Appendix G Base Year Model Outputs

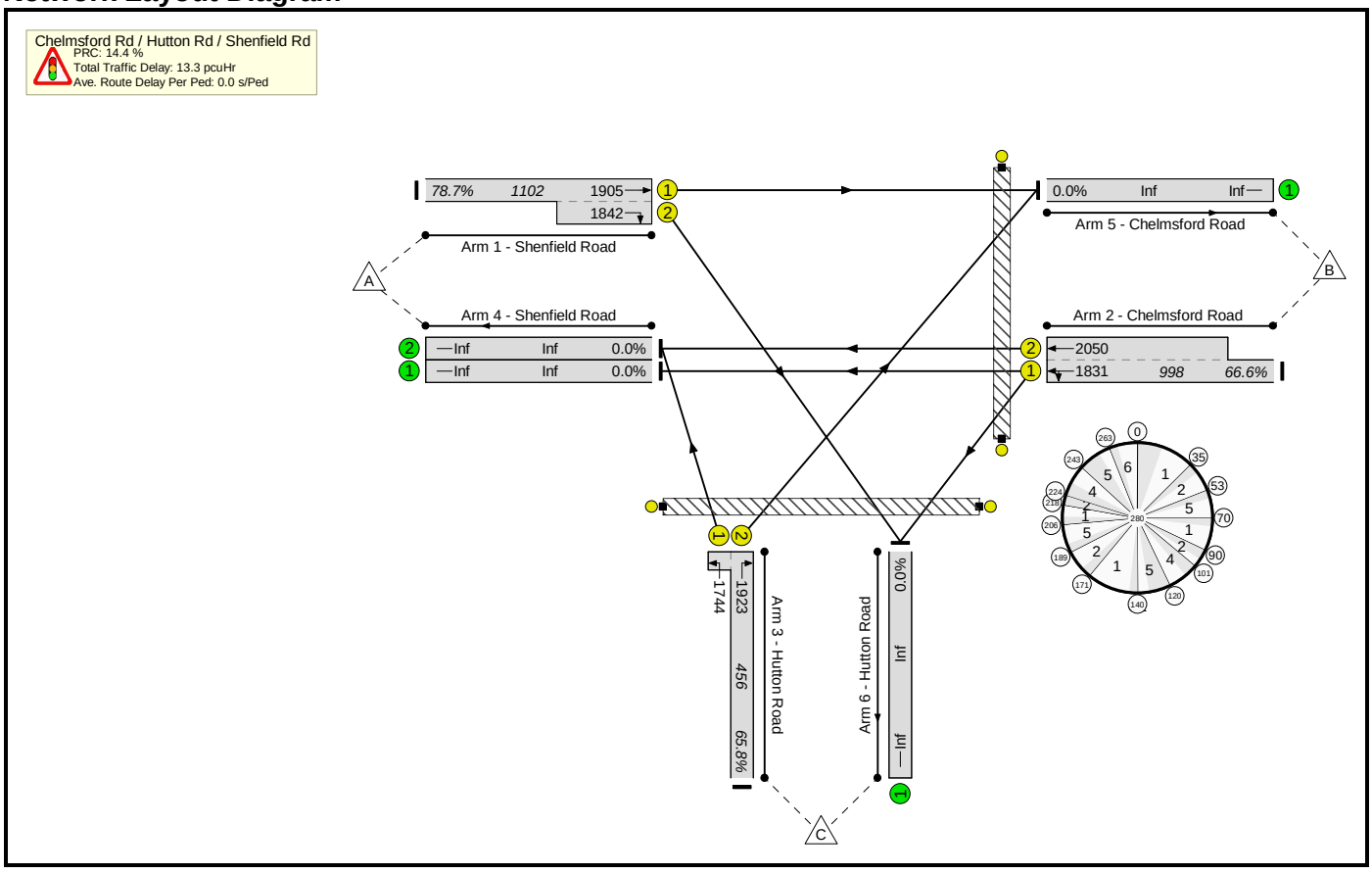
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	01. A1023 Chelmsford Road - A129 Hutton Road - A1023 Shenfield Road Rev B.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM 2012 Existing' (FG1: '2012 AM Existing', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

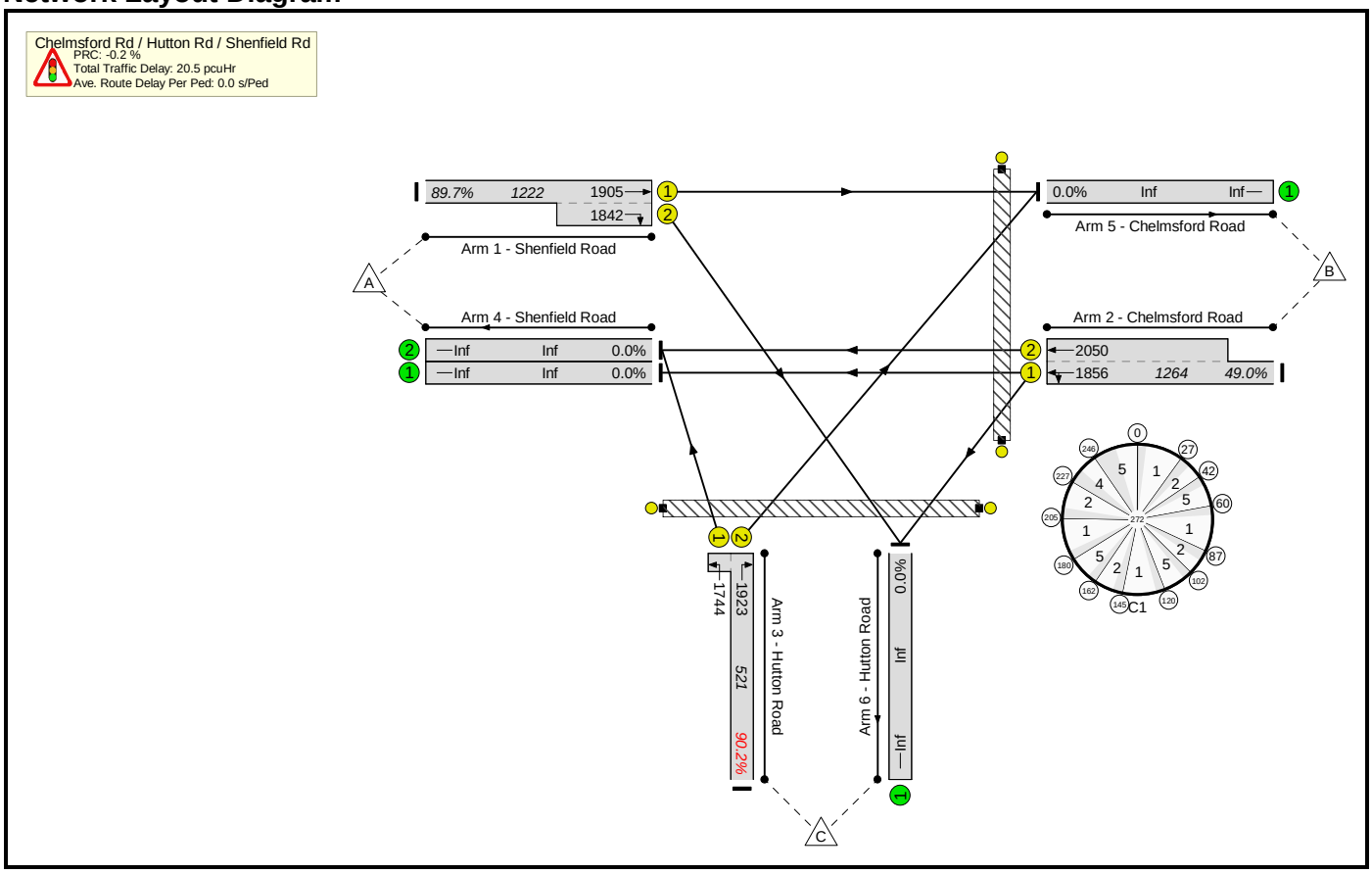
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.7%**	**0**	**0**	**0**	**13.3**	**-**	**-**
Chelmsford Rd / Hutton Rd / Shenfield Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.7%**	**0**	**0**	**0**	**13.3**	**-**	**-**
1/1+1/2	Shenfield Road Ahead Right	U	A B		4	148:87	-	867	1905:1842	1102	78.7%	-	-	-	5.3	22.2	15.3
2/1+2/2	Chelmsford Road Ahead Left	U	C		4	68	-	665	1831:2050	998	66.6%	-	-	-	5.7	30.8	9.9
3/2+3/1	Hutton Road Left Right	U	D E		4	38:141	-	300	1923:1744	456	65.8%	-	-	-	2.3	27.4	7.2
Ped Link: P1	Unnamed Ped Link	-	F		1	12	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		2	22	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 14.4 Total Delay for Signalled Lanes (pcuHr): 13.31 Cycle Time (s): 280
PRC Over All Lanes (%): 14.4 Total Delay Over All Lanes(pcuHr): 13.31

Basic Results Summary

Scenario 2: 'PM 2012 Existing' (FG2: '2012 PM Existing', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.2%**	**0**	**0**	**0**	**20.5**	**-**	**-**
Chelmsford Rd / Hutton Rd / Shenfield Rd	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.2%**	**0**	**0**	**0**	**20.5**	**-**	**-**
1/1+1/2	Shenfield Road Ahead Right	U	A B		4	153:76	-	1096	1905:1842	1222	89.7%	-	-	-	9.4	30.9	30.0
2/1+2/2	Chelmsford Road Ahead Left	U	C		4	84	-	619	1856:2050	1264	49.0%	-	-	-	4.0	23.1	8.1
3/2+3/1	Hutton Road Left Right	U	D E		4	52:144	-	470	1923:1744	521	90.2%	-	-	-	7.1	54.1	15.6
Ped Link: P1	Unnamed Ped Link	-	F		0	0	-	0	-	0	0.0%	-	-	-	Inf	Inf	Inf
Ped Link: P2	Unnamed Ped Link	-	G		1	11	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): -0.2 Total Delay for Signalled Lanes (pcuHr): 20.45 Cycle Time (s): 272
PRC Over All Lanes (%): -0.2 Total Delay Over All Lanes(pcuHr): 20.45

Basic Results Summary

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

Filename: 02 Rayleigh Road - Hanging Hill Lane.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 09:59:51

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Arm A	0.88	7.07	0.47	A	1.26	8.77	0.56	A
Arm B	3.64	19.19	0.79	C	1.46	10.03	0.60	B
Arm C	22.93	172.36	1.01	F	3.93	31.77	0.80	D

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 09:59:50

File summary

Title	A129 Rayleigh Road - Hanging Hill Lane Jct
Location	Brentwood
Site Number	02
Date	11/07/2014
Version	
Status	For Information
Identifier	
Client	Brentwood
Jobnumber	28085
Enumerator	John Holliday
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm B - Zebra Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	61.91	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Rayleigh Road (W)	
B	B	Rayleigh Road (E)	
C	C	Hanging Hill Lane	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	4.50	4.50	5.30	9.31	16.34	16.50	0.00	
B	3.40	3.40	5.60	4.83	10.41	7.70	0.00	
C	3.20	3.20	4.50	1.51	10.78	7.70	0.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	Zebra
C	None

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)
B	3.00	4.20	✓	Distance			4.40	3.14	4.10	2.93

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)
A		(calculated)	(calculated)	0.711	1179.833
B		(calculated)	(calculated)	0.570	976.145
C		(calculated)	(calculated)	0.533	715.200

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	452.00	100.000
B	FLAT	✓	697.00	100.000
C	FLAT	✓	494.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	-	-
B	FLAT	0.00
C	-	-

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	290.000	162.000
	B	421.000	0.000	276.000
	C	177.000	317.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.64	0.36
	B	0.60	0.00	0.40
	C	0.36	0.64	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.47	7.07	0.88	A	452.00	452.00	51.66	6.86	0.86	51.69	6.86
B	0.79	19.19	3.64	C	697.00	697.00	204.75	17.63	3.41	205.20	17.66
C	1.01	172.36	22.93	F	494.00	494.00	883.11	107.26	14.72	915.23	111.16

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	452.00	113.00	448.58	574.80	290.15	0.00	973.64	967.87	0.464	0.00	0.85	6.814	A
B	697.00	174.25	683.41	577.95	160.78	0.00	884.50	778.42	0.788	0.00	3.40	16.921	C
C	494.00	123.50	452.15	431.39	412.79	0.00	495.37	464.81	0.997	0.00	10.46	60.304	F

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	452.00	113.00	451.92	590.32	303.92	0.00	963.85	967.87	0.469	0.85	0.87	7.029	A
B	697.00	174.25	696.38	593.87	161.97	0.00	883.82	778.42	0.789	3.40	3.55	19.036	C
C	494.00	123.50	473.62	437.72	420.62	0.00	491.20	464.81	1.006	10.46	15.56	115.198	F

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	452.00	113.00	451.98	592.17	306.80	0.00	961.81	967.87	0.470	0.87	0.88	7.060	A
B	697.00	174.25	696.77	596.79	161.99	0.00	883.81	778.42	0.789	3.55	3.61	19.149	C
C	494.00	123.50	478.11	437.90	420.86	0.00	491.07	464.81	1.006	15.56	19.53	146.565	F

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	452.00	113.00	451.99	593.06	308.27	0.00	960.76	967.87	0.470	0.88	0.88	7.075	A
B	697.00	174.25	696.88	598.26	162.00	0.00	883.81	778.42	0.789	3.61	3.64	19.189	C
C	494.00	123.50	480.40	437.95	420.93	0.00	491.04	464.81	1.006	19.53	22.93	172.359	F

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.25	0.82	6.814	A	A
B	44.17	2.94	16.921	C	B
C	102.76	6.85	60.304	F	E

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.02	0.87	7.029	A	A
B	52.39	3.49	19.036	C	B
C	197.29	13.15	115.198	F	F

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.17	0.88	7.060	A	A
B	53.79	3.59	19.149	C	B
C	264.08	17.61	146.565	F	F

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.23	0.88	7.075	A	A
B	54.40	3.63	19.189	C	B
C	318.99	21.27	172.359	F	F

(Default Analysis Set) - 2014 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm B - Zebra Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	16.23	C

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Rayleigh Road (W)	
B	B	Rayleigh Road (E)	
C	C	Hanging Hill Lane	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	4.50	4.50	5.30	9.31	16.34	16.50	0.00	
B	3.40	3.40	5.60	4.83	10.41	7.70	0.00	
C	3.20	3.20	4.50	1.51	10.78	7.70	0.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	Zebra
C	None

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)
B	3.00	4.20	✓	Distance			4.40	3.14	4.10	2.93

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)
A		(calculated)	(calculated)	0.711	1179.833
B		(calculated)	(calculated)	0.570	976.145
C		(calculated)	(calculated)	0.533	715.200

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	520.00	100.000
B	FLAT	✓	528.00	100.000
C	FLAT	✓	460.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	-	-
B	FLAT	0.00
C	-	-

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	363.000	157.000
	B	269.000	0.000	259.000
	C	109.000	351.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.70	0.30
	B	0.51	0.00	0.49
	C	0.24	0.76	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.56	8.77	1.26	A	520.00	520.00	73.42	8.47	1.22	73.47	8.48
B	0.60	10.03	1.46	B	528.00	528.00	85.39	9.70	1.42	85.47	9.71
C	0.80	31.77	3.93	D	460.00	460.00	214.56	27.99	3.58	215.37	28.09

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	520.00	130.00	515.13	371.77	340.32	0.00	937.99	912.52	0.554	0.00	1.22	8.420	A
B	528.00	132.00	522.28	699.92	155.53	0.00	887.50	819.11	0.595	0.00	1.43	9.712	A
C	460.00	115.00	446.01	411.72	266.09	0.00	573.50	492.97	0.802	0.00	3.50	25.973	D

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	520.00	130.00	519.88	377.70	350.16	0.00	930.99	912.52	0.559	1.22	1.25	8.752	A
B	528.00	132.00	527.91	713.08	156.96	0.00	886.68	819.11	0.595	1.43	1.45	10.028	B
C	460.00	115.00	458.90	415.92	268.96	0.00	571.97	492.97	0.804	3.50	3.77	31.149	D

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	520.00	130.00	519.97	377.89	350.68	0.00	930.62	912.52	0.559	1.25	1.26	8.765	A
B	528.00	132.00	527.97	713.66	156.99	0.00	886.66	819.11	0.595	1.45	1.46	10.032	B
C	460.00	115.00	459.58	415.98	268.99	0.00	571.95	492.97	0.804	3.77	3.88	31.598	D

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	520.00	130.00	519.99	377.94	350.83	0.00	930.52	912.52	0.559	1.26	1.26	8.767	A
B	528.00	132.00	527.99	713.82	157.00	0.00	886.66	819.11	0.595	1.46	1.46	10.034	B
C	460.00	115.00	459.78	415.99	268.99	0.00	571.95	492.97	0.804	3.88	3.93	31.770	D

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	17.22	1.15	8.420	A	A
B	20.01	1.33	9.712	A	A
C	43.52	2.90	25.973	D	C

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.57	1.24	8.752	A	A
B	21.65	1.44	10.028	B	B
C	54.95	3.66	31.149	D	C

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.78	1.25	8.765	A	A
B	21.83	1.46	10.032	B	B
C	57.48	3.83	31.598	D	C

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.86	1.26	8.767	A	A
B	21.90	1.46	10.034	B	B
C	58.61	3.91	31.770	D	C

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 03 A128 Ongar Road - Doddinghurst Road.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 10:00:54

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Arm A	68.82	295.37	1.07	F	8.64	54.69	0.91	F
Arm B	65.43	683.17	1.21	F	1.18	19.30	0.55	C
Arm C	1.73	8.39	0.64	A	69.16	198.60	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 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 10:00:53

File summary

Title	Ongar Road - Doddinghurst Road
Location	Brentwood
Site Number	03
Date	14/07/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	John Holliday
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm A - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	259.97	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Ongar Road (N)	
B	B	Doddinghurst Road	
C	C	Ongar Road S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.80	3.80	5.20	0.93	10.03	5.00	0.00	
B	3.00	3.00	5.20	4.23	12.17	7.20	0.00	
C	3.80	3.80	5.10	7.84	19.20	17.30	0.00	

Pedestrian Crossings

Arm	Crossing Type
A	Pelican
B	None
C	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
A	3.00	2.90	1.00	6.00	6.00	7.00	4.00

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)
A		(calculated)	(calculated)	0.556	860.820
B		(calculated)	(calculated)	0.546	728.491
C		(calculated)	(calculated)	0.736	1193.923

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	833.00	100.000
B	FLAT	✓	375.00	100.000
C	FLAT	✓	748.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	FLAT	0.00
B	-	-
C	-	-

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	8.000	825.000
	B	28.000	0.000	347.000
	C	594.000	154.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.07	0.00	0.93
	C	0.79	0.21	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	1.07	295.37	68.82	F	833.00	833.00	2271.88	163.64	37.86	2455.16	176.84
B	1.21	683.17	65.43	F	375.00	375.00	1989.94	318.39	33.17	2403.86	384.62
C	0.64	8.39	1.73	A	748.00	748.00	101.46	8.14	1.69	101.54	8.14

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	833.00	208.25	742.93	611.60	152.60	0.00	775.92	726.18	1.074	0.00	22.52	68.314	F
B	375.00	93.75	308.13	159.73	735.79	0.00	326.56	335.63	1.148	0.00	16.72	120.107	F
C	748.00	187.00	741.20	1020.92	23.01	0.00	1176.99	1175.48	0.636	0.00	1.70	8.140	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	833.00	208.25	768.82	617.11	153.98	0.00	775.15	726.18	1.075	22.52	38.56	156.188	F
B	375.00	93.75	310.36	161.37	761.43	0.00	312.56	335.63	1.200	16.72	32.88	311.042	F
C	748.00	187.00	747.91	1048.62	23.17	0.00	1176.87	1175.48	0.636	1.70	1.72	8.388	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	833.00	208.25	771.88	617.13	153.99	0.00	775.14	726.18	1.075	38.56	53.84	226.558	F
B	375.00	93.75	310.03	161.41	764.47	0.00	310.90	335.63	1.206	32.88	49.12	495.910	F
C	748.00	187.00	747.97	1051.35	23.15	0.00	1176.88	1175.48	0.636	1.72	1.73	8.392	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	833.00	208.25	773.11	617.12	154.00	0.00	775.14	726.18	1.075	53.84	68.82	295.371	F
B	375.00	93.75	309.77	161.42	765.68	0.00	310.24	335.63	1.209	49.12	65.43	683.167	F
C	748.00	187.00	747.99	1052.33	23.13	0.00	1176.90	1175.48	0.636	1.73	1.73	8.391	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	198.40	13.23	68.314	F	E
B	142.90	9.53	120.107	F	F
C	23.89	1.59	8.140	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	459.69	30.65	156.188	F	F
B	372.71	24.85	311.042	F	F
C	25.71	1.71	8.388	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	693.59	46.24	226.558	F	F
B	615.16	41.01	495.910	F	F
C	25.89	1.73	8.392	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	920.20	61.35	295.371	F	F
B	859.16	57.28	683.167	F	F
C	25.97	1.73	8.391	A	A

(Default Analysis Set) - 2014 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm A - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	136.83	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Ongar Road (N)	
B	B	Doddinghurst Road	
C	C	Ongar Road S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.80	3.80	5.20	0.93	10.03	5.00	0.00	
B	3.00	3.00	5.20	4.23	12.17	7.20	0.00	
C	3.80	3.80	5.10	7.84	19.20	17.30	0.00	

Pedestrian Crossings

Arm	Crossing Type
A	Pelican
B	None
C	None

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
A	3.00	2.90	1.00	6.00	6.00	7.00	4.00

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)
A		(calculated)	(calculated)	0.556	860.820
B		(calculated)	(calculated)	0.546	728.491
C		(calculated)	(calculated)	0.736	1193.923

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	603.00	100.000
B	FLAT	✓	224.00	100.000
C	FLAT	✓	1228.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	FLAT	0.00
B	-	-
C	-	-

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	19.000	584.000
	B	25.000	0.000	199.000
	C	854.000	374.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.03	0.97
	B	0.11	0.00	0.89
	C	0.70	0.30	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.91	54.69	8.64	F	603.00	603.00	424.17	42.21	7.07	427.55	42.54
B	0.55	19.30	1.18	C	224.00	224.00	66.88	17.92	1.11	66.99	17.94
C	1.04	198.60	69.16	F	1228.00	1228.00	2359.44	115.28	39.32	2481.52	121.25

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	603.00	150.75	577.77	810.25	344.10	0.00	669.38	663.77	0.901	0.00	6.31	33.342	D
B	224.00	56.00	219.67	362.31	559.57	0.00	422.83	377.33	0.530	0.00	1.08	17.378	C
C	1228.00	307.00	1129.84	754.72	24.52	0.00	1175.88	1162.93	1.044	0.00	24.54	50.365	F

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	603.00	150.75	597.80	834.94	354.72	0.00	663.47	663.77	0.909	6.31	7.61	48.733	E
B	224.00	56.00	223.71	373.55	578.96	0.00	412.23	377.33	0.543	1.08	1.15	19.044	C
C	1228.00	307.00	1164.68	777.71	24.97	0.00	1175.55	1162.93	1.045	24.54	40.37	110.741	F

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	603.00	150.75	600.43	838.23	356.15	0.00	662.68	663.77	0.910	7.61	8.25	52.659	F
B	224.00	56.00	223.92	375.07	581.51	0.00	410.84	377.33	0.545	1.15	1.17	19.233	C
C	1228.00	307.00	1169.38	780.44	24.99	0.00	1175.53	1162.93	1.045	40.37	55.02	155.635	F

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	603.00	150.75	601.44	839.66	356.77	0.00	662.33	663.77	0.910	8.25	8.64	54.690	F
B	224.00	56.00	223.96	375.72	582.48	0.00	410.31	377.33	0.546	1.17	1.18	19.301	C
C	1228.00	307.00	1171.44	781.45	25.00	0.00	1175.52	1162.93	1.045	55.02	69.16	198.599	F

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	71.94	4.80	33.342	D	C
B	14.77	0.98	17.378	C	B
C	222.09	14.81	50.365	F	D

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	105.89	7.06	48.733	E	D
B	16.95	1.13	19.044	C	B
C	489.16	32.61	110.741	F	F

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	119.42	7.96	52.659	F	D
B	17.48	1.17	19.233	C	B
C	716.34	47.76	155.635	F	F

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	126.91	8.46	54.690	F	D
B	17.69	1.18	19.301	C	B
C	931.86	62.12	198.599	F	F

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 04 A128 Ongar Road - Western Avenue.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\PICADY\2012 Survey Flows
Report generation date: 04/02/2016 12:14:24

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Stream B-AC	0.91	15.93	0.48	C	2.35	25.93	0.71	D
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	1.79	19.90	0.65	C	0.46	12.31	0.31	B
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 12:14:23

File summary

Title	A128 Ongar Road - Western Avenue
Location	Brentwood
Site Number	04
Date	06/08/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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)	N/A		✓				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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A128 Ongar Road - Western Avenue	T-Junction	Two-way	A,B,C		18.36	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ongar Road S		Major
B	B	Western Avenue		Minor
C	C	Ongar Road N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.15		0.00	✓	2.20	131.54		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.30										31	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.325	0.099	0.251	0.158	0.358
1	B-C	733.602	0.107	0.270	-	-
1	C-B	650.139	0.239	0.239	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	587.00	100.000
B	FLAT	✓	208.00	100.000
C	FLAT	✓	1178.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	20.000	567.000
	B	30.000	0.000	178.000
	C	849.000	329.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.03	0.97
	B	0.14	0.00	0.86
	C	0.72	0.28	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.48	15.93	0.91	C	208.00	208.00	52.90	15.26	0.88	52.96	15.28
C-A	-	-	-	-	849.00	849.00	-	-	-	-	-
C-B	0.65	19.90	1.79	C	329.00	329.00	102.67	18.72	1.71	102.86	18.76
A-B	-	-	-	-	20.00	20.00	-	-	-	-	-
A-C	-	-	-	-	567.00	567.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	208.00	52.00	204.47	0.00	436.18	0.477	0.00	0.88	15.317	C
C-A	849.00	212.25	849.00	0.00	-	-	-	-	-	-
C-B	329.00	82.25	322.13	0.00	509.67	0.646	0.00	1.72	18.584	C
A-B	20.00	5.00	20.00	0.00	-	-	-	-	-	-
A-C	567.00	141.75	567.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	208.00	52.00	207.92	0.00	434.01	0.479	0.88	0.90	15.909	C
C-A	849.00	212.25	849.00	0.00	-	-	-	-	-	-
C-B	329.00	82.25	328.80	0.00	509.67	0.646	1.72	1.77	19.845	C
A-B	20.00	5.00	20.00	0.00	-	-	-	-	-	-
A-C	567.00	141.75	567.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	208.00	52.00	207.98	0.00	433.95	0.479	0.90	0.91	15.925	C
C-A	849.00	212.25	849.00	0.00	-	-	-	-	-	-
C-B	329.00	82.25	328.93	0.00	509.67	0.646	1.77	1.78	19.884	C
A-B	20.00	5.00	20.00	0.00	-	-	-	-	-	-
A-C	567.00	141.75	567.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	208.00	52.00	207.99	0.00	433.93	0.479	0.91	0.91	15.929	C
C-A	849.00	212.25	849.00	0.00	-	-	-	-	-	-
C-B	329.00	82.25	328.96	0.00	509.67	0.646	1.78	1.79	19.897	C
A-B	20.00	5.00	20.00	0.00	-	-	-	-	-	-
A-C	567.00	141.75	567.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	12.20	0.81	15.317	C	B
C-A	-	-	-	-	-
C-B	22.97	1.53	18.584	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	13.43	0.90	15.909	C	B
C-A	-	-	-	-	-
C-B	26.21	1.75	19.845	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	13.60	0.91	15.925	C	B
C-A	-	-	-	-	-
C-B	26.65	1.78	19.884	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	13.67	0.91	15.929	C	B
C-A	-	-	-	-	-
C-B	26.84	1.79	19.897	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - 2014 Base, PM

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)	N/A		✓				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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A128 Ongar Road - Western Avenue	T-Junction	Two-way	A,B,C		22.02	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ongar Road S		Major
B	B	Western Avenue		Minor
C	C	Ongar Road N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.15		0.00	✓	2.20	131.54		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.30										31	40

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.325	0.099	0.251	0.158	0.358
1	B-C	733.602	0.107	0.270	-	-
1	C-B	650.139	0.239	0.239	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	935.00	100.000
B	FLAT	✓	333.00	100.000
C	FLAT	✓	754.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	17.000	918.000
	B	6.000	0.000	327.000
	C	620.000	134.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.02	0.98
	B	0.02	0.00	0.98
	C	0.82	0.18	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.71	25.93	2.35	D	333.00	333.00	132.35	23.85	2.21	132.70	23.91
C-A	-	-	-	-	620.00	620.00	-	-	-	-	-
C-B	0.31	12.31	0.46	B	134.00	134.00	26.79	12.00	0.45	26.81	12.00
A-B	-	-	-	-	17.00	17.00	-	-	-	-	-
A-C	-	-	-	-	918.00	918.00	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	333.00	83.25	324.19	0.00	471.40	0.706	0.00	2.20	23.262	C
C-A	620.00	155.00	620.00	0.00	-	-	-	-	-	-
C-B	134.00	33.50	132.20	0.00	426.40	0.314	0.00	0.45	12.164	B
A-B	17.00	4.25	17.00	0.00	-	-	-	-	-	-
A-C	918.00	229.50	918.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	333.00	83.25	332.62	0.00	471.33	0.707	2.20	2.30	25.769	D
C-A	620.00	155.00	620.00	0.00	-	-	-	-	-	-
C-B	134.00	33.50	133.98	0.00	426.40	0.314	0.45	0.45	12.308	B
A-B	17.00	4.25	17.00	0.00	-	-	-	-	-	-
A-C	918.00	229.50	918.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	333.00	83.25	332.86	0.00	471.33	0.707	2.30	2.33	25.886	D
C-A	620.00	155.00	620.00	0.00	-	-	-	-	-	-
C-B	134.00	33.50	133.99	0.00	426.40	0.314	0.45	0.46	12.311	B
A-B	17.00	4.25	17.00	0.00	-	-	-	-	-	-
A-C	918.00	229.50	918.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	333.00	83.25	332.93	0.00	471.33	0.707	2.33	2.35	25.929	D
C-A	620.00	155.00	620.00	0.00	-	-	-	-	-	-
C-B	134.00	33.50	134.00	0.00	426.40	0.314	0.46	0.46	12.311	B
A-B	17.00	4.25	17.00	0.00	-	-	-	-	-	-
A-C	918.00	229.50	918.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	28.57	1.90	23.262	C	C
C-A	-	-	-	-	-
C-B	6.36	0.42	12.164	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	33.89	2.26	25.769	D	C
C-A	-	-	-	-	-
C-B	6.78	0.45	12.308	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	34.76	2.32	25.886	D	C
C-A	-	-	-	-	-
C-B	6.82	0.45	12.311	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	35.13	2.34	25.929	D	C
C-A	-	-	-	-	-
C-B	6.84	0.46	12.311	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

Filename: 05 A128 - Will HW -Ongar Road.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 10:25:08

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Arm A	0.25	3.63	0.20	A	0.69	4.85	0.41	A
Arm B	0.94	5.74	0.49	A	0.74	5.56	0.42	A
Arm C	0.24	4.34	0.19	A	0.24	4.34	0.19	A

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 10:25:08

File summary

Title	05-06 A128 - William Hunter Way & Ongar Road
Location	Brentwood
Site Number	05
Date	23/07/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm A - Zebra Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, AM	2014 Base	AM		Varies by Arm	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
5	Junction 5	Mini-roundabout	A,B,C	4.96	A

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	William Hunter Way	
B	B	Ongar Road N	
C	C	Ongar Road S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	7.50	7.50	8.60	2.48	9.25	5.50	0.00	✓
B	3.60	3.60	5.00	9.89	15.65	19.20	0.00	✓
C	3.20	3.20	7.00	6.53	13.59	7.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
A	Zebra
B	None
C	None

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)
A	2.90	3.00	✓	Distance			7.50	5.36	7.30	5.21

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)
A		(calculated)	(calculated)	0.620	1325.526
B		(calculated)	(calculated)	0.837	1368.326
C		(calculated)	(calculated)	0.581	1072.916

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	249.00	100.000
B	FLAT	✓	592.00	100.000
C	FLAT		200.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	FLAT	0.00
B	-	-
C	-	-

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 5 (for whole period)

		To		
		A	B	C
From	A	0.000	71.000	178.000
	B	75.000	0.000	517.000
	C	234.000	501.000	0.000

Turning Proportions (PCU) - Junction 5 (for whole period)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.13	0.00	0.87
	C	0.32	0.68	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 5 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 5 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.20	3.63	0.25	A	249.00	249.00	14.93	3.60	0.25	14.93	3.60
B	0.49	5.74	0.94	A	592.00	592.00	55.63	5.64	0.93	55.65	5.64
C	0.19	4.34	0.24	A	200.00	200.00	14.33	4.30	0.24	14.33	4.30

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	249.00	62.25	248.00	137.90	135.67	0.00	1241.39	897.87	0.201	0.00	0.25	3.621	A
B	592.00	148.00	588.27	206.39	177.29	0.00	1219.95	831.13	0.485	0.00	0.93	5.667	A
C	200.00	50.00	199.04	691.03	74.53	0.00	1029.60	1011.71	0.194	0.00	0.24	4.330	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	249.00	62.25	249.00	138.67	136.32	0.00	1240.99	897.87	0.201	0.25	0.25	3.628	A
B	592.00	148.00	591.97	207.32	178.00	0.00	1219.35	831.13	0.486	0.93	0.94	5.737	A
C	200.00	50.00	200.00	694.98	75.00	0.00	1029.32	1011.71	0.194	0.24	0.24	4.340	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	249.00	62.25	249.00	138.67	136.33	0.00	1240.99	897.87	0.201	0.25	0.25	3.628	A
B	592.00	148.00	591.99	207.33	178.00	0.00	1219.35	831.13	0.486	0.94	0.94	5.737	A
C	200.00	50.00	200.00	694.99	75.00	0.00	1029.32	1011.71	0.194	0.24	0.24	4.340	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	249.00	62.25	249.00	138.67	136.33	0.00	1240.99	897.87	0.201	0.25	0.25	3.628	A
B	592.00	148.00	592.00	207.33	178.00	0.00	1219.35	831.13	0.486	0.94	0.94	5.737	A
C	200.00	50.00	200.00	695.00	75.00	0.00	1029.32	1011.71	0.194	0.24	0.24	4.340	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.67	0.24	3.621	A	A
B	13.41	0.89	5.667	A	A
C	3.51	0.23	4.330	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.75	0.25	3.628	A	A
B	14.03	0.94	5.737	A	A
C	3.60	0.24	4.340	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.76	0.25	3.628	A	A
B	14.08	0.94	5.737	A	A
C	3.61	0.24	4.340	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.76	0.25	3.628	A	A
B	14.10	0.94	5.737	A	A
C	3.61	0.24	4.340	A	A

(Default Analysis Set) - 2014 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm A - Zebra Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
5	Junction 5	Mini-roundabout	A,B,C	5.05	A

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	William Hunter Way	
B	B	Ongar Road N	
C	C	Ongar Road S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	7.50	7.50	8.60	2.48	9.25	5.50	0.00	✓
B	3.60	3.60	5.00	9.89	15.65	19.20	0.00	✓
C	3.20	3.20	7.00	6.53	13.59	7.00	0.00	

Pedestrian Crossings

Arm	Crossing Type
A	Zebra
B	None
C	None

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)
A	2.90	3.00	✓	Distance			7.50	5.36	7.30	5.21

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)
A		(calculated)	(calculated)	0.620	1325.526
B		(calculated)	(calculated)	0.837	1368.326
C		(calculated)	(calculated)	0.581	1072.916

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	513.00	100.000
B	FLAT	✓	478.00	100.000
C	FLAT		200.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	FLAT	0.00
B	-	-
C	-	-

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 5 (for whole period)

		To		
		A	B	C
From	A	0.000	223.000	290.000
	B	76.000	0.000	402.000
	C	489.000	653.000	0.000

Turning Proportions (PCU) - Junction 5 (for whole period)

		To		
		A	B	C
From	A	0.00	0.43	0.57
	B	0.16	0.00	0.84
	C	0.43	0.57	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 5 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 5 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.41	4.85	0.69	A	513.00	513.00	40.94	4.79	0.68	40.95	4.79
B	0.42	5.56	0.74	A	478.00	478.00	43.57	5.47	0.73	43.59	5.47
C	0.19	4.34	0.24	A	200.00	200.00	14.34	4.30	0.24	14.34	4.30

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	513.00	128.25	510.26	160.76	113.81	0.00	1254.95	974.80	0.409	0.00	0.69	4.817	A
B	478.00	119.50	475.08	335.62	288.45	0.00	1126.91	907.12	0.424	0.00	0.73	5.499	A
C	200.00	50.00	199.04	688.00	75.54	0.00	1029.01	989.08	0.194	0.00	0.24	4.333	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	513.00	128.25	512.99	161.63	114.36	0.00	1254.61	974.80	0.409	0.69	0.69	4.853	A
B	478.00	119.50	477.98	337.35	289.99	0.00	1125.62	907.12	0.425	0.73	0.73	5.558	A
C	200.00	50.00	200.00	691.98	76.00	0.00	1028.74	989.08	0.194	0.24	0.24	4.343	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	513.00	128.25	513.00	161.64	114.36	0.00	1254.61	974.80	0.409	0.69	0.69	4.853	A
B	478.00	119.50	477.99	337.36	290.00	0.00	1125.61	907.12	0.425	0.73	0.74	5.558	A
C	200.00	50.00	200.00	691.99	76.00	0.00	1028.74	989.08	0.194	0.24	0.24	4.343	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	513.00	128.25	513.00	161.64	114.36	0.00	1254.61	974.80	0.409	0.69	0.69	4.853	A
B	478.00	119.50	478.00	337.36	290.00	0.00	1125.61	907.12	0.425	0.74	0.74	5.558	A
C	200.00	50.00	200.00	692.00	76.00	0.00	1028.74	989.08	0.194	0.24	0.24	4.343	A

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.95	0.66	4.817	A	A
B	10.54	0.70	5.499	A	A
C	3.51	0.23	4.333	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.31	0.69	4.853	A	A
B	10.98	0.73	5.558	A	A
C	3.60	0.24	4.343	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.34	0.69	4.853	A	A
B	11.02	0.73	5.558	A	A
C	3.61	0.24	4.343	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.35	0.69	4.853	A	A
B	11.04	0.74	5.558	A	A
C	3.61	0.24	4.343	A	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

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Filename: 06 A128 - A1028 - A128 - A1023.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 10:29:49

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Junction 6a - Arm C	19.14	361.97	1.10	F	0.31	5.57	0.24	A
Junction 6a - Arm D	297.22	1626.45	1.55	F	2.13	10.24	0.68	B
Junction 6a - Arm E	1.04	6.48	0.51	A	1.04	7.16	0.51	A
Junction 6b - Arm E	1.04	7.38	0.51	A	0.93	6.89	0.48	A
Junction 6b - Arm F	297.99	2198.56	1.71	F	429.93	3660.07	2.18	F
Junction 6b - Arm G	97.13	1051.38	1.37	F	119.79	1627.81	1.56	F

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 10:29:48

File summary

Title	Ongar Rd - Shenfield Rd - Ingrave Rd - High St
Location	Brentwood
Site Number	06a, 06b
Date	23/07/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 6a - Arm E	Internal storage space between linked junctions is small (1.04 PCU). Linked junction results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Pedestrian Crossing	Junction 6a - Arm C - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Junction 6a - Arm D - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Linked Roundabout	Junction 6b - Arm E	Internal storage space between linked junctions is small (1.04 PCU). Linked junction results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Pedestrian Crossing	Junction 6b - Arm F - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Junction 6b - Arm G - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, AM	2014 Base	AM		Varies by Arm	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
6a	6a	Junction 6a	Mini-roundabout	C,D,E	911.54	F
6b	6b	Junction 6b	Mini-roundabout	E,F,G	1240.17	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Junction	Arm	Arm	Name	Description
6a	C	C	Ongar Road N	
6a	D	D	Shenfield Road	
6a	E	E	A1023 High Street	
6b	E	E	A1023 High Street	
6b	F	F	Ingrave Road	
6b	G	G	A1023 High Street	

Capacity Options

Junction	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
6a	C	0.00	99999.00		0.00
6a	D	0.00	99999.00		0.00
6a	E	0.00	99999.00		0.00
6b	E	0.00	99999.00		0.00
6b	F	0.00	99999.00		0.00
6b	G	0.00	99999.00		0.00

Mini Roundabout Geometry

Junction	Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
6a	C	5.20	5.20	6.90	3.33	13.82	7.00	0.00	
6a	D	6.00	6.00	6.20	3.69	16.94	16.30	0.00	
6a	E	7.40	7.40	7.40	0.00	13.91	7.40	0.00	✓
6b	E	5.80	5.80	5.80	0.00	11.06	10.60	0.00	✓
6b	F	6.00	6.00	6.00	0.00	14.38	10.00	0.00	✓
6b	G	5.00	5.00	5.00	0.00	15.97	13.00	0.00	

Pedestrian Crossings

Junction	Arm	Crossing Type
6a	C	Puffin
6a	D	Puffin
6a	E	None
6b	E	None
6b	F	Puffin
6b	G	Puffin

Pelican/ Puffin Crossings

Junction	Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
6a	C	3.00	2.90	1.00	6.00	6.00	7.00	4.00
6a	D	3.00	2.90	1.00	6.00	6.00	7.00	3.00
6b	F	3.00	2.90	1.00	6.00	6.00	7.00	3.00
6b	G	3.00	2.90	1.00	6.00	6.00	7.00	2.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
6a	C		(calculated)	(calculated)	0.647	1031.982
6a	D		(calculated)	(calculated)	0.753	1198.780
6a	E		(calculated)	(calculated)	0.593	1255.923
6b	E		(calculated)	(calculated)	0.517	1035.020
6b	F		(calculated)	(calculated)	0.526	1026.383
6b	G		(calculated)	(calculated)	0.621	1011.993

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

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
6a	C	FLAT		200.00	100.000
6a	D	FLAT	✓	887.00	100.000
6a	E	Linked Arm		N/A	
6b	E	Linked Arm		N/A	
6b	F	FLAT	✓	731.00	100.000
6b	G	FLAT	✓	389.00	100.000

Linked Arm Data

Junction	Arm	From Junction ID	From Arm ID	Link Type	Flow Source	Uniform Flow (PCU/hr)	Flow Multiplier (%)	Internal Storage Space (PCU)
6a	E	6b	E	Queue limited	Normal	0.00	100.00	1.04
6b	E	6a	E	Queue limited	Normal	0.00	100.00	1.04

Pedestrian Flows

General Flows Data

Junction	Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
6a	C	FLAT	0.00
6a	D	FLAT	0.00
6a	E	-	-
6b	E	-	-
6b	F	FLAT	0.00
6b	G	FLAT	0.00

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 6a (for whole period)

		To		
		C	D	E
From	C	0.000	217.000	478.000
	D	309.000	0.000	578.000
	E	391.000	510.000	0.000

Turning Proportions (PCU) - Junction 6a (for whole period)

		To		
		C	D	E
From	C	0.00	0.31	0.69
	D	0.35	0.00	0.65
	E	0.43	0.57	0.00

Turning Counts / Proportions (PCU/hr) - Junction 6b (for whole period)

		To		
		E	F	G
From	E	0.000	703.000	353.000
	F	613.000	0.000	118.000
	G	288.000	101.000	0.000

Turning Proportions (PCU) - Junction 6b (for whole period)

		To		
		E	F	G
From	E	0.00	0.67	0.33
	F	0.84	0.00	0.16
	G	0.74	0.26	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 6a (for whole period)

		To		
		C	D	E
From	C	1.000	1.000	1.000
	D	1.000	1.000	1.000
	E	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 6a (for whole period)

		To		
		C	D	E
From	C	0.0	0.0	0.0
	D	0.0	0.0	0.0
	E	0.0	0.0	0.0

Average PCU Per Vehicle - Junction 6b (for whole period)

		To		
		E	F	G
From	E	1.000	1.000	1.000
	F	1.000	1.000	1.000
	G	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 6b (for whole period)

		To		
		E	F	G
From	E	0.0	0.0	0.0
	F	0.0	0.0	0.0
	G	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
6a	C	1.10	361.97	19.14	F	200.00	200.00	763.03	228.91	12.72	818.39	245.52
6a	D	1.55	1626.45	297.22	F	887.00	887.00	8696.22	588.25	144.94	13312.37	900.50
6a	E	0.51	6.48	1.04	A	579.20	579.20	61.69	6.39	1.03	61.72	6.39
6b	E	0.51	7.38	1.04	A	508.71	508.71	61.63	7.27	1.03	61.66	7.27
6b	F	1.71	2198.56	297.99	F	731.00	731.00	8827.17	724.53	147.12	15053.40	1235.57
6b	G	1.37	1051.38	97.13	F	389.00	389.00	3067.18	473.09	51.12	4014.82	619.25

Main Results for each time segment

Main results: (08:00-08:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
6a	C	200.00	50.00	166.54	462.95	325.96	0.00	186.45	305.56	1.073	0.00	8.37	123.220	F
6a	D	887.00	221.75	611.58	377.96	114.54	0.00	620.46	460.54	1.430	0.00	68.86	214.361	F
6a	E	580.02	145.00	575.86	513.06	213.05	0.00	1129.57	1160.78	0.513	0.00	1.04	6.455	A
6b	E	513.06	128.27	508.90	580.02	71.11	0.00	998.24	992.73	0.514	0.00	1.04	7.297	A
6b	F	731.00	182.75	449.85	409.90	170.12	0.00	456.25	432.62	1.602	0.00	70.29	298.467	F
6b	G	389.00	97.25	273.90	242.73	377.24	0.00	283.41	314.91	1.373	0.00	28.78	205.184	F

Main results: (08:15-08:30)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
6a	C	200.00	50.00	175.92	457.29	327.07	0.00	181.08	305.57	1.105	8.37	14.38	263.914	F
6a	D	887.00	221.75	592.86	382.00	120.99	0.00	593.03	460.53	1.496	68.86	142.39	657.347	F
6a	E	577.83	144.46	577.83	507.32	206.53	0.00	1133.44	1160.78	0.510	1.04	1.04	6.478	A
6b	E	507.32	126.83	507.32	577.83	77.11	0.00	995.14	992.73	0.510	1.04	1.04	7.378	A
6b	F	731.00	182.75	426.87	414.84	169.59	0.00	426.96	432.62	1.712	70.29	146.32	924.949	F
6b	G	389.00	97.25	296.98	238.49	357.96	0.00	297.67	314.91	1.307	28.78	51.78	508.480	F

Main results: (08:30-08:45)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
6a	C	200.00	50.00	187.42	453.58	327.81	0.00	191.87	305.57	1.042	14.38	17.53	330.847	F
6a	D	887.00	221.75	580.61	386.32	128.90	0.00	580.67	460.53	1.528	142.39	218.99	1136.604	F
6a	E	579.12	144.78	579.12	507.25	202.27	0.00	1135.97	1160.78	0.510	1.04	1.04	6.464	A
6b	E	507.25	126.81	507.25	579.12	77.39	0.00	994.99	992.73	0.510	1.04	1.04	7.382	A
6b	F	731.00	182.75	427.46	415.07	169.56	0.00	427.49	432.62	1.710	146.32	222.20	1561.950	F
6b	G	389.00	97.25	298.05	238.57	358.46	0.00	298.34	314.91	1.304	51.78	74.52	780.177	F

Main results: (08:45-09:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
6a	C	200.00	50.00	193.56	451.60	328.19	0.00	198.51	305.56	1.008	17.53	19.14	361.971	F
6a	D	887.00	221.75	574.08	388.63	133.13	0.00	574.10	460.54	1.545	218.99	297.22	1626.455	F
6a	E	579.81	144.95	579.81	507.22	199.99	0.00	1137.32	1160.78	0.510	1.04	1.04	6.456	A
6b	E	507.22	126.80	507.22	579.81	77.51	0.00	994.93	992.73	0.510	1.04	1.04	7.380	A
6b	F	731.00	182.75	427.85	415.18	169.55	0.00	427.86	432.62	1.708	222.20	297.99	2198.558	F
6b	G	389.00	97.25	298.54	238.62	358.78	0.00	298.70	314.91	1.302	74.52	97.13	1051.381	F

Queueing Delay Results for each time segment

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

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
6a	C	76.44	5.10	123.220	F	F
6a	D	529.93	35.33	214.361	F	F
6a	E	14.89	0.99	6.455	A	A
6b	E	14.83	0.99	7.297	A	A
6b	F	537.16	35.81	298.467	F	F
6b	G	228.03	15.20	205.184	F	F

Queueing Delay results: (08:15-08:30)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
6a	C	171.75	11.45	263.914	F	F
6a	D	1584.42	105.63	657.347	F	F
6a	E	15.60	1.04	6.478	A	A
6b	E	15.60	1.04	7.378	A	A
6b	F	1624.59	108.31	924.949	F	F
6b	G	604.41	40.29	508.480	F	F

Queueing Delay results: (08:30-08:45)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
6a	C	239.69	15.98	330.847	F	F
6a	D	2710.34	180.69	1136.604	F	F
6a	E	15.60	1.04	6.464	A	A
6b	E	15.60	1.04	7.382	A	A
6b	F	2763.94	184.26	1561.950	F	F
6b	G	947.32	63.15	780.177	F	F

Queueing Delay results: (08:45-09:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
6a	C	275.15	18.34	361.971	F	F
6a	D	3871.54	258.10	1626.455	F	F
6a	E	15.60	1.04	6.456	A	A
6b	E	15.60	1.04	7.380	A	A
6b	F	3901.48	260.10	2198.558	F	F
6b	G	1287.43	85.83	1051.381	F	F

(Default Analysis Set) - 2014 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 6a - Arm E	Internal storage space between linked junctions is small (1.04 PCU). Linked junction results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Pedestrian Crossing	Junction 6a - Arm C - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Junction 6a - Arm D - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Linked Roundabout	Junction 6b - Arm E	Internal storage space between linked junctions is small (1.04 PCU). Linked junction results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Pedestrian Crossing	Junction 6b - Arm F - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Junction 6b - Arm G - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, PM	2014 Base	PM		Varies by Arm	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
6a	6a	Junction 6a	Mini-roundabout	C,D,E	8.52	A
6b	6b	Junction 6b	Mini-roundabout	E,F,G	2143.41	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Junction	Arm	Arm	Name	Description
6a	C	C	Ongar Road N	
6a	D	D	Shenfield Road	
6a	E	E	A1023 High Street	
6b	E	E	A1023 High Street	
6b	F	F	Ingrave Road	
6b	G	G	A1023 High Street	

Capacity Options

Junction	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
6a	C	0.00	99999.00		0.00
6a	D	0.00	99999.00		0.00
6a	E	0.00	99999.00		0.00
6b	E	0.00	99999.00		0.00
6b	F	0.00	99999.00		0.00
6b	G	0.00	99999.00		0.00

Mini Roundabout Geometry

Junction	Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
6a	C	5.20	5.20	6.90	3.33	13.82	7.00	0.00	
6a	D	6.00	6.00	6.20	3.69	16.94	16.30	0.00	
6a	E	7.40	7.40	7.40	0.00	13.91	7.40	0.00	✓
6b	E	5.80	5.80	5.80	0.00	11.06	10.60	0.00	✓
6b	F	6.00	6.00	6.00	0.00	14.38	10.00	0.00	✓
6b	G	5.00	5.00	5.00	0.00	15.97	13.00	0.00	

Pedestrian Crossings

Junction	Arm	Crossing Type
6a	C	Puffin
6a	D	Puffin
6a	E	None
6b	E	None
6b	F	Puffin
6b	G	Puffin

Pelican/ Puffin Crossings

Junction	Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
6a	C	3.00	2.90	1.00	6.00	6.00	7.00	4.00
6a	D	3.00	2.90	1.00	6.00	6.00	7.00	3.00
6b	F	3.00	2.90	1.00	6.00	6.00	7.00	3.00
6b	G	3.00	2.90	1.00	6.00	6.00	7.00	2.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
6a	C		(calculated)	(calculated)	0.647	1031.982
6a	D		(calculated)	(calculated)	0.753	1198.780
6a	E		(calculated)	(calculated)	0.593	1255.923
6b	E		(calculated)	(calculated)	0.517	1035.020
6b	F		(calculated)	(calculated)	0.526	1026.383
6b	G		(calculated)	(calculated)	0.621	1011.993

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

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
6a	C	FLAT		200.00	100.000
6a	D	FLAT	✓	755.00	100.000
6a	E	Linked Arm		N/A	
6b	E	Linked Arm		N/A	
6b	F	FLAT	✓	806.00	100.000
6b	G	FLAT	✓	351.00	100.000

Linked Arm Data

Junction	Arm	From Junction ID	From Arm ID	Link Type	Flow Source	Uniform Flow (PCU/hr)	Flow Multiplier (%)	Internal Storage Space (PCU)
6a	E	6b	E	Queue limited	Normal	0.00	100.00	1.04
6b	E	6a	E	Queue limited	Normal	0.00	100.00	1.04

Pedestrian Flows

General Flows Data

Junction	Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
6a	C	FLAT	0.00
6a	D	FLAT	0.00
6a	E	-	-
6b	E	-	-
6b	F	FLAT	0.00
6b	G	FLAT	0.00

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 6a (for whole period)

		To		
		C	D	E
From	C	0.000	266.000	422.000
	D	389.000	0.000	366.000
	E	455.000	552.000	0.000

Turning Proportions (PCU) - Junction 6a (for whole period)

		To		
		C	D	E
From	C	0.00	0.39	0.61
	D	0.52	0.00	0.48
	E	0.45	0.55	0.00

Turning Counts / Proportions (PCU/hr) - Junction 6b (for whole period)

		To		
		E	F	G
From	E	0.000	486.000	302.000
	F	725.000	0.000	81.000
	G	282.000	69.000	0.000

Turning Proportions (PCU) - Junction 6b (for whole period)

		To		
		E	F	G
From	E	0.00	0.62	0.38
	F	0.90	0.00	0.10
	G	0.80	0.20	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 6a (for whole period)

		To		
		C	D	E
From	C	1.000	1.000	1.000
	D	1.000	1.000	1.000
	E	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 6a (for whole period)

		To		
		C	D	E
From	C	0.0	0.0	0.0
	D	0.0	0.0	0.0
	E	0.0	0.0	0.0

Average PCU Per Vehicle - Junction 6b (for whole period)

		To		
		E	F	G
From	E	1.000	1.000	1.000
	F	1.000	1.000	1.000
	G	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 6b (for whole period)

		To		
		E	F	G
From	E	0.0	0.0	0.0
	F	0.0	0.0	0.0
	G	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
6a	C	0.24	5.57	0.31	A	200.00	200.00	18.34	5.50	0.31	18.34	5.50
6a	D	0.68	10.24	2.13	B	755.00	755.00	123.78	9.84	2.06	123.90	9.85
6a	E	0.51	7.16	1.04	A	524.03	524.03	61.64	7.06	1.03	61.67	7.06
6b	E	0.48	6.89	0.93	A	487.45	487.45	54.57	6.72	0.91	54.60	6.72
6b	F	2.18	3660.07	429.93	F	806.00	806.00	12778.89	951.28	212.98	27748.68	2065.66
6b	G	1.56	1627.81	119.79	F	351.00	351.00	3705.13	633.36	61.75	5530.11	945.32

Main Results for each time segment

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

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
6a	C	200.00	50.00	198.77	621.47	287.21	0.00	846.12	409.04	0.236	0.00	0.31	5.551	A
6a	D	755.00	188.75	746.71	364.06	121.92	0.00	1106.94	551.46	0.682	0.00	2.07	9.782	A
6a	E	528.11	132.03	523.95	483.90	384.73	0.00	1027.76	1087.42	0.514	0.00	1.04	7.088	A
6b	E	483.90	120.98	480.29	528.11	42.81	0.00	1012.88	1008.35	0.478	0.00	0.90	6.718	A
6b	F	806.00	201.50	392.60	339.03	184.07	0.00	396.40	386.65	2.033	0.00	103.35	499.321	F
6b	G	351.00	87.75	217.78	223.53	353.14	0.00	224.32	262.30	1.565	0.00	33.30	289.620	F

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

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
6a	C	200.00	50.00	200.00	625.09	286.52	0.00	846.55	399.25	0.236	0.31	0.31	5.567	A
6a	D	755.00	188.75	754.85	363.84	122.67	0.00	1106.38	563.95	0.682	2.07	2.11	10.228	B
6a	E	522.69	130.67	522.69	488.60	388.92	0.00	1025.27	1083.60	0.510	1.04	1.04	7.162	A
6b	E	488.60	122.15	488.50	522.69	46.29	0.00	1011.08	1008.46	0.483	0.90	0.93	6.886	A
6b	F	806.00	201.50	370.78	347.57	187.22	0.00	370.81	385.45	2.174	103.35	212.16	1544.048	F
6b	G	351.00	87.75	235.46	224.48	333.52	0.00	235.76	261.22	1.489	33.30	62.19	752.746	F

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

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
6a	C	200.00	50.00	200.00	625.14	286.51	0.00	846.56	399.25	0.236	0.31	0.31	5.567	A
6a	D	755.00	188.75	754.95	363.83	122.67	0.00	1106.38	563.95	0.682	2.11	2.12	10.236	B
6a	E	522.67	130.67	522.67	488.65	388.97	0.00	1025.24	1083.60	0.510	1.04	1.04	7.165	A
6b	E	488.65	122.16	488.63	522.67	46.34	0.00	1011.05	1008.46	0.483	0.93	0.93	6.890	A
6b	F	806.00	201.50	370.50	347.71	187.27	0.00	370.51	385.45	2.175	212.16	321.03	2602.112	F
6b	G	351.00	87.75	235.75	224.50	333.26	0.00	235.87	261.22	1.488	62.19	91.00	1189.848	F

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

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
6a	C	200.00	50.00	200.00	625.15	286.51	0.00	846.56	399.25	0.236	0.31	0.31	5.567	A
6a	D	755.00	188.75	754.97	363.83	122.67	0.00	1106.38	563.95	0.682	2.12	2.13	10.240	B
6a	E	522.67	130.67	522.67	488.66	388.99	0.00	1025.23	1083.60	0.510	1.04	1.04	7.162	A
6b	E	488.66	122.17	488.65	522.67	46.36	0.00	1011.04	1008.46	0.483	0.93	0.93	6.890	A
6b	F	806.00	201.50	370.42	347.74	187.28	0.00	370.42	385.45	2.176	321.03	429.93	3660.066	F
6b	G	351.00	87.75	235.84	224.50	333.19	0.00	235.90	261.22	1.488	91.00	119.79	1627.813	F

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
6a	C	4.47	0.30	5.551	A	A
6a	D	28.67	1.91	9.782	A	A
6a	E	14.84	0.99	7.088	A	A
6b	E	12.92	0.86	6.718	A	A
6b	F	781.48	52.10	499.321	F	F
6b	G	258.86	17.26	289.620	F	F

Queueing Delay results: (17:15-17:30)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
6a	C	4.62	0.31	5.567	A	A
6a	D	31.44	2.10	10.228	B	B
6a	E	15.60	1.04	7.162	A	A
6b	E	13.77	0.92	6.886	A	A
6b	F	2366.31	157.75	1544.048	F	F
6b	G	716.32	47.75	752.746	F	F

Queueing Delay results: (17:30-17:45)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
6a	C	4.63	0.31	5.567	A	A
6a	D	31.76	2.12	10.236	B	B
6a	E	15.60	1.04	7.165	A	A
6b	E	13.92	0.93	6.890	A	A
6b	F	3998.91	266.59	2602.112	F	F
6b	G	1148.97	76.60	1189.848	F	F

Queueing Delay results: (17:45-18:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
6a	C	4.63	0.31	5.567	A	A
6a	D	31.90	2.13	10.240	B	B
6a	E	15.60	1.04	7.162	A	A
6b	E	13.96	0.93	6.890	A	A
6b	F	5632.19	375.48	3660.066	F	F
6b	G	1580.98	105.40	1627.813	F	F

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

Filename: 07 B128 Ingrave Road - B186 Queens Road.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 10:41:53

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Arm A	1.29	6.86	0.57	A	1.11	7.66	0.53	A
Arm B	101.64	433.99	1.12	F	3.67	20.19	0.79	C
Arm C	1.06	7.80	0.52	A	3.26	15.95	0.77	C

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 10:41:53

File summary

Title	A128 Ingrave Road / B186 Queens Road
Location	Brentwood
Site Number	07
Date	14/07/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm B - Zebra Details	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm C - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	186.99	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Ingrave Road N	
B	B	Ingrave Road S	
C	C	Queens Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.00	3.00	5.00	10.01	18.82	19.60	0.00	
B	3.50	3.50	4.20	9.24	13.53	6.90	0.00	
C	2.70	2.70	7.00	45.00	10.73	6.70	0.00	✓

Pedestrian Crossings

Arm	Crossing Type
A	None
B	Zebra
C	Puffin

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)
B	7.70	8.00		Distance	7.00	5.00				

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
C	3.00	2.90	1.00	6.00	6.00	7.00	3.00

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)
A		(calculated)	(calculated)	1.037	1434.948
B		(calculated)	(calculated)	0.558	920.111
C		(calculated)	(calculated)	0.522	1216.945

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	682.00	100.000
B	FLAT	✓	855.00	100.000
C	FLAT	✓	493.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	-	-
B	FLAT	0.00
C	FLAT	0.00

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	396.000	286.000
	B	565.000	0.000	290.000
	C	273.000	220.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.58	0.42
	B	0.66	0.00	0.34
	C	0.55	0.45	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.57	6.86	1.29	A	682.00	682.00	76.11	6.70	1.27	76.15	6.70
B	1.12	433.99	101.64	F	855.00	855.00	3209.53	225.23	53.49	3617.01	253.82
C	0.52	7.80	1.06	A	493.00	493.00	62.17	7.57	1.04	62.20	7.57

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	682.00	170.50	676.91	757.60	218.16	0.00	1208.63	981.89	0.564	0.00	1.27	6.709	A
B	855.00	213.75	736.78	611.20	283.86	0.00	761.71	690.35	1.122	0.00	29.55	84.906	F
C	493.00	123.25	488.87	533.77	486.88	0.00	962.60	978.63	0.512	0.00	1.03	7.536	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	682.00	170.50	681.94	773.60	219.96	0.00	1206.76	981.89	0.565	1.27	1.29	6.856	A
B	855.00	213.75	757.62	615.93	285.98	0.00	760.54	690.35	1.124	29.55	53.90	210.634	F
C	493.00	123.25	492.91	542.95	500.65	0.00	955.41	978.63	0.516	1.03	1.05	7.782	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	682.00	170.50	681.98	774.72	219.99	0.00	1206.73	981.89	0.565	1.29	1.29	6.859	A
B	855.00	213.75	759.25	615.98	285.99	0.00	760.53	690.35	1.124	53.90	77.84	322.379	F
C	493.00	123.25	492.98	543.52	501.73	0.00	954.84	978.63	0.516	1.05	1.06	7.793	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	682.00	170.50	681.99	775.09	220.00	0.00	1206.72	981.89	0.565	1.29	1.29	6.859	A
B	855.00	213.75	759.80	615.99	286.00	0.00	760.52	690.35	1.124	77.84	101.64	433.988	F
C	493.00	123.25	492.99	543.71	502.09	0.00	954.65	978.63	0.516	1.06	1.06	7.797	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.14	1.21	6.709	A	A
B	248.27	16.55	84.906	F	F
C	14.70	0.98	7.536	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.23	1.28	6.856	A	A
B	626.82	41.79	210.634	F	F
C	15.70	1.05	7.782	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.35	1.29	6.859	A	A
B	988.28	65.89	322.379	F	F
C	15.86	1.06	7.793	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.39	1.29	6.859	A	A
B	1346.16	89.74	433.988	F	F
C	15.91	1.06	7.797	A	A

(Default Analysis Set) - 2014 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm B - Zebra Details	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm C - Pelican/Puffin Details	Pedestrian crossing uses default flow of 0. Is this correct?

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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	15.17	C

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Ingrave Road N	
B	B	Ingrave Road S	
C	C	Queens Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.00	3.00	5.00	10.01	18.82	19.60	0.00	
B	3.50	3.50	4.20	9.24	13.53	6.90	0.00	
C	2.70	2.70	7.00	45.00	10.73	6.70	0.00	✓

Pedestrian Crossings

Arm	Crossing Type
A	None
B	Zebra
C	Puffin

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)
B	7.70	8.00		Distance	7.00	5.00				

Pelican/ Puffin Crossings

Arm	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)	Space between crossing and junction entry (PCU)
C	3.00	2.90	1.00	6.00	6.00	7.00	3.00

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)
A		(calculated)	(calculated)	1.037	1434.948
B		(calculated)	(calculated)	0.558	920.111
C		(calculated)	(calculated)	0.522	1216.945

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	524.00	100.000
B	FLAT	✓	669.00	100.000
C	FLAT	✓	749.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
A	-	-
B	FLAT	0.00
C	FLAT	0.00

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	392.000	132.000
	B	465.000	0.000	204.000
	C	324.000	425.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.75	0.25
	B	0.70	0.00	0.30
	C	0.43	0.57	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.53	7.66	1.11	A	524.00	524.00	64.96	7.44	1.08	65.00	7.44
B	0.79	20.19	3.67	C	669.00	669.00	206.09	18.48	3.43	206.57	18.53
C	0.77	15.95	3.26	C	749.00	749.00	184.44	14.78	3.07	184.77	14.80

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	524.00	131.00	519.68	774.23	418.09	0.00	1001.21	888.56	0.523	0.00	1.08	7.413	A
B	669.00	167.25	655.33	806.86	130.91	0.00	847.06	795.21	0.790	0.00	3.42	17.701	C
C	749.00	187.25	736.83	330.74	455.50	0.00	978.99	928.20	0.765	0.00	3.04	14.232	B

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	524.00	131.00	523.91	788.29	424.66	0.00	994.40	888.56	0.527	1.08	1.10	7.649	A
B	669.00	167.25	668.34	816.60	131.98	0.00	846.47	795.21	0.790	3.42	3.58	20.023	C
C	749.00	187.25	748.41	335.78	464.54	0.00	974.27	928.20	0.769	3.04	3.19	15.843	C

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	524.00	131.00	523.98	788.75	424.89	0.00	994.16	888.56	0.527	1.10	1.11	7.655	A
B	669.00	167.25	668.76	816.88	131.99	0.00	846.46	795.21	0.790	3.58	3.64	20.145	C
C	749.00	187.25	748.81	335.92	464.83	0.00	974.12	928.20	0.769	3.19	3.24	15.925	C

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	524.00	131.00	523.99	788.87	424.95	0.00	994.10	888.56	0.527	1.11	1.11	7.656	A
B	669.00	167.25	668.88	816.94	132.00	0.00	846.46	795.21	0.790	3.64	3.67	20.191	C
C	749.00	187.25	748.91	335.96	464.91	0.00	974.07	928.20	0.769	3.24	3.26	15.950	C

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.37	1.02	7.413	A	A
B	44.23	2.95	17.701	C	B
C	40.38	2.69	14.232	B	B

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	16.41	1.09	7.649	A	A
B	52.75	3.52	20.023	C	C
C	47.03	3.14	15.843	C	B

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	16.57	1.10	7.655	A	A
B	54.23	3.62	20.145	C	C
C	48.27	3.22	15.925	C	B

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	16.62	1.11	7.656	A	A
B	54.87	3.66	20.191	C	C
C	48.77	3.25	15.950	C	B

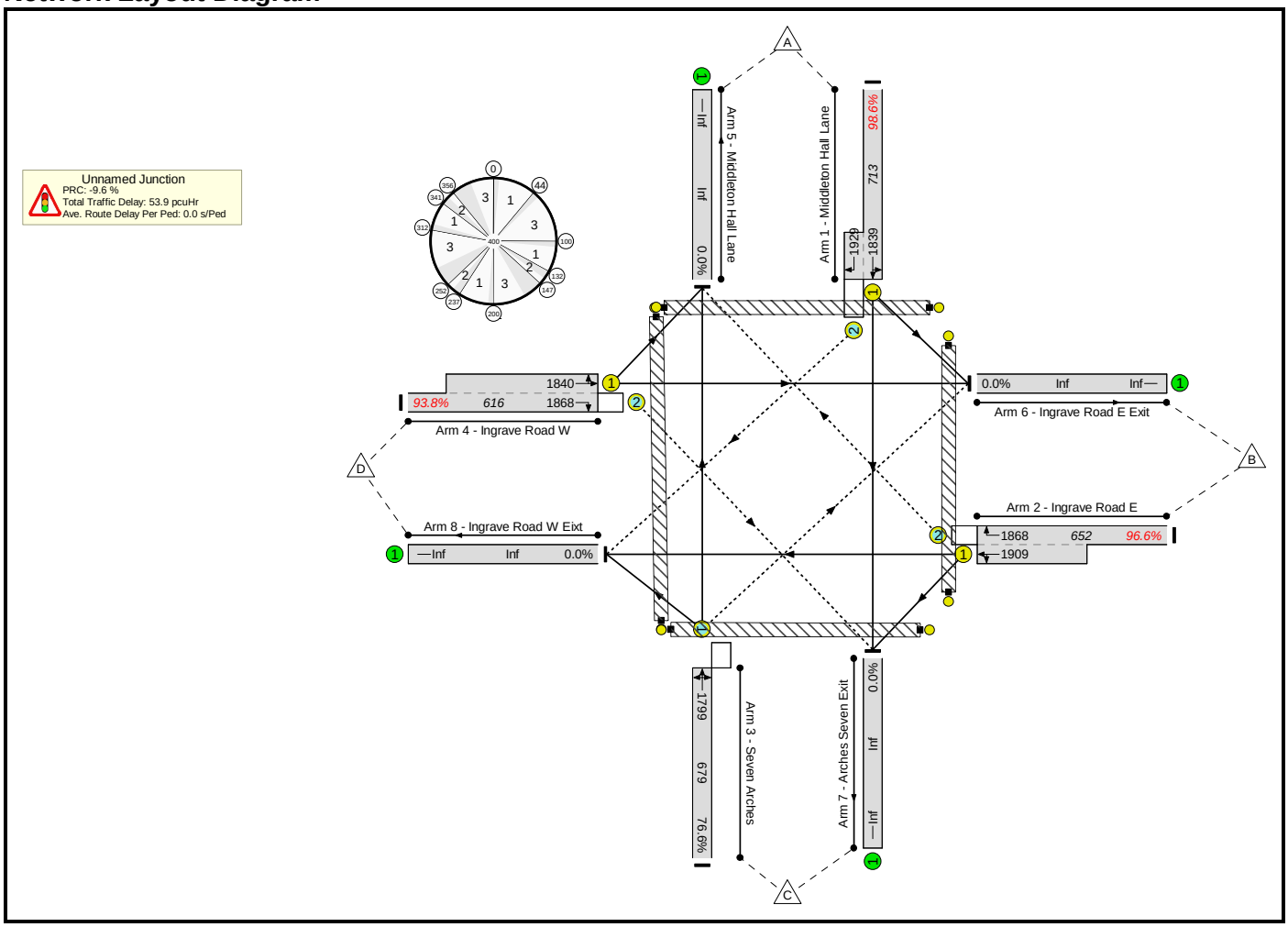
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	08.A128 Ingrave Road - Middleton Hall Lane - 7 arches Road Rev B.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM 2014' (FG1: 'AM 2012 Existing', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**98.6%**	**201**	**0**	**213**	**53.9**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**98.6%**	**201**	**0**	**213**	**53.9**	-	-
1/1+1/2	Middleton Hall Lane Left Ahead Right	U+O	C		4	147	-	703	1839:1929	713	98.6%	103	0	91	20.3	103.8	32.6
2/2+2/1	Ingrave Road E Right Left Ahead	O+U	B		4	122	-	630	1868:1909	652	96.6%	51	0	51	15.4	87.8	26.2
3/1	Seven Arches Ahead Right Left	O	D		4	147	-	520	1799	679	76.6%	15	0	13	5.8	40.0	15.9
4/2+4/1	Ingrave Road W Left Ahead Right	O+U	A		4	118	-	578	1868:1840	616	93.8%	33	0	57	12.5	78.0	21.1
Ped Link: P1	Unnamed Ped Link	-	E		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	G		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	F		3	21	-	0	-	0	0.0%	-	-	-	-	-	-

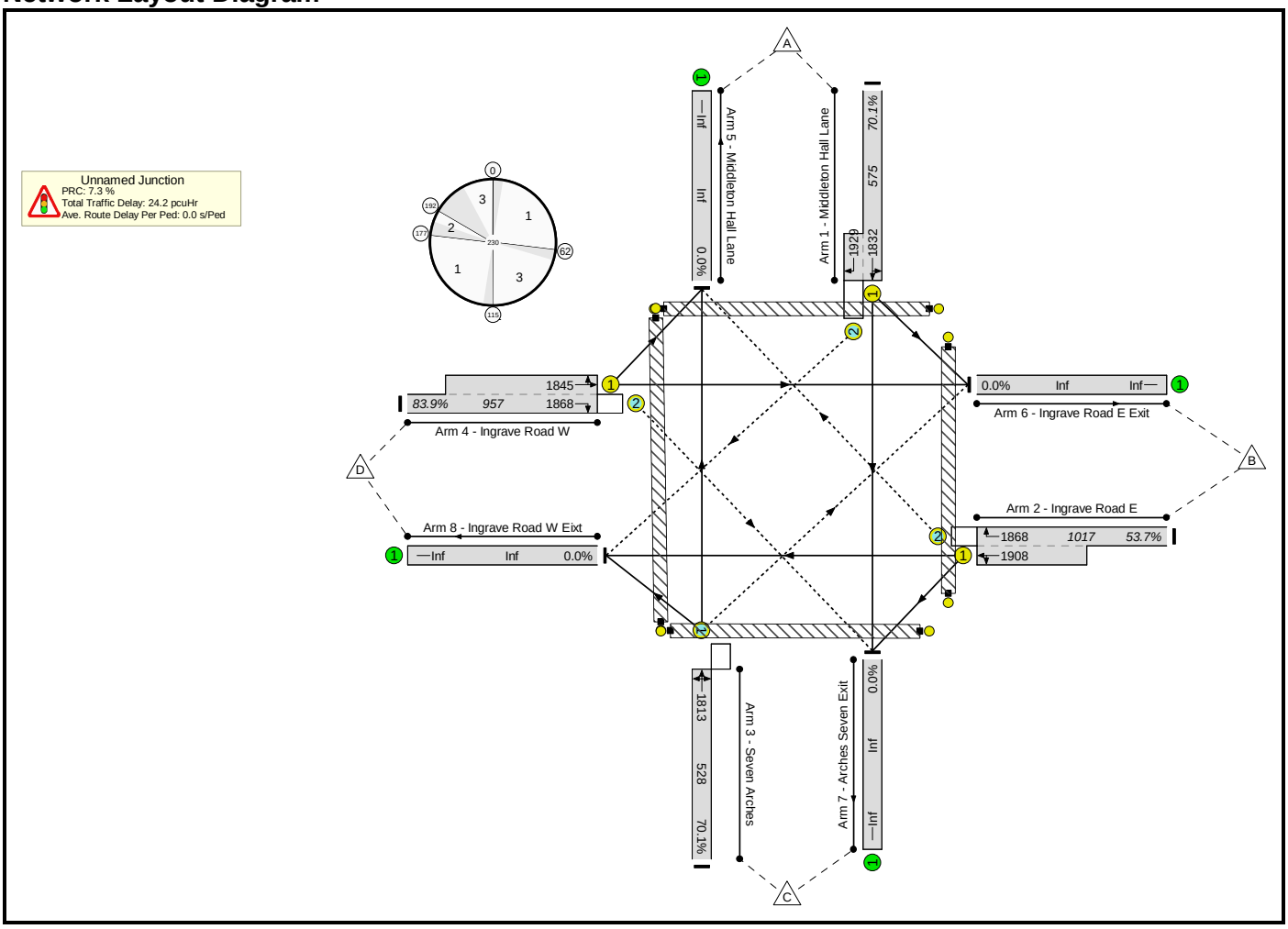
C1 PRC for Signalled Lanes (%): -9.6 Total Delay for Signalled Lanes (pcuHr): 53.94 Cycle Time (s): 400

PRC Over All Lanes (%): -9.6 Total Delay Over All Lanes(pcuHr): 53.94

Basic Results Summary

Scenario 2: 'PM 2014' (FG2: 'PM 2012 Existing', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**83.9%**	**194**	**0**	**45**	**24.2**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**83.9%**	**194**	**0**	**45**	**24.2**	-	-
1/1+1/2	Middleton Hall Lane Left Ahead Right	U+O	C		2	65	-	403	1832:1929	575	70.1%	44	0	33	6.3	55.9	13.5
2/2+2/1	Ingrave Road E Right Left Ahead	O+U	B		2	114	-	546	1868:1908	1017	53.7%	76	0	0	4.0	26.6	10.6
3/1	Seven Arches Ahead Right Left	O	D		2	65	-	370	1813	528	70.1%	17	0	12	5.9	57.4	13.0
4/2+4/1	Ingrave Road W Left Ahead Right	O+U	A		2	112	-	803	1868:1845	957	83.9%	57	0	0	8.1	36.1	23.3
Ped Link: P1	Unnamed Ped Link	-	E		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	G		1	7	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	F		1	7	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 7.3 Total Delay for Signalled Lanes (pcuHr): 24.25 Cycle Time (s): 230

PRC Over All Lanes (%): 7.3 Total Delay Over All Lanes(pcuHr): 24.25

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

Filename: 09 B185 Kings Road Road - B186 Queens Road.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 10:40:40

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Arm A	3.10	24.16	0.76	C	5.02	36.85	0.84	E
Arm B	0.76	6.04	0.43	A	0.66	5.76	0.40	A
Arm C	1.05	4.92	0.51	A	1.45	5.74	0.59	A

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 10:40:40

File summary

Title	B185 Kings Road - B186 Queens Road
Location	Brentwood
Site Number	09
Date	23/07/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	10.58	B

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Kings Road N	
B	B	Queens Road	
C	C	Kings Road S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.20	3.20	5.90	8.66	17.81	9.80	0.00	
B	3.20	3.20	5.30	13.94	20.00	20.00	0.00	
C	3.80	3.80	7.80	17.12	20.00	19.50	0.00	

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)
A		(calculated)	(calculated)	0.585	851.809
B		(calculated)	(calculated)	1.162	1476.855
C		(calculated)	(calculated)	1.108	1651.460

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	473.00	100.000
B	FLAT	✓	456.00	100.000
C	FLAT	✓	770.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	107.000	366.000
	B	135.000	0.000	321.000
	C	376.000	394.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.30	0.00	0.70
	C	0.49	0.51	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.76	24.16	3.10	C	473.00	473.00	173.43	22.00	2.89	173.89	22.06
B	0.43	6.04	0.76	A	456.00	456.00	44.88	5.91	0.75	44.90	5.91
C	0.51	4.92	1.05	A	770.00	770.00	62.09	4.84	1.03	62.12	4.84

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	473.00	118.25	461.53	508.09	391.87	0.00	622.52	461.64	0.760	0.00	2.87	21.089	C
B	456.00	114.00	453.02	496.28	357.13	0.00	1061.93	1061.83	0.429	0.00	0.74	5.884	A
C	770.00	192.50	765.84	676.03	134.12	0.00	1502.88	1303.21	0.512	0.00	1.04	4.857	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	473.00	118.25	472.39	510.97	393.99	0.00	621.29	461.64	0.761	2.87	3.02	23.937	C
B	456.00	114.00	455.94	500.85	365.53	0.00	1052.17	1061.83	0.433	0.74	0.76	6.037	A
C	770.00	192.50	769.97	686.49	134.98	0.00	1501.92	1303.21	0.513	1.04	1.05	4.918	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	473.00	118.25	472.78	510.99	394.00	0.00	621.28	461.64	0.761	3.02	3.07	24.097	C
B	456.00	114.00	455.99	500.95	365.83	0.00	1051.81	1061.83	0.434	0.76	0.76	6.041	A
C	770.00	192.50	769.99	686.82	135.00	0.00	1501.91	1303.21	0.513	1.05	1.05	4.918	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	473.00	118.25	472.89	511.00	394.00	0.00	621.28	461.64	0.761	3.07	3.10	24.156	C
B	456.00	114.00	456.00	500.97	365.91	0.00	1051.72	1061.83	0.434	0.76	0.76	6.042	A
C	770.00	192.50	770.00	686.91	135.00	0.00	1501.91	1303.21	0.513	1.05	1.05	4.918	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	36.93	2.46	21.089	C	C
B	10.73	0.72	5.884	A	A
C	15.01	1.00	4.857	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	44.39	2.96	23.937	C	C
B	11.31	0.75	6.037	A	A
C	15.65	1.04	4.918	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	45.76	3.05	24.097	C	C
B	11.40	0.76	6.041	A	A
C	15.71	1.05	4.918	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	46.35	3.09	24.156	C	C
B	11.43	0.76	6.042	A	A
C	15.73	1.05	4.918	A	A

(Default Analysis Set) - 2014 Base, PM

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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	14.38	B

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Kings Road N	
B	B	Queens Road	
C	C	Kings Road S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.20	3.20	5.90	8.66	17.81	9.80	0.00	
B	3.20	3.20	5.30	13.94	20.00	20.00	0.00	
C	3.80	3.80	7.80	17.12	20.00	19.50	0.00	

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)
A		(calculated)	(calculated)	0.585	851.809
B		(calculated)	(calculated)	1.162	1476.855
C		(calculated)	(calculated)	1.108	1651.460

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	510.00	100.000
B	FLAT	✓	414.00	100.000
C	FLAT	✓	913.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	133.000	377.000
	B	101.000	0.000	313.000
	C	492.000	421.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.24	0.00	0.76
	C	0.54	0.46	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.84	36.85	5.02	E	510.00	510.00	268.10	31.54	4.47	269.35	31.69
B	0.40	5.76	0.66	A	414.00	414.00	38.79	5.62	0.65	38.81	5.62
C	0.59	5.74	1.45	A	913.00	913.00	85.59	5.62	1.43	85.63	5.63

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	510.00	127.50	492.75	589.29	418.36	0.00	607.03	483.65	0.840	0.00	4.31	28.301	D
B	414.00	103.50	411.44	546.86	364.25	0.00	1053.65	1061.47	0.393	0.00	0.64	5.583	A
C	913.00	228.25	907.27	675.31	100.37	0.00	1540.26	1364.58	0.593	0.00	1.43	5.637	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	510.00	127.50	508.25	592.96	420.98	0.00	605.49	483.65	0.842	4.31	4.75	35.652	E
B	414.00	103.50	413.94	553.52	375.71	0.00	1040.34	1061.47	0.398	0.64	0.66	5.747	A
C	913.00	228.25	912.95	688.66	100.99	0.00	1539.59	1364.58	0.593	1.43	1.45	5.744	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	510.00	127.50	509.30	592.99	420.99	0.00	605.49	483.65	0.842	4.75	4.92	36.506	E
B	414.00	103.50	413.99	553.81	376.48	0.00	1039.44	1061.47	0.398	0.66	0.66	5.755	A
C	913.00	228.25	912.98	689.47	101.00	0.00	1539.57	1364.58	0.593	1.45	1.45	5.744	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	510.00	127.50	509.62	592.99	421.00	0.00	605.48	483.65	0.842	4.92	5.02	36.855	E
B	414.00	103.50	414.00	553.90	376.72	0.00	1039.16	1061.47	0.398	0.66	0.66	5.757	A
C	913.00	228.25	912.99	689.72	101.00	0.00	1539.57	1364.58	0.593	1.45	1.45	5.744	A

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	52.20	3.48	28.301	D	C
B	9.27	0.62	5.583	A	A
C	20.50	1.37	5.637	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	68.57	4.57	35.652	E	D
B	9.77	0.65	5.747	A	A
C	21.61	1.44	5.744	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	72.70	4.85	36.506	E	D
B	9.86	0.66	5.755	A	A
C	21.72	1.45	5.744	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	74.64	4.98	36.855	E	D
B	9.89	0.66	5.757	A	A
C	21.76	1.45	5.744	A	A

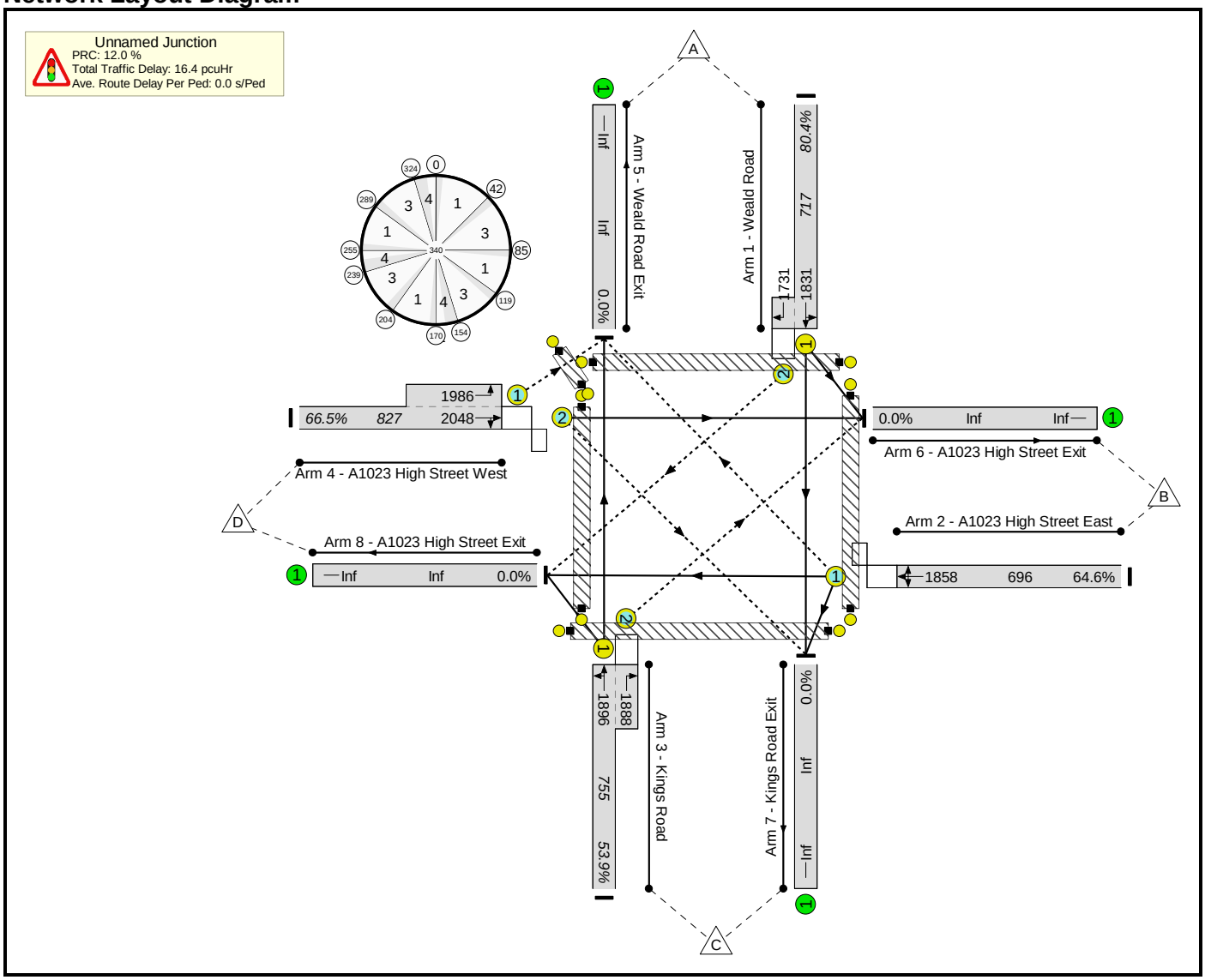
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	10.A1023 High Street - B185 Kings Road - A1023 London Road - Weald Road Rev B.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM Existing' (FG1: 'AM 2012 Existing', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

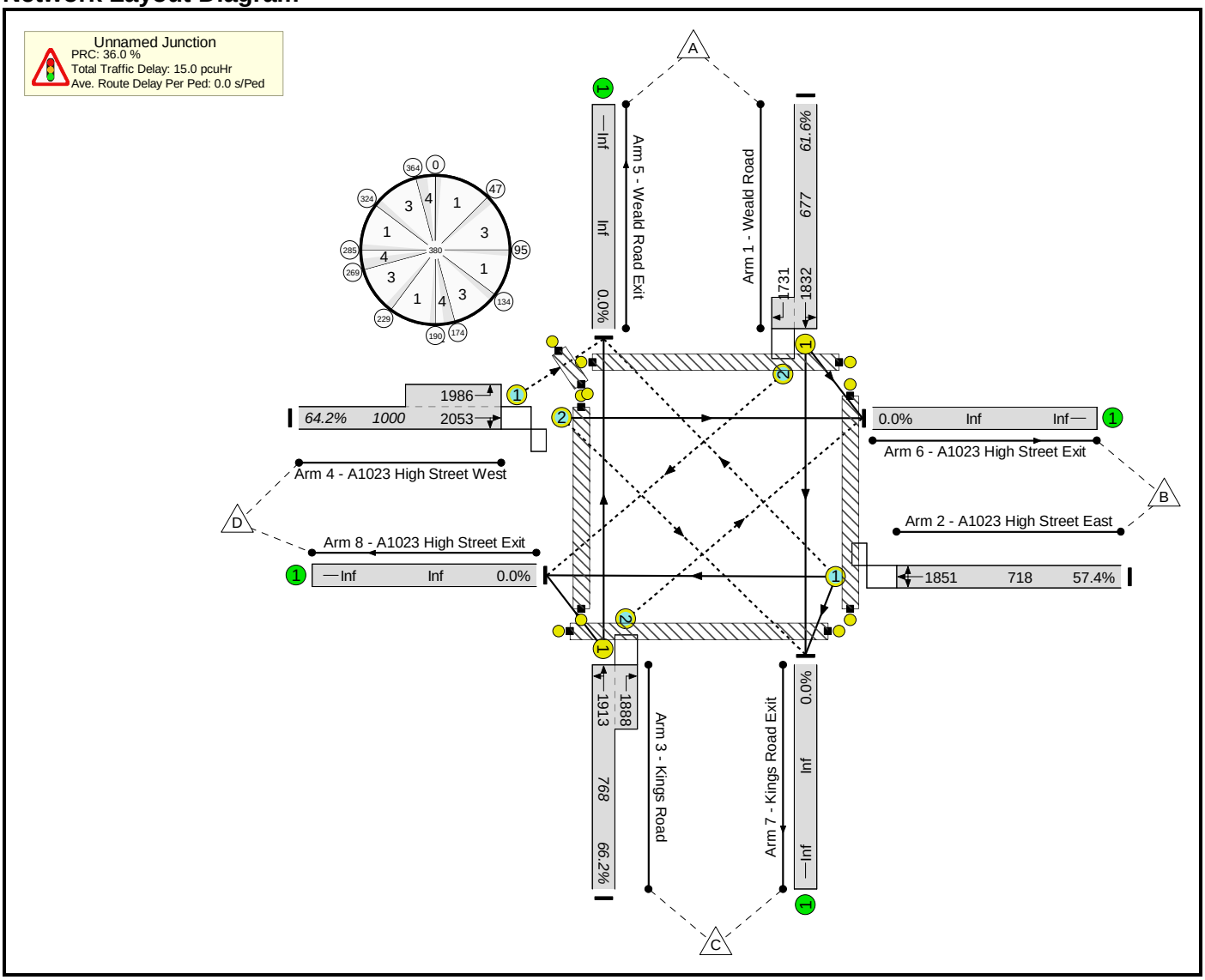
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**80.4%**	**777**	**8**	**17**	**16.4**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**80.4%**	**777**	**8**	**17**	**16.4**	-	-
1/1+1/2	Weald Road Left Ahead Right	U+O	D		4	124	-	576	1831:1731	717	80.4%	166	0	0	6.1	37.9	15.4
2/1	A1023 High Street East Right Left Ahead	O	B		4	124	-	450	1858	696	64.6%	42	0	1	3.7	29.5	10.0
3/1+3/2	Kings Road Ahead Right Left	U+O	C		4	124	-	407	1896:1888	755	53.9%	79	0	0	3.2	28.7	8.3
4/2+4/1	A1023 High Street West Left Ahead Right	O	A E		4:3	124:289	-	550	2048:1986	827	66.5%	490	8	16	3.4	22.5	8.5
Ped Link: P1	Unnamed Ped Link	-	G		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	I		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P5	Unnamed Ped Link	-	F		3	21	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 12.0 Total Delay for Signalled Lanes (pcuHr): 16.44 Cycle Time (s): 340
PRC Over All Lanes (%): 12.0 Total Delay Over All Lanes(pcuHr): 16.44

Basic Results Summary

Scenario 2: 'PM Existing' (FG2: 'PM 2012 Existing', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**66.2%**	**944**	**13**	**23**	**15.0**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**66.2%**	**944**	**13**	**23**	**15.0**	-	-
1/1+1/2	Weald Road Left Ahead Right	U+O	D		4	144	-	417	1832:1731	677	61.6%	128	0	0	3.9	33.8	9.7
2/1	A1023 High Street East Right Left Ahead	O	B		4	144	-	412	1851	718	57.4%	41	0	1	3.3	29.1	9.5
3/1+3/2	Kings Road Ahead Right Left	U+O	C		4	144	-	508	1913:1888	768	66.2%	73	0	0	4.5	31.6	13.1
4/2+4/1	A1023 High Street West Left Ahead Right	O	A E		4:3	144:329	-	642	2053:1986	1000	64.2%	702	13	22	3.3	18.5	8.5
Ped Link: P1	Unnamed Ped Link	-	G		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	I		3	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P5	Unnamed Ped Link	-	F		3	21	-	0	-	0	0.0%	-	-	-	-	-	-

C1

PRC for Signalled Lanes (%): 36.0
PRC Over All Lanes (%): 36.0

Total Delay for Signalled Lanes (pcuHr): 14.99
Total Delay Over All Lanes(pcuHr): 14.99

Cycle Time (s): 380

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

Filename: 11 Weald Road - Western Road.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 10:43:14

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Arm A	0.63	8.04	0.39	A	0.35	7.80	0.26	A
Arm B	0.94	8.51	0.49	A	0.62	6.60	0.39	A
Arm C	0.88	7.01	0.47	A	2.24	12.10	0.69	B

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 10:43:14

File summary

Title	Weald Road / Western Road
Location	Brentwood
Site Number	11
Date	14/07/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	John Holliday
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	7.80	A

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Weald Road N	
B	B	Western Road	
C	C	Weald Road S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.00	3.00	4.80	4.33	8.88	9.50	0.00	
B	3.60	3.60	4.40	7.21	9.64	5.90	0.00	
C	3.90	3.90	4.10	3.65	10.38	15.20	0.00	

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)
A		(calculated)	(calculated)	0.546	923.082
B		(calculated)	(calculated)	0.564	946.249
C		(calculated)	(calculated)	0.610	984.812

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	284.00	100.000
B	FLAT	✓	401.00	100.000
C	FLAT	✓	454.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	67.000	217.000
	B	28.000	0.000	373.000
	C	103.000	351.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.24	0.76
	B	0.07	0.00	0.93
	C	0.23	0.77	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.39	8.04	0.63	A	284.00	284.00	37.27	7.87	0.62	37.29	7.88
B	0.49	8.51	0.94	A	401.00	401.00	55.49	8.30	0.92	55.53	8.31
C	0.47	7.01	0.88	A	454.00	454.00	51.97	6.87	0.87	51.99	6.87

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	284.00	71.00	281.51	129.95	348.31	0.00	733.03	520.60	0.387	0.00	0.62	7.930	A
B	401.00	100.25	397.28	414.72	215.09	0.00	824.93	721.89	0.486	0.00	0.93	8.348	A
C	454.00	113.50	450.52	584.64	27.74	0.00	967.89	954.07	0.469	0.00	0.87	6.914	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	284.00	71.00	283.98	130.99	350.98	0.00	731.57	520.60	0.388	0.62	0.63	8.043	A
B	401.00	100.25	400.96	417.97	216.98	0.00	823.87	721.89	0.487	0.93	0.94	8.511	A
C	454.00	113.50	453.97	589.94	28.00	0.00	967.74	954.07	0.469	0.87	0.88	7.006	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	284.00	71.00	283.99	131.00	350.99	0.00	731.56	520.60	0.388	0.63	0.63	8.043	A
B	401.00	100.25	400.99	417.99	216.99	0.00	823.86	721.89	0.487	0.94	0.94	8.513	A
C	454.00	113.50	453.99	589.98	28.00	0.00	967.74	954.07	0.469	0.88	0.88	7.006	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	284.00	71.00	284.00	131.00	351.00	0.00	731.56	520.60	0.388	0.63	0.63	8.043	A
B	401.00	100.25	400.99	418.00	217.00	0.00	823.86	721.89	0.487	0.94	0.94	8.513	A
C	454.00	113.50	454.00	589.99	28.00	0.00	967.74	954.07	0.469	0.88	0.88	7.006	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.93	0.60	7.930	A	A
B	13.20	0.88	8.348	A	A
C	12.47	0.83	6.914	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.41	0.63	8.043	A	A
B	14.03	0.94	8.511	A	A
C	13.12	0.87	7.006	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.46	0.63	8.043	A	A
B	14.11	0.94	8.513	A	A
C	13.18	0.88	7.006	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.48	0.63	8.043	A	A
B	14.15	0.94	8.513	A	A
C	13.20	0.88	7.006	A	A

(Default Analysis Set) - 2014 Base, PM

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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	9.91	A

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
A	A	Weald Road N	
B	B	Western Road	
C	C	Weald Road S	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.00	3.00	4.80	4.33	8.88	9.50	0.00	
B	3.60	3.60	4.40	7.21	9.64	5.90	0.00	
C	3.90	3.90	4.10	3.65	10.38	15.20	0.00	

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)
A		(calculated)	(calculated)	0.546	923.082
B		(calculated)	(calculated)	0.564	946.249
C		(calculated)	(calculated)	0.610	984.812

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	161.00	100.000
B	FLAT	✓	342.00	100.000
C	FLAT	✓	673.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	57.000	104.000
	B	24.000	0.000	318.000
	C	122.000	551.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.35	0.65
	B	0.07	0.00	0.93
	C	0.18	0.82	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.26	7.80	0.35	A	161.00	161.00	20.52	7.65	0.34	20.52	7.65
B	0.39	6.60	0.62	A	342.00	342.00	36.97	6.49	0.62	36.98	6.49
C	0.69	12.10	2.24	B	673.00	673.00	129.62	11.56	2.16	129.77	11.57

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	161.00	40.25	159.63	144.25	543.89	0.00	626.31	497.75	0.257	0.00	0.34	7.692	A
B	342.00	85.50	339.52	600.41	103.12	0.00	888.09	764.90	0.385	0.00	0.62	6.534	A
C	673.00	168.25	664.32	418.81	23.83	0.00	970.28	952.08	0.694	0.00	2.17	11.465	B

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	161.00	40.25	160.98	145.97	550.85	0.00	622.51	497.75	0.259	0.34	0.35	7.800	A
B	342.00	85.50	341.98	607.85	103.99	0.00	887.60	764.90	0.385	0.62	0.62	6.597	A
C	673.00	168.25	672.82	421.97	24.00	0.00	970.18	952.08	0.694	2.17	2.22	12.087	B

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	161.00	40.25	161.00	145.99	550.95	0.00	622.46	497.75	0.259	0.35	0.35	7.801	A
B	342.00	85.50	341.99	607.95	104.00	0.00	887.59	764.90	0.385	0.62	0.62	6.597	A
C	673.00	168.25	672.94	421.99	24.00	0.00	970.18	952.08	0.694	2.22	2.23	12.099	B

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	161.00	40.25	161.00	145.99	550.97	0.00	622.44	497.75	0.259	0.35	0.35	7.801	A
B	342.00	85.50	342.00	607.97	104.00	0.00	887.59	764.90	0.385	0.62	0.62	6.597	A
C	673.00	168.25	672.97	422.00	24.00	0.00	970.18	952.08	0.694	2.23	2.24	12.103	B

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	4.93	0.33	7.692	A	A
B	8.92	0.59	6.534	A	A
C	29.71	1.98	11.465	B	B

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	5.17	0.34	7.800	A	A
B	9.32	0.62	6.597	A	A
C	32.98	2.20	12.087	B	B

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	5.20	0.35	7.801	A	A
B	9.36	0.62	6.597	A	A
C	33.38	2.23	12.099	B	B

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	5.21	0.35	7.801	A	A
B	9.37	0.62	6.597	A	A
C	33.55	2.24	12.103	B	B

Junctions 9

ARCADY 9 - Roundabout Module

Filename: 12 Western Road - William Hunter Way.j9
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 15:35:21

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Arm A	1.3	9.61	0.57	A	0.5	6.54	0.33	A
Arm B	0.2	6.32	0.14	A	0.4	6.84	0.30	A
Arm C	0.6	5.61	0.39	A	1.6	9.21	0.61	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	Western Road - William Hunter Way
Location	Brentwood
Site number	12
Date	14/07/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	PBA"proose
Description	

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	s	-Min	perMin

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Demand Set Summary

Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Model time period length (min)	Time segment length (min)	Run automatically
2014 Base	AM	FLAT	08:00	09:00	60	15	✓
2014 Base	PM	FLAT	17:00	18:00	60	15	✓

(Default Analysis Set) - 2014 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 91% of the total flow for the roundabout for one or more time segments]
Warning	Pedestrian Crossing	Arm B - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm C - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	(Default Analysis Set)	✓	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	7.65	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
A	Western Road N	
B	William Hunter Way	
C	Western S	

Capacity Options

Arm	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Assume flat start profile	Initial queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.70	3.70	3.70	0.0	10.07	7.70	0.0	
B	3.40	3.40	3.80	6.8	9.76	7.40	0.0	
C	3.60	3.60	4.30	2.4	15.26	15.20	0.0	

Pedestrian Crossings

Arm	Crossing type	Average pedestrian flow (Ped/hr)
A	None	
B	Zebra	0.00
C	Zebra	0.00

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (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)
B	1.00	1.00		Distance	7.80	5.57				
C	4.60	5.00	✓	Distance			3.00	2.14	2.80	2.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.617	969.627
B	0.619	869.866
C	0.654	1064.355

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	Model start time (HH:mm)	Model finish time (HH:mm)	Model time period length (min)	Time segment length (min)	Run automatically
D1	2014 Base	AM	FLAT	08:00	09:00	60	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 (%)
A		FLAT	✓	489.00	100.000
B		FLAT	✓	89.00	100.000
C		FLAT	✓	413.00	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	Global	0.00
C	Global	0.00

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0.000	148.000	341.000
	B	15.000	0.000	74.000
	C	241.000	172.000	0.000

Proportions

		To		
		A	B	C
From	A	0.00	0.30	0.70
	B	0.17	0.00	0.83
	C	0.58	0.42	0.00

Vehicle Mix

Heavy Vehicle proportion

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

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)
A	0.57	9.61	1.3	A	489.00	489.00
B	0.14	6.32	0.2	A	89.00	89.00
C	0.39	5.61	0.6	A	413.00	413.00

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
A	489.00	122.25	170.94		864.12	0.566	483.91	254.41	0.0	1.3	9.349	A
B	89.00	22.25	337.45	0.00	661.14	0.135	88.38	317.40	0.0	0.2	6.279	A
C	413.00	103.25	14.90	0.00	1054.61	0.392	410.45	410.94	0.0	0.6	5.571	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
A	489.00	122.25	171.99		863.46	0.566	488.93	255.99	1.3	1.3	9.607	A
B	89.00	22.25	340.95	0.00	658.97	0.135	89.00	319.97	0.2	0.2	6.315	A
C	413.00	103.25	15.00	0.00	1054.55	0.392	412.99	414.95	0.6	0.6	5.610	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
A	489.00	122.25	172.00		863.46	0.566	488.98	256.00	1.3	1.3	9.611	A
B	89.00	22.25	340.98	0.00	658.95	0.135	89.00	319.99	0.2	0.2	6.315	A
C	413.00	103.25	15.00	0.00	1054.54	0.392	413.00	414.98	0.6	0.6	5.610	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
A	489.00	122.25	172.00		863.46	0.566	488.99	256.00	1.3	1.3	9.611	A
B	89.00	22.25	340.99	0.00	658.95	0.135	89.00	320.00	0.2	0.2	6.315	A
C	413.00	103.25	15.00	0.00	1054.54	0.392	413.00	414.99	0.6	0.6	5.610	A

(Default Analysis Set) - 2014 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Pedestrian Crossing	Arm B - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?
Warning	Pedestrian Crossing	Arm C - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	(Default Analysis Set)	✓	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	A,B,C	8.09	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Capacity Options

[same as above]

Mini Roundabout Geometry

[same as above]

Pedestrian Crossings

Arm	Crossing type	Average pedestrian flow (Ped/hr)
A	None	
B	Zebra	0.00
C	Zebra	0.00

Zebra Crossings

Arm	Space between crossing and junction entry (Zebra) (PCU)	Vehicles queueing on exit (Zebra) (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)
B	1.00	1.00		Distance	7.80	5.57				
C	4.60	5.00	✓	Distance			3.00	2.14	2.80	2.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Model time period length (min)	Time segment length (min)	Run automatically
D2	2014 Base	PM	FLAT	17:00	18:00	60	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 (%)
A		FLAT	✓	274.00	100.000
B		FLAT	✓	222.00	100.000
C		FLAT	✓	624.00	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	Global	0.00
C	Global	0.00

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0.000	77.000	197.000
	B	76.000	0.000	146.000
	C	388.000	236.000	0.000

Proportions

		To		
		A	B	C
From	A	0.00	0.28	0.72
	B	0.34	0.00	0.66
	C	0.62	0.38	0.00

Vehicle Mix

Heavy Vehicle proportion

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

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)
A	0.33	6.54	0.5	A	274.00	274.00
B	0.30	6.84	0.4	A	222.00	222.00
C	0.61	9.21	1.6	A	624.00	624.00

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
A	274.00	68.50	233.65		825.41	0.332	272.03	459.56	0.0	0.5	6.484	A
B	222.00	55.50	195.59	0.00	748.89	0.296	220.33	310.09	0.0	0.4	6.791	A
C	624.00	156.00	75.43	0.00	1015.02	0.615	617.78	340.49	0.0	1.6	8.929	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
A	274.00	68.50	235.97		823.98	0.333	273.99	463.94	0.5	0.5	6.544	A
B	222.00	55.50	196.99	0.00	748.02	0.297	221.99	312.96	0.4	0.4	6.843	A
C	624.00	156.00	76.00	0.00	1014.65	0.615	623.92	342.98	1.6	1.6	9.207	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
A	274.00	68.50	235.99		823.96	0.333	274.00	463.98	0.5	0.5	6.545	A
B	222.00	55.50	197.00	0.00	748.02	0.297	222.00	312.99	0.4	0.4	6.843	A
C	624.00	156.00	76.00	0.00	1014.65	0.615	623.97	342.99	1.6	1.6	9.211	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
A	274.00	68.50	235.99		823.96	0.333	274.00	463.99	0.5	0.5	6.545	A
B	222.00	55.50	197.00	0.00	748.01	0.297	222.00	312.99	0.4	0.4	6.843	A
C	624.00	156.00	76.00	0.00	1014.65	0.615	623.99	343.00	1.6	1.6	9.213	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

Filename: 13 A127 - A128 Brentwood Road - A128 Tilbury Road.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 10:46:51

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Arm A	0.71	2.82	0.41	A	0.66	3.17	0.40	A
Arm B	1.36	5.42	0.58	A	1.31	5.33	0.57	A
Arm C	0.59	2.37	0.37	A	0.63	2.30	0.39	A
Arm D	0.36	3.65	0.26	A	0.70	5.13	0.41	A

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 10:46:51

File summary

Title	A127 - A128 Brentwood Road - A128 Tilbury Road
Location	Brentwood
Site Number	13
Date	05/09/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	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	A,B,C,D	✓	✓		3.56	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	Brentwood Road	
B	B	A127 East	
C	C	Tilbury Road	
D	D	A127 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

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
A	3.88	6.70	35.36	999.00	124.00	8.00	
B	5.19	5.19	0.00	999.00	124.00	8.00	
C	4.03	8.85	45.28	48.62	124.00	8.00	
D	5.77	6.36	2.87	999.00	124.00	9.00	

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
A	284.00	55.31
B	340.00	138.64
C	445.00	46.99
D	622.00	140.50

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)
A		(calculated)	(calculated)	1.068	2771.040
B		(calculated)	(calculated)	0.968	2257.709
C		(calculated)	(calculated)	1.155	3219.831
D		(calculated)	(calculated)	0.997	2501.886

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	903.00	100.000
B	FLAT	✓	910.00	100.000
C	FLAT	✓	898.00	100.000
D	FLAT	✓	353.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	426.000	338.000	139.000
	B	514.000	0.000	375.000	21.000
	C	364.000	290.000	0.000	244.000
	D	90.000	34.000	205.000	24.000

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

		To			
		A	B	C	D
From	A	0.00	0.47	0.37	0.15
	B	0.56	0.00	0.41	0.02
	C	0.41	0.32	0.00	0.27
	D	0.25	0.10	0.58	0.07

Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.41	2.82	0.71	A	903.00	903.00	42.02	2.79	0.70	42.03	2.79
B	0.58	5.42	1.36	A	910.00	910.00	80.49	5.31	1.34	80.53	5.31
C	0.37	2.37	0.59	A	898.00	898.00	35.26	2.36	0.59	35.27	2.36
D	0.26	3.65	0.36	A	353.00	353.00	21.28	3.62	0.35	21.28	3.62

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	903.00	225.75	900.19	963.64	551.18	0.00	2182.37	1779.87	0.414	0.00	0.70	2.802	A
B	910.00	227.50	904.62	747.78	703.60	0.00	1576.78	1138.37	0.577	0.00	1.35	5.314	A
C	898.00	224.50	895.65	913.91	694.31	0.00	2417.87	2104.14	0.371	0.00	0.59	2.362	A
D	353.00	88.25	351.58	426.71	1163.25	0.00	1342.43	333.57	0.263	0.00	0.35	3.629	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	903.00	225.75	902.99	967.96	552.99	0.00	2180.44	1779.87	0.414	0.70	0.70	2.817	A
B	910.00	227.50	909.95	749.99	705.99	0.00	1574.47	1138.37	0.578	1.35	1.36	5.417	A
C	898.00	224.50	897.99	917.97	697.97	0.00	2413.64	2104.14	0.372	0.59	0.59	2.374	A
D	353.00	88.25	352.99	427.99	1167.96	0.00	1337.73	333.57	0.264	0.35	0.36	3.654	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	903.00	225.75	903.00	967.99	553.00	0.00	2180.43	1779.87	0.414	0.70	0.71	2.817	A
B	910.00	227.50	909.98	750.00	706.00	0.00	1574.46	1138.37	0.578	1.36	1.36	5.417	A
C	898.00	224.50	898.00	917.99	697.99	0.00	2413.62	2104.14	0.372	0.59	0.59	2.374	A
D	353.00	88.25	353.00	428.00	1167.99	0.00	1337.70	333.57	0.264	0.36	0.36	3.654	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	903.00	225.75	903.00	968.00	553.00	0.00	2180.43	1779.87	0.414	0.71	0.71	2.817	A
B	910.00	227.50	909.99	750.00	706.00	0.00	1574.46	1138.37	0.578	1.36	1.36	5.417	A
C	898.00	224.50	898.00	918.00	698.00	0.00	2413.61	2104.14	0.372	0.59	0.59	2.374	A
D	353.00	88.25	353.00	428.00	1168.00	0.00	1337.70	333.57	0.264	0.36	0.36	3.655	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.30	0.69	2.802	A	A
B	19.31	1.29	5.314	A	A
C	8.67	0.58	2.362	A	A
D	5.20	0.35	3.629	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.56	0.70	2.817	A	A
B	20.31	1.35	5.417	A	A
C	8.85	0.59	2.374	A	A
D	5.35	0.36	3.654	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.58	0.71	2.817	A	A
B	20.41	1.36	5.417	A	A
C	8.87	0.59	2.374	A	A
D	5.36	0.36	3.654	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.59	0.71	2.817	A	A
B	20.45	1.36	5.417	A	A
C	8.88	0.59	2.374	A	A
D	5.37	0.36	3.655	A	A

(Default Analysis Set) - 2014 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	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	A,B,C,D	✓	✓		3.82	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	Brentwood Road	
B	B	A127 East	
C	C	Tilbury Road	
D	D	A127 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

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
A	3.88	6.70	35.36	999.00	124.00	8.00	
B	5.19	5.19	0.00	999.00	124.00	8.00	
C	4.03	8.85	45.28	48.62	124.00	8.00	
D	5.77	6.36	2.87	999.00	124.00	9.00	

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
A	410.00	55.31
B	363.00	138.64
C	419.00	46.99
D	670.00	140.50

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)
A		(calculated)	(calculated)	1.043	2741.808
B		(calculated)	(calculated)	0.964	2252.373
C		(calculated)	(calculated)	1.161	3225.863
D		(calculated)	(calculated)	0.987	2490.750

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	755.00	100.000
B	FLAT	✓	891.00	100.000
C	FLAT	✓	989.00	100.000
D	FLAT	✓	494.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	0.000	406.000	282.000	67.000
	B	473.000	0.000	411.000	7.000
	C	406.000	433.000	0.000	150.000
	D	110.000	21.000	332.000	31.000

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

		To			
		A	B	C	D
From	A	0.00	0.54	0.37	0.09
	B	0.53	0.00	0.46	0.01
	C	0.41	0.44	0.00	0.15
	D	0.22	0.04	0.67	0.06

Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.40	3.17	0.66	A	755.00	755.00	39.49	3.14	0.66	39.50	3.14
B	0.57	5.33	1.31	A	891.00	891.00	77.55	5.22	1.29	77.58	5.22
C	0.39	2.30	0.63	A	989.00	989.00	37.60	2.28	0.63	37.60	2.28
D	0.41	5.13	0.70	A	494.00	494.00	41.53	5.04	0.69	41.55	5.05

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	755.00	188.75	752.36	984.60	813.75	0.00	1893.38	1770.42	0.399	0.00	0.66	3.149	A
B	891.00	222.75	885.82	857.36	708.75	0.00	1569.48	1463.84	0.568	0.00	1.30	5.226	A
C	989.00	247.25	986.49	1019.76	574.80	0.00	2558.58	2128.00	0.387	0.00	0.63	2.286	A
D	494.00	123.50	491.23	254.17	1307.12	0.00	1200.51	0.00	0.411	0.00	0.69	5.057	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	755.00	188.75	754.99	988.96	816.97	0.00	1890.01	1770.42	0.399	0.66	0.66	3.171	A
B	891.00	222.75	890.95	859.99	711.97	0.00	1566.37	1463.84	0.569	1.30	1.31	5.329	A
C	989.00	247.25	988.99	1024.95	577.97	0.00	2554.91	2128.00	0.387	0.63	0.63	2.298	A
D	494.00	123.50	493.97	255.00	1311.96	0.00	1195.72	0.00	0.413	0.69	0.70	5.129	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	755.00	188.75	755.00	988.99	816.99	0.00	1889.99	1770.42	0.399	0.66	0.66	3.171	A
B	891.00	222.75	890.99	860.00	711.99	0.00	1566.35	1463.84	0.569	1.31	1.31	5.330	A
C	989.00	247.25	989.00	1024.99	577.99	0.00	2554.88	2128.00	0.387	0.63	0.63	2.298	A
D	494.00	123.50	493.99	255.00	1311.99	0.00	1195.70	0.00	0.413	0.70	0.70	5.129	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	755.00	188.75	755.00	989.00	817.00	0.00	1889.99	1770.42	0.399	0.66	0.66	3.171	A
B	891.00	222.75	890.99	860.00	712.00	0.00	1566.34	1463.84	0.569	1.31	1.31	5.330	A
C	989.00	247.25	989.00	1024.99	578.00	0.00	2554.87	2128.00	0.387	0.63	0.63	2.298	A
D	494.00	123.50	494.00	255.00	1312.00	0.00	1195.69	0.00	0.413	0.70	0.70	5.129	A

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.66	0.64	3.149	A	A
B	18.62	1.24	5.226	A	A
C	9.24	0.62	2.286	A	A
D	10.04	0.67	5.057	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.92	0.66	3.171	A	A
B	19.56	1.30	5.329	A	A
C	9.44	0.63	2.298	A	A
D	10.46	0.70	5.129	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.95	0.66	3.171	A	A
B	19.67	1.31	5.330	A	A
C	9.46	0.63	2.298	A	A
D	10.51	0.70	5.129	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.96	0.66	3.171	A	A
B	19.71	1.31	5.330	A	A
C	9.46	0.63	2.298	A	A
D	10.53	0.70	5.129	A	A

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

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Filename: 14a A127 - Childerditch Lane.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\PICADY\2012 Survey Flows
Report generation date: 04/02/2016 12:43:23

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Stream B-AC	1.41	65.48	0.59	F	2.58	79.21	0.74	F
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 12:43:22

File summary

Title	A127 - Childerditch Lane
Location	Brentwood
Site Number	14a
Date	06/08/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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)	N/A		✓				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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A127 - Childerditch Lane	T-Junction	One-way from A to C	A,B,C		65.48	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A127 West		Major
B	B	Childerditch Lane N		Minor
C	C	A127 East		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.15		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.20										0	33

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	454.215	0.053	0.134	0.084	0.191
1	B-C	593.074	0.058	0.147	-	-
1	C-B	573.963	0.142	0.142	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	3135.00	100.000
B	FLAT	✓	80.00	100.000
C	FLAT	✓	0.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	19.000	3116.000
	B	0.000	0.000	80.000
	C	0.000	0.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.59	65.48	1.41	F	80.00	80.00	76.64	57.48	1.28	77.08	57.81
C-A	-	-	-	-	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-B	-	-	-	-	19.00	19.00	-	-	-	-	-
A-C	-	-	-	-	3116.00	3116.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	80.00	20.00	74.96	0.00	134.50	0.595	0.00	1.26	56.729	F
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	128.54	0.000	0.00	0.00	0.000	A
A-B	19.00	4.75	19.00	0.00	-	-	-	-	-	-
A-C	3116.00	779.00	3116.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	80.00	20.00	79.63	0.00	134.50	0.595	1.26	1.35	64.588	F
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	128.54	0.000	0.00	0.00	0.000	A
A-B	19.00	4.75	19.00	0.00	-	-	-	-	-	-
A-C	3116.00	779.00	3116.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	80.00	20.00	79.86	0.00	134.50	0.595	1.35	1.39	65.230	F
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	128.54	0.000	0.00	0.00	0.000	A
A-B	19.00	4.75	19.00	0.00	-	-	-	-	-	-
A-C	3116.00	779.00	3116.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	80.00	20.00	79.92	0.00	134.50	0.595	1.39	1.41	65.477	F
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	128.54	0.000	0.00	0.00	0.000	A
A-B	19.00	4.75	19.00	0.00	-	-	-	-	-	-
A-C	3116.00	779.00	3116.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.40	1.03	56.729	F	E
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	19.71	1.31	64.588	F	E
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	20.57	1.37	65.230	F	E
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	20.96	1.40	65.477	F	E
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - 2014 Base, PM

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)	N/A		✓				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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A127 - Childerditch Lane	T-Junction	One-way from A to C	A,B,C		79.21	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A127 West		Major
B	B	Childerditch Lane N		Minor
C	C	A127 East		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.15		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.20										0	33

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	454.215	0.053	0.134	0.084	0.191
1	B-C	593.074	0.058	0.147	-	-
1	C-B	573.963	0.142	0.142	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	2921.00	100.000
B	FLAT	✓	123.00	100.000
C	FLAT	✓	0.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	33.000	2888.000
	B	0.000	0.000	123.000
	C	0.000	0.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.74	79.21	2.58	F	123.00	123.00	135.23	65.97	2.25	136.42	66.55
C-A	-	-	-	-	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-B	-	-	-	-	33.00	33.00	-	-	-	-	-
A-C	-	-	-	-	2888.00	2888.00	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	123.00	30.75	114.34	0.00	167.16	0.736	0.00	2.16	61.148	F
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	158.94	0.000	0.00	0.00	0.000	A
A-B	33.00	8.25	33.00	0.00	-	-	-	-	-	-
A-C	2888.00	722.00	2888.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	123.00	30.75	122.01	0.00	167.16	0.736	2.16	2.41	76.292	F
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	158.94	0.000	0.00	0.00	0.000	A
A-B	33.00	8.25	33.00	0.00	-	-	-	-	-	-
A-C	2888.00	722.00	2888.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	123.00	30.75	122.58	0.00	167.16	0.736	2.41	2.52	78.325	F
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	158.94	0.000	0.00	0.00	0.000	A
A-B	33.00	8.25	33.00	0.00	-	-	-	-	-	-
A-C	2888.00	722.00	2888.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	123.00	30.75	122.77	0.00	167.16	0.736	2.52	2.58	79.213	F
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	158.94	0.000	0.00	0.00	0.000	A
A-B	33.00	8.25	33.00	0.00	-	-	-	-	-	-
A-C	2888.00	722.00	2888.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	25.28	1.69	61.148	F	E
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	34.65	2.31	76.292	F	E
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	37.06	2.47	78.325	F	E
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	38.24	2.55	79.213	F	E
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

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Filename: 14b A127 - Childerditch Lane.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\PICADY\2012 Survey Flows
Report generation date: 04/02/2016 13:04:16

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Stream B-AC	0.56	42.02	0.36	E	0.16	25.49	0.14	D
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 13:04:16

File summary

Title	A127 - Childerditch Lane
Location	Brentwood
Site Number	14b
Date	06/08/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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)	N/A		✓				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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A127 - Childerditch Lane	T-Junction	One-way from A to C	A,B,C		42.02	E

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A127 E		Major
B	B	Childerditch Lane S		Minor
C	C	A127 W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										0	47

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	475.457	0.055	0.139	0.087	0.198
1	B-C	620.810	0.060	0.153	-	-
1	C-B	573.963	0.141	0.141	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	3205.00	100.000
B	FLAT	✓	49.00	100.000
C	FLAT	✓	0.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	32.000	3173.000
	B	0.000	0.000	49.000
	C	0.000	0.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.36	42.02	0.56	E	49.00	49.00	31.93	39.10	0.53	32.00	39.19
C-A	-	-	-	-	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-B	-	-	-	-	32.00	32.00	-	-	-	-	-
A-C	-	-	-	-	3173.00	3173.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	49.00	12.25	46.86	0.00	134.58	0.364	0.00	0.53	40.179	E
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	121.69	0.000	0.00	0.00	0.000	A
A-B	32.00	8.00	32.00	0.00	-	-	-	-	-	-
A-C	3173.00	793.25	3173.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	49.00	12.25	48.93	0.00	134.58	0.364	0.53	0.55	42.001	E
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	121.69	0.000	0.00	0.00	0.000	A
A-B	32.00	8.00	32.00	0.00	-	-	-	-	-	-
A-C	3173.00	793.25	3173.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	49.00	12.25	48.97	0.00	134.58	0.364	0.55	0.56	41.998	E
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	121.69	0.000	0.00	0.00	0.000	A
A-B	32.00	8.00	32.00	0.00	-	-	-	-	-	-
A-C	3173.00	793.25	3173.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	49.00	12.25	48.99	0.00	134.58	0.364	0.56	0.56	42.021	E
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	121.69	0.000	0.00	0.00	0.000	A
A-B	32.00	8.00	32.00	0.00	-	-	-	-	-	-
A-C	3173.00	793.25	3173.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.00	0.47	40.179	E	D
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.18	0.55	42.001	E	D
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.34	0.56	41.998	E	D
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.41	0.56	42.021	E	D
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - 2014 Base, PM

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)	N/A		✓				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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A127 - Childerditch Lane	T-Junction	One-way from A to C	A,B,C		25.49	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A127 E		Major
B	B	Childerditch Lane S		Minor
C	C	A127 W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.50										0	47

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	475.457	0.055	0.139	0.087	0.198
1	B-C	620.810	0.060	0.153	-	-
1	C-B	573.963	0.141	0.141	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	3000.00	100.000
B	FLAT	✓	23.00	100.000
C	FLAT	✓	0.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	14.000	2986.000
	B	0.000	0.000	23.000
	C	0.000	0.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.14	25.49	0.16	D	23.00	23.00	9.39	24.50	0.16	9.40	24.51
C-A	-	-	-	-	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-B	-	-	-	-	14.00	14.00	-	-	-	-	-
A-C	-	-	-	-	2986.00	2986.00	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	23.00	5.75	22.37	0.00	164.21	0.140	0.00	0.16	25.285	D
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	150.62	0.000	0.00	0.00	0.000	A
A-B	14.00	3.50	14.00	0.00	-	-	-	-	-	-
A-C	2986.00	746.50	2986.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	23.00	5.75	22.99	0.00	164.21	0.140	0.16	0.16	25.488	D
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	150.62	0.000	0.00	0.00	0.000	A
A-B	14.00	3.50	14.00	0.00	-	-	-	-	-	-
A-C	2986.00	746.50	2986.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	23.00	5.75	23.00	0.00	164.21	0.140	0.16	0.16	25.491	D
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	150.62	0.000	0.00	0.00	0.000	A
A-B	14.00	3.50	14.00	0.00	-	-	-	-	-	-
A-C	2986.00	746.50	2986.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	23.00	5.75	23.00	0.00	164.21	0.140	0.16	0.16	25.493	D
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	150.62	0.000	0.00	0.00	0.000	A
A-B	14.00	3.50	14.00	0.00	-	-	-	-	-	-
A-C	2986.00	746.50	2986.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.17	0.14	25.285	D	C
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.39	0.16	25.488	D	C
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.41	0.16	25.491	D	C
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	2.42	0.16	25.493	D	C
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

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Filename: 15 & 16 A128 - The Avenue & A128 - Running Waters.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\ARCADY\2012 Flows from Surveys
Report generation date: 04/02/2016 10:50:22

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Junction 15 - Arm A	0.70	8.83	0.41	A	290.71	2201.43	1.71	F
Junction 15 - Arm B	1.91	10.34	0.66	B	260.58	1940.03	1.64	F
Junction 15 - Arm C	12.40	53.70	0.98	F	3.01	15.23	0.75	C
Junction 16 - Arm C	6.06	27.61	0.86	D	12.40	55.28	0.98	F
Junction 16 - Arm D	309.22	2281.34	1.73	F	1.21	14.30	0.55	B
Junction 16 - Arm E	427.64	1889.55	1.62	F	3.71	17.17	0.79	C

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 10:50:21

File summary

Title	A128 Ingrave Road - The Avenue - A128 Brentwood Road - Running Waters
Location	Brentwood
Site Number	15, 16
Date	23/07/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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	Relationship
2014 Base, AM	2014 Base	AM		Varies by Arm	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
15	15	(untitled)	Mini-roundabout	A,B,C	30.44	D
16	16	(untitled)	Mini-roundabout	C,D,E	1435.78	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Junction	Arm	Arm	Name	Description
15	A	A	The Avenue	
15	B	B	Ingrave Road	
15	C	C	Brentwood Road	
16	C	C	Brentwood Road	
16	D	D	Running Waters	
16	E	E	Brentwood Road E	

Capacity Options

Junction	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
15	A	0.00	99999.00		0.00
15	B	0.00	99999.00		0.00
15	C	0.00	99999.00		0.00
16	C	0.00	99999.00		0.00
16	D	0.00	99999.00		0.00
16	E	0.00	99999.00		0.00

Mini Roundabout Geometry

Junction	Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
15	A	3.30	3.30	6.00	11.33	20.00	11.00	0.00	
15	B	3.30	3.30	6.70	17.91	20.00	17.00	0.00	
15	C	4.40	4.40	6.20	10.30	17.50	8.00	0.00	
16	C	4.60	4.60	8.10	5.68	18.24	10.30	0.00	
16	D	3.50	3.50	6.10	4.88	18.31	9.30	0.00	
16	E	3.10	3.10	7.10	18.71	17.20	14.50	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
15	A		(calculated)	(calculated)	0.602	906.272
15	B		(calculated)	(calculated)	0.754	1212.983
15	C		(calculated)	(calculated)	0.633	968.067
16	C		(calculated)	(calculated)	0.647	1038.951
16	D		(calculated)	(calculated)	0.580	868.276
16	E		(calculated)	(calculated)	0.665	1127.494

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

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
15	A	FLAT	✓	285.00	100.000
15	B	FLAT	✓	670.00	100.000
15	C	Linked Arm		N/A	
16	C	Linked Arm		N/A	
16	D	FLAT	✓	742.00	100.000
16	E	FLAT	✓	1152.00	100.000

Linked Arm Data

Junction	Arm	From Junction ID	From Arm ID	Link Type	Flow Source	Uniform Flow (PCU/hr)	Flow Multiplier (%)	Internal Storage Space (PCU)
15	C	16	C	Queue limited	Normal	0.00	100.00	12.40
16	C	15	C	Queue limited	Normal	0.00	100.00	12.40

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 15 (for whole period)

		To		
		A	B	C
From	A	0.000	26.000	259.000
	B	110.000	0.000	560.000
	C	787.000	586.000	0.000

Turning Proportions (PCU) - Junction 15 (for whole period)

		To		
		A	B	C
From	A	0.00	0.09	0.91
	B	0.16	0.00	0.84
	C	0.57	0.43	0.00

Turning Counts / Proportions (PCU/hr) - Junction 16 (for whole period)

		To		
		C	D	E
From	C	0.000	211.000	607.000
	D	453.000	0.000	289.000
	E	922.000	230.000	0.000

Turning Proportions (PCU) - Junction 16 (for whole period)

		To		
		C	D	E
From	C	0.00	0.26	0.74
	D	0.61	0.00	0.39
	E	0.80	0.20	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 15 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 15 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction 16 (for whole period)

		To		
		C	D	E
From	C	1.000	1.000	1.000
	D	1.000	1.000	1.000
	E	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 16 (for whole period)

		To		
		C	D	E
From	C	0.0	0.0	0.0
	D	0.0	0.0	0.0
	E	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
15	A	0.41	8.83	0.70	A	285.00	285.00	41.03	8.64	0.68	41.05	8.64
15	B	0.66	10.34	1.91	B	670.00	670.00	111.01	9.94	1.85	111.11	9.95
15	C	0.98	53.70	12.40	F	843.96	843.96	684.50	48.66	11.41	689.63	49.03
16	C	0.86	27.61	6.06	D	816.77	816.77	325.11	23.88	5.42	326.27	23.97
16	D	1.73	2281.34	309.22	F	742.00	742.00	9176.81	742.06	152.95	15880.87	1284.17
16	E	1.62	1889.55	427.64	F	1152.00	1152.00	12571.52	654.77	209.53	20272.52	1055.86

Main Results for each time segment

Main results: (08:00-08:15)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
15	A	285.00	71.25	282.25	585.73	355.14	0.00	692.48	473.62	0.412	0.00	0.69	8.718	A
15	B	670.00	167.50	662.58	380.89	256.50	0.00	1019.71	583.29	0.657	0.00	1.86	9.887	A
15	C	881.69	220.42	832.09	810.30	108.78	0.00	899.19	907.43	0.981	0.00	12.40	40.133	E
16	C	810.30	202.57	789.42	881.69	151.82	0.00	940.66	938.37	0.861	0.00	5.22	21.513	C
16	D	742.00	185.50	447.28	355.45	585.79	0.00	453.35	436.53	1.637	0.00	73.68	313.044	F
16	E	1152.00	288.00	760.44	760.00	273.07	0.00	768.21	778.17	1.500	0.00	97.89	244.506	F

Main results: (08:15-08:30)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
15	A	285.00	71.25	284.98	586.53	354.84	0.00	692.66	466.77	0.411	0.69	0.69	8.828	A
15	B	670.00	167.50	669.85	380.84	258.98	0.00	1017.84	590.79	0.658	1.86	1.89	10.334	B
15	C	831.39	207.85	831.39	818.86	109.98	0.00	898.44	906.65	0.925	12.40	12.40	53.694	F
16	C	818.86	204.71	816.75	831.39	142.21	0.00	946.89	938.42	0.865	5.22	5.75	26.752	D
16	D	742.00	185.50	428.05	352.88	606.07	0.00	428.14	435.82	1.733	73.68	152.17	962.018	F
16	E	1152.00	288.00	712.26	772.79	261.33	0.00	712.35	777.82	1.617	97.89	207.82	780.384	F

Main results: (08:30-08:45)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
15	A	285.00	71.25	284.99	586.54	354.83	0.00	692.67	466.77	0.411	0.69	0.70	8.830	A
15	B	670.00	167.50	669.95	380.83	258.99	0.00	1017.83	590.79	0.658	1.89	1.90	10.343	B
15	C	831.38	207.84	831.38	818.95	109.99	0.00	898.43	906.65	0.925	12.40	12.40	53.695	F
16	C	818.95	204.74	818.14	831.38	142.22	0.00	946.88	938.42	0.865	5.75	5.95	27.369	D
16	D	742.00	185.50	427.91	353.26	607.11	0.00	427.94	435.82	1.734	152.17	230.69	1621.182	F
16	E	1152.00	288.00	712.36	773.77	261.25	0.00	712.39	777.82	1.617	207.82	317.73	1334.670	F

Main results: (08:45-09:00)

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
15	A	285.00	71.25	285.00	586.54	354.83	0.00	692.67	466.77	0.411	0.70	0.70	8.830	A
15	B	670.00	167.50	669.98	380.83	259.00	0.00	1017.83	590.79	0.658	1.90	1.91	10.345	B
15	C	831.38	207.84	831.38	818.98	110.00	0.00	898.42	906.65	0.925	12.40	12.40	53.695	F
16	C	818.98	204.74	818.55	831.38	142.23	0.00	946.87	938.42	0.865	5.95	6.06	27.608	D
16	D	742.00	185.50	427.87	353.37	607.41	0.00	427.88	435.82	1.734	230.69	309.22	2281.338	F
16	E	1152.00	288.00	712.39	774.06	261.22	0.00	712.40	777.82	1.617	317.73	427.64	1889.552	F

Queueing Delay Results for each time segment

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

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
15	A	9.81	0.65	8.718	A	A
15	B	25.74	1.72	9.887	A	A
15	C	126.50	8.43	40.133	E	D
16	C	64.10	4.27	21.513	C	C
16	D	562.18	37.48	313.044	F	F
16	E	746.64	49.78	244.506	F	F

Queueing Delay results: (08:15-08:30)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
15	A	10.37	0.69	8.828	A	A
15	B	28.17	1.88	10.334	B	B
15	C	186.00	12.40	53.694	F	D
16	C	83.02	5.53	26.752	D	C
16	D	1693.88	112.93	962.018	F	F
16	E	2292.89	152.86	780.384	F	F

Queueing Delay results: (08:30-08:45)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
15	A	10.42	0.69	8.830	A	A
15	B	28.48	1.90	10.343	B	B
15	C	186.00	12.40	53.695	F	D
16	C	87.89	5.86	27.369	D	C
16	D	2871.42	191.43	1621.182	F	F
16	E	3941.69	262.78	1334.670	F	F

Queueing Delay results: (08:45-09:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
15	A	10.44	0.70	8.830	A	A
15	B	28.61	1.91	10.345	B	B
15	C	186.00	12.40	53.695	F	D
16	C	90.10	6.01	27.608	D	C
16	D	4049.33	269.96	2281.338	F	F
16	E	5590.29	372.69	1889.552	F	F

(Default Analysis Set) - 2014 Base, PM

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	Relationship
2014 Base, PM	2014 Base	PM		Varies by Arm	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
15	15	(untitled)	Mini-roundabout	A,B,C	1374.08	F
16	16	(untitled)	Mini-roundabout	C,D,E	32.99	D

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Junction	Arm	Arm	Name	Description
15	**A**	A	The Avenue	
15	**B**	B	Ingrave Road	
15	**C**	C	Brentwood Road	
16	**C**	C	Brentwood Road	
16	**D**	D	Running Waters	
16	**E**	E	Brentwood Road E	

Capacity Options

Junction	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
15	**A**	0.00	99999.00		0.00
15	**B**	0.00	99999.00		0.00
15	**C**	0.00	99999.00		0.00
16	**C**	0.00	99999.00		0.00
16	**D**	0.00	99999.00		0.00
16	**E**	0.00	99999.00		0.00

Mini Roundabout Geometry

Junction	Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
15	**A**	3.30	3.30	6.00	11.33	20.00	11.00	0.00	
15	**B**	3.30	3.30	6.70	17.91	20.00	17.00	0.00	
15	**C**	4.40	4.40	6.20	10.30	17.50	8.00	0.00	
16	**C**	4.60	4.60	8.10	5.68	18.24	10.30	0.00	
16	**D**	3.50	3.50	6.10	4.88	18.31	9.30	0.00	
16	**E**	3.10	3.10	7.10	18.71	17.20	14.50	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
15	A		(calculated)	(calculated)	0.602	906.272
15	B		(calculated)	(calculated)	0.754	1212.983
15	C		(calculated)	(calculated)	0.633	968.067
16	C		(calculated)	(calculated)	0.647	1038.951
16	D		(calculated)	(calculated)	0.580	868.276
16	E		(calculated)	(calculated)	0.665	1127.494

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

Junction	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
15	A	FLAT	✓	710.00	100.000
15	B	FLAT	✓	695.00	100.000
15	C	Linked Arm		N/A	
16	C	Linked Arm		N/A	
16	D	FLAT	✓	308.00	100.000
16	E	FLAT	✓	793.00	100.000

Linked Arm Data

Junction	Arm	From Junction ID	From Arm ID	Link Type	Flow Source	Uniform Flow (PCU/hr)	Flow Multiplier (%)	Internal Storage Space (PCU)
15	C	16	C	Queue limited	Normal	0.00	100.00	12.40
16	C	15	C	Queue limited	Normal	0.00	100.00	12.40

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 15 (for whole period)

		To		
		A	B	C
From	A	0.000	36.000	674.000
	B	19.000	0.000	676.000
	C	232.000	486.000	0.000

Turning Proportions (PCU) - Junction 15 (for whole period)

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.03	0.00	0.97
	C	0.32	0.68	0.00

Turning Counts / Proportions (PCU/hr) - Junction 16 (for whole period)

		To		
		C	D	E
From	C	0.000	459.000	888.000
	D	189.000	0.000	119.000
	E	536.000	257.000	0.000

Turning Proportions (PCU) - Junction 16 (for whole period)

		To		
		C	D	E
From	C	0.00	0.34	0.66
	D	0.61	0.00	0.39
	E	0.68	0.32	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 15 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 15 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Average PCU Per Vehicle - Junction 16 (for whole period)

		To		
		C	D	E
From	C	1.000	1.000	1.000
	D	1.000	1.000	1.000
	E	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 16 (for whole period)

		To		
		C	D	E
From	C	0.0	0.0	0.0
	D	0.0	0.0	0.0
	E	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
15	A	1.71	2201.43	290.71	F	710.00	710.00	8684.23	733.88	144.74	14755.64	1246.96
15	B	1.64	1940.03	260.58	F	695.00	695.00	7572.79	653.77	126.21	12392.62	1069.87
15	C	0.75	15.23	3.01	C	721.75	721.75	168.93	14.04	2.82	169.21	14.07
16	C	0.98	55.28	12.40	F	820.57	820.57	684.06	50.02	11.40	689.35	50.40
16	D	0.55	14.30	1.21	B	308.00	308.00	70.66	13.76	1.18	70.74	13.78
16	E	0.79	17.17	3.71	C	793.00	793.00	209.25	15.83	3.49	209.66	15.86

Main Results for each time segment

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

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
15	A	710.00	177.50	426.13	239.57	475.06	0.00	432.13	417.03	1.643	0.00	70.97	314.313	F
15	B	695.00	173.75	468.02	496.66	404.52	0.00	476.26	452.51	1.459	0.00	56.75	237.789	F
15	C	712.71	178.18	701.83	859.75	12.79	0.00	959.97	960.23	0.742	0.00	2.72	13.438	B
16	C	859.75	214.94	810.15	712.71	252.50	0.00	875.48	849.86	0.982	0.00	12.40	41.075	E
16	D	308.00	77.00	303.25	528.57	534.08	0.00	558.61	536.27	0.551	0.00	1.19	13.855	B
16	E	793.00	198.25	779.13	651.25	186.09	0.00	1003.81	901.15	0.790	0.00	3.47	15.206	C

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

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
15	A	710.00	177.50	416.28	245.42	489.83	0.00	416.37	415.29	1.705	70.97	144.40	942.603	F
15	B	695.00	173.75	424.00	510.94	395.17	0.00	424.14	451.46	1.639	56.75	124.50	783.388	F
15	C	724.53	181.13	723.66	807.58	11.59	0.00	960.73	960.25	0.754	2.72	2.94	15.085	C
16	C	807.58	201.89	807.58	724.53	256.79	0.00	872.70	846.96	0.925	12.40	12.40	55.278	F
16	D	308.00	77.00	307.93	531.98	532.39	0.00	559.60	520.86	0.550	1.19	1.20	14.293	B
16	E	793.00	198.25	792.36	651.36	188.96	0.00	1001.90	915.06	0.791	3.47	3.63	17.052	C

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

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
15	A	710.00	177.50	417.20	245.70	490.48	0.00	417.23	415.28	1.702	144.40	217.60	1572.198	F
15	B	695.00	173.75	423.01	511.64	396.05	0.00	423.05	451.47	1.643	124.50	192.49	1360.433	F
15	C	724.84	181.21	724.62	807.50	11.56	0.00	960.75	960.25	0.754	2.94	2.99	15.199	C
16	C	807.50	201.87	807.50	724.84	256.93	0.00	872.62	846.96	0.925	12.40	12.40	55.281	F
16	D	308.00	77.00	307.98	532.09	532.34	0.00	559.63	520.86	0.550	1.20	1.21	14.300	B
16	E	793.00	198.25	792.78	651.33	188.98	0.00	1001.89	915.06	0.792	3.63	3.68	17.141	C

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

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
15	A	710.00	177.50	417.56	245.76	490.62	0.00	417.58	415.28	1.700	217.60	290.71	2201.431	F
15	B	695.00	173.75	422.64	511.79	396.39	0.00	422.66	451.47	1.644	192.49	260.58	1940.030	F
15	C	724.92	181.23	724.82	807.47	11.55	0.00	960.75	960.25	0.755	2.99	3.01	15.228	C
16	C	807.47	201.87	807.47	724.92	256.96	0.00	872.59	846.96	0.925	12.40	12.40	55.283	F
16	D	308.00	77.00	307.99	532.12	532.32	0.00	559.64	520.86	0.550	1.21	1.21	14.299	B
16	E	793.00	198.25	792.89	651.32	188.99	0.00	1001.88	915.06	0.792	3.68	3.71	17.171	C

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
15	A	541.70	36.11	314.313	F	F
15	B	437.86	29.19	237.789	F	F
15	C	36.45	2.43	13.438	B	B
16	C	126.06	8.40	41.075	E	D
16	D	16.39	1.09	13.855	B	B
16	E	45.43	3.03	15.206	C	B

Queueing Delay results: (17:15-17:30)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
15	A	1615.28	107.69	942.603	F	F
15	B	1359.39	90.63	783.388	F	F
15	C	42.93	2.86	15.085	C	B
16	C	186.00	12.40	55.278	F	E
16	D	17.96	1.20	14.293	B	B
16	E	53.47	3.56	17.052	C	B

Queueing Delay results: (17:30-17:45)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
15	A	2714.97	181.00	1572.198	F	F
15	B	2377.44	158.50	1360.433	F	F
15	C	44.51	2.97	15.199	C	B
16	C	186.00	12.40	55.281	F	E
16	D	18.12	1.21	14.300	B	B
16	E	54.88	3.66	17.141	C	B

Queueing Delay results: (17:45-18:00)

Junction	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
15	A	3812.28	254.15	2201.431	F	F
15	B	3398.10	226.54	1940.030	F	F
15	C	45.04	3.00	15.228	C	B
16	C	186.00	12.40	55.283	F	E
16	D	18.18	1.21	14.299	B	B
16	E	55.47	3.70	17.171	C	B

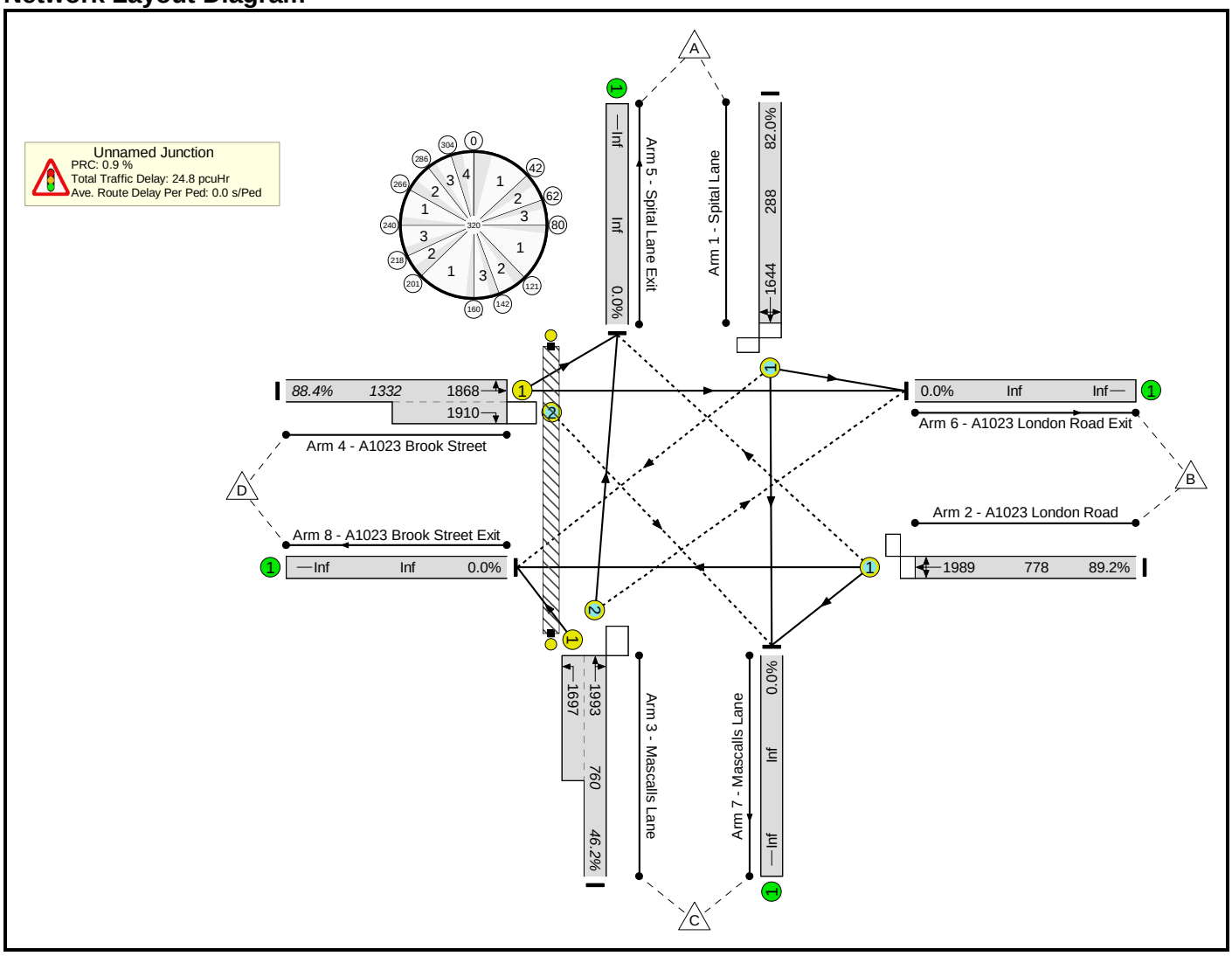
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	17.A1023 Brook Street - Mascalls Lane Rev B.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM 2014' (FG1: 'AM 2012 Existing', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

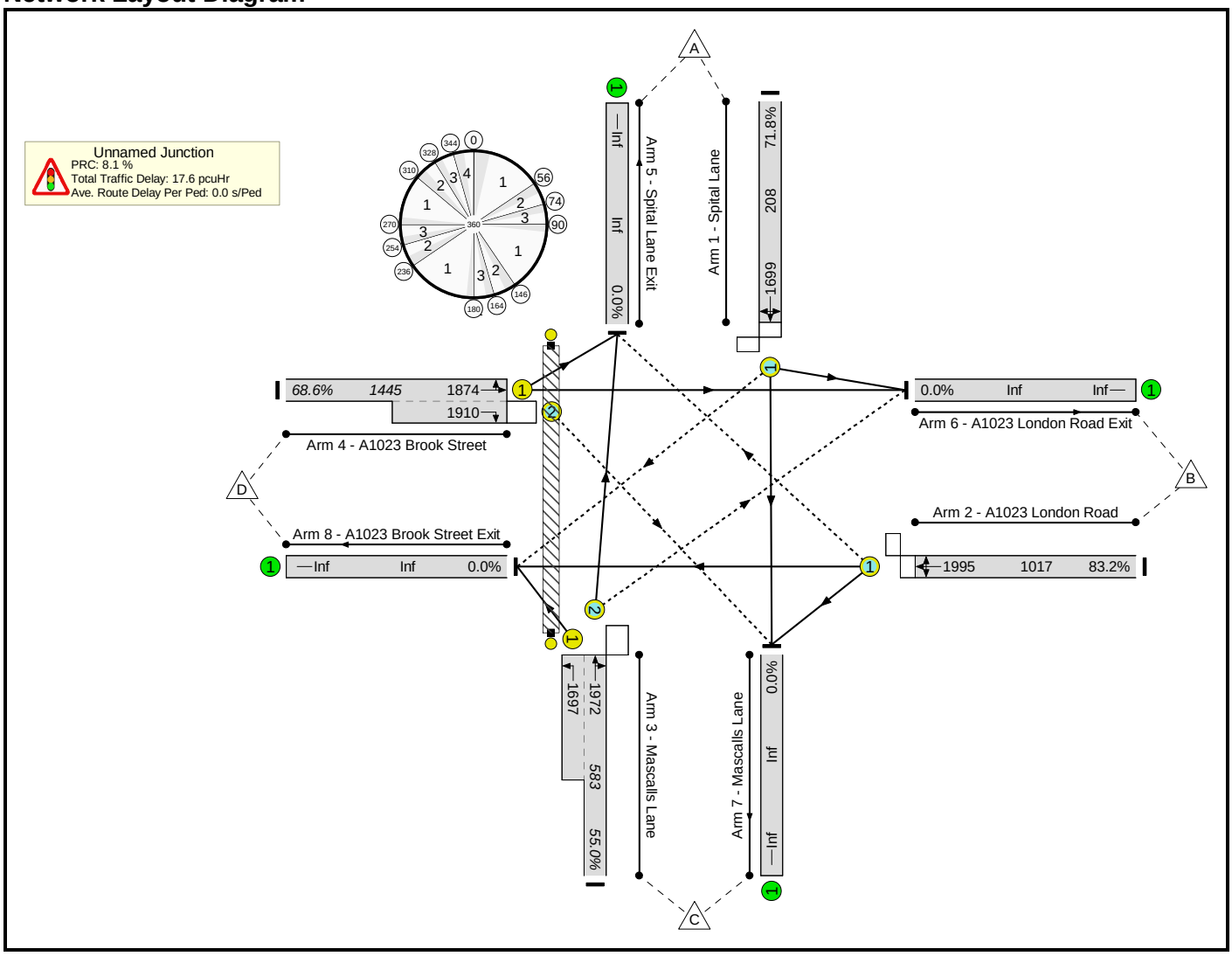
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**89.2%**	**137**	**245**	**14**	**24.8**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**89.2%**	**137**	**245**	**14**	**24.8**	-	-
1/1	Spital Lane Left Ahead Right	O	E		4	52	-	236	1644	288	82.0%	51	0	3	4.4	66.4	8.4
2/1	A1023 London Road Right Left Ahead	O	B		4	122	-	694	1989	778	89.2%	10	0	2	9.0	46.5	22.7
3/2+3/1	Mascalls Lane Ahead Right Left	O+U	D	G	4	52:122	70	351	1993:1697	760	46.2%	23	0	0	2.4	24.9	6.8
4/1+4/2	A1023 Brook Street Left Ahead Right	U+O	C	F	4	197	197	1178	1868:1910	1332	88.4%	53	245	9	9.0	27.6	34.3
Ped Link: P1	Unnamed Ped Link	-	A		1	8	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 0.9 Total Delay for Signalled Lanes (pcuHr): 24.79 Cycle Time (s): 320
PRC Over All Lanes (%): 0.9 Total Delay Over All Lanes(pcuHr): 24.79

Basic Results Summary

Scenario 2: 'PM 2014' (FG2: 'PM 2012 Existing', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**83.2%**	**173**	**140**	**6**	**17.6**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**83.2%**	**173**	**140**	**6**	**17.6**	-	-
1/1	Spital Lane Left Ahead Right	O	E		4	40	-	149	1699	208	71.8%	47	0	1	2.8	68.5	5.5
2/1	A1023 London Road Right Left Ahead	O	B		4	180	-	846	1995	1017	83.2%	9	0	0	7.2	30.6	27.3
3/2+3/1	Mascalls Lane Ahead Right Left	O+U	D	G	4	40:104	64	321	1972:1697	583	55.0%	25	0	0	3.2	35.4	7.7
4/1+4/2	A1023 Brook Street Left Ahead Right	U+O	C	F	4	249	249	992	1874:1910	1445	68.6%	92	140	5	4.4	15.9	20.7
Ped Link: P1	Unnamed Ped Link	-	A		1	8	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 8.1 Total Delay for Signalled Lanes (pcuHr): 17.56 Cycle Time (s): 360
PRC Over All Lanes (%): 8.1 Total Delay Over All Lanes(pcuHr): 17.56

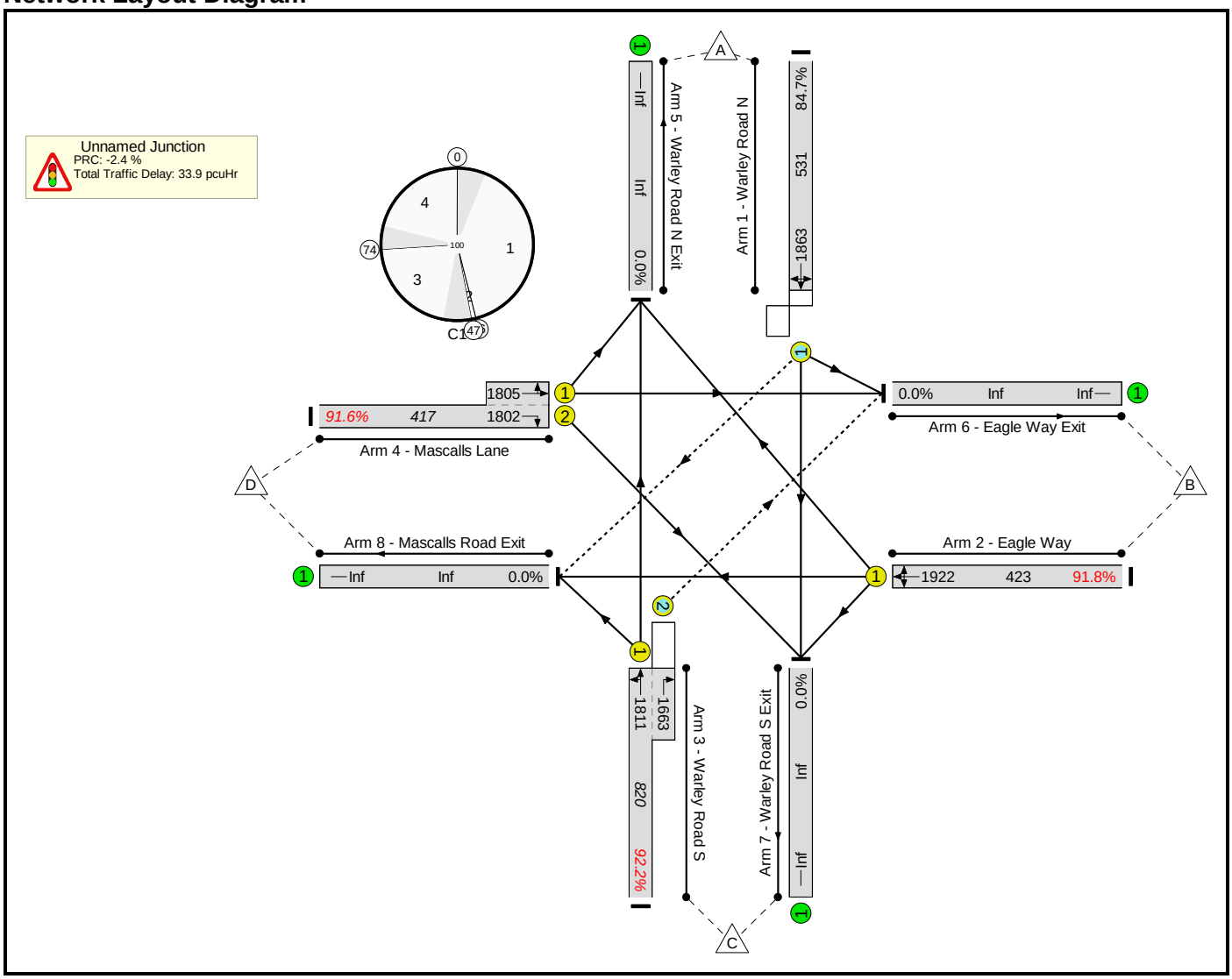
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	18.B186 Warley Hill - Eagle Way - B186 Warley Road - Mascalls Lane Rev B.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM 2012 Existing' (FG1: 'AM 2012 Exisiting', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**92.2%**	**252**	**0**	**26**	**33.9**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**92.2%**	**252**	**0**	**26**	**33.9**	-	-
1/1	Warley Road N Left Ahead Right	O	D		1	41	-	450	1863	531	84.7%	57	0	22	5.9	47.4	12.2
2/1	Eagle Way Right Left Ahead	U	A		1	21	-	388	1922	423	91.8%	-	-	-	8.5	79.3	14.9
3/1+3/2	Warley Road S Ahead Right Left	U+O	B	E	1	41	41	756	1811:1663	820	92.2%	195	0	4	11.0	52.5	22.9
4/2+4/1	Mascalls Lane Left Ahead Right	U	C		1	21	-	382	1802:1805	417	91.6%	-	-	-	8.4	78.9	14.2

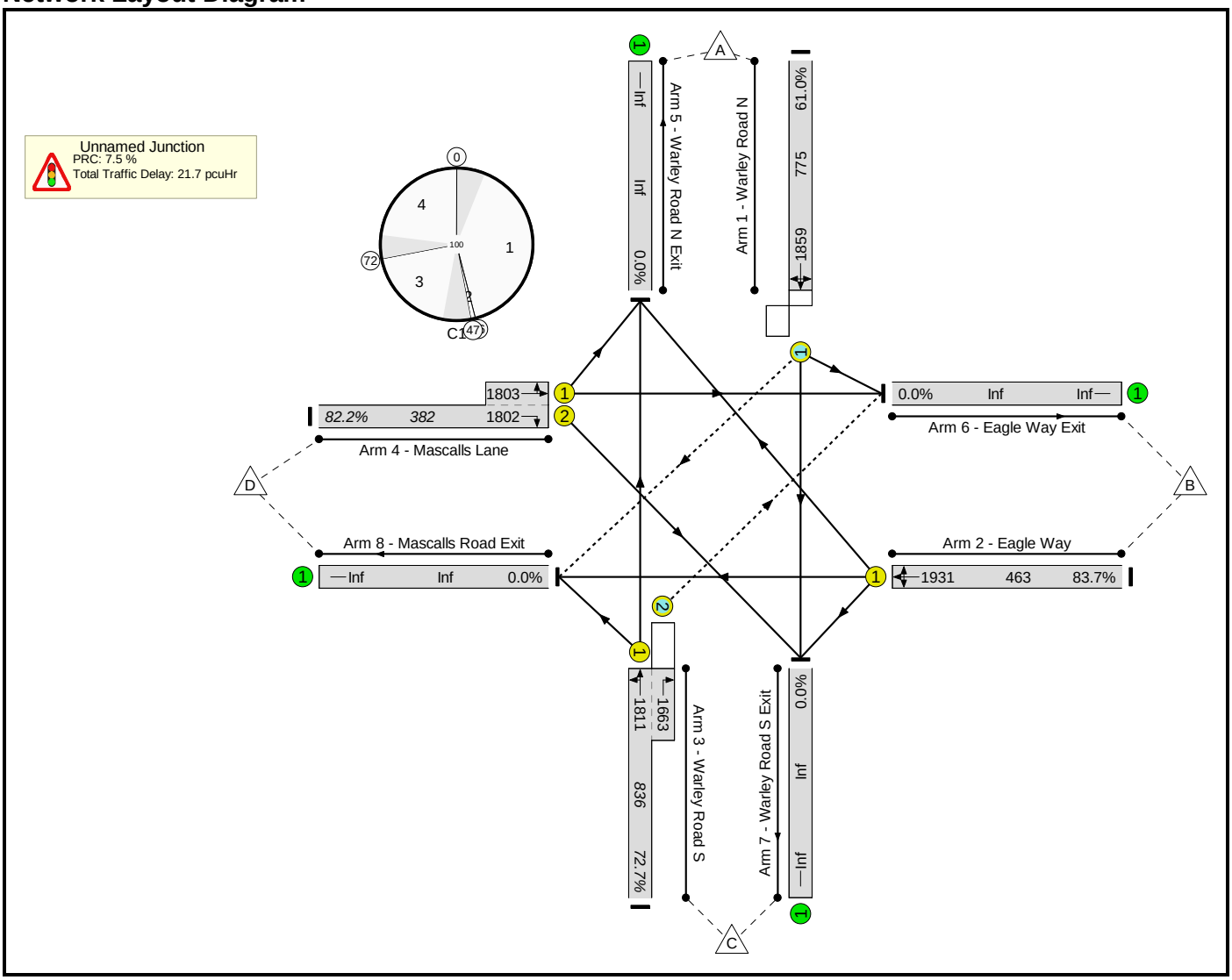
C1 PRC for Signalled Lanes (%): -2.4 Total Delay for Signalled Lanes (pcuHr): 33.87 Cycle Time (s): 100

PRC Over All Lanes (%): -2.4 Total Delay Over All Lanes(pcuHr): 33.87

Basic Results Summary

Scenario 2: 'PM 2012 Existing' (FG2: 'PM 2012 Existing', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.7%**	**293**	**0**	**12**	**21.7**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.7%**	**293**	**0**	**12**	**21.7**	**-**	**-**
1/1	Warley Road N Left Ahead Right	O	D		1	41	-	473	1859	775	61.0%	81	0	1	3.9	30.0	11.0
2/1	Eagle Way Right Left Ahead	U	A		1	23	-	388	1931	463	83.7%	-	-	-	6.3	58.6	12.7
3/1+3/2	Warley Road S Ahead Right Left	U+O	B	E	1	41	41	608	1811:1663	836	72.7%	212	0	11	6.0	35.5	11.8
4/2+4/1	Mascalls Lane Left Ahead Right	U	C		1	19	-	314	1802:1803	382	82.2%	-	-	-	5.5	62.6	9.9

C1 PRC for Signalled Lanes (%): 7.5 Total Delay for Signalled Lanes (pcuHr): 21.70 Cycle Time (s): 100

PRC Over All Lanes (%): 7.5 Total Delay Over All Lanes(pcuHr): 21.70

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 19 Warley Street - A127 Eastbound.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\PICADY\2012 Survey Flows
Report generation date: 04/02/2016 13:48:48

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Stream B-AC	132.42	1322.22	1.41	F	2.89	37.84	0.75	E
Stream C-AB	0.82	7.38	0.31	A	1.07	7.09	0.38	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 13:48:48

File summary

Title	Warley Street - A127 Eastbound
Location	Brentwood
Site Number	19
Date	05/08/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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)	N/A		✓				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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Warley Str - A127 Eastbound	T-Junction	Two-way	A,B,C		889.27	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Warley Street S		Major
B	B	A127 Slip Road		Minor
C	C	Warley Street N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.05		0.00		2.20	102.33	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.50										37	32

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	530.609	0.092	0.233	0.147	0.333
1	B-C	676.323	0.099	0.250	-	-
1	C-B	633.224	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	946.00	100.000
B	FLAT	✓	450.00	100.000
C	FLAT	✓	488.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	253.000	693.000
	B	254.000	0.000	196.000
	C	388.000	100.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.27	0.73
	B	0.56	0.00	0.44
	C	0.80	0.20	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	1.41	1322.22	132.42	F	450.00	450.00	4031.69	537.56	67.19	5676.44	756.86
C-AB	0.31	7.38	0.82	A	220.92	220.92	48.65	13.21	0.81	48.67	13.22
C-A	-	-	-	-	267.08	267.08	-	-	-	-	-
A-B	-	-	-	-	253.00	253.00	-	-	-	-	-
A-C	-	-	-	-	693.00	693.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	450.00	112.50	311.49	0.00	320.49	1.404	0.00	34.63	216.558	F
C-AB	219.50	54.87	216.31	0.00	710.47	0.309	0.00	0.80	7.279	A
C-A	268.50	67.13	268.50	0.00	-	-	-	-	-	-
A-B	253.00	63.25	253.00	0.00	-	-	-	-	-	-
A-C	693.00	173.25	693.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	450.00	112.50	319.42	0.00	319.83	1.407	34.63	67.27	592.697	F
C-AB	221.37	55.34	221.32	0.00	711.80	0.311	0.80	0.81	7.383	A
C-A	266.63	66.66	266.63	0.00	-	-	-	-	-	-
A-B	253.00	63.25	253.00	0.00	-	-	-	-	-	-
A-C	693.00	173.25	693.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	450.00	112.50	319.67	0.00	319.82	1.407	67.27	99.85	956.923	F
C-AB	221.39	55.35	221.38	0.00	711.83	0.311	0.81	0.82	7.381	A
C-A	266.61	66.65	266.61	0.00	-	-	-	-	-	-
A-B	253.00	63.25	253.00	0.00	-	-	-	-	-	-
A-C	693.00	173.25	693.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	450.00	112.50	319.74	0.00	319.82	1.407	99.85	132.42	1322.218	F
C-AB	221.40	55.35	221.39	0.00	711.84	0.311	0.82	0.82	7.382	A
C-A	266.60	66.65	266.60	0.00	-	-	-	-	-	-
A-B	253.00	63.25	253.00	0.00	-	-	-	-	-	-
A-C	693.00	173.25	693.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	271.82	18.12	216.558	F	F
C-AB	11.64	0.78	7.279	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	764.39	50.96	592.697	F	F
C-AB	12.33	0.82	7.383	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1253.46	83.56	956.923	F	F
C-AB	12.34	0.82	7.381	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1742.03	116.14	1322.218	F	F
C-AB	12.34	0.82	7.382	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - 2014 Base, PM

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)	N/A		✓				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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Warley Str - A127 Eastbound	T-Junction	Two-way	A,B,C		21.74	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Warley Street S		Major
B	B	A127 Slip Road		Minor
C	C	Warley Street N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.05		0.00		2.20	102.33	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.50										37	32

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	530.609	0.092	0.233	0.147	0.333
1	B-C	676.323	0.099	0.250	-	-
1	C-B	633.224	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	627.00	100.000
B	FLAT	✓	284.00	100.000
C	FLAT	✓	599.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	201.000	426.000
	B	153.000	0.000	131.000
	C	462.000	137.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.32	0.68
	B	0.54	0.00	0.46
	C	0.77	0.23	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.75	37.84	2.89	E	284.00	284.00	158.48	33.48	2.64	159.14	33.62
C-AB	0.38	7.09	1.07	A	312.25	312.25	63.41	12.18	1.06	63.45	12.19
C-A	-	-	-	-	286.75	286.75	-	-	-	-	-
A-B	-	-	-	-	201.00	201.00	-	-	-	-	-
A-C	-	-	-	-	426.00	426.00	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	284.00	71.00	273.62	0.00	379.03	0.749	0.00	2.60	31.662	D
C-AB	310.29	77.57	306.14	0.00	822.48	0.377	0.00	1.04	6.964	A
C-A	288.71	72.18	288.71	0.00	-	-	-	-	-	-
A-B	201.00	50.25	201.00	0.00	-	-	-	-	-	-
A-C	426.00	106.50	426.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	284.00	71.00	283.24	0.00	378.21	0.751	2.60	2.78	37.218	E
C-AB	312.88	78.22	312.80	0.00	824.15	0.380	1.04	1.06	7.086	A
C-A	286.12	71.53	286.12	0.00	-	-	-	-	-	-
A-B	201.00	50.25	201.00	0.00	-	-	-	-	-	-
A-C	426.00	106.50	426.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	284.00	71.00	283.71	0.00	378.20	0.751	2.78	2.86	37.665	E
C-AB	312.91	78.23	312.89	0.00	824.19	0.380	1.06	1.06	7.091	A
C-A	286.09	71.52	286.09	0.00	-	-	-	-	-	-
A-B	201.00	50.25	201.00	0.00	-	-	-	-	-	-
A-C	426.00	106.50	426.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	284.00	71.00	283.85	0.00	378.20	0.751	2.86	2.89	37.837	E
C-AB	312.92	78.23	312.91	0.00	824.20	0.380	1.06	1.07	7.091	A
C-A	286.08	71.52	286.08	0.00	-	-	-	-	-	-
A-B	201.00	50.25	201.00	0.00	-	-	-	-	-	-
A-C	426.00	106.50	426.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	32.33	2.16	31.662	D	C
C-AB	15.17	1.01	6.964	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	40.63	2.71	37.218	E	D
C-AB	16.07	1.07	7.086	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	42.37	2.82	37.665	E	D
C-AB	16.08	1.07	7.091	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	43.15	2.88	37.837	E	D
C-AB	16.09	1.07	7.091	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 20 Warley Street - A127 Westbound.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\PICADY\2012 Survey Flows
Report generation date: 04/02/2016 13:49:46

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Stream B-AC	67.93	722.75	1.21	F	83.39	624.37	1.18	F
Stream C-AB	1.83	7.00	0.47	A	0.88	6.78	0.34	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 13:49:45

File summary

Title	Warley Street - A127 Westbound
Location	Brentwood
Site Number	20
Date	05/08/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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)	N/A		✓				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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Warley Str - A127 Westbound	T-Junction	Two-way	A,B,C		325.20	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Warley Street N		Major
B	B	A127 Slip Road		Minor
C	C	Warley Street S		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.10		0.00		2.20	92.68	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.70										64	58

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	564.104	0.102	0.259	0.163	0.369
1	B-C	706.735	0.108	0.273	-	-
1	C-B	627.635	0.242	0.242	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	623.00	100.000
B	FLAT	✓	370.00	100.000
C	FLAT	✓	829.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	88.000	535.000
	B	249.000	0.000	121.000
	C	691.000	138.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.67	0.00	0.33
	C	0.83	0.17	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	1.21	722.75	67.93	F	370.00	370.00	2129.96	345.40	35.50	2582.11	418.72
C-AB	0.47	7.00	1.83	A	462.26	462.26	108.64	14.10	1.81	108.74	14.11
C-A	-	-	-	-	366.74	366.74	-	-	-	-	-
A-B	-	-	-	-	88.00	88.00	-	-	-	-	-
A-C	-	-	-	-	535.00	535.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	370.00	92.50	292.65	0.00	307.79	1.202	0.00	19.34	140.320	F
C-AB	457.54	114.38	450.50	0.00	982.14	0.466	0.00	1.76	6.775	A
C-A	371.46	92.87	371.46	0.00	-	-	-	-	-	-
A-B	88.00	22.00	88.00	0.00	-	-	-	-	-	-
A-C	535.00	133.75	535.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	370.00	92.50	304.47	0.00	306.21	1.208	19.34	35.72	348.035	F
C-AB	463.73	115.93	463.53	0.00	985.65	0.470	1.76	1.81	6.990	A
C-A	365.27	91.32	365.27	0.00	-	-	-	-	-	-
A-B	88.00	22.00	88.00	0.00	-	-	-	-	-	-
A-C	535.00	133.75	535.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	370.00	92.50	305.42	0.00	306.17	1.208	35.72	51.86	535.451	F
C-AB	463.85	115.96	463.79	0.00	985.78	0.471	1.81	1.83	6.992	A
C-A	365.15	91.29	365.15	0.00	-	-	-	-	-	-
A-B	88.00	22.00	88.00	0.00	-	-	-	-	-	-
A-C	535.00	133.75	535.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	370.00	92.50	305.74	0.00	306.16	1.209	51.86	67.93	722.753	F
C-AB	463.90	115.98	463.87	0.00	985.80	0.471	1.83	1.83	6.997	A
C-A	365.10	91.27	365.10	0.00	-	-	-	-	-	-
A-B	88.00	22.00	88.00	0.00	-	-	-	-	-	-
A-C	535.00	133.75	535.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	160.94	10.73	140.320	F	F
C-AB	25.51	1.70	6.775	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	413.48	27.57	348.035	F	F
C-AB	27.67	1.84	6.990	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	657.04	43.80	535.451	F	F
C-AB	27.72	1.85	6.992	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	898.51	59.90	722.753	F	F
C-AB	27.74	1.85	6.997	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - 2014 Base, PM

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)	N/A		✓				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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Warley Str - A127 Westbound	T-Junction	Two-way	A,B,C		411.80	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Warley Street N		Major
B	B	A127 Slip Road		Minor
C	C	Warley Street S		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.10		0.00		2.20	92.68	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.70										64	58

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	564.104	0.102	0.259	0.163	0.369
1	B-C	706.735	0.108	0.273	-	-
1	C-B	627.635	0.242	0.242	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	612.00	100.000
B	FLAT	✓	512.00	100.000
C	FLAT	✓	562.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	153.000	459.000
	B	192.000	0.000	320.000
	C	441.000	121.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.25	0.75
	B	0.38	0.00	0.63
	C	0.78	0.22	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	1.18	624.37	83.39	F	512.00	512.00	2615.97	306.56	43.60	3097.15	362.95
C-AB	0.34	6.78	0.88	A	268.72	268.72	52.71	11.77	0.88	52.74	11.77
C-A	-	-	-	-	293.28	293.28	-	-	-	-	-
A-B	-	-	-	-	153.00	153.00	-	-	-	-	-
A-C	-	-	-	-	459.00	459.00	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	512.00	128.00	416.75	0.00	434.25	1.179	0.00	23.81	119.982	F
C-AB	267.15	66.79	263.69	0.00	802.11	0.333	0.00	0.86	6.681	A
C-A	294.85	73.71	294.85	0.00	-	-	-	-	-	-
A-B	153.00	38.25	153.00	0.00	-	-	-	-	-	-
A-C	459.00	114.75	459.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	512.00	128.00	431.72	0.00	433.62	1.181	23.81	43.88	299.804	F
C-AB	269.23	67.31	269.17	0.00	803.48	0.335	0.86	0.88	6.775	A
C-A	292.77	73.19	292.77	0.00	-	-	-	-	-	-
A-B	153.00	38.25	153.00	0.00	-	-	-	-	-	-
A-C	459.00	114.75	459.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	512.00	128.00	432.80	0.00	433.61	1.181	43.88	63.68	462.075	F
C-AB	269.25	67.31	269.23	0.00	803.51	0.335	0.88	0.88	6.777	A
C-A	292.75	73.19	292.75	0.00	-	-	-	-	-	-
A-B	153.00	38.25	153.00	0.00	-	-	-	-	-	-
A-C	459.00	114.75	459.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	512.00	128.00	433.15	0.00	433.60	1.181	63.68	83.39	624.371	F
C-AB	269.26	67.31	269.25	0.00	803.52	0.335	0.88	0.88	6.775	A
C-A	292.74	73.19	292.74	0.00	-	-	-	-	-	-
A-B	153.00	38.25	153.00	0.00	-	-	-	-	-	-
A-C	459.00	114.75	459.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	197.61	13.17	119.982	F	F
C-AB	12.66	0.84	6.681	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	508.32	33.89	299.804	F	F
C-AB	13.34	0.89	6.775	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	806.90	53.79	462.075	F	F
C-AB	13.35	0.89	6.777	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1103.15	73.54	624.371	F	F
C-AB	13.36	0.89	6.775	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

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Filename: 21 A127 Westbound - Thorndon Avenue.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\PICADY\2012 Survey Flows
Report generation date: 04/02/2016 13:50:49

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Stream B-AC	0.10	19.03	0.09	C	0.11	20.79	0.10	C
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 13:50:48

File summary

Title	A127 Westbound - Thorndon Avenue
Location	Brentwood
Site Number	21
Date	05/08/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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)	N/A		✓				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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A127 West - Thorndon Ave	T-Junction	One-way from A to C	A,B,C		19.03	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A127 E		Major
B	B	Thordon Avenue		Minor
C	C	A127 W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.30		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.70										0	23

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	474.363	0.054	0.137	0.086	0.195
1	B-C	619.381	0.059	0.150	-	-
1	C-B	573.963	0.139	0.139	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	2754.00	100.000
B	FLAT	✓	19.00	100.000
C	FLAT	✓	0.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	27.000	2727.000
	B	0.000	0.000	19.000
	C	0.000	0.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.09	19.03	0.10	C	19.00	19.00	5.85	18.46	0.10	5.85	18.47
C-A	-	-	-	-	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-B	-	-	-	-	27.00	27.00	-	-	-	-	-
A-C	-	-	-	-	2727.00	2727.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	19.00	4.75	18.61	0.00	208.20	0.091	0.00	0.10	18.950	C
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	190.66	0.000	0.00	0.00	0.000	A
A-B	27.00	6.75	27.00	0.00	-	-	-	-	-	-
A-C	2727.00	681.75	2727.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	19.00	4.75	19.00	0.00	208.20	0.091	0.10	0.10	19.026	C
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	190.66	0.000	0.00	0.00	0.000	A
A-B	27.00	6.75	27.00	0.00	-	-	-	-	-	-
A-C	2727.00	681.75	2727.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	19.00	4.75	19.00	0.00	208.20	0.091	0.10	0.10	19.026	C
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	190.66	0.000	0.00	0.00	0.000	A
A-B	27.00	6.75	27.00	0.00	-	-	-	-	-	-
A-C	2727.00	681.75	2727.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	19.00	4.75	19.00	0.00	208.20	0.091	0.10	0.10	19.026	C
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	190.66	0.000	0.00	0.00	0.000	A
A-B	27.00	6.75	27.00	0.00	-	-	-	-	-	-
A-C	2727.00	681.75	2727.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.38	0.09	18.950	C	B
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.48	0.10	19.026	C	B
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.49	0.10	19.026	C	B
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.50	0.10	19.026	C	B
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - 2014 Base, PM

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)	N/A		✓				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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A127 West - Thorndon Ave	T-Junction	One-way from A to C	A,B,C		20.79	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	A127 E		Major
B	B	Thordon Avenue		Minor
C	C	A127 W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.30		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.70										0	23

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	474.363	0.054	0.137	0.086	0.195
1	B-C	619.381	0.059	0.150	-	-
1	C-B	573.963	0.139	0.139	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	2854.00	100.000
B	FLAT	✓	19.00	100.000
C	FLAT	✓	0.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	16.000	2838.000
	B	0.000	0.000	19.000
	C	0.000	0.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.10	20.79	0.11	C	19.00	19.00	6.37	20.12	0.11	6.37	20.13
C-A	-	-	-	-	0.00	0.00	-	-	-	-	-
C-B	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-B	-	-	-	-	16.00	16.00	-	-	-	-	-
A-C	-	-	-	-	2838.00	2838.00	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	19.00	4.75	18.57	0.00	192.19	0.099	0.00	0.11	20.687	C
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	176.75	0.000	0.00	0.00	0.000	A
A-B	16.00	4.00	16.00	0.00	-	-	-	-	-	-
A-C	2838.00	709.50	2838.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	19.00	4.75	18.99	0.00	192.19	0.099	0.11	0.11	20.784	C
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	176.75	0.000	0.00	0.00	0.000	A
A-B	16.00	4.00	16.00	0.00	-	-	-	-	-	-
A-C	2838.00	709.50	2838.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	19.00	4.75	19.00	0.00	192.19	0.099	0.11	0.11	20.786	C
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	176.75	0.000	0.00	0.00	0.000	A
A-B	16.00	4.00	16.00	0.00	-	-	-	-	-	-
A-C	2838.00	709.50	2838.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	19.00	4.75	19.00	0.00	192.19	0.099	0.11	0.11	20.786	C
C-A	0.00	0.00	0.00	0.00	-	-	-	-	-	-
C-B	0.00	0.00	0.00	0.00	176.75	0.000	0.00	0.00	0.000	A
A-B	16.00	4.00	16.00	0.00	-	-	-	-	-	-
A-C	2838.00	709.50	2838.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.49	0.10	20.687	C	C
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.62	0.11	20.784	C	C
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.63	0.11	20.786	C	C
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.63	0.11	20.786	C	C
C-A	-	-	-	-	-
C-B	0.00	0.00	0.000	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 22 A1023 Chelmsford Road - Alexander Lane.arc8
Path: J:\28085 - DR - Brentwood\Transport\Working Documents\Junction Analysis\PICADY\2012 Survey Flows
Report generation date: 04/02/2016 13:53:25

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 Base							
Stream B-AC	1.69	53.06	0.64	F	0.95	32.02	0.49	D
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.08	8.56	0.07	A	0.01	6.42	0.01	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - 2014 Base, AM " model duration: 08:00 - 09:00
"D2 - 2014 Base, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 04/02/2016 13:53:25

File summary

Title	A1023 Chelmsford Road - Alexander Lane
Location	Brentwood
Site Number	22
Date	05/08/2014
Version	
Status	For Information
Identifier	
Client	
Jobnumber	28085
Enumerator	proose
Description	

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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2014 Base, 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)	N/A		✓				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	Relationship
2014 Base, AM	2014 Base	AM		FLAT	08:00	09:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A1023 Chelmsford Rd - Alexander Ln	T-Junction	Two-way	A,B,C		43.57	E

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Chelmsford Road E		Major
B	B	Alexander Lane		Minor
C	C	Chelmsford Road W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00	✓	3.20	250.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.80										27	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	483.833	0.088	0.223	0.140	0.318
1	B-C	620.697	0.095	0.240	-	-
1	C-B	796.964	0.309	0.309	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	1116.00	100.000
B	FLAT	✓	118.00	100.000
C	FLAT	✓	680.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	295.000	821.000
	B	105.000	0.000	13.000
	C	648.000	32.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.89	0.00	0.11
	C	0.95	0.05	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.64	53.06	1.69	F	118.00	118.00	92.48	47.02	1.54	92.94	47.26
C-A	-	-	-	-	648.00	648.00	-	-	-	-	-
C-B	0.07	8.56	0.08	A	32.00	32.00	4.50	8.43	0.07	4.50	8.43
A-B	-	-	-	-	295.00	295.00	-	-	-	-	-
A-C	-	-	-	-	821.00	821.00	-	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	118.00	29.50	111.91	0.00	185.41	0.636	0.00	1.52	45.952	E
C-A	648.00	162.00	648.00	0.00	-	-	-	-	-	-
C-B	32.00	8.00	31.70	0.00	452.36	0.071	0.00	0.08	8.552	A
A-B	295.00	73.75	295.00	0.00	-	-	-	-	-	-
A-C	821.00	205.25	821.00	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	118.00	29.50	117.59	0.00	185.32	0.637	1.52	1.63	52.351	F
C-A	648.00	162.00	648.00	0.00	-	-	-	-	-	-
C-B	32.00	8.00	32.00	0.00	452.36	0.071	0.08	0.08	8.563	A
A-B	295.00	73.75	295.00	0.00	-	-	-	-	-	-
A-C	821.00	205.25	821.00	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	118.00	29.50	117.84	0.00	185.32	0.637	1.63	1.66	52.875	F
C-A	648.00	162.00	648.00	0.00	-	-	-	-	-	-
C-B	32.00	8.00	32.00	0.00	452.36	0.071	0.08	0.08	8.563	A
A-B	295.00	73.75	295.00	0.00	-	-	-	-	-	-
A-C	821.00	205.25	821.00	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	118.00	29.50	117.92	0.00	185.32	0.637	1.66	1.69	53.060	F
C-A	648.00	162.00	648.00	0.00	-	-	-	-	-	-
C-B	32.00	8.00	32.00	0.00	452.36	0.071	0.08	0.08	8.563	A
A-B	295.00	73.75	295.00	0.00	-	-	-	-	-	-
A-C	821.00	205.25	821.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	18.86	1.26	45.952	E	D
C-A	-	-	-	-	-
C-B	1.09	0.07	8.552	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	23.76	1.58	52.351	F	D
C-A	-	-	-	-	-
C-B	1.13	0.08	8.563	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	24.71	1.65	52.875	F	D
C-A	-	-	-	-	-
C-B	1.14	0.08	8.563	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	25.14	1.68	53.060	F	D
C-A	-	-	-	-	-
C-B	1.14	0.08	8.563	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - 2014 Base, PM

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)	N/A		✓				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	Relationship
2014 Base, PM	2014 Base	PM		FLAT	17:00	18:00	60	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A1023 Chelmsford Rd - Alexander Ln	T-Junction	Two-way	A,B,C		30.27	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Chelmsford Road E		Major
B	B	Alexander Lane		Minor
C	C	Chelmsford Road W		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00	✓	3.20	250.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.80										27	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	483.833	0.088	0.223	0.140	0.318
1	B-C	620.697	0.095	0.240	-	-
1	C-B	796.964	0.309	0.309	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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 (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	740.00	100.000
B	FLAT	✓	109.00	100.000
C	FLAT	✓	909.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	140.000	600.000
	B	98.000	0.000	11.000
	C	901.000	8.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.19	0.81
	B	0.90	0.00	0.10
	C	0.99	0.01	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.49	32.02	0.95	D	109.00	109.00	54.34	29.91	0.91	54.46	29.98
C-A	-	-	-	-	901.00	901.00	-	-	-	-	-
C-B	0.01	6.42	0.01	A	8.00	8.00	0.85	6.36	0.01	0.85	6.36
A-B	-	-	-	-	140.00	140.00	-	-	-	-	-
A-C	-	-	-	-	600.00	600.00	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	109.00	27.25	105.36	0.00	221.30	0.493	0.00	0.91	30.213	D
C-A	901.00	225.25	901.00	0.00	-	-	-	-	-	-
C-B	8.00	2.00	7.94	0.00	568.46	0.014	0.00	0.01	6.422	A
A-B	140.00	35.00	140.00	0.00	-	-	-	-	-	-
A-C	600.00	150.00	600.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	109.00	27.25	108.88	0.00	221.28	0.493	0.91	0.94	31.940	D
C-A	901.00	225.25	901.00	0.00	-	-	-	-	-	-
C-B	8.00	2.00	8.00	0.00	568.46	0.014	0.01	0.01	6.422	A
A-B	140.00	35.00	140.00	0.00	-	-	-	-	-	-
A-C	600.00	150.00	600.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	109.00	27.25	108.96	0.00	221.28	0.493	0.94	0.95	31.998	D
C-A	901.00	225.25	901.00	0.00	-	-	-	-	-	-
C-B	8.00	2.00	8.00	0.00	568.46	0.014	0.01	0.01	6.422	A
A-B	140.00	35.00	140.00	0.00	-	-	-	-	-	-
A-C	600.00	150.00	600.00	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	109.00	27.25	108.98	0.00	221.28	0.493	0.95	0.95	32.016	D
C-A	901.00	225.25	901.00	0.00	-	-	-	-	-	-
C-B	8.00	2.00	8.00	0.00	568.46	0.014	0.01	0.01	6.422	A
A-B	140.00	35.00	140.00	0.00	-	-	-	-	-	-
A-C	600.00	150.00	600.00	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	12.00	0.80	30.213	D	C
C-A	-	-	-	-	-
C-B	0.21	0.01	6.422	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	13.90	0.93	31.940	D	C
C-A	-	-	-	-	-
C-B	0.21	0.01	6.422	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	14.16	0.94	31.998	D	C
C-A	-	-	-	-	-
C-B	0.21	0.01	6.422	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	14.28	0.95	32.016	D	C
C-A	-	-	-	-	-
C-B	0.21	0.01	6.422	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

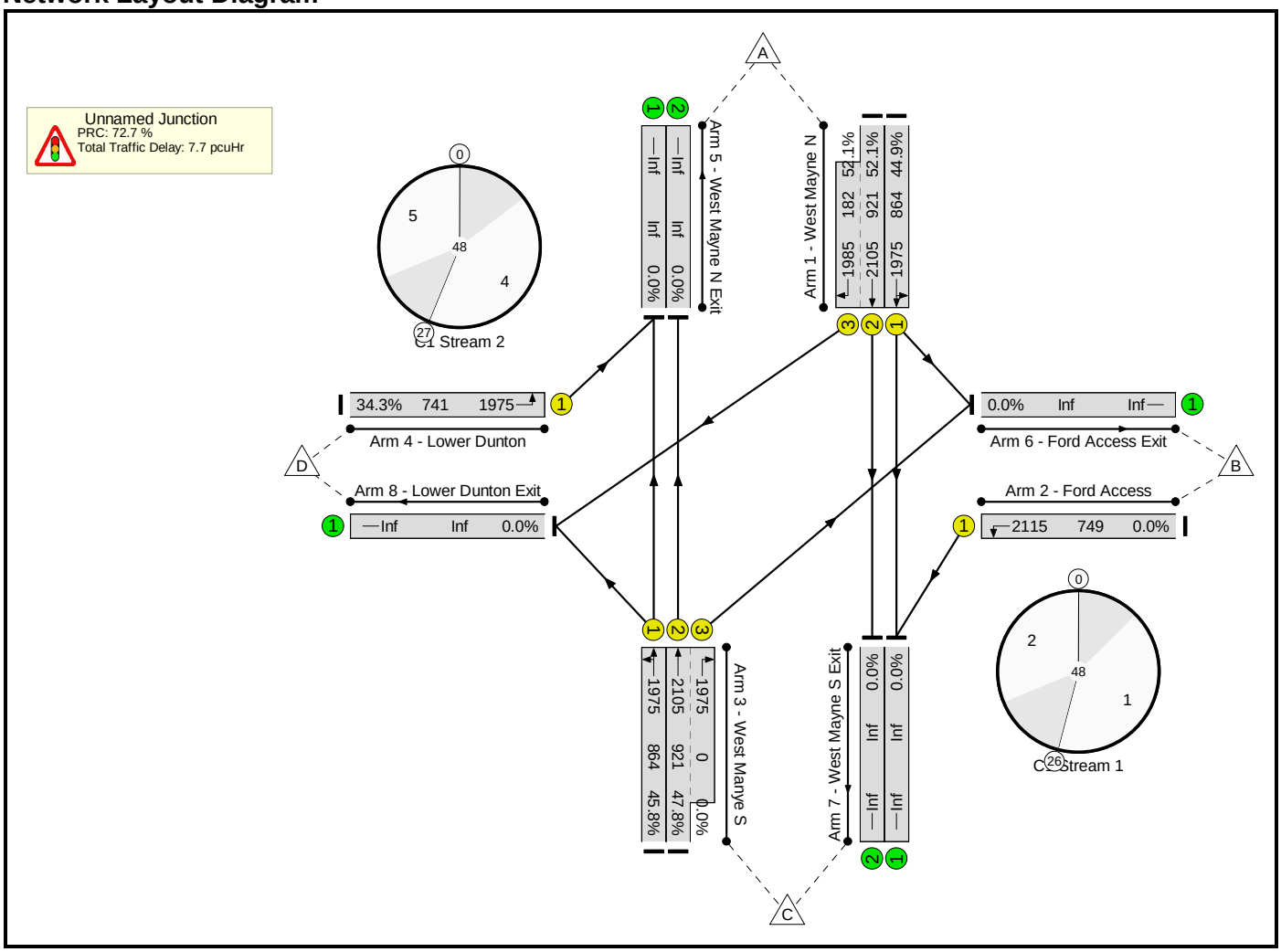
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
File name:	23.B148 West Mayne - Lower Dunton Road Rev B.lsg3x
Author:	
Company:	
Address:	
Notes:	

Scenario 1: 'AM 2012 Existing' (FG1: 'AM 2012 Existing', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Basic Results Summary

Network Results

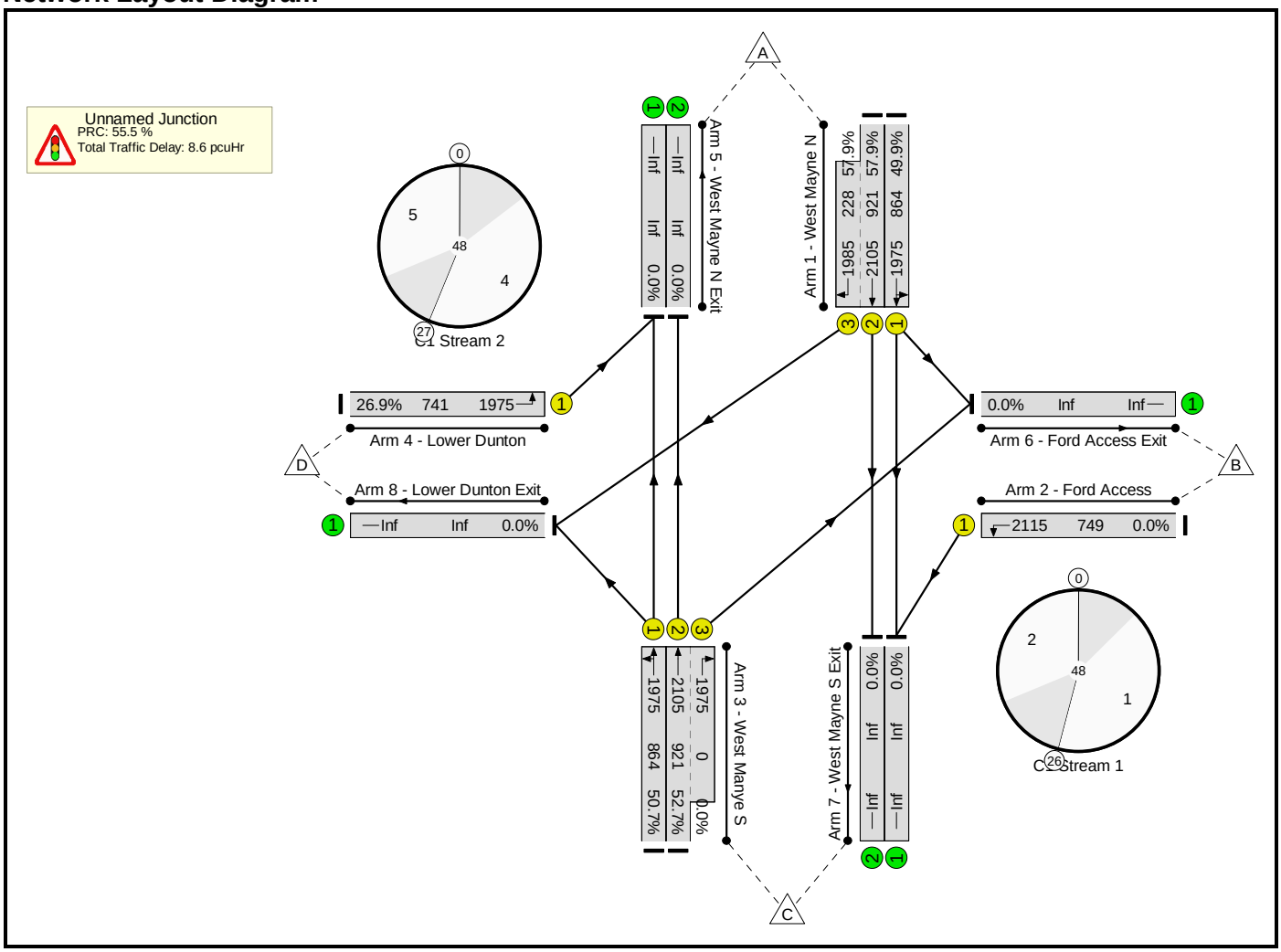
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**52.1%**	**0**	**0**	**0**	**7.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**52.1%**	**0**	**0**	**0**	**7.7**	-	-
1/1	West Mayne N Left Ahead	U	A		1	20	-	388	1975	864	44.9%	-	-	-	1.4	13.2	4.0
1/2+1/3	West Mayne N Ahead Right	U	A F		1	20:16	-	575	2105:1985	921+182	52.1 : 52.1%	-	-	-	2.1 (1.8+0.4)	13.4 (13.2:14.0)	5.1
2/1	Ford Access Left	U	B		1	16	-	0	2115	749	0.0%	-	-	-	0.0	0.0	0.0
3/1	West Manye S Ahead Left	U	D		1	20	-	396	1975	864	45.8%	-	-	-	1.5	13.3	4.1
3/2+3/3	West Manye S Ahead Right	U	D C		1	20:16	-	440	2105:1975	921+0	47.8 : 0.0%	-	-	-	1.6 (1.6+0.0)	13.3 (13.3:0.0)	4.6
4/1	Lower Dunton Left	U	E		1	17	-	254	1975	741	34.3%	-	-	-	1.0	14.5	2.7

C1	Stream: 1 PRC for Signalled Lanes (%):	72.7	Total Delay for Signalled Lanes (pcuHr):	3.56	Cycle Time (s): 48
C1	Stream: 2 PRC for Signalled Lanes (%):	88.4	Total Delay for Signalled Lanes (pcuHr):	4.12	Cycle Time (s): 48
	PRC Over All Lanes (%):	72.7	Total Delay Over All Lanes(pcuHr):	7.68	

Basic Results Summary

Scenario 2: 'PM 2012 Existing' (FG2: 'PM 2012 Existing ', Plan 2: 'Network Control Plan 2')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**57.9%**	**0**	**0**	**0**	**8.6**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**57.9%**	**0**	**0**	**0**	**8.6**	-	-
1/1	West Mayne N Left Ahead	U	A		1	20	-	431	1975	864	49.9%	-	-	-	1.7	13.9	4.6
1/2+1/3	West Mayne N Ahead Right	U	A F		1	20:16	-	665	2105:1985	921+228	57.9 : 57.9%	-	-	-	2.6 (2.1+0.5)	14.0 (13.9:14.5)	6.0
2/1	Ford Access Left	U	B		1	16	-	0	2115	749	0.0%	-	-	-	0.0	0.0	0.0
3/1	West Manye S Ahead Left	U	D		1	20	-	438	1975	864	50.7%	-	-	-	1.7	14.0	4.6
3/2+3/3	West Manye S Ahead Right	U	D C		1	20:16	-	485	2105:1975	921+0	52.7 : 0.0%	-	-	-	1.9 (1.9+0.0)	14.0 (14.0:0.0)	5.3
4/1	Lower Dunton Left	U	E		1	17	-	199	1975	741	26.9%	-	-	-	0.8	13.8	2.0

C1	Stream: 1 PRC for Signalled Lanes (%):	55.5	Total Delay for Signalled Lanes (pcuHr):	4.25	Cycle Time (s): 48
C1	Stream: 2 PRC for Signalled Lanes (%):	70.9	Total Delay for Signalled Lanes (pcuHr):	4.35	Cycle Time (s): 48
	PRC Over All Lanes (%):	55.5	Total Delay Over All Lanes(pcuHr):	8.59	