

Appendix 15.8

Langdon Road Roundabout Arcady Results

ARCADY 7	
Version: 7.1.1.245 [9th June 2011] © Copyright Transport Research Laboratory 2011	
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File: J:\Bedford-Jobs\Tidal Lagoon Swansea Bay Ltd\47065127 Swansea Bay Tidal Lagoon\Technical\Capacity assessments\Langdon Road rbt_arcady.arc7
Report generation date: 10/12/2013 10:09:12

« A1 - (Default Analysis Set) - D3 - 03_2018 Base+Event, 1200-1300

- » Roundabout Network
- » Arms
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File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	09/12/2013
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SWUK\sean_oconnell
Description	

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
Yes	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 - 03_2018 Base+Event, 1200-1300

Data Errors and Warnings

No errors or warnings

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
03_2018 Base+Event, 1200-1300	03_2018 Base+Event	1200-1300			Yes			11:45	13:15	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	Langdon Road Roundabout	W,N,E	Standard			

Roundabout Network Options

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

Arms

Arms

ID	Name	Description
W	Langdon Road (W)	
N	Fabian Way Link	
E	Langdon Road (E)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Langdon Road (W)	0.00	99999.00		0.00
Fabian Way Link	0.00	99999.00		0.00
Langdon Road (E)	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
Langdon Road (W)	3.00	5.70	5.00	20.00	29.00	21.00	
Fabian Way Link	6.50	7.30	2.00	16.00	29.00	27.00	
Langdon Road (E)	3.25	5.20	5.00	15.00	29.00	15.00	

Pedestrian Crossings

Arm	Crossing Type
Langdon Road (W)	None
Fabian Way Link	None
Langdon Road (E)	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)
Langdon Road (W)		((calculated))	((calculated))	0.576	1246.644
Fabian Way Link		((calculated))	((calculated))	0.735	2072.048
Langdon Road (E)		((calculated))	((calculated))	0.586	1292.185

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

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)
Langdon Road (W)	0.09	0.06	0.10	A	81.67	122.50	7.13	0.06	0.08	7.13	0.06	0.576	1246.644
Fabian Way Link	0.17	0.04	0.22	A	298.23	447.34	16.26	0.04	0.18	16.26	0.04	0.735	2072.048
Langdon Road (E)	0.20	0.07	0.28	A	211.05	316.58	19.82	0.06	0.22	19.82	0.06	0.586	1292.185

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)
Langdon Road (E)	3.25	5.20	5.00	15.00	29.00	15.00		0.586	1292.185
Fabian Way Link	6.50	7.30	2.00	16.00	29.00	27.00		0.735	2072.048
Langdon Road (W)	3.00	5.70	5.00	20.00	29.00	21.00		0.576	1246.644

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)
1	Langdon Road (E)	173.16	1260.91	0.137	0.00	0.00	0.17	2.53	(0.02)	0.060
1	Fabian Way Link	244.68	2068.74	0.118	0.00	0.00	0.14	2.12	(0.02)	0.035
1	Langdon Road (W)	67.00	1138.28	0.059	0.00	0.00	0.06	0.92	(0.02)	0.056

2	Langdon Road (E)	206.77	1254.77	0.165	0.00	0.17	0.21	3.16	(0.02)	0.062
2	Fabian Way Link	292.17	2068.09	0.141	0.00	0.14	0.18	2.61	(0.02)	0.036
2	Langdon Road (W)	80.01	1116.85	0.072	0.00	0.06	0.08	1.14	(0.02)	0.058
3	Langdon Road (E)	253.23	1246.37	0.203	0.00	0.21	0.28	4.07	(0.02)	0.066
3	Fabian Way Link	357.83	2067.20	0.173	0.00	0.18	0.22	3.32	(0.02)	0.038
3	Langdon Road (W)	97.99	1087.71	0.090	0.00	0.08	0.10	1.46	(0.02)	0.061
4	Langdon Road (E)	253.23	1246.35	0.203	0.00	0.28	0.28	4.14	(0.02)	0.066
4	Fabian Way Link	357.83	2067.20	0.173	0.00	0.22	0.22	3.35	(0.02)	0.038
4	Langdon Road (W)	97.99	1087.56	0.090	0.00	0.10	0.10	1.48	(0.02)	0.061
5	Langdon Road (E)	206.77	1254.73	0.165	0.00	0.28	0.22	3.28	(0.02)	0.062
5	Fabian Way Link	292.17	2068.08	0.141	0.00	0.22	0.18	2.68	(0.02)	0.036
5	Langdon Road (W)	80.01	1116.61	0.072	0.00	0.10	0.08	1.18	(0.02)	0.058
6	Langdon Road (E)	173.16	1260.82	0.137	0.00	0.22	0.17	2.64	(0.02)	0.060
6	Fabian Way Link	244.68	2068.73	0.118	0.00	0.18	0.14	2.18	(0.02)	0.035
6	Langdon Road (W)	67.00	1137.77	0.059	0.00	0.08	0.06	0.95	(0.02)	0.056