

Junctions 10	
ARCADY 10 - Roundabout Module	
Version: 10.0.0.1499	
© Copyright TRL Software Limited, 2021	
For sales and distribution information, program advice and maintenance, contact TRL Software:	
[REDACTED]	
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution	

Filename: A27-A29 West-CAL - MIT.j10
 Path: E:\clients\Ardent\Fontwell\feb 2021
 Report generation date: 22/02/2021 12:05:41

<2021 base, AM
 »Junction Network
 »Arms
 »Traffic Demand
 »Origin-Destination Data
 »Vehicle Mix
 »Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
2021 base				
1 - A29 (N) dummy	0.0	0.00	0.00	A
2 - Arundel Road	0.0	0.00	0.00	A
3 - A29	0.0	0.00	0.00	A
4 - A27 (W) dummy	0.0	0.00	0.00	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	A27-A29 West
Location	
Site number	
Date	19/02/2021
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	
Description	linsig call

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	mph	PCU	PCU	perHour	s	-Hour	perHour

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
AI	✓	100.000	100.000

2021 base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Arundel Road - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	3 - A29 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - A27 (W) dummy - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (W)	Standard Roundabout		1, 2, 3, 4	0	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0	F

Arms

Arms

Arm	Name	Description	No give-way line
1	A29 (N) dummy		
2	Arundel Road		
3	A29		
4	A27 (W) dummy		

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)	Entry only	Exit only
1 - A29 (N) dummy	8.80	8.80	0.0	40.0	67.6	23.0		
2 - Arundel Road	4.50	8.60	32.0	16.0	57.5	26.0		
3 - A29	3.70	9.70	55.0	20.0	60.1	22.5		
4 - A27 (W) dummy	8.00	10.95	45.0	100.0	57.5	19.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A29 (N) dummy	0.705	2796
2 - Arundel Road	0.669	2248
3 - A29	0.708	2533
4 - A27 (W) dummy	0.895	3407

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 base	AM	ONE HOUR	07:15	08:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (N) dummy		ONE HOUR	✓	0	100.000
2 - Arundel Road		ONE HOUR	✓	0	100.000
3 - A29		ONE HOUR	✓	0	100.000
4 - A27 (W) dummy		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - A29 (N) dummy	2 - Arundel Road	3 - A29	4 - A27 (W) dummy
From	1 - A29 (N) dummy	0	0	0	0
	2 - Arundel Road	0	0	0	0
	3 - A29	0	0	0	0
	4 - A27 (W) dummy	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - A29 (N) dummy	2 - Arundel Road	3 - A29	4 - A27 (W) dummy
From	1 - A29 (N) dummy	0	11	7	5
	2 - Arundel Road	8	0	10	9
	3 - A29	6	14	0	7
	4 - A27 (W) dummy	8	8	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (N) dummy	0.00	0.00	0.0	A	0	0
2 - Arundel Road	0.00	0.00	0.0	A	0	0
3 - A29	0.00	0.00	0.0	A	0	0
4 - A27 (W) dummy	0.00	0.00	0.0	A	0	0

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A29 (N) dummy	0	0	0	2796	0.000	0	0	0.0	0.0	0.000	A
2 - Arundel Road	0	0	0	2248	0.000	0	0	0.0	0.0	0.000	A
3 - A29	0	0	0	2533	0.000	0	0	0.0	0.0	0.000	A
4 - A27 (W) dummy	0	0	0	3407	0.000	0	0	0.0	0.0	0.000	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A29 (N) dummy	0	0	0	2796	0.000	0	0	0.0	0.0	0.000	A
2 - Arundel Road	0	0	0	2248	0.000	0	0	0.0	0.0	0.000	A
3 - A29	0	0	0	2533	0.000	0	0	0.0	0.0	0.000	A
4 - A27 (W) dummy	0	0	0	3407	0.000	0	0	0.0	0.0	0.000	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A29 (N) dummy	0	0	0	2796	0.000	0	0	0.0	0.0	0.000	A
2 - Arundel Road	0	0	0	2248	0.000	0	0	0.0	0.0	0.000	A
3 - A29	0	0	0	2533	0.000	0	0	0.0	0.0	0.000	A
4 - A27 (W) dummy	0	0	0	3407	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A29 (N) dummy	0	0	0	2796	0.000	0	0	0.0	0.0	0.000	A
2 - Arundel Road	0	0	0	2248	0.000	0	0	0.0	0.0	0.000	A
3 - A29	0	0	0	2533	0.000	0	0	0.0	0.0	0.000	A
4 - A27 (W) dummy	0	0	0	3407	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A29 (N) dummy	0	0	0	2796	0.000	0	0	0.0	0.0	0.000	A
2 - Arundel Road	0	0	0	2248	0.000	0	0	0.0	0.0	0.000	A
3 - A29	0	0	0	2533	0.000	0	0	0.0	0.0	0.000	A
4 - A27 (W) dummy	0	0	0	3407	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A29 (N) dummy	0	0	0	2796	0.000	0	0	0.0	0.0	0.000	A
2 - Arundel Road	0	0	0	2248	0.000	0	0	0.0	0.0	0.000	A
3 - A29	0	0	0	2533	0.000	0	0	0.0	0.0	0.000	A
4 - A27 (W) dummy	0	0	0	3407	0.000	0	0	0.0	0.0	0.000	A