Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]

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Report generation date: 09/10/2017 11:01:36

Summary of junction performance

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Arm 1	0.00	0.00	0.00	A
Arm 2	0.14	6.01	0.13	A
Arm 3	0.39	4.23	0.28	A
Arm 4	0.88	10.23	0.47	B
Arm 5	25.19	130.57	1.04	F

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

"D1 - Scenario 1, PM " model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 09/10/2017 11:01:34

File summary

Title	School Road Traffic Impact Study
Location	School Road-Valentine Road-Cambridge Road-Poplar Road-Springfield Road RBT JCN
Site Number	
Date	04/07/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Paul Wilkinson
Description	Yr 2017 One Way Scheme Capacity Assessment TRV1 PMEX1

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

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	untitled	Roundabout	1,2,3,4,5			66.48	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	School Road	
2	2	Cambridge Road	
3	3	Springfield Road	
4	4	Poplar Road	
5	5	Valentine Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00
5	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	2.94	3.28	0.94	5.00	25.20	41.50	
2	3.69	4.79	1.72	5.80	24.00	42.00	
3	4.63	5.04	13.40	5.20	20.00	35.50	
4	2.80	4.13	2.74	3.80	25.50	40.50	
5	2.75	4.03	2.70	5.12	21.20	43.50	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.411	763.429
2		(calculated)	(calculated)	0.474	1029.408
3		(calculated)	(calculated)	0.527	1276.110
4		(calculated)	(calculated)	0.392	759.802
5		(calculated)	(calculated)	0.419	800.768

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	0.00	100.000
2	ONE HOUR	✓	78.00	100.000
3	ONE HOUR	✓	301.00	100.000
4	ONE HOUR	✓	285.00	100.000
5	ONE HOUR	✓	616.00	100.000

Turning Proportions

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

		To				
		1	2	3	4	5
From	1	0.000	0.000	0.000	0.000	0.000
	2	3.000	1.000	7.000	56.000	11.000
	3	38.000	6.000	7.000	98.000	152.000
	4	73.000	68.000	119.000	1.000	24.000
	5	13.000	41.000	467.000	94.000	1.000

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

		To				
		1	2	3	4	5
From	1	0.20	0.20	0.20	0.20	0.20
	2	0.04	0.01	0.09	0.72	0.14
	3	0.13	0.02	0.02	0.33	0.50
	4	0.26	0.24	0.42	0.00	0.08
	5	0.02	0.07	0.76	0.15	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To				
		1	2	3	4	5
From	1	0.0	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.00	0.00	0.00	A
2	0.13	6.01	0.14	A
3	0.28	4.23	0.39	A
4	0.47	10.23	0.88	B
5	1.04	130.57	25.19	F

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
1	0.00	0.00	597.56	0.00	517.94	0.000	0.00	0.000	A
2	58.72	58.40	511.17	0.00	787.13	0.075	0.08	4.937	A
3	226.61	225.69	124.28	0.00	1210.58	0.187	0.23	3.652	A
4	214.56	212.80	164.18	0.00	695.48	0.309	0.44	7.432	A
5	463.76	456.32	236.11	0.00	701.81	0.661	1.86	14.268	B

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

Arm	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
1	0.00	0.00	715.71	0.00	469.40	0.000	0.00	0.000	A
2	70.12	70.02	612.09	0.00	739.30	0.095	0.10	5.379	A
3	270.59	270.35	148.85	0.00	1197.62	0.226	0.29	3.881	A
4	256.21	255.60	196.68	0.00	682.75	0.375	0.59	8.416	A
5	553.77	546.05	283.48	0.00	681.95	0.812	3.79	25.110	D

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

Arm	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
1	0.00	0.00	835.79	0.00	420.07	0.000	0.00	0.000	A
2	85.88	85.73	711.74	0.00	692.07	0.124	0.14	5.935	A
3	331.41	331.02	175.89	0.00	1183.36	0.280	0.39	4.221	A
4	313.79	312.66	240.75	0.00	665.48	0.472	0.87	10.169	B
5	678.23	627.39	346.82	0.00	655.41	1.035	16.50	74.956	F

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

Arm	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
1	0.00	0.00	852.26	0.00	413.30	0.000	0.00	0.000	A
2	85.88	85.87	726.87	0.00	684.90	0.125	0.14	6.009	A
3	331.41	331.40	178.50	0.00	1181.99	0.280	0.39	4.232	A
4	313.79	313.76	241.06	0.00	665.36	0.472	0.88	10.234	B
5	678.23	643.46	347.89	0.00	654.96	1.036	25.19	130.569	F

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

Arm	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
1	0.00	0.00	801.42	0.00	434.19	0.000	0.00	0.000	A
2	70.12	70.24	691.64	0.00	701.59	0.100	0.11	5.704	A
3	270.59	270.96	162.38	0.00	1190.49	0.227	0.30	3.916	A
4	256.21	257.30	197.28	0.00	682.52	0.375	0.61	8.489	A
5	553.77	632.44	285.15	0.00	681.25	0.813	5.53	82.889	F

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

Arm	Total Demand (Veh/hr)	Entry Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	End Queue (Veh)	Delay (s)	LOS
1	0.00	0.00	620.08	0.00	508.69	0.000	0.00	0.000	A
2	58.72	58.84	531.67	0.00	777.41	0.076	0.08	5.010	A
3	226.61	226.86	127.98	0.00	1208.63	0.187	0.23	3.669	A
4	214.56	215.20	165.09	0.00	695.12	0.309	0.45	7.513	A
5	463.76	477.66	238.53	0.00	700.79	0.662	2.05	17.034	C