	0.09	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.00	1.00	1.04	1.05
	2	1.00	1.00	1.00	1.00
	3	1.03	1.00	1.43	1.18
	4	1.10	1.00	1.08	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	3.00	4.00
	2	0.00	0.00	0.00	0.00
	3	2.00	0.00	33.00	14.00
	4	8.00	0.00	6.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.36	0.05	0.58	A	611.13	916.70	40.15	0.04	0.45	40.15	0.04	0.682	2090.754
2	0.41	0.14	0.68	A	235.83	353.74	42.83	0.12	0.48	42.83	0.12	0.474	1000.667
3	0.73	0.21	2.73	B	666.19	999.29	146.97	0.15	1.63	146.99	0.15	0.467	1313.092
4	0.01	0.06	0.01	A	5.51	8.26	0.49	0.06	0.01	0.49	0.06	0.596	1498.202

Main Results

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

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Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	501.40	125.35	500.07	538.79	50.56	0.00	2056.26	1666.81	0.244	0.00	0.33
2	193.48	48.37	192.20	113.97	436.65	0.00	793.68	273.95	0.244	0.00	0.32
3	546.57	136.64	542.96	309.62	319.24	0.00	1164.15	955.11	0.470	0.00	0.90
4	4.52	1.13	4.50	277.36	584.85	0.00	1149.82	898.16	0.004	0.00	0.00

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	598.72	149.68	598.35	645.84	60.59	0.00	2049.41	1666.81	0.292	0.33	0.43
2	231.04	57.76	230.56	136.46	522.48	0.00	753.00	273.95	0.307	0.32	0.44
3	652.66	163.16	650.78	370.59	382.46	0.00	1134.66	955.11	0.575	0.90	1.37
4	5.39	1.35	5.39	332.20	701.05	0.00	1080.60	898.16	0.005	0.00	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	733.28	183.32	732.67	788.37	73.96	0.00	2040.30	1666.81	0.359	0.43	0.58
2	282.96	70.74	282.03	166.87	639.75	0.00	697.41	273.95	0.406	0.44	0.67
3	799.34	199.84	794.17	453.70	468.08	0.00	1094.72	955.11	0.730	1.37	2.66
4	6.61	1.65	6.60	406.52	855.73	0.00	988.46	898.16	0.007	0.01	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	733.28	183.32	733.27	792.96	74.39	0.00	2040.00	1666.81	0.359	0.58	0.58
2	282.96	70.74	282.94	167.36	640.31	0.00	697.14	273.95	0.406	0.67	0.68
3	799.34	199.84	799.09	454.24	469.02	0.00	1094.28	955.11	0.730	2.66	2.73
4	6.61	1.65	6.61	407.35	860.75	0.00	985.47	898.16	0.007	0.01	0.01

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

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	598.72	149.68	599.32	652.47	61.22	0.00	2048.98	1666.81	0.292	0.58	0.43
2	231.04	57.76	231.96	137.17	523.38	0.00	752.57	273.95	0.307	0.68	0.45
3	652.66	163.16	657.86	371.43	383.91	0.00	1133.98	955.11	0.576	2.73	1.43
4	5.39	1.35	5.40	333.47	708.29	0.00	1076.28	898.16	0.005	0.01	0.01

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	501.40	125.35	501.78	544.27	51.06	0.00	2055.92	1666.81	0.244	0.43	0.34
2	193.48	48.37	193.97	114.67	438.17	0.00	792.96	273.95	0.244	0.45	0.33
3	546.57	136.64	548.57	310.91	321.23	0.00	1163.22	955.11	0.470	1.43	0.93
4	4.52	1.13	4.52	278.99	590.81	0.00	1146.27	898.16	0.004	0.01	0.00

Queueing Delay Results

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.92	0.33	0.040	A	A

2	4.64	0.31	0.100	A	A
3	12.98	0.87	0.099	A	A
4	0.06	0.00	0.055	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.32	0.42	0.043	A	A
2	6.40	0.43	0.115	A	A
3	19.73	1.32	0.127	A	A
4	0.08	0.01	0.058	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.56	0.57	0.048	A	A
2	9.72	0.65	0.144	A	A
3	36.87	2.46	0.202	B	B
4	0.10	0.01	0.064	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.70	0.58	0.048	A	A
2	10.13	0.68	0.145	A	A
3	40.51	2.70	0.209	B	B
4	0.11	0.01	0.064	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.54	0.44	0.043	A	A
2	6.93	0.46	0.115	A	A
3	22.51	1.50	0.131	A	A
4	0.08	0.01	0.059	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.10	0.34	0.040	A	A
2	5.00	0.33	0.100	A	A
3	14.36	0.96	0.101	A	A
4	0.06	0.00	0.055	A	A

Geometric Delay Results

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	18.66	1.24
2	6.24	0.42
3	22.14	1.48
4	0.12	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	18.66	1.24
2	6.24	0.42
3	22.14	1.48
4	0.12	0.01

1	22.33	1.49
2	7.48	0.50
3	26.54	1.77
4	0.14	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	27.35	1.82
2	9.15	0.61
3	32.39	2.16
4	0.18	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	27.37	1.82
2	9.18	0.61
3	32.59	2.17
4	0.18	0.01

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

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	22.37	1.49
2	7.53	0.50
3	26.83	1.79
4	0.15	0.01

Geometric Delay results: (18:15-18:30)

Arm	Geometric Total Delay (PCU-min)	Geometric Rate Of Delay (PCU-min/min)
1	18.73	1.25
2	6.30	0.42
3	22.37	1.49
4	0.12	0.01

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (17:00-17:15)

		To			
		1	2	3	4
From	1	0.00	2.51	10.03	6.12
	2	2.09	0.00	1.19	2.96
	3	19.26	1.79	0.16	0.93
	4	0.05	0.06	0.01	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (17:15-17:30)

		To			
		1	2	3	4
From	1	0.00	3.00	12.01	7.32
	2	2.50	0.00	1.43	3.55
	3	23.08	2.15	0.19	1.12
	4	0.06	0.07	0.01	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (17:30-17:45)

		To			
		1	2	3	4
1	0.00	3.68	14.70	8.97	

From	2	3.06	0.00	1.75	4.34
	3	28.17	2.62	0.23	1.36
	4	0.07	0.09	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (17:45-18:00)

		To			
		1	2	3	4
From	1	0.00	3.68	14.71	8.97
	2	3.07	0.00	1.75	4.36
	3	28.35	2.64	0.23	1.37
	4	0.07	0.09	0.02	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (18:00-18:15)

		To			
		1	2	3	4
From	1	0.00	3.01	12.03	7.33
	2	2.52	0.00	1.44	3.57
	3	23.34	2.17	0.19	1.13
	4	0.06	0.07	0.01	0.00

Total Geometric Delay By Turn (PCU-min) - Roundabout 1 - (18:15-18:30)

		To			
		1	2	3	4
From	1	0.00	2.52	10.07	6.14
	2	2.11	0.00	1.20	2.99
	3	19.46	1.81	0.16	0.94
	4	0.05	0.06	0.01	0.00

Inclusive Geometric Delay By Turn (PCU-min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.00	18.41	76.45	47.20
	2	15.37	0.00	8.76	21.80
	3	145.47	13.20	1.68	8.10
	4	0.40	0.44	0.09	0.00

Geometric Delay Per Light Vehicle By Turn (min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.15	0.15	0.15	0.15
	2	0.13	0.13	0.13	0.13
	3	0.16	0.16	0.16	0.16
	4	0.11	0.11	0.11	0.11

Point to Point Journey Times By Turn (min) - Roundabout 1 - (17:00-17:15)

		To			
		1	2	3	4
From	1	0.21	0.21	0.21	0.21
	2	0.25	0.25	0.25	0.25
	3	0.29	0.29	0.30	0.29
	4	0.19	0.19	0.19	0.19

Point to Point Journey Times By Turn (min) - Roundabout 1 - (17:15-17:30)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.27	0.27	0.27	0.27
	3	0.32	0.31	0.32	0.32
	4	0.19	0.19	0.19	0.19

Point to Point Journey Times By Turn (min) - Roundabout 1 - (17:30-17:45)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.30	0.30	0.30	0.30
	3	0.39	0.39	0.40	0.39
	4	0.20	0.20	0.20	0.20

Point to Point Journey Times By Turn (min) - Roundabout 1 - (17:45-18:00)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.30	0.30	0.30	0.30
	3	0.40	0.40	0.41	0.40
	4	0.20	0.20	0.20	0.20

Point to Point Journey Times By Turn (min) - Roundabout 1 - (18:00-18:15)

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.27	0.27	0.27	0.27
	3	0.32	0.32	0.33	0.32
	4	0.19	0.19	0.19	0.19

Point to Point Journey Times By Turn (min) - Roundabout 1 - (18:15-18:30)

		To			
		1	2	3	4
From	1	0.21	0.21	0.21	0.21
	2	0.26	0.26	0.26	0.26
	3	0.29	0.29	0.30	0.29
	4	0.19	0.19	0.19	0.19

Point to Point Journey Times Summary (min) - Roundabout 1

		To			
		1	2	3	4
From	1	0.22	0.22	0.22	0.22
	2	0.28	0.28	0.28	0.28
	3	0.33	0.33	0.33	0.33
	4	0.19	0.19	0.19	0.19

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.34	11.03	36.80	8.00	24.00	65.00		0.682	2090.754
2	3.85	3.85	0.00	18.70	24.00	70.00		0.474	1000.667
3	3.80	8.33	35.00	3.00	13.00	60.00		0.467	1313.092
4	5.38	5.38	0.00	38.00	24.00	60.00		0.596	1498.202

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
17:00-17:15	1	501.40	2056.26	0.244	0.00	0.00	0.33	4.92	18.66	0.040
17:00-17:15	2	193.48	793.68	0.244	0.00	0.00	0.32	4.64	6.24	0.100
17:00-17:15	3	546.57	1164.15	0.470	0.00	0.00	0.90	12.98	22.14	0.099
17:00-17:15	4	4.52	1149.82	0.004	0.00	0.00	0.00	0.06	0.12	0.055
17:15-17:30	1	598.72	2049.41	0.292	0.00	0.33	0.43	6.32	22.33	0.043
17:15-17:30	2	231.04	753.00	0.307	0.00	0.32	0.44	6.40	7.48	0.115
17:15-17:30	3	652.66	1134.66	0.575	0.00	0.90	1.37	19.73	26.54	0.127
17:15-17:30	4	5.39	1080.60	0.005	0.00	0.00	0.01	0.08	0.14	0.058
17:30-17:45	1	733.28	2040.30	0.359	0.00	0.43	0.58	8.56	27.35	0.048
17:30-17:45	2	282.96	697.41	0.406	0.00	0.44	0.67	9.72	9.15	0.144
17:30-17:45	3	799.34	1094.72	0.730	0.00	1.37	2.66	36.87	32.39	0.202
17:30-17:45	4	6.61	988.46	0.007	0.00	0.01	0.01	0.10	0.18	0.064
17:45-18:00	1	733.28	2040.00	0.359	0.00	0.58	0.58	8.70	27.37	0.048
17:45-18:00	2	282.96	697.14	0.406	0.00	0.67	0.68	10.13	9.18	0.145
17:45-18:00	3	799.34	1094.28	0.730	0.00	2.66	2.73	40.51	32.59	0.209
17:45-18:00	4	6.61	985.47	0.007	0.00	0.01	0.01	0.11	0.18	0.064
18:00-18:15	1	598.72	2048.98	0.292	0.00	0.58	0.43	6.54	22.37	0.043
18:00-18:15	2	231.04	752.57	0.307	0.00	0.68	0.45	6.93	7.53	0.115
18:00-18:15	3	652.66	1133.98	0.576	0.00	2.73	1.43	22.51	26.83	0.131
18:00-18:15	4	5.39	1076.28	0.005	0.00	0.01	0.01	0.08	0.15	0.059
18:15-18:30	1	501.40	2055.92	0.244	0.00	0.43	0.34	5.10	18.73	0.040
18:15-18:30	2	193.48	792.96	0.244	0.00	0.45	0.33	5.00	6.30	0.100
18:15-18:30	3	546.57	1163.22	0.470	0.00	1.43	0.93	14.36	22.37	0.101
18:15-18:30	4	4.52	1146.27	0.004	0.00	0.01	0.00	0.06	0.12	0.055