

Junctions 9			
ARCADY 9 - Roundabout Module			
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Filename: A27 - A29 East-AM-Cal.j9

Path: T:\Projects\11000 Series Project Numbers\11324\TB Land North of Walberton\Tech\Junc Models\Arcady\A27-A29 East\Non-Saturn

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«2017 Base, AM

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Summary of junction performance

AM				
	Queue (Veh)	Delay (s)	RFC	LOS
2017 Base				
1 - A29 (E)	2.6	14.36	0.73	B
2 - A27 (S)	2.9	5.90	0.75	A
3 - A27 (W)	2.4	4.45	0.71	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 East
Location	
Site number	
Date	19/04/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	A27-A29 Eastern roundabout junction - calibrated

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	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Analysis Set Details

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

2017 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - A29 (E) - 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	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (E)	Standard Roundabout	1,2,3	6.63	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A29 (E)	
2	A27 (S)	
3	A27 (W)	

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 - A29 (E)	3.50	8.50	50.0	42.0	46.0	20.0	
2 - A27 (S)	8.00	11.20	13.4	34.0	46.0	19.0	
3 - A27 (W)	9.60	9.60	0.0	45.0	46.0	19.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/TS)
1 - A29 (E)	Direct	Queue length survey	-123.00
2 - A27 (S)	None		
3 - A27 (W)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - A29 (E)	0.767	462.354
2 - A27 (S)	0.923	786.745
3 - A27 (W)	0.915	774.713

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Base	AM	2017 Base Flows	DIRECT	07:15	08:15	60	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A29 (E)		DIRECT	✓	100.000
2 - A27 (S)		DIRECT	✓	100.000
3 - A27 (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30	To			
	From	1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
		0.00	4.00	133.00
		33.00	10.00	395.00
		206.00	277.00	0.00

Demand (Veh/TS)

07:30 - 07:45	To			
	From	1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
		0.00	7.00	153.00
		40.00	18.00	394.00
		183.00	242.00	3.00

Demand (Veh/TS)

07:45 - 08:00	To			
	From	1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
		0.00	4.00	174.00
		47.00	14.00	361.00
		185.00	204.00	2.00

Demand (Veh/TS)

08:00 - 08:15	To			
	From	1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
		0.00	5.00	165.00
		30.00	23.00	291.00
		178.00	235.00	2.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
	From	1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
		0	25	6
		4	8	5
		7	9	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - A29 (E)	0.73	14.36	2.6	B	161.25	645.00
2 - A27 (S)	0.75	5.90	2.9	A	414.00	1656.00
3 - A27 (W)	0.71	4.45	2.4	A	429.25	1717.00

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A29 (E)	137.00	137.00	285.57	211.21	0.649	135.22	237.80	0.0	1.8	11.591	B
2 - A27 (S)	438.00	438.00	131.27	625.72	0.700	435.71	289.52	0.0	2.3	4.681	A
3 - A27 (W)	483.00	483.00	42.77	680.37	0.710	480.59	524.20	0.0	2.4	4.454	A

07:30 - 07:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A29 (E)	160.00	160.00	263.28	228.31	0.701	159.53	223.17	1.8	2.2	12.982	B
2 - A27 (S)	452.00	452.00	155.57	603.21	0.749	451.37	267.25	2.3	2.9	5.900	A
3 - A27 (W)	428.00	428.00	57.85	667.19	0.641	428.60	549.09	2.4	1.8	3.783	A

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A29 (E)	178.00	178.00	220.31	262.76	0.677	178.10	232.06	2.2	2.2	10.652	B
2 - A27 (S)	422.00	422.00	176.05	584.42	0.722	422.27	222.35	2.9	2.6	5.561	A
3 - A27 (W)	391.00	391.00	60.99	664.95	0.588	391.37	537.33	1.8	1.4	3.296	A

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A29 (E)	170.00	170.00	259.84	231.56	0.734	169.52	208.17	2.2	2.6	14.364	B
2 - A27 (S)	344.00	344.00	166.55	592.61	0.580	345.25	262.81	2.6	1.4	3.655	A
3 - A27 (W)	415.00	415.00	53.17	671.07	0.618	414.83	458.63	1.4	1.6	3.511	A