

<h1>Junctions 8</h1>
<h2>ARCADY 8 - Roundabout Module</h2>
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**Filename:** SR-VR-CR-SR OWS TRV1-AMEX2B.arc8  
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**Report generation date:** 09/10/2017 10:54:38

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### Summary of junction performance

	AM			
	Queue (Veh)	Delay (s)	RFC	LOS
	A1 - Scenario 1			
Arm 1	0.00	0.00	0.00	A
Arm 2	0.29	7.68	0.23	A
Arm 3	1.21	9.75	0.55	A
Arm 4	0.67	16.25	0.41	C
Arm 5	2.38	27.38	0.71	D

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

"D1 - Scenario 1, AM " model duration: 07:45 - 09:15

Run using Junctions 8.0.6.541 at 09/10/2017 10:54:37

## File summary

<b>Title</b>	School Road Traffic Impact Study
<b>Location</b>	School Road-Valentine Road-Cambridge Road-Poplar Road-Springfield Road RBT JCN
<b>Site Number</b>	
<b>Date</b>	04/07/2017
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	
<b>Enumerator</b>	Paul Wilkinson
<b>Description</b>	Yr 2017 One Way Scheme (School Road) Junction Scenario AMEX2B (1) Zebra Crossing functionality assumed on two entries, to replicate effects of School Crossing Warden operation during AM Peak across the roundabout core itself. (2) Capacity Adjustment & Intercept Correction factors of 85% on all entries to replicate impacts on entry capacity of SCW operation.

## 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, 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
(Default Analysis Set)	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	Relations
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:45	09:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	untitled	Roundabout	1,2,3,4,5				15.79	C

## 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)	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
5	0.00	99999.00		0.00

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	2.94	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	

### Pedestrian Crossings

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

### Zebra Crossings

Arm	Space between crossing and junction entry (PCU)	Vehicles queueing on exit (PCU)	Central Refuge	Crossing Data Type	Crossing length (m)	Crossing time (s)	Crossing length (entry side) (m)	Crossing time (entry side) (s)	Crossing length (exit side) (m)	Crossing time (exit side) (s)
1	0.00	0.00		Distance	10.60	7.57				
5	0.00	0.00		Distance	12.90	9.21				

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			85.00
2	Percentage			85.00
3	Percentage			85.00
4	Percentage			85.00
5	Percentage			85.00

### 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	648.915
2		(calculated)	(calculated)	0.474	874.997
3		(calculated)	(calculated)	0.527	1084.693
4		(calculated)	(calculated)	0.392	645.832
5		(calculated)	(calculated)	0.419	680.653

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

### Arm Capacity Adjustments

Arm	Type	Reason	Direct Capacity Adjustment (PCU/hr)	Percentage Capacity Adjustment (%)
1	Percentage			85.00
2	Percentage			85.00
3	Percentage			85.00
4	Percentage			85.00
5	None			

## 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	✓	124.00	100.000
3	ONE HOUR	✓	410.00	100.000
4	ONE HOUR	✓	137.00	100.000
5	ONE HOUR	✓	295.00	100.000

# Pedestrian Flows

## General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	ONE HOUR	230.00
2	-	-
3	-	-
4	-	-
5	ONE HOUR	230.00

# 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	4.000	3.000	5.000	90.000	22.000
	3	71.000	7.000	7.000	132.000	193.000
	4	62.000	26.000	38.000	2.000	9.000
	5	12.000	17.000	181.000	81.000	4.000

## 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	0.03	0.02	0.04	0.73	0.18
	3	0.17	0.02	0.02	0.32	0.47
	4	0.45	0.19	0.28	0.01	0.07
	5	0.04	0.06	0.61	0.27	0.01

# 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				
From		1	2	3	4	5
	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	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)
1	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.23	7.68	0.29	A	113.78	170.68	20.01	7.04	0.22	20.02	7.04
3	0.55	9.75	1.21	A	376.22	564.33	75.72	8.05	0.84	75.73	8.05
4	0.41	16.25	0.67	C	125.71	188.57	41.58	13.23	0.46	41.59	13.23
5	0.71	27.38	2.38	D	270.70	406.05	124.35	18.37	1.38	124.39	18.38

### 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
1	0.00	0.00	0.00	111.09	272.02	173.16	405.50	333.89	0.000	0.00	0.00	0.000	A
2	93.35	23.34	92.69	39.45	232.58	0.00	650.05	460.25	0.144	0.00	0.17	6.450	A
3	308.67	77.17	306.43	171.69	153.58	0.00	853.16	581.67	0.362	0.00	0.56	6.559	A
4	103.14	25.79	101.93	227.58	232.42	0.00	437.30	242.26	0.236	0.00	0.30	10.696	B
5	222.09	55.52	219.13	170.36	163.99	173.16	514.87	394.75	0.431	0.00	0.74	12.057	B

#### 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
1	0.00	0.00	0.00	133.52	327.22	206.77	382.72	331.11	0.000	0.00	0.00	0.000	A
2	111.47	27.87	111.29	47.45	279.77	0.00	631.03	464.59	0.177	0.17	0.21	6.925	A
3	368.58	92.15	367.74	206.52	184.54	0.00	839.28	581.60	0.439	0.56	0.77	7.620	A
4	123.16	30.79	122.69	273.33	278.94	0.00	410.50	237.34	0.300	0.30	0.42	12.486	B
5	265.20	66.30	263.58	204.48	197.15	206.77	488.61	386.84	0.543	0.74	1.15	15.879	C

**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
1	0.00	0.00	0.00	163.13	398.12	253.23	354.82	327.28	0.000	0.00	0.00	0.000	A
2	136.53	34.13	136.23	57.88	340.24	0.00	606.67	470.38	0.225	0.21	0.29	7.647	A
3	451.42	112.85	449.73	251.26	225.21	0.00	821.05	581.51	0.550	0.77	1.19	9.649	A
4	150.84	37.71	149.88	333.80	341.14	0.00	372.90	230.29	0.405	0.42	0.66	16.070	C
5	324.80	81.20	320.29	250.06	240.96	253.23	455.26	376.61	0.713	1.15	2.27	25.820	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
1	0.00	0.00	0.00	164.01	402.56	253.23	353.68	327.28	0.000	0.00	0.00	0.000	A
2	136.53	34.13	136.52	58.32	344.24	0.00	605.06	470.38	0.226	0.29	0.29	7.683	A
3	451.42	112.85	451.36	254.07	226.68	0.00	820.39	581.51	0.550	1.19	1.21	9.750	A
4	150.84	37.71	150.80	335.67	342.37	0.00	372.22	230.29	0.405	0.66	0.67	16.249	C
5	324.80	81.20	324.39	250.99	242.17	253.23	454.79	376.61	0.714	2.27	2.38	27.383	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
1	0.00	0.00	0.00	134.85	333.92	206.77	380.92	331.11	0.000	0.00	0.00	0.000	A
2	111.47	27.87	111.76	48.12	285.80	0.00	628.61	464.59	0.177	0.29	0.22	6.968	A
3	368.58	92.15	370.23	210.76	186.80	0.00	838.27	581.60	0.440	1.21	0.80	7.718	A
4	123.16	30.79	124.09	276.20	280.83	0.00	409.48	237.34	0.301	0.67	0.44	12.656	B
5	265.20	66.30	269.76	205.92	199.00	206.77	487.88	386.84	0.544	2.38	1.24	16.830	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
1	0.00	0.00	0.00	112.63	277.57	173.16	403.97	333.88	0.000	0.00	0.00	0.000	A
2	93.35	23.34	93.55	40.12	237.45	0.00	648.08	460.25	0.144	0.22	0.17	6.495	A
3	308.67	77.17	309.56	175.19	155.80	0.00	852.16	581.67	0.362	0.80	0.57	6.647	A
4	103.14	25.79	103.64	230.55	234.81	0.00	436.04	242.26	0.237	0.44	0.31	10.845	B
5	222.09	55.52	223.92	172.16	166.29	173.16	513.97	394.75	0.432	1.24	0.78	12.487	B

**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
1	0.00	0.00	0.000	A	A
2	2.42	0.16	6.450	A	A
3	8.08	0.54	6.559	A	A
4	4.34	0.29	10.696	B	B
5	10.41	0.69	12.057	B	B

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	0.00	0.00	0.000	A	A
2	3.12	0.21	6.925	A	A
3	11.22	0.75	7.620	A	A
4	6.08	0.41	12.486	B	B
5	16.18	1.08	15.879	C	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
1	0.00	0.00	0.000	A	A
2	4.20	0.28	7.647	A	A
3	17.10	1.14	9.649	A	A
4	9.39	0.63	16.070	C	B
5	30.45	2.03	25.820	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
1	0.00	0.00	0.000	A	A
2	4.33	0.29	7.683	A	A
3	18.04	1.20	9.750	A	A
4	10.00	0.67	16.249	C	B
5	35.03	2.34	27.383	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
1	0.00	0.00	0.000	A	A
2	3.34	0.22	6.968	A	A
3	12.40	0.83	7.718	A	A
4	6.88	0.46	12.656	B	B
5	19.99	1.33	16.830	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
1	0.00	0.00	0.000	A	A
2	2.60	0.17	6.495	A	A
3	8.87	0.59	6.647	A	A
4	4.89	0.33	10.845	B	B
5	12.30	0.82	12.487	B	B

