

## Overview Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
07:45-08:00	A	450.21	2082.55	0.216	0.00	0.00	0.27	4.06	(0.00)	0.037
07:45-08:00	B	118.20	1262.18	0.094	0.00	0.00	0.10	1.52	(0.00)	0.052
07:45-08:00	C	633.15	1979.67	0.320	0.00	0.00	0.47	6.89	(0.00)	0.044
08:00-08:15	A	537.59	2080.12	0.258	0.00	0.27	0.35	5.15	(0.00)	0.039
08:00-08:15	B	141.14	1218.44	0.116	0.00	0.10	0.13	1.93	(0.00)	0.056
08:00-08:15	C	756.04	1970.32	0.384	0.00	0.47	0.62	9.15	(0.00)	0.049
08:15-08:30	A	658.41	2076.81	0.317	0.00	0.35	0.46	6.84	(0.00)	0.042
08:15-08:30	B	172.86	1158.61	0.149	0.00	0.13	0.17	2.58	(0.00)	0.061
08:15-08:30	C	925.96	1957.59	0.473	0.00	0.62	0.89	13.09	(0.00)	0.058
08:30-08:45	A	658.41	2076.79	0.317	0.00	0.46	0.46	6.94	(0.00)	0.042
08:30-08:45	B	172.86	1158.38	0.149	0.00	0.17	0.17	2.62	(0.00)	0.061
08:30-08:45	C	925.96	1957.52	0.473	0.00	0.89	0.89	13.40	(0.00)	0.058
08:45-09:00	A	537.59	2080.09	0.258	0.00	0.46	0.35	5.31	(0.00)	0.039
08:45-09:00	B	141.14	1218.07	0.116	0.00	0.17	0.13	2.00	(0.00)	0.056
08:45-09:00	C	756.04	1970.21	0.384	0.00	0.89	0.63	9.56	(0.00)	0.049
09:00-09:15	A	450.21	2082.50	0.216	0.00	0.35	0.28	4.19	(0.00)	0.037
09:00-09:15	B	118.20	1261.49	0.094	0.00	0.13	0.10	1.58	(0.00)	0.053
09:00-09:15	C	633.15	1979.46	0.320	0.00	0.63	0.47	7.19	(0.00)	0.045

## A1 - (Default Analysis Set) - D12 - 2020 PCU + CD + DEV180 - Wretchwick - Gavray Drive - Charbridge PM Peak, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2020 PCU + CD + DEV180 - Wretchwick - Gavray Drive - Charbridge PM Peak, PM	2020 PCU + CD + DEV180 - Wretchwick - Gavray Drive - Charbridge PM Peak	PM			Yes			16:45	18:15	90	15	Varies by Arm

## Roundabout Network

### Roundabout Type(s)

## Roundabout type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

## Roundabout Network Options

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

# Arms

## Arms

ID	Name	Description
A	Wretchwick	
B	Gavray Drive	
C	Charbridge	

## Capacity Options

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

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.00	8.00	15.00	20.00	45.00	49.00	
B	3.50	7.00	10.00	20.00	45.00	44.00	
C	5.75	7.00	10.00	35.00	45.00	34.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.685	2094.901
B		((calculated))	((calculated))	0.571	1484.915
C		((calculated))	((calculated))	0.694	2027.030

*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
			Yes	HV Percentages	2.00				Yes	Yes

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	894.00	100.000	N/A
B	ONE HOUR	Yes	113.00	100.000	N/A
C	ONE HOUR	Yes	671.00	100.000	N/A

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	673.05	673.05	N/A	N/A
16:45-17:00	B	85.07	85.07	N/A	N/A
16:45-17:00	C	505.16	505.16	N/A	N/A
17:00-17:15	A	803.69	803.69	N/A	N/A
17:00-17:15	B	101.58	101.58	N/A	N/A
17:00-17:15	C	603.22	603.22	N/A	N/A
17:15-17:30	A	984.31	984.31	N/A	N/A
17:15-17:30	B	124.42	124.42	N/A	N/A
17:15-17:30	C	738.78	738.78	N/A	N/A
17:30-17:45	A	984.31	984.31	N/A	N/A
17:30-17:45	B	124.42	124.42	N/A	N/A
17:30-17:45	C	738.78	738.78	N/A	N/A
17:45-18:00	A	803.69	803.69	N/A	N/A
17:45-18:00	B	101.58	101.58	N/A	N/A
17:45-18:00	C	603.22	603.22	N/A	N/A
18:00-18:15	A	673.05	673.05	N/A	N/A
18:00-18:15	B	85.07	85.07	N/A	N/A
18:00-18:15	C	505.16	505.16	N/A	N/A

# Turning Proportions

## Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	98.00	796.00
	B	83.00	0.00	30.00
	C	604.00	67.00	0.00

## Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.11	0.89
	B	0.73	0.00	0.27
	C	0.90	0.10	0.00

# Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	1.00	1.00	1.00
	B	1.00	1.00	1.00
	C	1.00	1.00	1.00

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	0.00	0.00	0.00
	C	0.00	0.00	0.00

## Results

### Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.48	0.06	0.93	A	820.35	1230.53	61.25	0.05	0.68	61.25	0.05	0.685	2094.901
B	0.13	0.07	0.14	A	103.69	155.54	9.82	0.06	0.11	9.82	0.06	0.571	1484.915
C	0.38	0.05	0.60	A	615.72	923.58	41.31	0.04	0.46	41.31	0.04	0.694	2027.030

### Main Results

#### Main results: (16:45-17:00)

Arm	Demand (PCU/hr)	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)
A	673.05	168.26	671.12	515.75	50.31	0.00	2060.42	1972.96	0.327	0.00	0.48
B	85.07	21.27	84.75	123.87	597.55	0.00	1143.45	481.08	0.074	0.00	0.08
C	505.16	126.29	503.80	620.05	62.25	0.00	1983.84	1781.88	0.255	0.00	0.34

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

Arm	Demand (PCU/hr)	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)
A	803.69	200.92	803.06	617.18	60.19	0.00	2053.64	1972.96	0.391	0.48	0.64
B	101.58	25.40	101.49	148.22	715.03	0.00	1076.32	481.08	0.094	0.08	0.10
C	603.22	150.80	602.83	741.97	74.55	0.00	1975.31	1781.88	0.305	0.34	0.44

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

Arm	Demand (PCU/hr)	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)
A	984.31	246.08	983.18	755.70	73.70	0.00	2044.38	1972.95	0.481	0.64	0.92
B	124.42	31.10	124.25	181.48	875.41	0.00	984.67	481.08	0.126	0.10	0.14
C	738.78	184.70	738.14	908.40	91.27	0.00	1963.71	1781.88	0.376	0.44	0.60

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

Arm	Demand (PCU/hr)	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)
A	984.31	246.08	984.30	756.39	73.77	0.00	2044.34	1972.95	0.481	0.92	0.93

B	124.42	31.10	124.41	181.67	876.40	0.00	984.10	481.08	0.126	0.14	0.14
C	738.78	184.70	738.78	909.43	91.38	0.00	1963.63	1781.88	0.376	0.60	0.60

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

Arm	Demand (PCU/hr)	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)
A	803.69	200.92	804.80	618.29	60.30	0.00	2053.57	1972.96	0.391	0.93	0.65
B	101.58	25.40	101.74	148.52	716.58	0.00	1075.43	481.08	0.094	0.14	0.10
C	603.22	150.80	603.86	743.59	74.73	0.00	1975.18	1781.88	0.305	0.60	0.44

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

Arm	Demand (PCU/hr)	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)
A	673.05	168.26	673.69	517.64	50.48	0.00	2060.30	1972.96	0.327	0.65	0.49
B	85.07	21.27	85.17	124.33	599.84	0.00	1142.14	481.08	0.074	0.10	0.08
C	505.16	126.29	505.56	622.45	62.56	0.00	1983.63	1781.88	0.255	0.44	0.34

## Queueing Delay Results

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	7.11	0.47	0.043	A	A
B	1.18	0.08	0.057	A	A
C	5.02	0.33	0.041	A	A

### 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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.45	0.63	0.048	A	A
B	1.54	0.10	0.062	A	A
C	6.48	0.43	0.044	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.55	0.90	0.056	A	A
B	2.12	0.14	0.070	A	A
C	8.86	0.59	0.049	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.86	0.92	0.057	A	A
B	2.16	0.14	0.070	A	A
C	9.01	0.60	0.049	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.87	0.66	0.048	A	A
B	1.60	0.11	0.062	A	A
C	6.72	0.45	0.044	A	A

### 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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	7.41	0.49	0.043	A	A
B	1.23	0.08	0.057	A	A
C	5.21	0.35	0.041	A	A

## Overview: Standard Roundabout Geometry


### Standard 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	Final Slope	Final Intercept (PCU/hr)
A	6.00	8.00	15.00	20.00	45.00	49.00		0.685	2094.901
B	3.50	7.00	10.00	20.00	45.00	44.00		0.571	1484.915
C	5.75	7.00	10.00	35.00	45.00	34.00		0.694	2027.030

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
16:45-17:00	A	673.05	2060.42	0.327	0.00	0.00	0.48	7.11	(0.00)	0.043
16:45-17:00	B	85.07	1143.45	0.074	0.00	0.00	0.08	1.18	(0.00)	0.057
16:45-17:00	C	505.16	1983.84	0.255	0.00	0.00	0.34	5.02	(0.00)	0.041
17:00-17:15	A	803.69	2053.64	0.391	0.00	0.48	0.64	9.45	(0.00)	0.048
17:00-17:15	B	101.58	1076.32	0.094	0.00	0.08	0.10	1.54	(0.00)	0.062
17:00-17:15	C	603.22	1975.31	0.305	0.00	0.34	0.44	6.48	(0.00)	0.044
17:15-17:30	A	984.31	2044.38	0.481	0.00	0.64	0.92	13.55	(0.00)	0.056
17:15-17:30	B	124.42	984.67	0.126	0.00	0.10	0.14	2.12	(0.00)	0.070
17:15-17:30	C	738.78	1963.71	0.376	0.00	0.44	0.60	8.86	(0.00)	0.049
17:30-17:45	A	984.31	2044.34	0.481	0.00	0.92	0.93	13.86	(0.00)	0.057
17:30-17:45	B	124.42	984.10	0.126	0.00	0.14	0.14	2.16	(0.00)	0.070
17:30-17:45	C	738.78	1963.63	0.376	0.00	0.60	0.60	9.01	(0.00)	0.049
17:45-18:00	A	803.69	2053.57	0.391	0.00	0.93	0.65	9.87	(0.00)	0.048
17:45-18:00	B	101.58	1075.43	0.094	0.00	0.14	0.10	1.60	(0.00)	0.062
17:45-18:00	C	603.22	1975.18	0.305	0.00	0.60	0.44	6.72	(0.00)	0.044
18:00-18:15	A	673.05	2060.30	0.327	0.00	0.65	0.49	7.41	(0.00)	0.043
18:00-18:15	B	85.07	1142.14	0.074	0.00	0.10	0.08	1.23	(0.00)	0.057
18:00-18:15	C	505.16	1983.63	0.255	0.00	0.44	0.34	5.21	(0.00)	0.041

<b>PICADY</b>		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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<b>The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution</b>		

## Run Analysis

Parameter	Values
File Run	\\O..\Revision A\2014 Wretchwick Way -Pergrine Way Junction.vpi
Date Run	10 April 2015
Time Run	11:33:31
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Wretchwick Way SW	100
Arm B	Peregrine Way	100
Arm C	Wretchwick Way NE	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	Wretchwick Way - Peregrine Way
Location	Bicester
Date	13 July 2010
Enumerator	Alexanders [CS5DG3J]
Job Number	18578-01-1
Status	TIA
Client	JJ Gallagher
Description	-

## Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	12.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	3.20
Minor Road Width 0m Back from Junction (m)	10.00
Minor Road Width 5m Back from Junction (m)	9.00
Minor Road Width 10m Back from Junction (m)	6.50
Minor Road Width 15m Back from Junction (m)	6.00
Minor Road Width 20m Back from Junction (m)	6.00
Minor Road Flare Length (veh)	1
Minor Road Visibility To Right (m)	120
Minor Road Visibility To Left (m)	65
Major Road Right Turn Visibility (m)	120
Major Road Right Turn Blocks Traffic	No

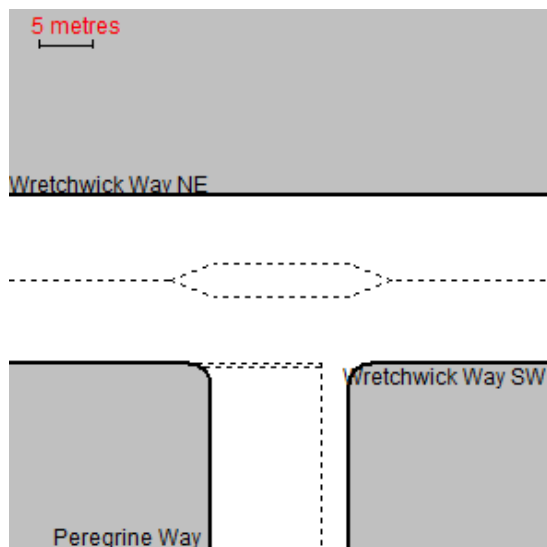
### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	0.000	0.000	0.000	0.000	0.000
B-C	0.000	0.000	0.000	-	-
C-B	713.487	0.204	0.204	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections



### Junction Diagram



### Demand Data

#### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

#### ODTAB Turning Counts

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	47.0	348.0
Arm B	86.0	0.0	119.0
Arm C	628.0	76.0	0.0

**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	90.0	599.0
Arm B	46.0	0.0	80.0
Arm C	413.0	124.0	0.0

### ODTAB Synthesised Flows

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	4.938	08:30	7.406	09:00	4.938
Arm B	08:00	2.563	08:30	3.844	09:00	2.563
Arm C	08:00	8.800	08:30	13.200	09:00	8.800

### Heavy Vehicles Percentages

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 16:45-18:15

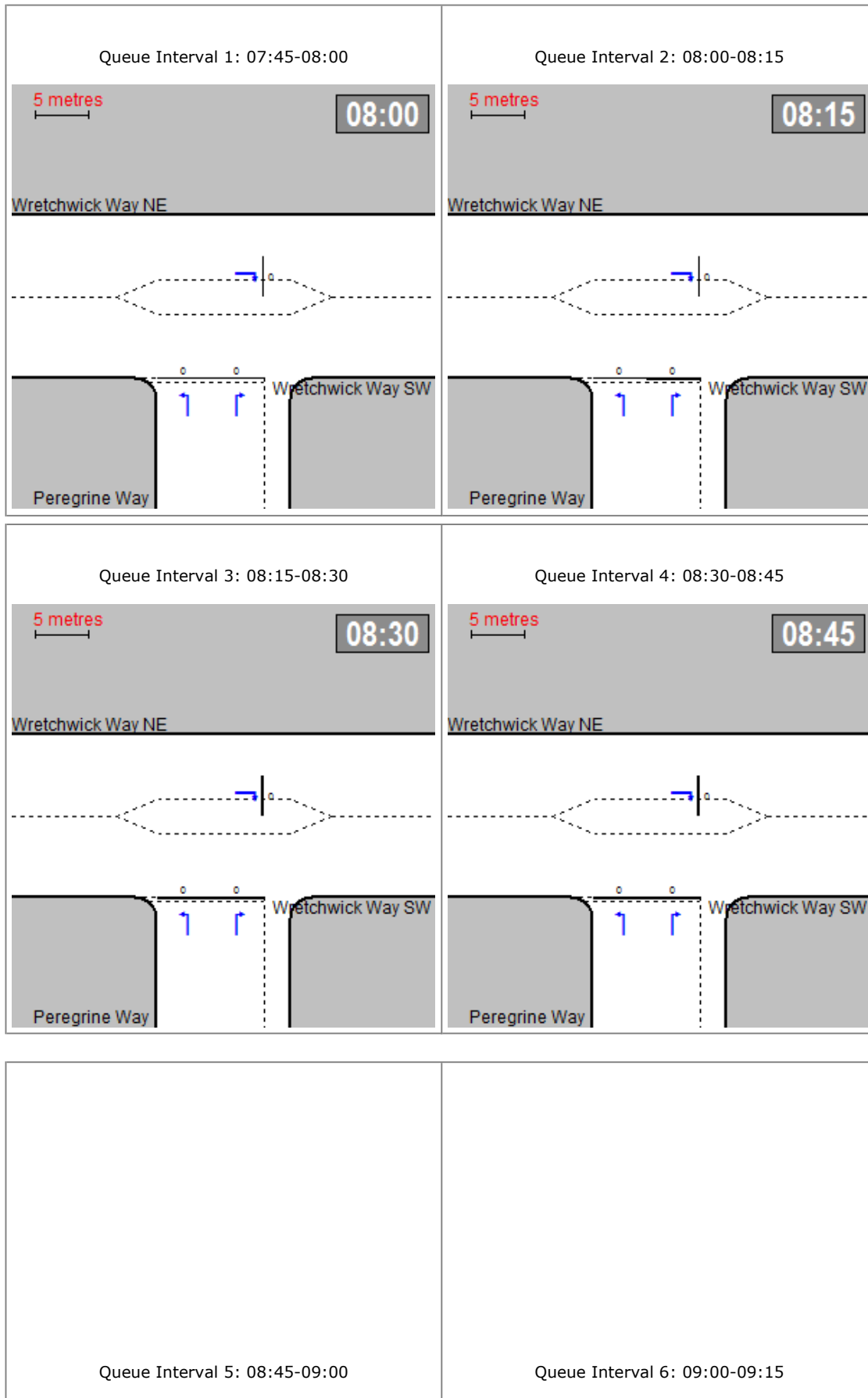
From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

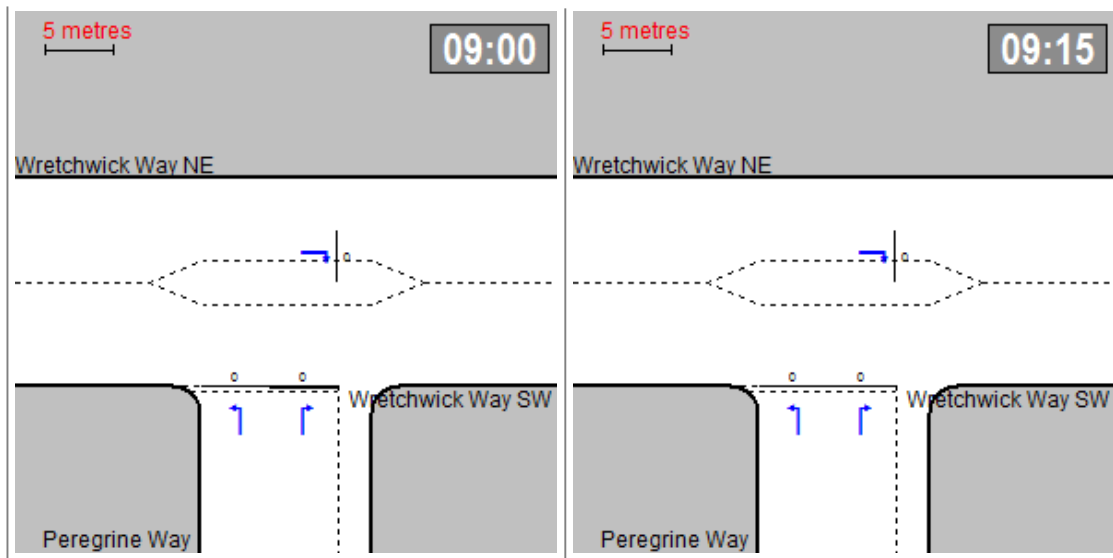
### Queue Diagrams

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way

**Modelling Period:** 07:45-09:15

**View Extent:** 40m

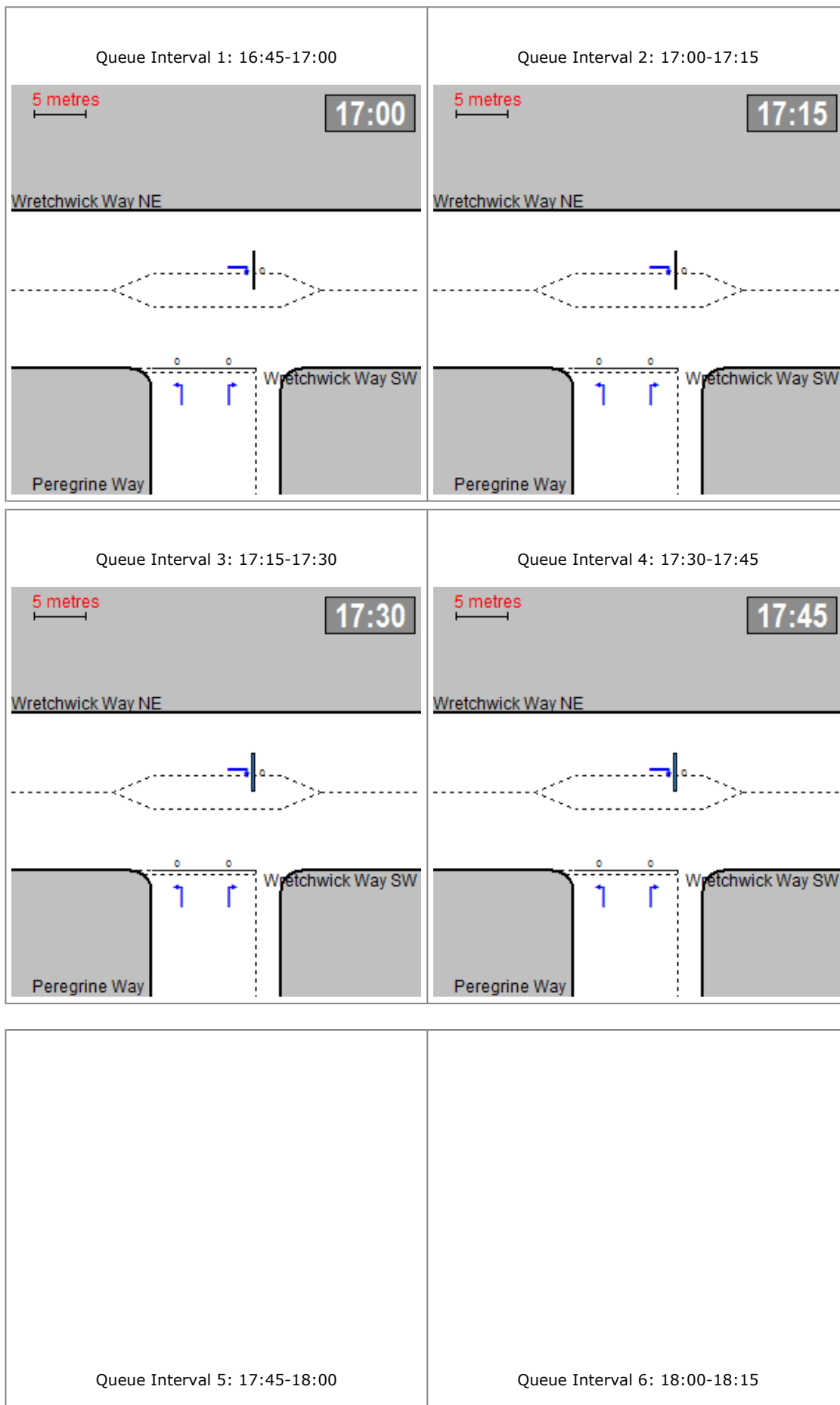


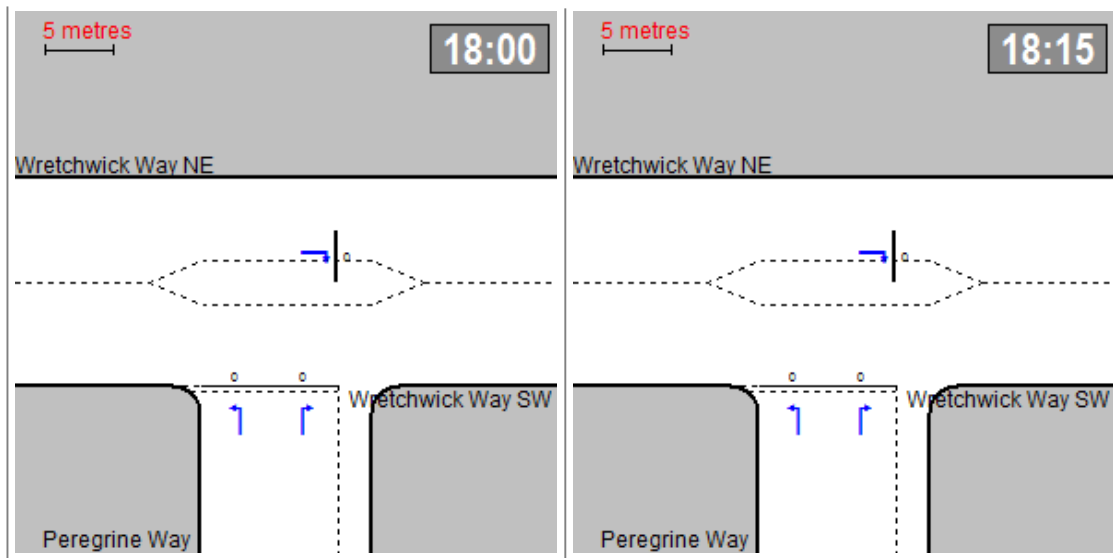


**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way

**Modelling Period:** 16:45-18:15

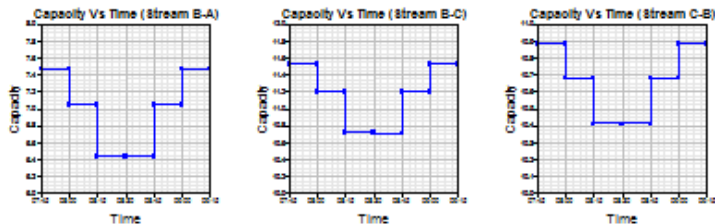
**View Extent:** 40m



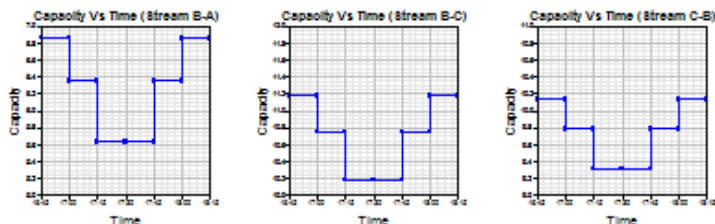


### Capacity Graph

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 07:45-09:15

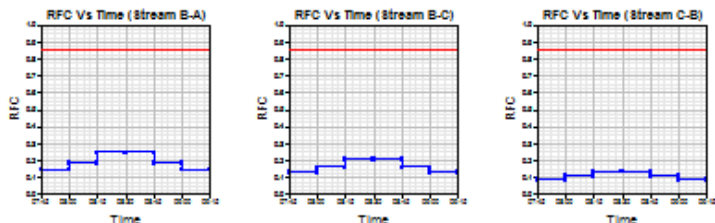


**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 16:45-18:15

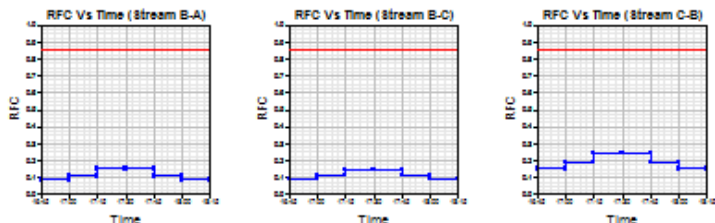


### RFC Graph

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 07:45-09:15

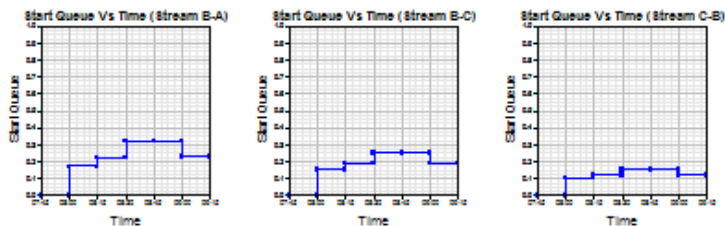


**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 16:45-18:15

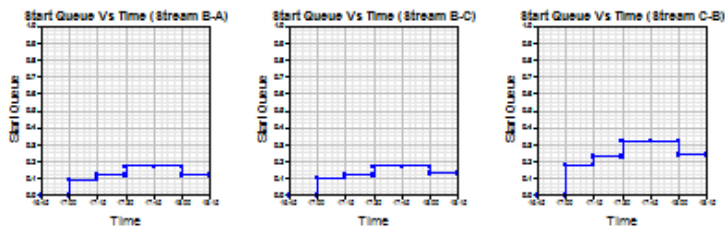


### Start Queue Graph

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 07:45-09:15

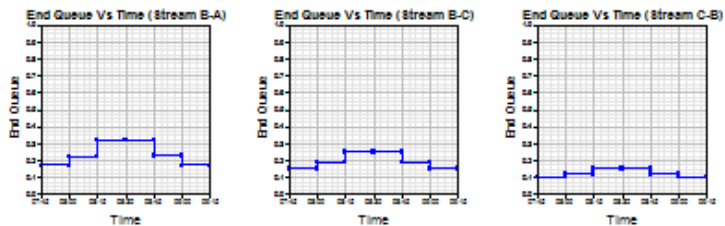


**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 16:45-18:15

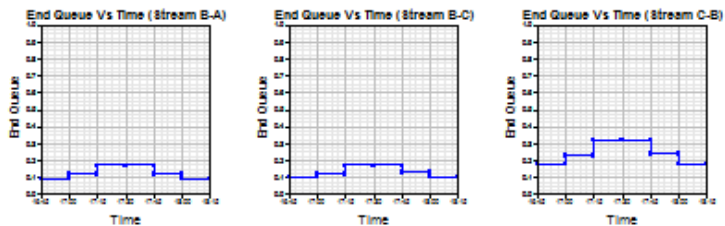


### End Queue Graph

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 07:45-09:15



**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 16:45-18:15

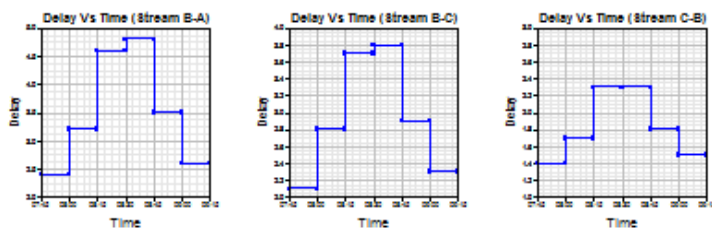




## Delay Graph

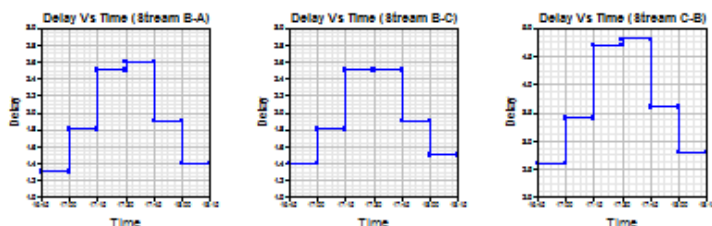
**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way

**Modelling Period:** 07:45-09:15



**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way

**Modelling Period:** 16:45-18:15



## Queues & Delays

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way

**Modelling Period:** 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-A	1.08	7.47	0.144	-	0.00	0.17	-	2.4	0.16
	B-C	1.49	11.53	0.130	-	0.00	0.15	-	2.1	0.10
	C-A	7.88	-	-	-	-	-	-	-	-
	C-B	0.95	10.88	0.088	-	0.00	0.10	-	1.4	0.10
	A-B	0.59	-	-	-	-	-	-	-	-
	A-C	4.37	-	-	-	-	-	-	-	-
08:00-08:15	B-A	1.29	7.04	0.183	-	0.17	0.22	-	3.2	0.17
	B-C	1.78	11.20	0.159	-	0.15	0.19	-	2.8	0.11
	C-A	9.41	-	-	-	-	-	-	-	-
	C-B	1.14	10.68	0.107	-	0.10	0.12	-	1.7	0.10
	A-B	0.70	-	-	-	-	-	-	-	-
	A-C	5.21	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-A	1.58	6.43	0.246	-	0.22	0.32	-	4.6	0.21
	B-C	2.18	10.72	0.204	-	0.19	0.25	-	3.7	0.12
	C-A	11.52	-	-	-	-	-	-	-	-
	C-B	1.39	10.41	0.134	-	0.12	0.15	-	2.3	0.11
	A-B	0.86	-	-	-	-	-	-	-	-
	A-C	6.39	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-A	1.58	6.43	0.246	-	0.32	0.32	-	4.8	0.21
	B-C	2.18	10.71	0.204	-	0.25	0.25	-	3.8	0.12
	C-A	11.52	-	-	-	-	-	-	-	-
	C-B	1.39	10.41	0.134	-	0.15	0.15	-	2.3	0.11
	A-B	0.86	-	-	-	-	-	-	-	-
	A-C	6.39	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-A	1.29	7.04	0.183	-	0.32	0.23	-	3.5	0.17
	B-C	1.78	11.20	0.159	-	0.25	0.19	-	2.9	0.11
	C-A	9.41	-	-	-	-	-	-	-	-
	C-B	1.14	10.68	0.107	-	0.15	0.12	-	1.8	0.10
	A-B	0.70	-	-	-	-	-	-	-	-
	A-C	5.21	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-A	1.08	7.47	0.144	-	0.23	0.17	-	2.6	0.16
	B-C	1.49	11.52	0.130	-	0.19	0.15	-	2.3	0.10
	C-A	7.88	-	-	-	-	-	-	-	-
	C-B	0.95	10.88	0.088	-	0.12	0.10	-	1.5	0.10
	A-B	0.59	-	-	-	-	-	-	-	-
	A-C	4.37	-	-	-	-	-	-	-	-

**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way  
**Modelling Period:** 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-A	0.58	6.86	0.084	-	0.00	0.09	-	1.3	0.16
	B-C	1.00	11.17	0.090	-	0.00	0.10	-	1.4	0.10
	C-A	5.18	-	-	-	-	-	-	-	-
	C-B	1.56	10.13	0.154	-	0.00	0.18	-	2.6	0.12
	A-B	1.13	-	-	-	-	-	-	-	-
	A-C	7.52	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-A	0.69	6.35	0.109	-	0.09	0.12	-	1.8	0.18
	B-C	1.20	10.75	0.111	-	0.10	0.12	-	1.8	0.10
	C-A	6.19	-	-	-	-	-	-	-	-
	C-B	1.86	9.78	0.190	-	0.18	0.23	-	3.4	0.13
	A-B	1.35	-	-	-	-	-	-	-	-
	A-C	8.97	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-A	0.84	5.63	0.150	-	0.12	0.17	-	2.5	0.21
	B-C	1.47	10.18	0.144	-	0.12	0.17	-	2.5	0.11
	C-A	7.58	-	-	-	-	-	-	-	-
	C-B	2.28	9.31	0.244	-	0.23	0.32	-	4.7	0.14
	A-B	1.65	-	-	-	-	-	-	-	-
	A-C	10.99	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-A	0.84	5.63	0.150	-	0.17	0.17	-	2.6	0.21
	B-C	1.47	10.18	0.144	-	0.17	0.17	-	2.5	0.11
	C-A	7.58	-	-	-	-	-	-	-	-
	C-B	2.28	9.31	0.244	-	0.32	0.32	-	4.8	0.14
	A-B	1.65	-	-	-	-	-	-	-	-
	A-C	10.99	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-A	0.69	6.35	0.109	-	0.17	0.12	-	1.9	0.18
	B-C	1.20	10.75	0.112	-	0.17	0.13	-	1.9	0.10
	C-A	6.19	-	-	-	-	-	-	-	-
	C-B	1.86	9.78	0.190	-	0.32	0.24	-	3.6	0.13
	A-B	1.35	-	-	-	-	-	-	-	-
	A-C	8.97	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-A	0.58	6.85	0.084	-	0.12	0.09	-	1.4	0.16
	B-C	1.00	11.17	0.090	-	0.13	0.10	-	1.5	0.10
	C-A	5.18	-	-	-	-	-	-	-	-
	C-B	1.56	10.13	0.154	-	0.24	0.18	-	2.8	0.12
	A-B	1.13	-	-	-	-	-	-	-	-
	A-C	7.52	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

## Overall Queues & Delays

### Queueing Delay Information Over Whole Period

**Demand Set:** 2014 AM PCU - Wretchwick Way - Peregrine Way

**Modelling Period:** 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-A	118.4	78.9	21.2	0.2	21.2	0.2
B-C	163.8	109.2	17.7	0.1	17.7	0.1
C-A	864.4	576.3	-	-	-	-
C-B	104.6	69.7	11.0	0.1	11.0	0.1
A-B	64.7	43.1	-	-	-	-
A-C	479.0	319.3	-	-	-	-
<b>All</b>	<b>1794.9</b>	<b>1196.6</b>	<b>49.9</b>	<b>0.0</b>	<b>49.9</b>	<b>0.0</b>

**Demand Set:** 2014 PM PCU - Wretchwick Way - Peregrine Way

**Modelling Period:** 16:45-18:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-A	63.3	42.2	11.5	0.2	11.5	0.2
B-C	110.1	73.4	11.7	0.1	11.7	0.1
C-A	568.5	379.0	-	-	-	-
C-B	170.7	113.8	21.9	0.1	21.9	0.1
A-B	123.9	82.6	-	-	-	-
A-C	824.5	549.7	-	-	-	-
<b>All</b>	<b>1860.9</b>	<b>1240.6</b>	<b>45.2</b>	<b>0.0</b>	<b>45.2</b>	<b>0.0</b>

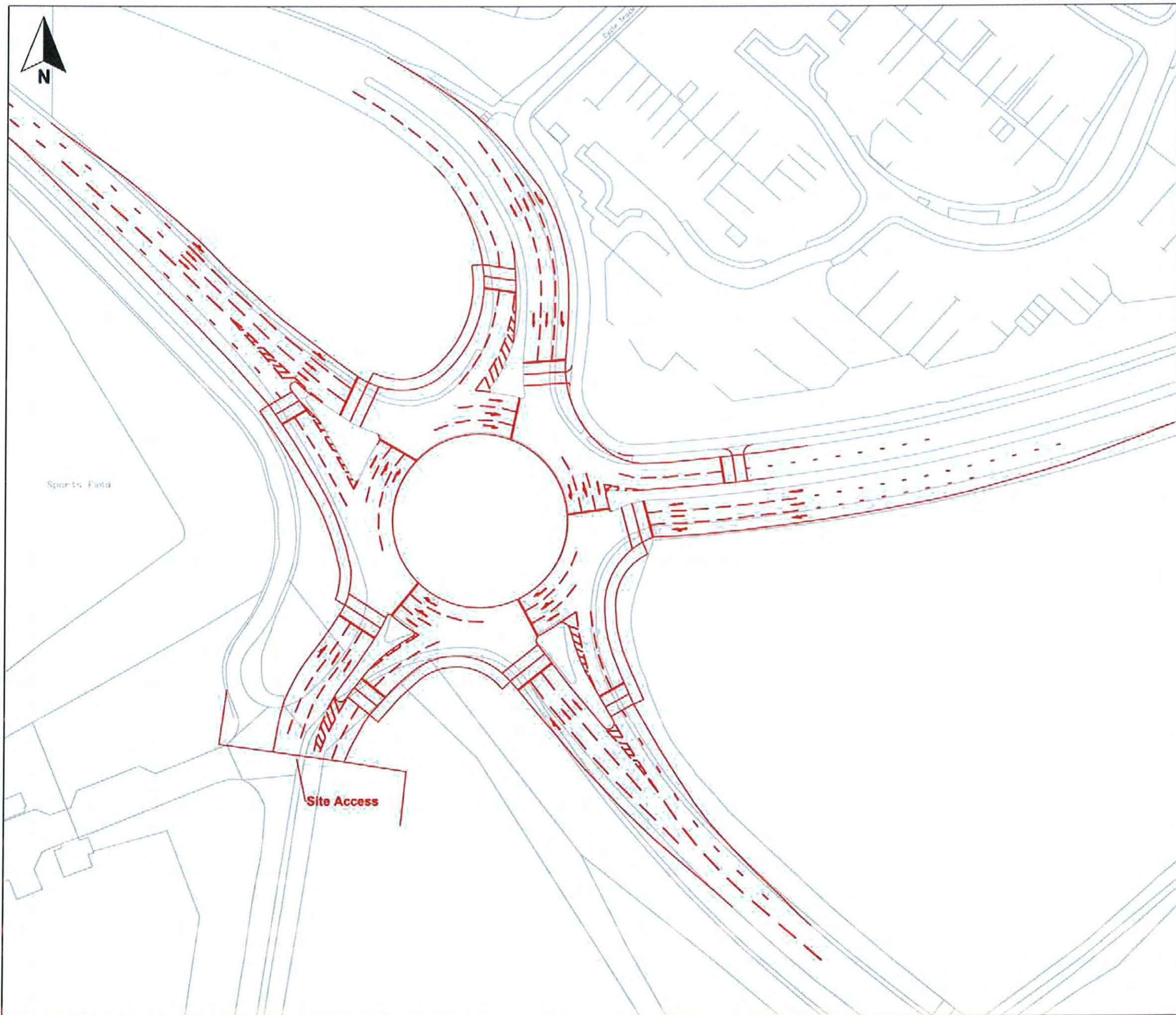
Delay is that occurring only within the time period.

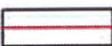
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

### **PICADY 5 Run Successful**

**APPENDIX K: A41 / LONDON ROAD / A4421 SEELSCHEID WAY /  
GRAVENHILL ROAD ROUNDABOUT APPROVED IMPROVEMENT  
SCHEME**



**Key**  
 Proposed Scheme

0 m 50 m  
 Scale 1:1000 @ A3



Redevelopment of MOD Bicester  
 Transport Assessment

**Figure 11.3**  
 A41/Gravenhill Road/B4100 -  
 Mitigation Scheme (signal)

September 2011  
 27808-L390.dwg yadap



Based upon the Ordnance Survey Map with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright. 100001776.

**APPENDIX L: JUNCTION MODEL OUTPUTS: WITH DEVELOPMENT  
SCENARIO WITH SOUTH EAST BICESTER**



# ARCADY 7

Version: 7.0.1.130 [12 March 2010]  
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

File: Q:\14-033 - Gavray Drive, Bicester\Trans\Arcady\Revision A\With SEB 2014 Peregrine Way - Wretchwick Way roundabout.arc7

Report generation date: 10/04/2015 10:48:50

- » A1 - (Default Analysis Set) - D7 - 2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way PM Peak, PM
- » A1 - (Default Analysis Set) - D8 - 2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way AM Peak, AM

## Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
<b>(Default Analysis Set) - 2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way AM Peak</b>								
Arm A	0.26	0.03	0.20	A				
Arm B	0.29	0.06	0.22	A				
Arm C	0.46	0.04	0.32	A				
<b>(Default Analysis Set) - 2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way PM Peak</b>								
Arm A					0.56	0.03	0.36	A
Arm B					0.25	0.07	0.20	A
Arm C					0.36	0.04	0.26	A

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

2020 PCU + CD - Peregrine Way/Wretchwick Way PM Peak - PM runs from 16:45:00 to 18:15:00  
 2020 PCU + CD - Peregrine Way/Wretchwick Way AM Peak - AM runs from 07:45:00 to 09:15:00  
 2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way PM Peak - PM runs from 16:45:00 to 18:15:00  
 2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way AM Peak - AM runs from 07:45:00 to 09:15:00  
 2020 PCU + CD +DEV300 - Peregrine Way/Wretchwick Way PM Peak - PM runs from 16:45:00 to 18:15:00  
 2020 PCU + CD +DEV300 - Peregrine Way/Wretchwick Way AM Peak - AM runs from 07:45:00 to 09:15:00

## File summary

### File Description

Title	Peregrine Way/Wretchwick Way AM Peak
Location	Bicester
Date	13/07/2010
Status	TIA
Client	JJ Gallagher
Jobnumber	18578-01-1
Enumerator	Alexanders [CS5DG3J]
Results Upto Date	False

## Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

## Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
----------------	--------------	-------------------	--------------	-------------------	------------

	Order	Ascending	Numerical	By Destination	Absolute Time
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## Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin

# A1 - (Default Analysis Set) - D7 - 2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way PM Peak, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way PM Peak, PM	2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way PM Peak	PM			Yes			16:45	18:15	90	15	Varies by Arm

# Roundabout Network

## Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

## Roundabout Network Options

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

# Arms

## Arms

ID	Name	Description
A	Neunkirchen Way	
B	Peregine Way	
C	Wretchwick Way North	

## Capacity Options

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

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.00	10.00	25.00	40.00	49.00	23.00	
B	3.00	6.50	15.00	60.00	49.00	24.50	
C	5.50	8.00	19.00	45.00	49.00	12.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.858	2913.181
B		((calculated))	((calculated))	0.608	1594.519
C		((calculated))	((calculated))	0.772	2396.694

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	935.00	100.000	N/A
B	ONE HOUR	Yes	208.00	100.000	N/A
C	ONE HOUR	Yes	542.00	100.000	N/A

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	703.92	703.92	N/A	N/A
16:45-17:00	B	156.59	156.59	N/A	N/A
16:45-17:00	C	542.00	542.00	N/A	N/A

16:45-17:00	C	408.05	408.05	N/A	N/A
17:00-17:15	A	840.55	840.55	N/A	N/A
17:00-17:15	B	186.99	186.99	N/A	N/A
17:00-17:15	C	487.25	487.25	N/A	N/A
17:15-17:30	A	1029.45	1029.45	N/A	N/A
17:15-17:30	B	229.01	229.01	N/A	N/A
17:15-17:30	C	596.75	596.75	N/A	N/A
17:30-17:45	A	1029.45	1029.45	N/A	N/A
17:30-17:45	B	229.01	229.01	N/A	N/A
17:30-17:45	C	596.75	596.75	N/A	N/A
17:45-18:00	A	840.55	840.55	N/A	N/A
17:45-18:00	B	186.99	186.99	N/A	N/A
17:45-18:00	C	487.25	487.25	N/A	N/A
18:00-18:15	A	703.92	703.92	N/A	N/A
18:00-18:15	B	156.59	156.59	N/A	N/A
18:00-18:15	C	408.05	408.05	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	241.00	694.00
	B	157.00	0.00	51.00
	C	486.00	56.00	0.00

### Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.75	0.00	0.25
	C	0.90	0.10	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	1.00	1.00	1.00
	B	1.00	1.00	1.00
	C	1.00	1.00	1.00

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	0.00	0.00	0.00
	C	0.00	0.00	0.00

## Results

## Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.36	0.03	0.56	A	857.97	1286.96	38.86	0.03	0.43	38.86	0.03	0.858	2913.181
B	0.20	0.07	0.25	A	190.86	286.30	17.17	0.06	0.19	17.17	0.06	0.608	1594.519
C	0.26	0.04	0.36	A	497.35	746.02	25.22	0.03	0.28	25.22	0.03	0.772	2396.694

## Main Results

### Main results: (16:45-17:00)

Arm	Demand (PCU/hr)	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)
A	703.92	175.98	702.62	482.89	42.07	0.00	2877.08	2719.69	0.245	0.00	0.32
B	156.59	39.15	156.04	223.18	521.52	0.00	1277.62	367.89	0.123	0.00	0.14
C	408.05	102.01	407.19	559.78	117.78	0.00	2305.83	2182.46	0.177	0.00	0.21

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

Arm	Demand (PCU/hr)	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)
A	840.55	210.14	840.19	577.72	50.32	0.00	2870.00	2719.69	0.293	0.32	0.41
B	186.99	46.75	186.82	266.88	623.62	0.00	1215.58	367.89	0.154	0.14	0.18
C	487.25	121.81	487.03	669.43	141.01	0.00	2287.90	2182.46	0.213	0.21	0.27

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

Arm	Demand (PCU/hr)	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)
A	1029.45	257.36	1028.86	707.43	61.62	0.00	2860.30	2719.69	0.360	0.41	0.56
B	229.01	57.25	228.73	326.82	763.67	0.00	1130.48	367.89	0.203	0.18	0.25
C	596.75	149.19	596.40	819.75	172.64	0.00	2263.50	2182.46	0.264	0.27	0.36

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

Arm	Demand (PCU/hr)	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)
A	1029.45	257.36	1029.45	707.95	61.66	0.00	2860.27	2719.69	0.360	0.56	0.56
B	229.01	57.25	229.01	327.00	764.11	0.00	1130.22	367.89	0.203	0.25	0.25
C	596.75	149.19	596.75	820.26	172.86	0.00	2263.33	2182.46	0.264	0.36	0.36

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

Arm	Demand (PCU/hr)	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)
A	840.55	210.14	841.13	578.57	50.38	0.00	2869.95	2719.69	0.293	0.56	0.42
B	186.99	46.75	187.27	267.18	624.33	0.00	1215.15	367.89	0.154	0.25	0.18
C	487.25	121.81	487.59	670.24	141.35	0.00	2287.64	2182.46	0.213	0.36	0.27

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

Arm	Demand (PCU/hr)	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)
A	703.92	175.98	704.28	484.41	42.18	0.00	2876.98	2719.69	0.245	0.42	0.32
B	156.59	39.15	156.76	223.71	522.75	0.00	1276.88	367.89	0.123	0.18	0.14
C	408.05	102.01	408.27	561.19	118.33	0.00	2305.41	2182.46	0.177	0.27	0.22

## Queueing Delay Results

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	4.79	0.32	0.028	A	A
B	2.05	0.14	0.053	A	A
C	3.18	0.21	0.032	A	A

### 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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	6.14	0.41	0.030	A	A
B	2.68	0.18	0.058	A	A
C	4.01	0.27	0.033	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.31	0.55	0.033	A	A
B	3.73	0.25	0.067	A	A
C	5.29	0.35	0.036	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.41	0.56	0.033	A	A
B	3.80	0.25	0.067	A	A
C	5.36	0.36	0.036	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	6.30	0.42	0.030	A	A
B	2.78	0.19	0.058	A	A
C	4.11	0.27	0.033	A	A

### 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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	4.92	0.33	0.028	A	A
B	2.13	0.14	0.054	A	A
C	3.26	0.22	0.032	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	7.00	10.00	25.00	40.00	49.00	23.00		0.858	2913.181
B	3.00	6.50	15.00	60.00	49.00	24.50		0.608	1594.519
C	5.50	8.00	19.00	45.00	49.00	12.00		0.772	2396.694

## Overview: Time Segment Results

## Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
16:45-17:00	A	703.92	2877.08	0.245	0.00	0.00	0.32	4.79	(0.00)	0.028
16:45-17:00	B	156.59	1277.62	0.123	0.00	0.00	0.14	2.05	(0.00)	0.053
16:45-17:00	C	408.05	2305.83	0.177	0.00	0.00	0.21	3.18	(0.00)	0.032
17:00-17:15	A	840.55	2870.00	0.293	0.00	0.32	0.41	6.14	(0.00)	0.030
17:00-17:15	B	186.99	1215.58	0.154	0.00	0.14	0.18	2.68	(0.00)	0.058
17:00-17:15	C	487.25	2287.90	0.213	0.00	0.21	0.27	4.01	(0.00)	0.033
17:15-17:30	A	1029.45	2860.30	0.360	0.00	0.41	0.56	8.31	(0.00)	0.033
17:15-17:30	B	229.01	1130.48	0.203	0.00	0.18	0.25	3.73	(0.00)	0.067
17:15-17:30	C	596.75	2263.50	0.264	0.00	0.27	0.36	5.29	(0.00)	0.036
17:30-17:45	A	1029.45	2860.27	0.360	0.00	0.56	0.56	8.41	(0.00)	0.033
17:30-17:45	B	229.01	1130.22	0.203	0.00	0.25	0.25	3.80	(0.00)	0.067
17:30-17:45	C	596.75	2263.33	0.264	0.00	0.36	0.36	5.36	(0.00)	0.036
17:45-18:00	A	840.55	2869.95	0.293	0.00	0.56	0.42	6.30	(0.00)	0.030
17:45-18:00	B	186.99	1215.15	0.154	0.00	0.25	0.18	2.78	(0.00)	0.058
17:45-18:00	C	487.25	2287.64	0.213	0.00	0.36	0.27	4.11	(0.00)	0.033
18:00-18:15	A	703.92	2876.98	0.245	0.00	0.42	0.32	4.92	(0.00)	0.028
18:00-18:15	B	156.59	1276.88	0.123	0.00	0.18	0.14	2.13	(0.00)	0.054
18:00-18:15	C	408.05	2305.41	0.177	0.00	0.27	0.22	3.26	(0.00)	0.032

# A1 - (Default Analysis Set) - D8 - 2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way AM Peak, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way AM Peak, AM	2020 PCU + CD +DEV180 - Peregrine Way/Wretchwick Way AM Peak	AM			Yes			07:45	09:15	90	15	Varies by Arm

# Roundabout Network

## Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
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ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

## Roundabout Network Options

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

# Arms

## Arms

ID	Name	Description
A	Neunkirchen Way	
B	Peregine Way	
C	Wretchwick Way North	

## Capacity Options

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

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.00	10.00	25.00	40.00	49.00	23.00	
B	3.00	6.50	15.00	60.00	49.00	24.50	
C	5.50	8.00	19.00	45.00	49.00	12.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

## Arm Slope/ Intercept and Capacity

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.858	2913.181
B		((calculated))	((calculated))	0.608	1594.519
C		((calculated))	((calculated))	0.772	2396.694

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes



# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	535.00	100.000	N/A
B	ONE HOUR	Yes	273.00	100.000	N/A
C	ONE HOUR	Yes	635.00	100.000	N/A

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	402.78	402.78	N/A	N/A
07:45-08:00	B	205.53	205.53	N/A	N/A
07:45-08:00	C	478.06	478.06	N/A	N/A
08:00-08:15	A	480.95	480.95	N/A	N/A
08:00-08:15	B	245.42	245.42	N/A	N/A
08:00-08:15	C	570.85	570.85	N/A	N/A
08:15-08:30	A	589.05	589.05	N/A	N/A
08:15-08:30	B	300.58	300.58	N/A	N/A
08:15-08:30	C	699.15	699.15	N/A	N/A
08:30-08:45	A	589.05	589.05	N/A	N/A
08:30-08:45	B	300.58	300.58	N/A	N/A
08:30-08:45	C	699.15	699.15	N/A	N/A
08:45-09:00	A	480.95	480.95	N/A	N/A
08:45-09:00	B	245.42	245.42	N/A	N/A
08:45-09:00	C	570.85	570.85	N/A	N/A
09:00-09:15	A	402.78	402.78	N/A	N/A
09:00-09:15	B	205.53	205.53	N/A	N/A
09:00-09:15	C	478.06	478.06	N/A	N/A

# Turning Proportions

## Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	150.00	385.00
	B	225.00	0.00	48.00
	C	609.00	26.00	0.00

## Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.28	0.72
	B	0.82	0.00	0.18
	C	0.96	0.04	0.00

# Vehicle Mix

**Average PCU Per Vehicle - Roundabout 1 (for whole period)**

		To		
		A	B	C
From	A	1.00	1.00	1.00
	B	1.00	1.00	1.00
	C	1.00	1.00	1.00

**Heavy Vehicle Percentages - Roundabout 1 (for whole period)**

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	0.00	0.00	0.00
	C	0.00	0.00	0.00

# Results

**Results Summary**

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.20	0.03	0.26	A	490.93	736.39	18.46	0.03	0.21	18.46	0.03	0.858	2913.181
B	0.22	0.06	0.29	A	250.51	375.76	20.14	0.05	0.22	20.14	0.05	0.608	1594.519
C	0.32	0.04	0.46	A	582.69	874.03	32.06	0.04	0.36	32.06	0.04	0.772	2396.694

**Main Results**
**Main results: (07:45-08:00)**

Arm	Demand (PCU/hr)	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)
A	402.78	100.69	402.13	626.30	19.53	0.00	2896.42	2836.88	0.139	0.00	0.16
B	205.53	51.38	204.85	132.28	289.38	0.00	1418.68	354.03	0.145	0.00	0.17
C	478.06	119.52	477.00	325.40	168.84	0.00	2266.44	2171.59	0.211	0.00	0.27

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

Arm	Demand (PCU/hr)	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)
A	480.95	120.24	480.80	749.31	23.36	0.00	2893.13	2836.88	0.166	0.16	0.20
B	245.42	61.36	245.24	158.17	346.00	0.00	1384.28	354.03	0.177	0.17	0.21
C	570.85	142.71	570.56	389.12	202.12	0.00	2240.76	2171.59	0.255	0.27	0.34

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

Arm	Demand (PCU/hr)	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)
A	589.05	147.26	588.82	917.54	28.61	0.00	2888.63	2836.88	0.204	0.20	0.26
B	300.58	75.14	300.28	193.70	423.73	0.00	1337.04	354.03	0.225	0.21	0.29
C	699.15	174.79	698.66	476.53	247.49	0.00	2205.76	2171.59	0.317	0.34	0.46

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

Arm	Demand (PCU/hr)	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)
A	589.05	147.26	589.04	918.25	28.63	0.00	2888.62	2836.88	0.204	0.26	0.26
B	300.58	75.14	300.58	193.78	423.89	0.00	1336.95	354.03	0.225	0.29	0.29

C	699.15	174.79	699.14	476.74	247.73	0.00	2205.57	2171.59	0.317	0.46	0.46
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**Main results: (08:45-09:00)**

Arm	Demand (PCU/hr)	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)
A	480.95	120.24	481.18	750.45	23.39	0.00	2893.11	2836.88	0.166	0.26	0.20
B	245.42	61.36	245.71	158.30	346.27	0.00	1384.11	354.03	0.177	0.29	0.22
C	570.85	142.71	571.33	389.47	202.51	0.00	2240.46	2171.59	0.255	0.46	0.34

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

Arm	Demand (PCU/hr)	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)
A	402.78	100.69	402.93	628.32	19.59	0.00	2896.37	2836.88	0.139	0.20	0.16
B	205.53	51.38	205.71	132.56	289.96	0.00	1418.33	354.03	0.145	0.22	0.17
C	478.06	119.52	478.36	326.13	169.54	0.00	2265.89	2171.59	0.211	0.34	0.27

## Queueing Delay Results

**Queueing Delay results: (07:45-08:00)**

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	2.39	0.16	0.024	A	A
B	2.49	0.17	0.049	A	A
C	3.94	0.26	0.034	A	A

**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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	2.96	0.20	0.025	A	A
B	3.18	0.21	0.053	A	A
C	5.06	0.34	0.036	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.80	0.25	0.026	A	A
B	4.26	0.28	0.058	A	A
C	6.85	0.46	0.040	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.84	0.26	0.026	A	A
B	4.34	0.29	0.058	A	A
C	6.94	0.46	0.040	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.02	0.20	0.025	A	A
B	3.29	0.22	0.053	A	A
C	5.21	0.35	0.036	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.02	0.20	0.025	A	A
B	3.29	0.22	0.053	A	A
C	5.21	0.35	0.036	A	A

	0.000	0.000000	0.0000	Service	Service
A	2.44	0.16	0.024	A	A
B	2.58	0.17	0.050	A	A
C	4.06	0.27	0.034	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	7.00	10.00	25.00	40.00	49.00	23.00		0.858	2913.181
B	3.00	6.50	15.00	60.00	49.00	24.50		0.608	1594.519
C	5.50	8.00	19.00	45.00	49.00	12.00		0.772	2396.694

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
07:45-08:00	A	402.78	2896.42	0.139	0.00	0.00	0.16	2.39	(0.00)	0.024
07:45-08:00	B	205.53	1418.68	0.145	0.00	0.00	0.17	2.49	(0.00)	0.049
07:45-08:00	C	478.06	2266.44	0.211	0.00	0.00	0.27	3.94	(0.00)	0.034
08:00-08:15	A	480.95	2893.13	0.166	0.00	0.16	0.20	2.96	(0.00)	0.025
08:00-08:15	B	245.42	1384.28	0.177	0.00	0.17	0.21	3.18	(0.00)	0.053
08:00-08:15	C	570.85	2240.76	0.255	0.00	0.27	0.34	5.06	(0.00)	0.036
08:15-08:30	A	589.05	2888.63	0.204	0.00	0.20	0.26	3.80	(0.00)	0.026
08:15-08:30	B	300.58	1337.04	0.225	0.00	0.21	0.29	4.26	(0.00)	0.058
08:15-08:30	C	699.15	2205.76	0.317	0.00	0.34	0.46	6.85	(0.00)	0.040
08:30-08:45	A	589.05	2888.62	0.204	0.00	0.26	0.26	3.84	(0.00)	0.026
08:30-08:45	B	300.58	1336.95	0.225	0.00	0.29	0.29	4.34	(0.00)	0.058
08:30-08:45	C	699.15	2205.57	0.317	0.00	0.46	0.46	6.94	(0.00)	0.040
08:45-09:00	A	480.95	2893.11	0.166	0.00	0.26	0.20	3.02	(0.00)	0.025
08:45-09:00	B	245.42	1384.11	0.177	0.00	0.29	0.22	3.29	(0.00)	0.053
08:45-09:00	C	570.85	2240.46	0.255	0.00	0.46	0.34	5.21	(0.00)	0.036
09:00-09:15	A	402.78	2896.37	0.139	0.00	0.20	0.16	2.44	(0.00)	0.024
09:00-09:15	B	205.53	1418.33	0.145	0.00	0.22	0.17	2.58	(0.00)	0.050
09:00-09:15	C	478.06	2265.89	0.211	0.00	0.34	0.27	4.06	(0.00)	0.034

# ARCADY 7

Version: 7.0.1.130 [12 March 2010]  
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File: Q:\14-033 - Gavray Drive, Bicester\Trans\Arcady\Revision A\With SEB 2014 Seel Way - A41 E- Gravll Rd - A41 W - B4100.arc7

Report generation date: 10/04/2015 10:38:14

- » A1 - (Default Analysis Set) - D11 - 2020 PCU + CD + DEV180 -AM Peak, AM
- » A1 - (Default Analysis Set) - D12 - 2020 PCU + CD + DEV180 - PM Peak, PM

## Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
<b>(Default Analysis Set) - 2020 PCU + CD + DEV180 - PM Peak</b>								
Arm A					1.25	0.11	0.56	A
Arm B					3.04	0.15	0.76	A
Arm C					0.32	0.17	0.24	A
Arm D					62.31	1.78	1.05	F
Arm E					2.61	0.21	0.73	B
<b>(Default Analysis Set) - 2020 PCU + CD + DEV180 -AM Peak</b>								
Arm A	2.81	0.18	0.74	B				
Arm B	4.56	0.22	0.83	B				
Arm C	0.87	0.32	0.47	C				
Arm D	3.11	0.14	0.76	A				
Arm E	0.83	0.09	0.45	A				

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

2020 PCU + CD -AM Peak - AM runs from 07:45:00 to 09:15:00  
 2020 PCU + CD - PM Peak - PM runs from 16:45:00 to 18:15:00  
 2020 PCU + CD + DEV180 -AM Peak - AM runs from 07:45:00 to 09:15:00  
 2020 PCU + CD + DEV180 - PM Peak - PM runs from 16:45:00 to 18:15:00  
 2020 PCU + CD + DEV300 -AM Peak - AM runs from 07:45:00 to 09:15:00  
 2020 PCU + CD + DEV300 - PM Peak - PM runs from 16:45:00 to 18:15:00

## File summary

### File Description

Title	Seelshield Way/A41 East/Gravenhill Road North/A41 West/B4100 London Road AM Peak
Location	Bicester
Date	13/07/2010
Status	TIA
Client	JJ Gallagher Ltd
Jobnumber	18578-01-1
Enumerator	Alexanders [CS5DG3J]
Results Upto Date	False

## Analysis Options

RFC Threshold | Vehicle Length (m) | Do Queue Variations

0.85	5.75	
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## Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

## Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin

# A1 - (Default Analysis Set) - D11 - 2020 PCU + CD + DEV180 -AM Peak, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2020 PCU + CD + DEV180 - AM Peak, AM	2020 PCU + CD + DEV180 - AM Peak	AM			Yes			07:45	09:15	90	15	Varies by Arm

# Roundabout Network

## Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D,E	Standard			

## Roundabout Network Options

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

# Arms

## Arms

ID	Name	Description
A	Seelshield Way	
B	A41 East	
C	Gravenhill Road North	
D	A41 West	

D	AS1 WEST	
E	B4100 London Road	

## Capacity Options

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

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.00	7.00	0.00	20.00	70.00	31.00	
B	5.25	8.50	20.00	20.00	70.00	31.00	
C	3.50	7.00	5.00	20.00	70.00	20.00	
D	5.00	9.00	20.00	20.00	70.00	42.00	
E	7.00	7.00	0.00	20.00	70.00	39.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None
E	None

## Arm Slope/ Intercept and Capacity

### Arm Intercept Adjustments

Arm	Use Adjustment	Reason	Direct Intercept Adjustment (PCU/hr)
A	Yes	(ARCADY 6 CT10 Import)	0.00
B	Yes	(ARCADY 6 CT10 Import)	0.00
C	Yes	(ARCADY 6 CT10 Import)	0.00
D	Yes	(ARCADY 6 CT10 Import)	0.00
E	Yes	(ARCADY 6 CT10 Import)	0.00

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.570	2113.640
B		((calculated))	((calculated))	0.588	2230.844
C		((calculated))	((calculated))	0.472	1435.972
D		((calculated))	((calculated))	0.568	2160.167
E		((calculated))	((calculated))	0.554	2054.761

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

			Yes	HV Percentages	2.00			Yes	Yes
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## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	885.00	100.000	N/A
B	ONE HOUR	Yes	1143.00	100.000	N/A
C	ONE HOUR	Yes	153.00	100.000	N/A
D	ONE HOUR	Yes	1241.00	100.000	N/A
E	ONE HOUR	Yes	525.00	100.000	N/A

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	666.27	666.27	N/A	N/A
07:45-08:00	B	860.51	860.51	N/A	N/A
07:45-08:00	C	115.19	115.19	N/A	N/A
07:45-08:00	D	934.29	934.29	N/A	N/A
07:45-08:00	E	395.25	395.25	N/A	N/A
08:00-08:15	A	795.60	795.60	N/A	N/A
08:00-08:15	B	1027.53	1027.53	N/A	N/A
08:00-08:15	C	137.54	137.54	N/A	N/A
08:00-08:15	D	1115.63	1115.63	N/A	N/A
08:00-08:15	E	471.96	471.96	N/A	N/A
08:15-08:30	A	974.40	974.40	N/A	N/A
08:15-08:30	B	1258.47	1258.47	N/A	N/A
08:15-08:30	C	168.46	168.46	N/A	N/A
08:15-08:30	D	1366.37	1366.37	N/A	N/A
08:15-08:30	E	578.04	578.04	N/A	N/A
08:30-08:45	A	974.40	974.40	N/A	N/A
08:30-08:45	B	1258.47	1258.47	N/A	N/A
08:30-08:45	C	168.46	168.46	N/A	N/A
08:30-08:45	D	1366.37	1366.37	N/A	N/A
08:30-08:45	E	578.04	578.04	N/A	N/A
08:45-09:00	A	795.60	795.60	N/A	N/A
08:45-09:00	B	1027.53	1027.53	N/A	N/A
08:45-09:00	C	137.54	137.54	N/A	N/A
08:45-09:00	D	1115.63	1115.63	N/A	N/A
08:45-09:00	E	471.96	471.96	N/A	N/A
09:00-09:15	A	666.27	666.27	N/A	N/A
09:00-09:15	B	860.51	860.51	N/A	N/A
09:00-09:15	C	115.19	115.19	N/A	N/A
09:00-09:15	D	934.29	934.29	N/A	N/A
09:00-09:15	E	395.25	395.25	N/A	N/A

## Turning Proportions



### Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To				
		A	B	C	D	E
From	A	0.00	68.00	41.00	585.00	191.00
	B	61.00	0.00	33.00	776.00	273.00
	C	19.00	13.00	0.00	97.00	24.00
	D	375.00	756.00	59.00	0.00	51.00
	E	76.00	231.00	29.00	189.00	0.00

### Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To				
		A	B	C	D	E
From	A	0.00	0.08	0.05	0.66	0.22
	B	0.05	0.00	0.03	0.68	0.24
	C	0.12	0.08	0.00	0.63	0.16
	D	0.30	0.61	0.05	0.00	0.04
	E	0.14	0.44	0.06	0.36	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To				
		A	B	C	D	E
From	A	1.00	1.00	1.00	1.00	1.00
	B	1.00	1.00	1.00	1.00	1.00
	C	1.00	1.00	1.00	1.00	1.00
	D	1.00	1.00	1.00	1.00	1.00
	E	1.00	1.00	1.00	1.00	1.00

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To				
		A	B	C	D	E
From	A	0.00	0.00	0.00	0.00	0.00
	B	0.00	0.00	0.00	0.00	0.00
	C	0.00	0.00	0.00	0.00	0.00
	D	0.00	0.00	0.00	0.00	0.00
	E	0.00	0.00	0.00	0.00	0.00

## Results

### Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.74	0.18	2.81	B	812.09	1218.14	138.19	0.11	1.54	138.21	0.11	0.570	2113.640
B	0.83	0.22	4.56	B	1048.84	1573.26	204.94	0.13	2.28	204.96	0.13	0.588	2230.844
C	0.47	0.32	0.87	C	140.40	210.59	40.33	0.19	0.45	40.33	0.19	0.472	1435.972
D	0.76	0.14	3.11	A	1138.76	1708.14	162.53	0.10	1.81	162.54	0.10	0.568	2160.167
E	0.45	0.09	0.83	A	481.75	722.62	49.89	0.07	0.55	49.90	0.07	0.554	2054.761

### Main Results

**Main results: (07:45-08:00)**

Arm	Demand (PCU/hr)	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)
A	666.27	166.57	663.34	398.12	957.64	0.00	1567.98	931.01	0.425	0.00	0.73
B	860.51	215.13	856.67	800.83	820.15	0.00	1748.41	1419.48	0.492	0.00	0.96
C	115.19	28.80	114.41	121.46	1555.36	0.00	701.34	220.77	0.164	0.00	0.19
D	934.29	233.57	930.50	1234.40	435.37	0.00	1912.87	1764.53	0.488	0.00	0.95
E	395.25	98.81	393.85	403.96	961.91	0.00	1521.94	1049.98	0.260	0.00	0.35

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

Arm	Demand (PCU/hr)	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)
A	795.60	198.90	793.81	476.44	1146.07	0.00	1460.62	931.01	0.545	0.73	1.18
B	1027.53	256.88	1024.92	958.39	981.49	0.00	1653.51	1419.48	0.621	0.96	1.61
C	137.54	34.39	137.03	145.34	1861.06	0.00	556.96	220.77	0.247	0.19	0.32
D	1115.63	278.91	1113.54	1477.12	520.97	0.00	1864.25	1764.53	0.598	0.95	1.47
E	471.96	117.99	471.38	483.37	1151.13	0.00	1417.13	1049.98	0.333	0.35	0.50

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

Arm	Demand (PCU/hr)	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)
A	974.40	243.60	968.18	581.72	1400.60	0.00	1315.59	931.01	0.741	1.18	2.74
B	1258.47	314.62	1247.49	1170.85	1197.93	0.00	1526.20	1419.48	0.825	1.61	4.36
C	168.46	42.11	166.44	177.39	2268.03	0.00	364.73	220.77	0.462	0.32	0.83
D	1366.37	341.59	1360.09	1800.07	634.40	0.00	1799.82	1764.53	0.759	1.47	3.04
E	578.04	144.51	576.74	588.91	1405.58	0.00	1276.18	1049.98	0.453	0.50	0.82

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

Arm	Demand (PCU/hr)	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)
A	974.40	243.60	974.11	584.49	1405.78	0.00	1312.64	931.01	0.742	2.74	2.81
B	1258.47	314.62	1257.66	1175.67	1204.22	0.00	1522.50	1419.48	0.827	4.36	4.56
C	168.46	42.11	168.29	178.31	2283.56	0.00	357.40	220.77	0.471	0.83	0.87
D	1366.37	341.59	1366.09	1812.52	639.33	0.00	1797.02	1764.53	0.760	3.04	3.11
E	578.04	144.51	578.01	593.16	1412.27	0.00	1272.48	1049.98	0.454	0.82	0.83

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

Arm	Demand (PCU/hr)	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)
A	795.60	198.90	801.97	480.34	1153.46	0.00	1456.41	931.01	0.546	2.81	1.22
B	1027.53	256.88	1039.04	965.22	990.20	0.00	1648.39	1419.48	0.623	4.56	1.68
C	137.54	34.39	139.66	146.64	1882.61	0.00	546.78	220.77	0.252	0.87	0.34
D	1115.63	278.91	1122.00	1494.45	527.82	0.00	1860.36	1764.53	0.600	3.11	1.52
E	471.96	117.99	473.25	489.27	1160.55	0.00	1411.91	1049.98	0.334	0.83	0.51

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

Arm	Demand (PCU/hr)	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)
A	666.27	166.57	668.16	400.74	963.41	0.00	1564.70	931.01	0.426	1.22	0.75
B	860.51	215.13	863.32	805.86	825.72	0.00	1745.14	1419.48	0.493	1.68	0.98
C	115.19	28.80	115.75	122.27	1566.77	0.00	695.96	220.77	0.166	0.34	0.20
D	934.29	233.57	936.50	1243.68	438.84	0.00	1910.90	1764.53	0.489	1.52	0.96

E	395.25	98.81	395.85	407.04	968.30	0.00	1518.40	1049.98	0.260	0.51	0.35
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## Queueing Delay Results

### Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.68	0.71	0.066	A	A
B	13.96	0.93	0.067	A	A
C	2.83	0.19	0.102	A	A
D	13.80	0.92	0.061	A	A
E	5.13	0.34	0.053	A	A

### 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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	17.15	1.14	0.090	A	A
B	23.30	1.55	0.095	A	A
C	4.70	0.31	0.143	A	A
D	21.37	1.42	0.080	A	A
E	7.31	0.49	0.063	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	37.94	2.53	0.170	B	B
B	58.35	3.89	0.208	B	B
C	11.52	0.77	0.300	C	B
D	42.56	2.84	0.135	A	A
E	11.95	0.80	0.086	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	41.76	2.78	0.177	B	B
B	67.24	4.48	0.225	B	B
C	12.83	0.86	0.317	C	B
D	46.25	3.08	0.139	A	A
E	12.37	0.82	0.086	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.16	1.28	0.093	A	A
B	26.95	1.80	0.100	A	A
C	5.36	0.36	0.148	A	A
D	23.72	1.58	0.082	A	A
E	7.75	0.52	0.064	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.50	0.77	0.067	A	A
B	15.15	1.01	0.068	A	A
C	3.08	0.21	0.103	A	A
D	14.84	0.99	0.062	A	A

E	5.39	0.36	0.053	A	A
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## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	7.00	7.00	0.00	20.00	70.00	31.00		0.570	2113.640
B	5.25	8.50	20.00	20.00	70.00	31.00		0.588	2230.844
C	3.50	7.00	5.00	20.00	70.00	20.00		0.472	1435.972
D	5.00	9.00	20.00	20.00	70.00	42.00		0.568	2160.167
E	7.00	7.00	0.00	20.00	70.00	39.00		0.554	2054.761

## Overview: Time Segment Results

### Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
07:45-08:00	A	666.27	1567.98	0.425	0.00	0.00	0.73	10.68	(0.00)	0.066
07:45-08:00	B	860.51	1748.41	0.492	0.00	0.00	0.96	13.96	(0.00)	0.067
07:45-08:00	C	115.19	701.34	0.164	0.00	0.00	0.19	2.83	(0.00)	0.102
07:45-08:00	D	934.29	1912.87	0.488	0.00	0.00	0.95	13.80	(0.00)	0.061
07:45-08:00	E	395.25	1521.94	0.260	0.00	0.00	0.35	5.13	(0.00)	0.053
08:00-08:15	A	795.60	1460.62	0.545	0.00	0.73	1.18	17.15	(0.00)	0.090
08:00-08:15	B	1027.53	1653.51	0.621	0.00	0.96	1.61	23.30	(0.00)	0.095
08:00-08:15	C	137.54	556.96	0.247	0.00	0.19	0.32	4.70	(0.00)	0.143
08:00-08:15	D	1115.63	1864.25	0.598	0.00	0.95	1.47	21.37	(0.00)	0.080
08:00-08:15	E	471.96	1417.13	0.333	0.00	0.35	0.50	7.31	(0.00)	0.063
08:15-08:30	A	974.40	1315.59	0.741	0.00	1.18	2.74	37.94	(0.00)	0.170
08:15-08:30	B	1258.47	1526.20	0.825	0.00	1.61	4.36	58.35	(0.00)	0.208
08:15-08:30	C	168.46	364.73	0.462	0.00	0.32	0.83	11.52	(0.00)	0.300
08:15-08:30	D	1366.37	1799.82	0.759	0.00	1.47	3.04	42.56	(0.00)	0.135
08:15-08:30	E	578.04	1276.18	0.453	0.00	0.50	0.82	11.95	(0.00)	0.086
08:30-08:45	A	974.40	1312.64	0.742	0.00	2.74	2.81	41.76	(0.00)	0.177
08:30-08:45	B	1258.47	1522.50	0.827	0.00	4.36	4.56	67.24	(0.00)	0.225
08:30-08:45	C	168.46	357.40	0.471	0.00	0.83	0.87	12.83	(0.00)	0.317
08:30-08:45	D	1366.37	1797.02	0.760	0.00	3.04	3.11	46.25	(0.00)	0.139
08:30-08:45	E	578.04	1272.48	0.454	0.00	0.82	0.83	12.37	(0.00)	0.086
08:45-09:00	A	795.60	1456.41	0.546	0.00	2.81	1.22	19.16	(0.00)	0.093
08:45-09:00	B	1027.53	1648.39	0.623	0.00	4.56	1.68	26.95	(0.00)	0.100
08:45-09:00	C	137.54	546.78	0.252	0.00	0.87	0.34	5.36	(0.00)	0.148
08:45-09:00	D	1115.63	1860.36	0.600	0.00	3.11	1.52	23.72	(0.00)	0.082
08:45-09:00	E	471.96	1411.91	0.334	0.00	0.83	0.51	7.75	(0.00)	0.064
09:00-09:15	A	666.27	1564.70	0.426	0.00	1.22	0.75	11.50	(0.00)	0.067
09:00-09:15	B	860.51	1745.14	0.493	0.00	1.68	0.98	15.15	(0.00)	0.068
09:00-09:15	C	115.19	695.96	0.166	0.00	0.34	0.20	3.08	(0.00)	0.103
09:00-09:15	D	934.29	1910.90	0.489	0.00	1.52	0.96	14.84	(0.00)	0.062
09:00-09:15	E	395.25	1518.40	0.260	0.00	0.51	0.35	5.39	(0.00)	0.053

**A1 - (Default Analysis Set) - D12 - 2020 PCU + CD +**

# DEV180 - PM Peak, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2020 PCU + CD + DEV180 - PM Peak, PM	2020 PCU + CD + DEV180 - PM Peak	PM			Yes			16:45	18:15	90	15	Varies by Arm

# Roundabout Network

## Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C,D,E	Standard			

## Roundabout Network Options

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

# Arms

## Arms

ID	Name	Description
A	Seelshield Way	
B	A41 East	
C	Gravenhill Road North	
D	A41 West	
E	B4100 London Road	

## Capacity Options

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

## Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit (m)
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	width (m)	(m)	length (m)	(m)	diameter (m)	(deg)	Only
A	7.00	7.00	0.00	20.00	70.00	31.00	
B	5.25	8.50	20.00	20.00	70.00	31.00	
C	3.50	7.00	5.00	20.00	70.00	20.00	
D	5.00	9.00	20.00	20.00	70.00	42.00	
E	7.00	7.00	0.00	20.00	70.00	39.00	

## Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None
E	None

## Arm Slope/ Intercept and Capacity

### Arm Intercept Adjustments

Arm	Use Adjustment	Reason	Direct Intercept Adjustment (PCU/hr)
A	Yes	(ARCADY 6 CT10 Import)	0.00
B	Yes	(ARCADY 6 CT10 Import)	0.00
C	Yes	(ARCADY 6 CT10 Import)	0.00
D	Yes	(ARCADY 6 CT10 Import)	0.00
E	Yes	(ARCADY 6 CT10 Import)	0.00

### Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		((calculated))	((calculated))	0.570	2113.640
B		((calculated))	((calculated))	0.588	2230.844
C		((calculated))	((calculated))	0.472	1435.972
D		((calculated))	((calculated))	0.568	2160.167
E		((calculated))	((calculated))	0.554	2054.761

*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
			Yes	HV Percentages	2.00				Yes	Yes

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
A	ONE HOUR	Yes	621.00	100.000	N/A
B	ONE HOUR	Yes	1137.00	100.000	N/A
C	ONE HOUR	Yes	106.00	100.000	N/A
D	ONE HOUR	Yes	1721.00	100.000	N/A
E	ONE HOUR	Yes	708.00	100.000	N/A

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	467.52	467.52	N/A	N/A
16:45-17:00	B	855.99	855.99	N/A	N/A
16:45-17:00	C	79.80	79.80	N/A	N/A
16:45-17:00	D	1295.66	1295.66	N/A	N/A
16:45-17:00	E	533.02	533.02	N/A	N/A
17:00-17:15	A	558.27	558.27	N/A	N/A
17:00-17:15	B	1022.14	1022.14	N/A	N/A
17:00-17:15	C	95.29	95.29	N/A	N/A
17:00-17:15	D	1547.14	1547.14	N/A	N/A
17:00-17:15	E	636.48	636.48	N/A	N/A
17:15-17:30	A	683.73	683.73	N/A	N/A
17:15-17:30	B	1251.86	1251.86	N/A	N/A
17:15-17:30	C	116.71	116.71	N/A	N/A
17:15-17:30	D	1894.86	1894.86	N/A	N/A
17:15-17:30	E	779.52	779.52	N/A	N/A
17:30-17:45	A	683.73	683.73	N/A	N/A
17:30-17:45	B	1251.86	1251.86	N/A	N/A
17:30-17:45	C	116.71	116.71	N/A	N/A
17:30-17:45	D	1894.86	1894.86	N/A	N/A
17:30-17:45	E	779.52	779.52	N/A	N/A
17:45-18:00	A	558.27	558.27	N/A	N/A
17:45-18:00	B	1022.14	1022.14	N/A	N/A
17:45-18:00	C	95.29	95.29	N/A	N/A
17:45-18:00	D	1547.14	1547.14	N/A	N/A
17:45-18:00	E	636.48	636.48	N/A	N/A
18:00-18:15	A	467.52	467.52	N/A	N/A
18:00-18:15	B	855.99	855.99	N/A	N/A
18:00-18:15	C	79.80	79.80	N/A	N/A
18:00-18:15	D	1295.66	1295.66	N/A	N/A
18:00-18:15	E	533.02	533.02	N/A	N/A

## Turning Proportions

### Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To				
		A	B	C	D	E
From	A	0.00	53.00	30.00	396.00	142.00
	B	102.00	0.00	16.00	727.00	292.00
	C	24.00	0.00	0.00	67.00	15.00
	D	668.00	788.00	121.00	0.00	144.00
	E	151.00	350.00	25.00	182.00	0.00

### Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To				
		A	B	C	D	E
A	0.00	0.09	0.05	0.64	0.23	

From	B	0.09	0.00	0.01	0.64	0.26
	C	0.23	0.00	0.00	0.63	0.14
	D	0.39	0.46	0.07	0.00	0.08
	E	0.21	0.49	0.04	0.26	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Roundabout 1 (for whole period)

From	To					
		A	B	C	D	E
	A	1.00	1.00	1.00	1.00	1.00
	B	1.00	1.00	1.00	1.00	1.00
	C	1.00	1.00	1.00	1.00	1.00
	D	1.00	1.00	1.00	1.00	1.00
E	1.00	1.00	1.00	1.00	1.00	

### Heavy Vehicle Percentages - Roundabout 1 (for whole period)

From	To					
		A	B	C	D	E
	A	0.00	0.00	0.00	0.00	0.00
	B	0.00	0.00	0.00	0.00	0.00
	C	0.00	0.00	0.00	0.00	0.00
	D	0.00	0.00	0.00	0.00	0.00
E	0.00	0.00	0.00	0.00	0.00	

## Results

### Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
A	0.56	0.11	1.25	A	569.84	854.76	71.89	0.08	0.80	71.89	0.08	0.570	2113.640
B	0.76	0.15	3.04	A	1043.33	1565.00	155.15	0.10	1.72	155.16	0.10	0.588	2230.844
C	0.24	0.17	0.32	A	97.27	145.90	17.85	0.12	0.20	17.85	0.12	0.472	1435.972
D	1.05	1.78	62.31	F	1579.22	2368.83	1624.16	0.69	18.05	1624.23	0.69	0.568	2160.167
E	0.73	0.21	2.61	B	649.67	974.51	130.70	0.13	1.45	130.71	0.13	0.554	2054.761

### Main Results

#### Main results: (16:45-17:00)

Arm	Demand (PCU/hr)	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)
A	467.52	116.88	465.70	707.30	1097.31	0.00	1488.40	1109.95	0.314	0.00	0.46
B	855.99	214.00	852.53	891.45	671.56	0.00	1835.82	1374.72	0.466	0.00	0.87
C	79.80	19.95	79.35	143.74	1380.34	0.00	784.01	208.49	0.102	0.00	0.11
D	1295.66	323.91	1287.46	1028.58	431.11	0.00	1915.29	1701.85	0.676	0.00	2.05
E	533.02	133.25	530.43	444.38	1274.18	0.00	1348.97	1096.49	0.395	0.00	0.65

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

Arm	Demand (PCU/hr)	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)
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A	558.27	139.57	557.35	845.08	1311.27	0.00	1366.49	1109.95	0.409	0.46	0.69
B	1022.14	255.53	1020.12	1065.19	803.43	0.00	1758.25	1374.72	0.581	0.87	1.37
C	95.29	23.82	95.07	171.77	1651.78	0.00	655.80	208.49	0.145	0.11	0.17
D	1547.14	386.79	1537.22	1230.93	515.92	0.00	1867.12	1701.85	0.829	2.05	4.53
E	636.48	159.12	634.71	531.51	1521.64	0.00	1211.89	1096.49	0.525	0.65	1.09

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

Arm	Demand (PCU/hr)	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)
A	683.73	170.93	681.59	988.72	1541.91	0.00	1235.08	1109.95	0.554	0.69	1.22
B	1251.86	312.97	1245.47	1249.59	973.91	0.00	1657.97	1374.72	0.755	1.37	2.97
C	116.71	29.18	116.13	201.96	2017.41	0.00	483.11	208.49	0.242	0.17	0.31
D	1894.86	473.71	1766.39	1503.36	630.17	0.00	1802.22	1701.85	1.051	4.53	36.65
E	779.52	194.88	774.01	639.94	1756.62	0.00	1081.74	1096.49	0.721	1.09	2.47

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

Arm	Demand (PCU/hr)	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)
A	683.73	170.93	683.62	1000.47	1559.42	0.00	1225.10	1109.95	0.558	1.22	1.25
B	1251.86	312.97	1251.58	1264.02	979.02	0.00	1654.96	1374.72	0.756	2.97	3.04
C	116.71	29.18	116.69	204.15	2026.45	0.00	478.84	208.49	0.244	0.31	0.32
D	1894.86	473.71	1792.21	1510.18	632.95	0.00	1800.64	1701.85	1.052	36.65	62.31
E	779.52	194.88	778.94	644.21	1780.95	0.00	1068.26	1096.49	0.730	2.47	2.61

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

Arm	Demand (PCU/hr)	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)
A	558.27	139.57	560.19	939.02	1441.07	0.00	1292.54	1109.95	0.432	1.25	0.77
B	1022.14	255.53	1028.58	1176.73	824.53	0.00	1745.84	1374.72	0.585	3.04	1.43
C	95.29	23.82	95.88	188.85	1664.25	0.00	649.91	208.49	0.147	0.32	0.17
D	1547.14	386.79	1773.26	1240.33	519.80	0.00	1864.92	1701.85	0.830	62.31	5.78
E	636.48	159.12	641.22	554.19	1738.86	0.00	1091.57	1096.49	0.583	2.61	1.43

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

Arm	Demand (PCU/hr)	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)
A	467.52	116.88	468.73	718.00	1113.77	0.00	1479.03	1109.95	0.316	0.77	0.46
B	855.99	214.00	858.18	904.92	677.57	0.00	1832.28	1374.72	0.467	1.43	0.88
C	79.80	19.95	80.04	145.77	1389.99	0.00	779.45	208.49	0.102	0.17	0.11
D	1295.66	323.91	1310.23	1036.01	434.01	0.00	1913.64	1701.85	0.677	5.78	2.14
E	533.02	133.25	536.05	448.53	1295.71	0.00	1337.04	1096.49	0.399	1.43	0.67

## Queueing Delay Results

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	6.67	0.44	0.059	A	A
B	12.64	0.84	0.061	A	A
C	1.65	0.11	0.085	A	A
D	29.11	1.94	0.094	A	A
E	9.43	0.63	0.073	A	A

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

**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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.04	0.67	0.074	A	A
B	19.92	1.33	0.081	A	A
C	2.47	0.16	0.107	A	A
D	61.54	4.10	0.177	B	B
E	15.78	1.05	0.104	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	17.60	1.17	0.108	A	A
B	41.42	2.76	0.143	A	A
C	4.54	0.30	0.163	A	A
D	333.93	22.26	0.860	F	D
E	34.15	2.28	0.192	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.60	1.24	0.111	A	A
B	45.19	3.01	0.148	A	A
C	4.76	0.32	0.166	A	A
D	744.30	49.62	1.782	F	F
E	38.46	2.56	0.207	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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.86	0.79	0.082	A	A
B	22.40	1.49	0.084	A	A
C	2.68	0.18	0.108	A	A
D	420.75	28.05	0.987	F	E
E	22.54	1.50	0.135	A	A

**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 (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	7.12	0.47	0.059	A	A
B	13.59	0.91	0.062	A	A
C	1.76	0.12	0.086	A	A
D	34.53	2.30	0.102	A	A
E	10.34	0.69	0.075	A	A

## Overview: Standard Roundabout Geometry

### Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
A	7.00	7.00	0.00	20.00	70.00	31.00		0.570	2113.640
B	5.25	8.50	20.00	20.00	70.00	31.00		0.588	2230.844
C	3.50	7.00	5.00	20.00	70.00	20.00		0.472	1435.972
D	5.00	9.00	20.00	20.00	70.00	42.00		0.568	2160.167
E	7.00	7.00	0.00	20.00	70.00	39.00		0.554	2054.761