Appendix O: Harbour Road/Quays Avenue/Phoenix Way Modelling

Prepared for

West of England Councils

September 2017

ch2m.

1 The Square
Temple Quay
Bristol BS1 6DG
United Kingdom

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: Harbour Rd-Quays Ave-Phoenix Way_Option 3_Puffin_Update (additional flow).arc8
Path: \\CWLFPP01\Proj\Consulting\Transport Planning\PROJECTS\467470 (HS) MetroWest Phase 1 TA\Initial Junction Options Modelling\working
Report generation date: 05/02/2016 14:46:19

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 + scheme							
Arm 1	1.17	6.49	0.54	A	0.41	4.55	0.29	A
Arm 2	1.33	7.89	0.58	A	2.91	11.51	0.75	B
Arm 3	0.52	5.13	0.35	A	1.73	11.01	0.64	B
	A1 - 2029 + scheme							
Arm 1	2.02	9.19	0.67	A	0.53	5.03	0.35	A
Arm 2	1.79	9.42	0.65	A	4.77	17.34	0.83	C
Arm 3	0.64	5.57	0.39	A	2.67	15.46	0.73	C
	A1 - Base 2014							
Arm 1	1.33	7.04	0.57	A	0.38	4.51	0.27	A
Arm 2	1.20	7.42	0.55	A	2.85	11.26	0.75	B
Arm 3	0.53	5.10	0.35	A	2.04	12.26	0.68	B
	A1 - Forecast 2020							
Arm 1	1.55	7.77	0.61	A	0.42	4.73	0.30	A
Arm 2	1.37	7.98	0.58	A	3.57	13.38	0.79	B
Arm 3	0.58	5.30	0.37	A	2.66	15.12	0.73	C
	A1 - Forecast 2020 + Station							
Arm 1	1.93	8.99	0.66	A	0.54	5.20	0.35	A
Arm 2	1.58	8.71	0.62	A	4.30	15.86	0.82	C
Arm 3	0.71	5.79	0.42	A	3.94	20.83	0.81	C

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

"D1 - Base 2014, AM " model duration: 08:00 - 09:30
"D2 - Base 2014, PM" model duration: 17:00 - 18:30
"D3 - Forecast 2020, AM" model duration: 08:00 - 09:30
"D4 - Forecast 2020, PM" model duration: 17:00 - 18:30
"D5 - Forecast 2020 + Station, AM" model duration: 08:00 - 09:30
"D6 - Forecast 2020 + Station, PM" model duration: 17:00 - 18:30
"D7 - 2019 + scheme, AM" model duration: 08:00 - 09:30
"D8 - 2019 + scheme, PM" model duration: 17:00 - 18:30
"D9 - 2029 + scheme, AM" model duration: 08:00 - 09:30
"D10 - 2029 + scheme, PM" model duration: 17:00 - 18:30

Run using Junctions 8.0.4.487 at 05/02/2016 14:46:16

File summary

Title	(untitled)
Location	
Site Number	
Date	15/04/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	
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) - Base 2014, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relations
Base 2014, AM	Base 2014	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				6.74	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	624.00	100.000
2	ONE HOUR	✓	536.00	100.000
3	ONE HOUR	✓	339.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	369.000	255.000
	2	130.000	0.000	406.000
	3	113.000	226.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.59	0.41
	2	0.24	0.00	0.76
	3	0.33	0.67	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.57	7.04	1.33	A	572.59	858.89	82.54	5.77	0.92	82.55	5.77
2	0.55	7.42	1.20	A	491.84	737.76	76.15	6.19	0.85	76.16	6.19
3	0.35	5.10	0.53	A	311.07	466.61	36.20	4.65	0.40	36.20	4.65

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
1	469.78	117.44	467.37	181.98	169.35	0.00	1244.27	950.14	0.378	0.00	0.60	4.620	A
2	403.53	100.88	401.22	445.73	190.99	112.93	1095.92	1091.46	0.368	0.00	0.58	5.166	A
3	255.22	63.80	254.02	494.90	97.31	0.00	1103.45	1013.69	0.231	0.00	0.30	4.232	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
1	560.96	140.24	560.03	218.14	202.94	0.00	1224.76	950.14	0.458	0.60	0.84	5.407	A
2	481.85	120.46	481.02	534.11	228.86	134.85	1088.43	1091.46	0.443	0.58	0.79	5.918	A
3	304.75	76.19	304.41	593.21	116.67	0.00	1093.07	1013.69	0.279	0.30	0.38	4.562	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
1	687.04	171.76	685.10	266.96	248.46	0.00	1198.32	950.14	0.573	0.84	1.32	6.987	A
2	590.15	147.54	588.48	653.59	279.97	165.15	1072.01	1091.46	0.551	0.79	1.20	7.420	A
3	373.25	93.31	372.68	725.72	142.73	0.00	1079.10	1013.69	0.346	0.38	0.52	5.091	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
1	687.04	171.76	686.99	267.55	248.82	0.00	1198.11	950.14	0.573	1.32	1.33	7.043	A
2	590.15	147.54	590.15	655.07	280.74	165.15	1083.55	1091.46	0.545	1.20	1.20	7.296	A
3	373.25	93.31	373.24	727.76	143.13	0.00	1078.88	1013.69	0.346	0.52	0.53	5.101	A

Main results: (09:00-09:15)

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
1	560.96	140.24	562.87	219.04	203.54	0.00	1224.41	950.14	0.458	1.33	0.85	5.456	A
2	481.85	120.46	483.53	536.39	230.02	134.85	1104.42	1091.46	0.436	1.20	0.78	5.815	A
3	304.75	76.19	305.30	596.27	117.27	0.00	1092.74	1013.69	0.279	0.53	0.39	4.576	A

Main results: (09:15-09:30)

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
1	469.78	117.44	470.75	183.26	170.38	0.00	1243.67	950.14	0.378	0.85	0.61	4.664	A
2	403.53	100.88	404.37	448.75	192.37	112.93	1114.54	1091.46	0.362	0.78	0.57	5.076	A
3	255.22	63.80	255.56	498.67	98.07	0.00	1103.04	1013.69	0.231	0.39	0.30	4.249	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
1	8.75	0.58	4.620	A	A
2	8.38	0.56	5.166	A	A
3	4.38	0.29	4.232	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
1	12.21	0.81	5.407	A	A
2	11.47	0.76	5.918	A	A
3	5.66	0.38	4.562	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
1	19.03	1.27	6.987	A	A
2	17.36	1.16	7.420	A	A
3	7.69	0.51	5.091	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
1	19.91	1.33	7.043	A	A
2	18.03	1.20	7.296	A	A
3	7.89	0.53	5.101	A	A

Queueing Delay results: (09:00-09:15)

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
1	13.23	0.88	5.456	A	A
2	12.12	0.81	5.815	A	A
3	5.96	0.40	4.576	A	A

Queueing Delay results: (09:15-09:30)

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
1	9.40	0.63	4.664	A	A
2	8.80	0.59	5.076	A	A
3	4.62	0.31	4.249	A	A

(Default Analysis Set) - Base 2014, 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	Relations
Base 2014, PM	Base 2014	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				10.49	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	273.00	100.000
2	ONE HOUR	✓	840.00	100.000
3	ONE HOUR	✓	554.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	183.000	90.000
	2	428.000	0.000	412.000
	3	171.000	383.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.67	0.33
	2	0.51	0.00	0.49
	3	0.31	0.69	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.27	4.51	0.38	A	250.51	375.76	25.69	4.10	0.29	25.69	4.10
2	0.75	11.26	2.85	B	770.80	1156.20	164.37	8.53	1.83	164.40	8.53
3	0.68	12.26	2.04	B	508.36	762.54	113.63	8.94	1.26	113.64	8.94

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
1	205.53	51.38	204.69	447.72	286.33	0.00	1176.33	1001.99	0.175	0.00	0.21	3.701	A
2	632.40	158.10	627.80	423.54	67.48	112.93	1173.98	1124.57	0.539	0.00	1.15	6.537	A
3	417.08	104.27	414.17	375.40	319.88	0.00	984.11	848.39	0.424	0.00	0.73	6.286	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
1	245.42	61.36	245.18	537.03	343.32	0.00	1143.23	1001.99	0.215	0.21	0.27	4.007	A
2	755.14	188.79	753.14	507.67	80.83	134.85	1202.34	1124.57	0.628	1.15	1.65	7.977	A
3	498.03	124.51	496.61	450.22	383.74	0.00	949.87	848.39	0.524	0.73	1.08	7.917	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
1	300.58	75.14	300.17	655.95	419.17	0.00	1099.18	1001.99	0.273	0.27	0.37	4.503	A
2	924.86	231.21	920.07	620.38	98.96	165.15	1234.86	1124.57	0.749	1.65	2.85	11.260	B
3	609.97	152.49	606.32	550.23	468.80	0.00	904.26	848.39	0.675	1.08	1.99	11.935	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
1	300.58	75.14	300.57	659.50	421.57	0.00	1097.79	1001.99	0.274	0.37	0.38	4.515	A
2	924.86	231.21	924.93	623.05	99.09	165.15	1256.66	1124.57	0.736	2.85	2.83	10.865	B
3	609.97	152.49	609.79	552.75	471.28	0.00	902.93	848.39	0.676	1.99	2.04	12.261	B

Main results: (18:00-18:15)

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
1	245.42	61.36	245.82	542.17	346.83	0.00	1141.19	1001.99	0.215	0.38	0.28	4.022	A
2	755.14	188.79	760.16	511.61	81.04	134.85	1244.77	1124.57	0.607	2.83	1.57	7.502	A
3	498.03	124.51	501.68	453.88	387.32	0.00	947.95	848.39	0.525	2.04	1.13	8.130	A

Main results: (18:15-18:30)

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
1	205.53	51.38	205.78	452.38	289.39	0.00	1174.55	1001.99	0.175	0.28	0.21	3.718	A
2	632.40	158.10	634.26	427.33	67.84	112.93	1211.66	1124.57	0.522	1.57	1.11	6.256	A
3	417.08	104.27	418.60	378.93	323.17	0.00	982.34	848.39	0.425	1.13	0.75	6.404	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
1	3.09	0.21	3.701	A	A
2	16.42	1.09	6.537	A	A
3	10.46	0.70	6.286	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
1	4.01	0.27	4.007	A	A
2	23.73	1.58	7.977	A	A
3	15.63	1.04	7.917	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
1	5.50	0.37	4.503	A	A
2	39.67	2.64	11.260	B	B
3	27.90	1.86	11.935	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
1	5.62	0.37	4.515	A	A
2	42.55	2.84	10.865	B	B
3	30.32	2.02	12.261	B	B

Queueing Delay results: (18:00-18:15)

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
1	4.21	0.28	4.022	A	A
2	24.82	1.65	7.502	A	A
3	17.74	1.18	8.130	A	A

Queueing Delay results: (18:15-18:30)

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
1	3.25	0.22	3.718	A	A
2	17.18	1.15	6.256	A	A
3	11.57	0.77	6.404	A	A

(Default Analysis Set) - Forecast 2020, 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	Rel
Forecast 2020, AM	Forecast 2020	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				7.29	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	660.00	100.000
2	ONE HOUR	✓	567.00	100.000
3	ONE HOUR	✓	359.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	390.000	270.000
	2	138.000	0.000	429.000
	3	120.000	239.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.59	0.41
	2	0.24	0.00	0.76
	3	0.33	0.67	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.61	7.77	1.55	A	605.63	908.44	93.86	6.20	1.04	93.87	6.20
2	0.58	7.98	1.37	A	520.29	780.43	85.25	6.55	0.95	85.26	6.55
3	0.37	5.30	0.58	A	329.42	494.14	39.52	4.80	0.44	39.53	4.80

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
1	496.88	124.22	494.23	193.18	179.07	0.00	1238.62	950.86	0.401	0.00	0.66	4.818	A
2	426.87	106.72	424.32	471.11	202.18	112.93	1091.67	1091.06	0.391	0.00	0.64	5.374	A
3	270.27	67.57	268.98	523.23	103.27	0.00	1100.25	1013.24	0.246	0.00	0.32	4.325	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
1	593.33	148.33	592.23	231.58	214.60	0.00	1217.98	950.86	0.487	0.66	0.94	5.742	A
2	509.72	127.43	508.77	564.56	242.28	134.85	1085.59	1091.06	0.470	0.64	0.87	6.231	A
3	322.73	80.68	322.36	627.22	123.83	0.00	1089.23	1013.24	0.296	0.32	0.42	4.692	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
1	726.67	181.67	724.29	283.37	262.72	0.00	1190.04	950.86	0.611	0.94	1.54	7.690	A
2	624.28	156.07	622.30	690.71	296.30	165.15	1071.15	1091.06	0.583	0.87	1.37	7.984	A
3	395.27	98.82	394.63	767.14	151.46	0.00	1074.41	1013.24	0.368	0.42	0.58	5.291	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
1	726.67	181.67	726.61	284.06	263.14	0.00	1189.80	950.86	0.611	1.54	1.55	7.769	A
2	624.28	156.07	624.30	692.50	297.25	165.15	1084.72	1091.06	0.576	1.37	1.36	7.821	A
3	395.27	98.82	395.26	769.60	151.94	0.00	1074.15	1013.24	0.368	0.58	0.58	5.302	A

Main results: (09:00-09:15)

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
1	593.33	148.33	595.69	232.63	215.27	0.00	1217.60	950.86	0.487	1.55	0.96	5.809	A
2	509.72	127.43	511.71	567.27	243.69	134.85	1104.15	1091.06	0.462	1.36	0.87	6.096	A
3	322.73	80.68	323.35	630.86	124.54	0.00	1088.85	1013.24	0.296	0.58	0.42	4.708	A

Main results: (09:15-09:30)

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
1	496.88	124.22	498.03	194.60	180.19	0.00	1237.97	950.86	0.401	0.96	0.68	4.874	A
2	426.87	106.72	427.82	474.48	203.74	112.93	1112.26	1091.06	0.384	0.87	0.63	5.268	A
3	270.27	67.57	270.66	527.44	104.13	0.00	1099.79	1013.24	0.246	0.42	0.33	4.343	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
1	9.64	0.64	4.818	A	A
2	9.21	0.61	5.374	A	A
3	4.73	0.32	4.325	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
1	13.68	0.91	5.742	A	A
2	12.74	0.85	6.231	A	A
3	6.15	0.41	4.692	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
1	22.01	1.47	7.690	A	A
2	19.66	1.31	7.984	A	A
3	8.45	0.56	5.291	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
1	23.18	1.55	7.769	A	A
2	20.50	1.37	7.821	A	A
3	8.68	0.58	5.302	A	A

Queueing Delay results: (09:00-09:15)

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
1	14.94	1.00	5.809	A	A
2	13.47	0.90	6.096	A	A
3	6.50	0.43	4.708	A	A

Queueing Delay results: (09:15-09:30)

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
1	10.41	0.69	4.874	A	A
2	9.67	0.64	5.268	A	A
3	5.01	0.33	4.343	A	A

(Default Analysis Set) - Forecast 2020, 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	Rel
Forecast 2020, PM	Forecast 2020	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				12.54	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	291.00	100.000
2	ONE HOUR	✓	895.00	100.000
3	ONE HOUR	✓	590.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	195.000	96.000
	2	456.000	0.000	439.000
	3	182.000	408.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.67	0.33
	2	0.51	0.00	0.49
	3	0.31	0.69	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.30	4.73	0.42	A	267.03	400.54	28.39	4.25	0.32	28.39	4.25
2	0.79	13.38	3.57	B	821.27	1231.90	194.71	9.48	2.16	194.75	9.49
3	0.73	15.12	2.66	C	541.39	812.09	139.55	10.31	1.55	139.58	10.31

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
1	219.08	54.77	218.16	476.61	304.87	0.00	1165.56	1001.88	0.188	0.00	0.23	3.796	A
2	673.80	168.45	668.53	451.06	71.97	112.93	1175.95	1124.46	0.573	0.00	1.32	7.025	A
3	444.18	111.05	440.87	399.89	340.62	0.00	972.99	848.44	0.457	0.00	0.83	6.724	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
1	261.60	65.40	261.33	571.75	365.54	0.00	1130.33	1001.88	0.231	0.23	0.30	4.142	A
2	804.59	201.15	802.15	540.66	86.21	134.85	1211.25	1124.46	0.664	1.32	1.93	8.745	A
3	530.40	132.60	528.60	479.67	408.70	0.00	936.49	848.44	0.566	0.83	1.28	8.786	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
1	320.40	80.10	319.93	697.72	445.63	0.00	1083.81	1001.88	0.296	0.30	0.42	4.709	A
2	985.41	246.35	979.27	660.02	105.54	165.15	1252.97	1124.46	0.786	1.93	3.46	12.860	B
3	649.60	162.40	644.42	585.88	498.93	0.00	888.10	848.44	0.731	1.28	2.57	14.468	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
1	320.40	80.10	320.39	702.14	448.99	0.00	1081.86	1001.88	0.296	0.42	0.42	4.727	A
2	985.41	246.35	985.00	663.68	105.69	165.15	1252.88	1124.46	0.787	3.46	3.57	13.382	B
3	649.60	162.40	649.27	588.84	501.86	0.00	886.54	848.44	0.733	2.57	2.66	15.119	C

Main results: (18:00-18:15)

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
1	261.60	65.40	262.06	578.78	370.42	0.00	1127.50	1001.88	0.232	0.42	0.30	4.161	A
2	804.59	201.15	811.68	546.02	86.45	134.85	1263.87	1124.46	0.637	3.57	1.79	8.082	A
3	530.40	132.60	535.65	484.58	413.55	0.00	933.89	848.44	0.568	2.66	1.34	9.156	A

Main results: (18:15-18:30)

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
1	219.08	54.77	219.36	482.02	308.52	0.00	1163.44	1001.88	0.188	0.30	0.23	3.813	A
2	673.80	168.45	675.95	455.51	72.37	112.93	1218.53	1124.46	0.553	1.79	1.26	6.663	A
3	444.18	111.05	446.14	403.92	344.39	0.00	970.97	848.44	0.457	1.34	0.85	6.886	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
1	3.38	0.23	3.796	A	A
2	18.73	1.25	7.025	A	A
3	11.89	0.79	6.724	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
1	4.42	0.29	4.142	A	A
2	27.52	1.83	8.745	A	A
3	18.34	1.22	8.786	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
1	6.12	0.41	4.709	A	A
2	47.56	3.17	12.860	B	B
3	35.32	2.35	14.468	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
1	6.27	0.42	4.727	A	A
2	52.86	3.52	13.382	B	B
3	39.37	2.62	15.119	C	B

Queueing Delay results: (18:00-18:15)

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
1	4.65	0.31	4.161	A	A
2	28.49	1.90	8.082	A	A
3	21.33	1.42	9.156	A	A

Queueing Delay results: (18:15-18:30)

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
1	3.55	0.24	3.813	A	A
2	19.56	1.30	6.663	A	A
3	13.30	0.89	6.886	A	A

(Default Analysis Set) - Forecast 2020 + Station, 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	Rel
Forecast 2020 + Station, AM	Forecast 2020 + Station	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				8.14	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	711.00	100.000
2	ONE HOUR	✓	599.00	100.000
3	ONE HOUR	✓	405.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	419.000	292.000
	2	150.000	0.000	449.000
	3	155.000	250.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.59	0.41
	2	0.25	0.00	0.75
	3	0.38	0.62	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.66	8.99	1.93	A	652.43	978.64	112.35	6.89	1.25	112.37	6.89
2	0.62	8.71	1.58	A	549.65	824.48	96.24	7.00	1.07	96.26	7.00
3	0.42	5.79	0.71	A	371.64	557.45	47.81	5.15	0.53	47.81	5.15

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
1	535.28	133.82	532.24	228.33	187.27	0.00	1233.86	980.47	0.434	0.00	0.76	5.110	A
2	450.96	112.74	448.14	500.92	218.59	112.93	1084.99	1083.24	0.416	0.00	0.70	5.628	A
3	304.91	76.23	303.37	554.51	112.22	0.00	1095.45	1010.18	0.278	0.00	0.38	4.537	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
1	639.17	159.79	637.81	273.73	224.45	0.00	1212.27	980.47	0.527	0.76	1.10	6.251	A
2	538.49	134.62	537.38	600.32	261.94	134.85	1080.28	1083.24	0.498	0.70	0.98	6.617	A
3	364.09	91.02	363.61	664.76	134.57	0.00	1083.47	1010.18	0.336	0.38	0.50	4.997	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
1	782.83	195.71	779.62	334.90	274.74	0.00	1183.06	980.47	0.662	1.10	1.90	8.852	A
2	659.51	164.88	657.13	734.18	320.18	165.15	1068.15	1083.24	0.617	0.98	1.58	8.707	A
3	445.91	111.48	445.08	812.75	164.56	0.00	1067.39	1010.18	0.418	0.50	0.71	5.778	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
1	782.83	195.71	782.72	335.81	275.25	0.00	1182.77	980.47	0.662	1.90	1.93	8.992	A
2	659.51	164.88	659.55	736.51	321.45	165.15	1084.30	1083.24	0.608	1.58	1.57	8.478	A
3	445.91	111.48	445.90	815.84	165.16	0.00	1067.07	1010.18	0.418	0.71	0.71	5.795	A

Main results: (09:00-09:15)

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
1	639.17	159.79	642.36	275.10	225.25	0.00	1211.80	980.47	0.527	1.93	1.13	6.358	A
2	538.49	134.62	540.88	603.80	263.81	134.85	1102.03	1083.24	0.489	1.57	0.97	6.444	A
3	364.09	91.02	364.90	669.25	135.45	0.00	1083.00	1010.18	0.336	0.71	0.51	5.020	A

Main results: (09:15-09:30)

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
1	535.28	133.82	536.71	230.08	188.51	0.00	1233.14	980.47	0.434	1.13	0.77	5.179	A
2	450.96	112.74	452.06	504.80	220.42	112.93	1107.84	1083.24	0.407	0.97	0.69	5.500	A
3	304.91	76.23	305.39	559.28	113.20	0.00	1094.93	1010.18	0.278	0.51	0.39	4.563	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
1	10.98	0.73	5.110	A	A
2	10.17	0.68	5.628	A	A
3	5.59	0.37	4.537	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
1	15.96	1.06	6.251	A	A
2	14.25	0.95	6.617	A	A
3	7.38	0.49	4.997	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
1	26.99	1.80	8.852	A	A
2	22.50	1.50	8.707	A	A
3	10.37	0.69	5.778	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
1	28.78	1.92	8.992	A	A
2	23.56	1.57	8.478	A	A
3	10.69	0.71	5.795	A	A

Queueing Delay results: (09:00-09:15)

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
1	17.68	1.18	6.358	A	A
2	15.08	1.01	6.444	A	A
3	7.84	0.52	5.020	A	A

Queueing Delay results: (09:15-09:30)

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
1	11.95	0.80	5.179	A	A
2	10.69	0.71	5.500	A	A
3	5.95	0.40	4.563	A	A

(Default Analysis Set) - Forecast 2020 + Station, 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	Rel
Forecast 2020 + Station, PM	Forecast 2020 + Station	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				15.63	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	342.00	100.000
2	ONE HOUR	✓	918.00	100.000
3	ONE HOUR	✓	645.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	218.000	124.000
	2	467.000	0.000	451.000
	3	217.000	428.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.64	0.36
	2	0.51	0.00	0.49
	3	0.34	0.66	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.35	5.20	0.54	A	313.83	470.74	35.93	4.58	0.40	35.93	4.58
2	0.82	15.86	4.30	C	842.37	1263.56	222.42	10.56	2.47	222.47	10.56
3	0.81	20.83	3.94	C	591.86	887.79	188.08	12.71	2.09	188.11	12.71

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
1	257.48	64.37	256.34	510.73	319.60	0.00	1157.01	1013.26	0.223	0.00	0.28	3.992	A
2	691.12	172.78	685.43	482.99	92.94	112.93	1167.80	1103.40	0.592	0.00	1.42	7.380	A
3	485.59	121.40	481.63	429.68	348.69	0.00	968.66	854.65	0.501	0.00	0.99	7.334	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
1	307.45	76.86	307.09	612.69	383.13	0.00	1120.11	1013.26	0.274	0.28	0.38	4.426	A
2	825.26	206.32	822.54	578.88	111.34	134.85	1205.91	1103.40	0.684	1.42	2.10	9.320	A
3	579.84	144.96	577.38	515.44	418.44	0.00	931.26	854.65	0.623	0.99	1.60	10.101	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
1	376.55	94.14	375.91	746.09	465.59	0.00	1072.22	1013.26	0.351	0.38	0.54	5.166	A
2	1010.74	252.68	1002.60	705.20	136.29	165.15	1235.40	1103.40	0.818	2.10	4.14	14.945	B
3	710.16	177.54	701.64	628.85	510.04	0.00	882.15	854.65	0.805	1.60	3.73	19.091	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
1	376.55	94.14	376.53	752.48	470.68	0.00	1069.26	1013.26	0.352	0.54	0.54	5.196	A
2	1010.74	252.68	1010.08	710.70	136.52	165.15	1235.27	1103.40	0.818	4.14	4.30	15.861	C
3	710.16	177.54	709.33	632.76	513.84	0.00	880.11	854.65	0.807	3.73	3.94	20.830	C

Main results: (18:00-18:15)

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
1	307.45	76.86	308.08	622.59	390.67	0.00	1115.73	1013.26	0.276	0.54	0.38	4.460	A
2	825.26	206.32	834.48	587.05	111.70	134.85	1249.45	1103.40	0.661	4.30	2.00	8.858	A
3	579.84	144.96	588.75	521.67	424.51	0.00	928.01	854.65	0.625	3.94	1.71	10.875	B

Main results: (18:15-18:30)

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
1	257.48	64.37	257.85	517.21	324.05	0.00	1154.42	1013.26	0.223	0.38	0.29	4.018	A
2	691.12	172.78	693.74	488.41	93.49	112.93	1214.90	1103.40	0.569	2.00	1.34	6.944	A
3	485.59	121.40	488.34	434.32	352.92	0.00	966.40	854.65	0.502	1.71	1.03	7.572	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
1	4.17	0.28	3.992	A	A
2	20.13	1.34	7.380	A	A
3	14.11	0.94	7.334	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
1	5.54	0.37	4.426	A	A
2	29.93	2.00	9.320	A	A
3	22.80	1.52	10.101	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
1	7.86	0.52	5.166	A	A
2	55.73	3.72	14.945	B	B
3	49.33	3.29	19.091	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
1	8.09	0.54	5.196	A	A
2	63.55	4.24	15.861	C	B
3	57.89	3.86	20.830	C	C

Queueing Delay results: (18:00-18:15)

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
1	5.87	0.39	4.460	A	A
2	32.13	2.14	8.858	A	A
3	27.89	1.86	10.875	B	B

Queueing Delay results: (18:15-18:30)

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
1	4.41	0.29	4.018	A	A
2	20.96	1.40	6.944	A	A
3	16.07	1.07	7.572	A	A

(Default Analysis Set) - 2019 + scheme, 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	Relat
2019 + scheme, AM	2019 + scheme	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				6.71	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	593.00	100.000
2	ONE HOUR	✓	558.00	100.000
3	ONE HOUR	✓	336.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	318.000	275.000
	2	142.000	0.000	416.000
	3	125.000	211.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.54	0.46
	2	0.25	0.00	0.75
	3	0.37	0.63	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.54	6.49	1.17	A	544.15	816.22	73.78	5.42	0.82	73.79	5.42
2	0.58	7.89	1.33	A	512.03	768.05	83.15	6.50	0.92	83.16	6.50
3	0.35	5.13	0.52	A	308.32	462.48	36.03	4.67	0.40	36.03	4.67

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
1	446.44	111.61	444.24	199.94	158.11	0.00	1250.80	973.67	0.357	0.00	0.55	4.452	A
2	420.09	105.02	417.60	396.33	206.01	112.93	1089.34	1055.33	0.386	0.00	0.62	5.340	A
3	252.96	63.24	251.77	517.35	106.27	0.00	1098.64	1011.63	0.230	0.00	0.30	4.244	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
1	533.09	133.27	532.28	239.67	189.47	0.00	1232.58	973.67	0.433	0.55	0.75	5.134	A
2	501.63	125.41	500.70	474.91	246.84	134.85	1082.32	1055.33	0.463	0.62	0.85	6.179	A
3	302.06	75.51	301.72	620.13	127.42	0.00	1087.30	1011.63	0.278	0.30	0.38	4.580	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
1	652.91	163.23	651.29	293.28	231.96	0.00	1207.90	973.67	0.541	0.75	1.16	6.447	A
2	614.37	153.59	612.46	581.22	302.03	165.15	1066.59	1055.33	0.576	0.85	1.33	7.893	A
3	369.94	92.49	369.38	758.63	155.86	0.00	1072.06	1011.63	0.345	0.38	0.52	5.118	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
1	652.91	163.23	652.87	293.97	232.31	0.00	1207.70	973.67	0.541	1.16	1.17	6.488	A
2	614.37	153.59	614.38	582.41	302.76	165.15	1079.83	1055.33	0.569	1.33	1.33	7.735	A
3	369.94	92.49	369.93	760.80	156.35	0.00	1071.79	1011.63	0.345	0.52	0.52	5.128	A

Main results: (09:00-09:15)

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
1	533.09	133.27	534.69	240.72	190.03	0.00	1232.26	973.67	0.433	1.17	0.77	5.174	A
2	501.63	125.41	503.55	476.76	247.96	134.85	1100.45	1055.33	0.456	1.33	0.85	6.049	A
3	302.06	75.51	302.61	623.37	128.14	0.00	1086.92	1011.63	0.278	0.52	0.39	4.592	A

Main results: (09:15-09:30)

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
1	446.44	111.61	447.28	201.38	159.07	0.00	1250.24	973.67	0.357	0.77	0.56	4.487	A
2	420.09	105.02	421.02	398.93	207.42	112.93	1109.52	1055.33	0.379	0.85	0.61	5.237	A
3	252.96	63.24	253.30	521.31	107.14	0.00	1098.18	1011.63	0.230	0.39	0.30	4.262	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
1	8.02	0.53	4.452	A	A
2	9.01	0.60	5.340	A	A
3	4.35	0.29	4.244	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
1	11.05	0.74	5.134	A	A
2	12.44	0.83	6.179	A	A
3	5.63	0.38	4.580	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
1	16.78	1.12	6.447	A	A
2	19.15	1.28	7.893	A	A
3	7.66	0.51	5.118	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
1	17.46	1.16	6.488	A	A
2	19.95	1.33	7.735	A	A
3	7.86	0.52	5.128	A	A

Queueing Delay results: (09:00-09:15)

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
1	11.89	0.79	5.174	A	A
2	13.15	0.88	6.049	A	A
3	5.93	0.40	4.592	A	A

Queueing Delay results: (09:15-09:30)

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
1	8.58	0.57	4.487	A	A
2	9.46	0.63	5.237	A	A
3	4.60	0.31	4.262	A	A

(Default Analysis Set) - 2019 + scheme, 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	Relat
2019 + scheme, PM	2019 + scheme	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				10.11	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	297.00	100.000
2	ONE HOUR	✓	841.00	100.000
3	ONE HOUR	✓	522.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	191.000	106.000
	2	431.000	0.000	410.000
	3	171.000	351.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.64	0.36
	2	0.51	0.00	0.49
	3	0.33	0.67	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.29	4.55	0.41	A	272.53	408.80	28.11	4.13	0.31	28.11	4.13
2	0.75	11.51	2.91	B	771.72	1157.57	167.49	8.68	1.86	167.52	8.68
3	0.64	11.01	1.73	B	479.00	718.49	99.34	8.30	1.10	99.36	8.30

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
1	223.60	55.90	222.68	449.97	262.48	0.00	1190.18	1010.16	0.188	0.00	0.23	3.717	A
2	633.15	158.29	628.49	405.68	79.47	112.93	1168.19	1107.32	0.542	0.00	1.16	6.614	A
3	392.99	98.25	390.35	385.87	322.09	0.00	982.92	851.35	0.400	0.00	0.66	6.049	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
1	267.00	66.75	266.73	539.73	314.72	0.00	1159.84	1010.16	0.230	0.23	0.30	4.030	A
2	756.04	189.01	753.99	486.25	95.20	134.85	1196.16	1107.32	0.632	1.16	1.68	8.102	A
3	469.27	117.32	468.05	462.78	386.41	0.00	948.44	851.35	0.495	0.66	0.96	7.473	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
1	327.00	81.75	326.55	659.32	384.48	0.00	1119.33	1010.16	0.292	0.30	0.41	4.539	A
2	925.96	231.49	921.02	594.49	116.55	165.15	1228.72	1107.32	0.754	1.68	2.91	11.511	B
3	574.73	143.68	571.79	565.56	472.01	0.00	902.54	851.35	0.637	0.96	1.70	10.788	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
1	327.00	81.75	327.00	662.78	386.37	0.00	1118.23	1010.16	0.292	0.41	0.41	4.549	A
2	925.96	231.49	925.97	596.66	116.71	165.15	1246.59	1107.32	0.743	2.91	2.91	11.233	B
3	574.73	143.68	574.61	568.13	474.55	0.00	901.18	851.35	0.638	1.70	1.73	11.012	B

Main results: (18:00-18:15)

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
1	267.00	66.75	267.44	544.84	317.51	0.00	1158.22	1010.16	0.231	0.41	0.30	4.043	A
2	756.04	189.01	761.31	489.50	95.45	134.85	1240.15	1107.32	0.610	2.91	1.59	7.600	A
3	469.27	117.32	472.19	466.60	390.16	0.00	946.43	851.35	0.496	1.73	1.00	7.639	A

Main results: (18:15-18:30)

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
1	223.60	55.90	223.87	454.61	265.12	0.00	1188.65	1010.16	0.188	0.30	0.23	3.731	A
2	633.15	158.29	635.04	409.09	79.90	112.93	1206.31	1107.32	0.525	1.59	1.12	6.324	A
3	392.99	98.25	394.28	389.49	325.45	0.00	981.12	851.35	0.401	1.00	0.68	6.147	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
1	3.38	0.23	3.717	A	A
2	16.63	1.11	6.614	A	A
3	9.51	0.63	6.049	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
1	4.39	0.29	4.030	A	A
2	24.10	1.61	8.102	A	A
3	13.96	0.93	7.473	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
1	6.03	0.40	4.539	A	A
2	40.51	2.70	11.511	B	B
3	23.99	1.60	10.788	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
1	6.17	0.41	4.549	A	A
2	43.68	2.91	11.233	B	B
3	25.77	1.72	11.012	B	B

Queueing Delay results: (18:00-18:15)

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
1	4.60	0.31	4.043	A	A
2	25.17	1.68	7.600	A	A
3	15.66	1.04	7.639	A	A

Queueing Delay results: (18:15-18:30)

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
1	3.55	0.24	3.731	A	A
2	17.40	1.16	6.324	A	A
3	10.45	0.70	6.147	A	A

(Default Analysis Set) - 2029 + scheme, 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	Relat
2029 + scheme, AM	2029 + scheme	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				8.49	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	730.00	100.000
2	ONE HOUR	✓	628.00	100.000
3	ONE HOUR	✓	375.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	421.000	309.000
	2	164.000	0.000	464.000
	3	144.000	231.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.58	0.42
	2	0.26	0.00	0.74
	3	0.38	0.62	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.67	9.19	2.02	A	669.86	1004.79	117.16	7.00	1.30	117.17	7.00
2	0.65	9.42	1.79	A	576.26	864.40	107.14	7.44	1.19	107.15	7.44
3	0.39	5.57	0.64	A	344.11	516.16	42.93	4.99	0.48	42.94	4.99

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
1	549.58	137.40	546.44	230.54	173.05	0.00	1242.12	983.07	0.442	0.00	0.79	5.153	A
2	472.79	118.20	469.71	488.19	231.30	112.93	1080.14	1075.56	0.438	0.00	0.77	5.868	A
3	282.32	70.58	280.93	578.35	122.66	0.00	1089.85	1005.02	0.259	0.00	0.35	4.443	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
1	656.26	164.06	654.83	276.40	207.41	0.00	1222.17	983.07	0.537	0.79	1.14	6.328	A
2	564.56	141.14	563.30	585.05	277.18	134.85	1077.11	1075.56	0.524	0.77	1.08	6.989	A
3	337.12	84.28	336.70	693.38	147.10	0.00	1076.75	1005.02	0.313	0.35	0.45	4.863	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
1	803.74	200.94	800.34	338.10	253.89	0.00	1195.17	983.07	0.673	1.14	1.99	9.038	A
2	691.44	172.86	688.64	715.46	338.77	165.15	1067.87	1075.56	0.648	1.08	1.79	9.421	A
3	412.88	103.22	412.16	847.58	179.83	0.00	1059.20	1005.02	0.390	0.45	0.63	5.558	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
1	803.74	200.94	803.63	339.13	254.33	0.00	1194.91	983.07	0.673	1.99	2.02	9.194	A
2	691.44	172.86	691.50	717.79	340.17	165.15	1086.76	1075.56	0.636	1.79	1.77	9.112	A
3	412.88	103.22	412.87	851.09	180.58	0.00	1058.80	1005.02	0.390	0.63	0.64	5.572	A

Main results: (09:00-09:15)

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
1	656.26	164.06	659.64	277.89	208.10	0.00	1221.76	983.07	0.537	2.02	1.18	6.441	A
2	564.56	141.14	567.38	588.52	279.22	134.85	1102.24	1075.56	0.512	1.77	1.07	6.764	A
3	337.12	84.28	337.82	698.42	148.17	0.00	1076.18	1005.02	0.313	0.64	0.46	4.879	A

Main results: (09:15-09:30)

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
1	549.58	137.40	551.08	232.37	174.17	0.00	1241.46	983.07	0.443	1.18	0.80	5.227	A
2	472.79	118.20	474.03	491.99	233.27	112.93	1105.24	1075.56	0.428	1.07	0.76	5.716	A
3	282.32	70.58	282.75	583.51	123.79	0.00	1089.25	1005.02	0.259	0.46	0.35	4.467	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
1	11.37	0.76	5.153	A	A
2	11.10	0.74	5.868	A	A
3	5.07	0.34	4.443	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
1	16.58	1.11	6.328	A	A
2	15.72	1.05	6.989	A	A
3	6.65	0.44	4.863	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
1	28.24	1.88	9.038	A	A
2	25.37	1.69	9.421	A	A
3	9.25	0.62	5.558	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
1	30.18	2.01	9.194	A	A
2	26.65	1.78	9.112	A	A
3	9.52	0.63	5.572	A	A

Queueing Delay results: (09:00-09:15)

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
1	18.41	1.23	6.441	A	A
2	16.64	1.11	6.764	A	A
3	7.05	0.47	4.879	A	A

Queueing Delay results: (09:15-09:30)

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
1	12.39	0.83	5.227	A	A
2	11.66	0.78	5.716	A	A
3	5.38	0.36	4.467	A	A

(Default Analysis Set) - 2029 + scheme, 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	Relat
2029 + scheme, PM	2029 + scheme	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Harbour Rd/Quays Ave/Phoenix Wy	Roundabout	1,2,3				14.47	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Phoenix Way	
2	2	Quays Ave	
3	3	Harbour Rd	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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
1	3.50	4.70	18.00	22.00	30.00	35.00	
2	3.50	4.60	21.00	20.00	30.00	37.00	
3	3.50	4.00	13.00	13.00	30.00	32.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	Puffin
3	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)
2	3.00	2.00	1.00	5.00	7.00	30.00	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)
1		(calculated)	(calculated)	0.581	1342.618
2		(calculated)	(calculated)	0.571	1313.260
3		(calculated)	(calculated)	0.536	1155.625

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 (%)
1	ONE HOUR	✓	344.00	100.000
2	ONE HOUR	✓	935.00	100.000
3	ONE HOUR	✓	581.00	100.000

Pedestrian Flows

General Flows Data

Arm	Profile Type	Average Pedestrian Flow (Ped/hr)
1	-	-
2	ONE HOUR	150.00
3	-	-

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	218.000	126.000
	2	482.000	0.000	453.000
	3	193.000	388.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.63	0.37
	2	0.52	0.00	0.48
	3	0.33	0.67	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	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)
1	0.35	5.03	0.53	A	315.66	473.49	35.22	4.46	0.39	35.23	4.46
2	0.83	17.34	4.77	C	857.97	1286.96	239.39	11.16	2.66	239.44	11.16
3	0.73	15.46	2.67	C	533.14	799.70	139.47	10.46	1.55	139.49	10.47

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
1	258.98	64.75	257.86	504.03	289.91	0.00	1174.25	1012.50	0.221	0.00	0.28	3.923	A
2	703.92	175.98	697.98	453.32	94.45	112.93	1168.62	1101.42	0.602	0.00	1.48	7.559	A
3	437.41	109.35	434.12	432.62	359.82	0.00	962.70	851.18	0.454	0.00	0.82	6.769	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
1	309.25	77.31	308.90	604.72	347.60	0.00	1140.75	1012.50	0.271	0.28	0.37	4.325	A
2	840.55	210.14	837.65	543.35	113.14	134.85	1209.38	1101.42	0.695	1.48	2.21	9.605	A
3	522.31	130.58	520.50	518.98	431.82	0.00	924.09	851.18	0.565	0.82	1.27	8.879	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
1	378.75	94.69	378.14	736.60	423.70	0.00	1096.55	1012.50	0.345	0.37	0.52	5.007	A
2	1029.45	257.36	1020.05	663.33	138.50	165.15	1234.14	1101.42	0.834	2.21	4.56	16.125	C
3	639.69	159.92	634.46	632.71	525.84	0.00	873.67	851.18	0.732	1.27	2.58	14.730	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
1	378.75	94.69	378.74	742.63	426.95	0.00	1094.66	1012.50	0.346	0.52	0.53	5.028	A
2	1029.45	257.36	1028.61	666.97	138.72	165.15	1234.02	1101.42	0.834	4.56	4.77	17.336	C
3	639.69	159.92	639.33	637.08	530.26	0.00	871.31	851.18	0.734	2.58	2.67	15.457	C

Main results: (18:00-18:15)

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
1	309.25	77.31	309.85	614.04	352.36	0.00	1137.98	1012.50	0.272	0.53	0.38	4.349	A
2	840.55	210.14	851.14	548.72	113.49	134.85	1248.43	1101.42	0.673	4.77	2.12	9.291	A
3	522.31	130.58	527.63	525.86	438.77	0.00	920.36	851.18	0.568	2.67	1.34	9.287	A

Main results: (18:15-18:30)

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
1	258.98	64.75	259.34	510.33	293.43	0.00	1172.21	1012.50	0.221	0.38	0.29	3.944	A
2	703.92	175.98	706.83	457.78	94.99	112.93	1218.43	1101.42	0.578	2.12	1.39	7.075	A
3	437.41	109.35	439.38	437.45	364.38	0.00	960.25	851.18	0.456	1.34	0.85	6.939	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
1	4.12	0.27	3.923	A	A
2	20.97	1.40	7.559	A	A
3	11.78	0.79	6.769	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
1	5.45	0.36	4.325	A	A
2	31.33	2.09	9.605	A	A
3	18.25	1.22	8.879	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
1	7.67	0.51	5.007	A	A
2	60.67	4.04	16.125	C	B
3	35.37	2.36	14.730	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
1	7.88	0.53	5.028	A	A
2	70.26	4.68	17.336	C	B
3	39.55	2.64	15.457	C	B

Queueing Delay results: (18:00-18:15)

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
1	5.75	0.38	4.349	A	A
2	34.37	2.29	9.291	A	A
3	21.31	1.42	9.287	A	A

Queueing Delay results: (18:15-18:30)

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
1	4.35	0.29	3.944	A	A
2	21.79	1.45	7.075	A	A
3	13.20	0.88	6.939	A	A