TRIP RATE for Land Use 13 - PETROL FILLING STATIONS/B - PFS - WITH RETAIL
OGVS
Calculation factor: 1 BAYS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	9	8	0.068	9	8	0.081	9	8	0.149
07:00 - 08:00	9	8	0.108	9	8	0.081	9	8	0.189
08:00 - 09:00	9	8	0.122	9	8	0.135	9	8	0.257
09:00 - 10:00	9	8	0.122	9	8	0.135	9	8	0.257
10:00 - 11:00	9	8	0.027	9	8	0.027	9	8	0.054
11:00 - 12:00	9	8	0.108	9	8	0.108	9	8	0.216
12:00 - 13:00	9	8	0.108	9	8	0.108	9	8	0.216
13:00 - 14:00	9	8	0.054	9	8	0.054	9	8	0.108
14:00 - 15:00	9	8	0.095	9	8	0.095	9	8	0.190
15:00 - 16:00	9	8	0.054	9	8	0.054	9	8	0.108
16:00 - 17:00	9	8	0.000	9	8	0.000	9	8	0.000
17:00 - 18:00	9	8	0.054	9	8	0.027	9	8	0.081
18:00 - 19:00	9	8	0.027	9	8	0.041	9	8	0.068
19:00 - 20:00	9	8	0.068	9	8	0.054	9	8	0.122
20:00 - 21:00	9	8	0.041	9	8	0.054	9	8	0.095
21:00 - 22:00	9	8	0.000	9	8	0.000	9	8	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.056			1.054			2.110

TRIP RATE for Land Use 13 - PETROL FILLING STATIONS/B - PFS - WITH RETAIL
PSVS
Calculation factor: 1 BAYS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	9	8	0.000	9	8	0.000	9	8	0.000
07:00 - 08:00	9	8	0.000	9	8	0.000	9	8	0.000
08:00 - 09:00	9	8	0.014	9	8	0.000	9	8	0.014
09:00 - 10:00	9	8	0.014	9	8	0.014	9	8	0.028
10:00 - 11:00	9	8	0.014	9	8	0.014	9	8	0.028
11:00 - 12:00	9	8	0.014	9	8	0.027	9	8	0.041
12:00 - 13:00	9	8	0.000	9	8	0.000	9	8	0.000
13:00 - 14:00	9	8	0.000	9	8	0.000	9	8	0.000
14:00 - 15:00	9	8	0.000	9	8	0.000	9	8	0.000
15:00 - 16:00	9	8	0.000	9	8	0.000	9	8	0.000
16:00 - 17:00	9	8	0.000	9	8	0.000	9	8	0.000
17:00 - 18:00	9	8	0.027	9	8	0.027	9	8	0.054
18:00 - 19:00	9	8	0.000	9	8	0.000	9	8	0.000
19:00 - 20:00	9	8	0.000	9	8	0.000	9	8	0.000
20:00 - 21:00	9	8	0.000	9	8	0.000	9	8	0.000
21:00 - 22:00	9	8	0.000	9	8	0.000	9	8	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.083			0.082			0.165

TRIP RATE for Land Use 13 - PETROL FILLING STATIONS/B - PFS - WITH RETAIL
CYCLISTS
Calculation factor: 1 BAYS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	9	8	0.108	9	8	0.108	9	8	0.216
07:00 - 08:00	9	8	0.162	9	8	0.162	9	8	0.324
08:00 - 09:00	9	8	0.081	9	8	0.068	9	8	0.149
09:00 - 10:00	9	8	0.054	9	8	0.054	9	8	0.108
10:00 - 11:00	9	8	0.068	9	8	0.054	9	8	0.122
11:00 - 12:00	9	8	0.081	9	8	0.068	9	8	0.149
12:00 - 13:00	9	8	0.041	9	8	0.041	9	8	0.082
13:00 - 14:00	9	8	0.095	9	8	0.122	9	8	0.217
14:00 - 15:00	9	8	0.068	9	8	0.041	9	8	0.109
15:00 - 16:00	9	8	0.081	9	8	0.081	9	8	0.162
16:00 - 17:00	9	8	0.162	9	8	0.162	9	8	0.324
17:00 - 18:00	9	8	0.081	9	8	0.122	9	8	0.203
18:00 - 19:00	9	8	0.122	9	8	0.135	9	8	0.257
19:00 - 20:00	9	8	0.054	9	8	0.041	9	8	0.095
20:00 - 21:00	9	8	0.054	9	8	0.068	9	8	0.122
21:00 - 22:00	9	8	0.054	9	8	0.054	9	8	0.108
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.366			1.381			2.747

TRIP RATE for Land Use 13 - PETROL FILLING STATIONS/B - PFS - WITH RETAIL
CARS
Calculation factor: 1 BAYS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	9	8	2.568	9	8	2.432	9	8	5.000
07:00 - 08:00	9	8	3.932	9	8	3.838	9	8	7.770
08:00 - 09:00	9	8	3.932	9	8	3.824	9	8	7.756
09:00 - 10:00	9	8	3.905	9	8	4.027	9	8	7.932
10:00 - 11:00	9	8	3.432	9	8	3.486	9	8	6.918
11:00 - 12:00	9	8	3.297	9	8	3.311	9	8	6.608
12:00 - 13:00	9	8	4.230	9	8	4.243	9	8	8.473
13:00 - 14:00	9	8	4.189	9	8	4.068	9	8	8.257
14:00 - 15:00	9	8	4.365	9	8	4.378	9	8	8.743
15:00 - 16:00	9	8	4.230	9	8	4.243	9	8	8.473
16:00 - 17:00	9	8	4.554	9	8	4.608	9	8	9.162
17:00 - 18:00	9	8	4.514	9	8	4.446	9	8	8.960
18:00 - 19:00	9	8	4.473	9	8	4.446	9	8	8.919
19:00 - 20:00	9	8	4.865	9	8	4.946	9	8	9.811
20:00 - 21:00	9	8	2.622	9	8	2.649	9	8	5.271
21:00 - 22:00	9	8	2.257	9	8	2.324	9	8	4.581
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			61.365			61.269			122.634

TRIP RATE for Land Use 13 - PETROL FILLING STATIONS/B - PFS - WITH RETAIL
LGVS
Calculation factor: 1 BAYS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	9	8	1.081	9	8	0.973	9	8	2.054
07:00 - 08:00	9	8	1.068	9	8	1.027	9	8	2.095
08:00 - 09:00	9	8	0.919	9	8	0.919	9	8	1.838
09:00 - 10:00	9	8	0.905	9	8	0.973	9	8	1.878
10:00 - 11:00	9	8	0.838	9	8	0.784	9	8	1.622
11:00 - 12:00	9	8	0.851	9	8	0.770	9	8	1.621
12:00 - 13:00	9	8	0.932	9	8	0.973	9	8	1.905
13:00 - 14:00	9	8	0.986	9	8	1.041	9	8	2.027
14:00 - 15:00	9	8	0.919	9	8	0.878	9	8	1.797
15:00 - 16:00	9	8	0.730	9	8	0.757	9	8	1.487
16:00 - 17:00	9	8	0.959	9	8	0.959	9	8	1.918
17:00 - 18:00	9	8	0.432	9	8	0.486	9	8	0.918
18:00 - 19:00	9	8	0.554	9	8	0.581	9	8	1.135
19:00 - 20:00	9	8	0.541	9	8	0.541	9	8	1.082
20:00 - 21:00	9	8	0.392	9	8	0.419	9	8	0.811
21:00 - 22:00	9	8	0.189	9	8	0.189	9	8	0.378
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			12.296			12.270			24.566

TRIP RATE for Land Use 13 - PETROL FILLING STATIONS/B - PFS - WITH RETAIL
MOTOR CYCLES
Calculation factor: 1 BAYS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	9	8	0.149	9	8	0.122	9	8	0.271
07:00 - 08:00	9	8	0.108	9	8	0.041	9	8	0.149
08:00 - 09:00	9	8	0.041	9	8	0.095	9	8	0.136
09:00 - 10:00	9	8	0.054	9	8	0.054	9	8	0.108
10:00 - 11:00	9	8	0.081	9	8	0.081	9	8	0.162
11:00 - 12:00	9	8	0.068	9	8	0.068	9	8	0.136
12:00 - 13:00	9	8	0.081	9	8	0.081	9	8	0.162
13:00 - 14:00	9	8	0.068	9	8	0.095	9	8	0.163
14:00 - 15:00	9	8	0.122	9	8	0.108	9	8	0.230
15:00 - 16:00	9	8	0.068	9	8	0.054	9	8	0.122
16:00 - 17:00	9	8	0.068	9	8	0.081	9	8	0.149
17:00 - 18:00	9	8	0.068	9	8	0.068	9	8	0.136
18:00 - 19:00	9	8	0.068	9	8	0.081	9	8	0.149
19:00 - 20:00	9	8	0.135	9	8	0.135	9	8	0.270
20:00 - 21:00	9	8	0.014	9	8	0.014	9	8	0.028
21:00 - 22:00	9	8	0.068	9	8	0.068	9	8	0.136
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.261			1.246			2.507

Appendix H

TRICS Report – Drive Thru

Calculation Reference: AUDIT-715001-190314-0326

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : D - FAST FOOD - DRIVE THROUGH

VEHICLES

Selected regions and areas:

04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
17	ULSTER (NORTHERN IRELAND)		
	DE	DERRY	1 days

Secondary Filtering selection:

Parameter:	Gross floor area
Actual Range:	240 to 435 (units: sqm)
Range Selected by User:	182 to 800 (units: sqm)

Parking Spaces Range: Selected: 19 to 151 Actual: 19 to 151

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 19/09/17

Selected survey days:

Tuesday	1 days
Thursday	1 days

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2

Selected Location Sub Categories:

Development Zone	1
Residential Zone	1

Secondary Filtering selection:

Use Class:

A5	1 days
C3	1 days

Population within 1 mile:

15,001 to 20,000	1 days
25,001 to 50,000	1 days

Population within 5 miles:

75,001 to 100,000	1 days
125,001 to 250,000	1 days

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	1 days

Travel Plan:

No	2 days

PTAL Rating:

No PTAL Present	2 days

LIST OF SITES relevant to selection parameters

1 CA-06-D-02 MCDONALD'S CAMBRIDGESHIRE
NEWMARKET ROAD
CAMBRIDGE

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 435 sqm
Survey date: TUESDAY *19/09/17* *Survey Type: MANUAL*

2 DE-06-D-01 KFC DERRY
STRAND ROAD
LONDONDERRY

Suburban Area (PPS6 Out of Centre)
Development Zone
Total Gross floor area: 240 sqm
Survey date: THURSDAY *21/06/12* *Survey Type: MANUAL*

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	435	2.529	1	435	2.069	1	435	4.598
08:00 - 09:00	1	435	3.218	1	435	3.678	1	435	6.896
09:00 - 10:00	1	435	3.218	1	435	3.448	1	435	6.666
10:00 - 11:00	2	338	1.926	2	338	1.481	2	338	3.407
11:00 - 12:00	2	338	5.037	2	338	5.037	2	338	10.074
12:00 - 13:00	2	338	5.778	2	338	6.667	2	338	12.445
13:00 - 14:00	2	338	5.778	2	338	7.111	2	338	12.889
14:00 - 15:00	2	338	5.185	2	338	4.444	2	338	9.629
15:00 - 16:00	2	338	5.185	2	338	5.481	2	338	10.666
16:00 - 17:00	2	338	6.370	2	338	5.630	2	338	12.000
17:00 - 18:00	2	338	7.852	2	338	8.296	2	338	16.148
18:00 - 19:00	2	338	7.407	2	338	7.259	2	338	14.666
19:00 - 20:00	2	338	7.111	2	338	7.704	2	338	14.815
20:00 - 21:00	2	338	6.222	2	338	6.074	2	338	12.296
21:00 - 22:00	2	338	5.481	2	338	4.593	2	338	10.074
22:00 - 23:00	1	240	3.750	1	240	5.000	1	240	8.750
23:00 - 24:00	1	240	0.000	1	240	2.500	1	240	2.500
Total Rates:			82.047			86.472			168.519

Parameter summary

Trip rate parameter range selected:	240 - 435 (units: sqm)
Survey date date range:	01/01/10 - 19/09/17
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	435	0.000	1	435	0.000	1	435	0.000
08:00 - 09:00	1	435	0.000	1	435	0.000	1	435	0.000
09:00 - 10:00	1	435	0.230	1	435	0.230	1	435	0.460
10:00 - 11:00	2	338	0.000	2	338	0.000	2	338	0.000
11:00 - 12:00	2	338	0.148	2	338	0.148	2	338	0.296
12:00 - 13:00	2	338	0.296	2	338	0.148	2	338	0.444
13:00 - 14:00	2	338	0.000	2	338	0.148	2	338	0.148
14:00 - 15:00	2	338	0.296	2	338	0.296	2	338	0.592
15:00 - 16:00	2	338	0.000	2	338	0.000	2	338	0.000
16:00 - 17:00	2	338	0.444	2	338	0.444	2	338	0.888
17:00 - 18:00	2	338	0.148	2	338	0.000	2	338	0.148
18:00 - 19:00	2	338	0.148	2	338	0.296	2	338	0.444
19:00 - 20:00	2	338	0.444	2	338	0.444	2	338	0.888
20:00 - 21:00	2	338	0.741	2	338	0.593	2	338	1.334
21:00 - 22:00	2	338	0.000	2	338	0.148	2	338	0.148
22:00 - 23:00	1	240	0.000	1	240	0.000	1	240	0.000
23:00 - 24:00	1	240	0.000	1	240	0.000	1	240	0.000
Total Rates:			2.895			2.895			5.790

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	435	0.230	1	435	0.230	1	435	0.460
08:00 - 09:00	1	435	0.000	1	435	0.000	1	435	0.000
09:00 - 10:00	1	435	0.230	1	435	0.230	1	435	0.460
10:00 - 11:00	2	338	0.148	2	338	0.148	2	338	0.296
11:00 - 12:00	2	338	0.000	2	338	0.000	2	338	0.000
12:00 - 13:00	2	338	0.148	2	338	0.148	2	338	0.296
13:00 - 14:00	2	338	0.000	2	338	0.000	2	338	0.000
14:00 - 15:00	2	338	0.148	2	338	0.148	2	338	0.296
15:00 - 16:00	2	338	0.148	2	338	0.148	2	338	0.296
16:00 - 17:00	2	338	0.296	2	338	0.296	2	338	0.592
17:00 - 18:00	2	338	0.148	2	338	0.148	2	338	0.296
18:00 - 19:00	2	338	0.148	2	338	0.000	2	338	0.148
19:00 - 20:00	2	338	0.000	2	338	0.148	2	338	0.148
20:00 - 21:00	2	338	0.000	2	338	0.000	2	338	0.000
21:00 - 22:00	2	338	0.000	2	338	0.000	2	338	0.000
22:00 - 23:00	1	240	0.000	1	240	0.000	1	240	0.000
23:00 - 24:00	1	240	0.000	1	240	0.000	1	240	0.000
Total Rates:			1.644			1.644			3.288

Appendix I

JUNCTIONS 8 Output – A59 / A671 / Site Access Roundabout

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]

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: A671_A59.arc8
Path: N:\Vectos Job Data\2019\VN91274 Whalley, Clitheroe\Arcady
Report generation date: 05/06/2019 13:53:30

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 Base			
Arm A	1.76	4.29	0.64	A
Arm B	1.95	6.19	0.66	A
Arm C	1.94	6.52	0.66	A

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

"D1 - 2019 Base, AM " model duration: 08:00 - 09:30
"D2 - 2019 Base, PM" model duration: 16:30 - 18:00
"D3 - 2019 Base, Saturday" model duration: 12:15 - 13:45
"D4 - 2024 Base, AM" model duration: 08:00 - 09:30
"D5 - 2024 Base, PM" model duration: 16:30 - 18:00
"D6 - 2024 Base, Saturday" model duration: 12:15 - 13:45
"D7 - 2024 Base + Committed, AM" model duration: 08:00 - 09:30
"D8 - 2024 Base + Committed, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.6.541 at 05/06/2019 13:53:25

File summary

Title	(untitled)
Location	
Site Number	
Date	16/04/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office
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) - 2019 Base, AM

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2019 Base, AM	2019 Base	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	(untitled)	Roundabout	A,B,C				5.53	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.542	2168.636

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1350.00	100.000
B	ONE HOUR	✓	1042.00	100.000
C	ONE HOUR	✓	984.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	619.000	731.000
	B	894.000	0.000	148.000
	C	793.000	191.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.46	0.54
	B	0.86	0.00	0.14
	C	0.81	0.19	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.64	4.29	1.76	A	1238.78	1858.18	106.52	3.44	1.18	106.53	3.44
B	0.66	6.19	1.95	A	956.16	1434.24	110.92	4.64	1.23	110.93	4.64
C	0.66	6.52	1.94	A	902.94	1354.40	108.72	4.82	1.21	108.73	4.82

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1016.35	254.09	1013.35	1265.36	143.26	0.00	2363.59	2281.42	0.430	0.00	0.75	2.661	A
B	784.47	196.12	781.60	607.90	548.71	0.00	1868.27	1493.23	0.420	0.00	0.72	3.305	A
C	740.81	185.20	738.04	659.72	670.58	0.00	1805.12	1474.14	0.410	0.00	0.69	3.365	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1213.62	303.41	1212.37	1514.30	171.44	0.00	2347.38	2281.42	0.517	0.75	1.06	3.169	A
B	936.74	234.18	935.36	727.34	656.48	0.00	1809.40	1493.23	0.518	0.72	1.06	4.112	A
C	884.60	221.15	883.23	789.33	802.51	0.00	1733.61	1474.14	0.510	0.69	1.03	4.226	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1486.38	371.59	1483.63	1851.58	209.61	0.00	2325.43	2281.42	0.639	1.06	1.75	4.263	A
B	1147.26	286.82	1143.78	889.88	803.36	0.00	1729.18	1493.23	0.663	1.06	1.93	6.113	A
C	1083.40	270.85	1079.86	965.82	981.33	0.00	1636.67	1474.14	0.662	1.03	1.92	6.424	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1486.38	371.59	1486.33	1857.27	210.28	0.00	2325.05	2281.42	0.639	1.75	1.76	4.292	A
B	1147.26	286.82	1147.18	891.79	804.82	0.00	1728.38	1493.23	0.664	1.93	1.95	6.191	A
C	1083.40	270.85	1083.31	967.76	984.24	0.00	1635.09	1474.14	0.663	1.92	1.94	6.522	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
A	1213.62	303.41	1216.35	1522.42	172.39	0.00	2346.83	2281.42	0.517	1.76	1.08	3.193	A
B	936.74	234.18	940.21	730.11	658.63	0.00	1808.23	1493.23	0.518	1.95	1.08	4.165	A
C	884.60	221.15	888.15	792.17	806.67	0.00	1731.35	1474.14	0.511	1.94	1.05	4.286	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
A	1016.35	254.09	1017.63	1272.42	144.07	0.00	2363.12	2281.42	0.430	1.08	0.76	2.679	A
B	784.47	196.12	785.90	610.67	551.03	0.00	1867.00	1493.23	0.420	1.08	0.73	3.336	A
C	740.81	185.20	742.22	662.65	674.27	0.00	1803.12	1474.14	0.411	1.05	0.70	3.397	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	11.02	0.73	2.661	A	A
B	10.52	0.70	3.305	A	A
C	10.12	0.67	3.365	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.62	1.04	3.169	A	A
B	15.56	1.04	4.112	A	A
C	15.09	1.01	4.226	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	25.38	1.69	4.263	A	A
B	27.70	1.85	6.113	A	A
C	27.44	1.83	6.424	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	26.34	1.76	4.292	A	A
B	29.19	1.95	6.191	A	A
C	28.99	1.93	6.522	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
A	16.58	1.11	3.193	A	A
B	16.78	1.12	4.165	A	A
C	16.32	1.09	4.286	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
A	11.58	0.77	2.679	A	A
B	11.17	0.74	3.336	A	A
C	10.75	0.72	3.397	A	A

(Default Analysis Set) - 2019 Base, PM

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2019 Base, PM	2019 Base	PM		ONE HOUR	16:30	18:00	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	A,B,C				5.12	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.542	2168.636

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1539.00	100.000
B	ONE HOUR	✓	863.00	100.000
C	ONE HOUR	✓	892.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	810.000	729.000
	B	707.000	0.000	156.000
	C	711.000	181.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.53	0.47
	B	0.82	0.00	0.18
	C	0.80	0.20	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.73	5.65	2.63	A	1412.21	2118.32	148.15	4.20	1.65	148.16	4.20
B	0.55	4.62	1.21	A	791.90	1187.86	74.19	3.75	0.82	74.19	3.75
C	0.56	4.71	1.28	A	818.51	1227.77	77.78	3.80	0.86	77.79	3.80

Main Results for each time segment

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1158.64	289.66	1154.83	1064.05	135.82	0.00	2367.87	2274.76	0.489	0.00	0.95	2.960	A
B	649.71	162.43	647.59	743.62	547.03	0.00	1869.19	1579.44	0.348	0.00	0.53	2.942	A
C	671.54	167.89	669.33	664.09	530.53	0.00	1881.04	1467.21	0.357	0.00	0.55	2.966	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1383.53	345.88	1381.68	1273.33	162.53	0.00	2352.51	2274.76	0.588	0.95	1.41	3.702	A
B	775.82	193.95	774.96	889.73	654.48	0.00	1810.49	1579.44	0.429	0.53	0.74	3.473	A
C	801.89	200.47	800.98	794.57	634.87	0.00	1824.48	1467.21	0.440	0.55	0.78	3.514	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1694.47	423.62	1689.72	1558.18	198.89	0.00	2331.60	2274.76	0.727	1.41	2.60	5.568	A
B	950.18	237.55	948.34	1088.21	800.39	0.00	1730.80	1579.44	0.549	0.74	1.20	4.589	A
C	982.11	245.53	980.15	971.82	776.92	0.00	1747.48	1467.21	0.562	0.78	1.27	4.679	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1694.47	423.62	1694.36	1561.19	199.28	0.00	2331.37	2274.76	0.727	2.60	2.63	5.649	A
B	950.18	237.55	950.15	1091.04	802.59	0.00	1729.60	1579.44	0.549	1.20	1.21	4.618	A
C	982.11	245.53	982.08	974.34	778.40	0.00	1746.68	1467.21	0.562	1.27	1.28	4.708	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1383.53	345.88	1388.28	1277.80	163.11	0.00	2352.17	2274.76	0.588	2.63	1.44	3.752	A
B	775.82	193.95	777.64	893.78	657.61	0.00	1808.79	1579.44	0.429	1.21	0.76	3.499	A
C	801.89	200.47	803.83	798.18	637.07	0.00	1823.29	1467.21	0.440	1.28	0.79	3.537	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1158.64	289.66	1160.55	1069.00	136.45	0.00	2367.50	2274.76	0.489	1.44	0.96	2.989	A
B	649.71	162.43	650.59	747.27	549.73	0.00	1867.71	1579.44	0.348	0.76	0.54	2.959	A
C	671.54	167.89	672.47	667.34	532.99	0.00	1879.71	1467.21	0.357	0.79	0.56	2.983	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.93	0.93	2.960	A	A
B	7.79	0.52	2.942	A	A
C	8.11	0.54	2.966	A	A

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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.67	1.38	3.702	A	A
B	10.96	0.73	3.473	A	A
C	11.45	0.76	3.514	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	37.15	2.48	5.568	A	A
B	17.53	1.17	4.589	A	A
C	18.45	1.23	4.679	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	39.29	2.62	5.649	A	A
B	18.13	1.21	4.618	A	A
C	19.10	1.27	4.708	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	22.34	1.49	3.752	A	A
B	11.60	0.77	3.499	A	A
C	12.14	0.81	3.537	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	14.78	0.99	2.989	A	A
B	8.18	0.55	2.959	A	A
C	8.53	0.57	2.983	A	A

(Default Analysis Set) - 2019 Base, Saturday

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relatio
2019 Base, Saturday	2019 Base	Saturday		ONE HOUR	12:15	13:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	A,B,C				4.09	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.542	2168.636

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1210.00	100.000
B	ONE HOUR	✓	983.00	100.000
C	ONE HOUR	✓	744.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	17.000	666.000	527.000
	B	864.000	0.000	119.000
	C	659.000	85.000	0.000

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

		To		
		A	B	C
From	A	0.01	0.55	0.44
	B	0.88	0.00	0.12
	C	0.89	0.11	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.56	3.40	1.25	A	1110.32	1665.48	80.08	2.89	0.89	80.09	2.89
B	0.59	4.75	1.42	A	902.02	1353.03	86.20	3.82	0.96	86.20	3.82
C	0.50	4.37	0.99	A	682.71	1024.06	61.40	3.60	0.68	61.40	3.60

Main Results for each time segment

Main results: (12:15-12:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	910.95	227.74	908.53	1155.63	63.79	0.00	2409.30	2354.44	0.378	0.00	0.61	2.394	A
B	740.05	185.01	737.61	563.86	408.46	0.00	1944.87	1589.81	0.381	0.00	0.61	2.975	A
C	560.12	140.03	558.34	484.99	661.08	0.00	1810.27	1393.22	0.309	0.00	0.45	2.872	A

Main results: (12:30-12:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1087.77	271.94	1086.89	1382.91	76.33	0.00	2402.08	2354.44	0.453	0.61	0.82	2.736	A
B	883.70	220.92	882.69	674.57	488.65	0.00	1901.07	1589.81	0.465	0.61	0.86	3.532	A
C	668.84	167.21	668.14	580.24	791.10	0.00	1739.79	1393.22	0.384	0.45	0.62	3.358	A

Main results: (12:45-13:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1332.23	333.06	1330.54	1692.34	93.42	0.00	2392.25	2354.44	0.557	0.82	1.25	3.384	A
B	1082.30	270.58	1080.12	825.77	598.19	0.00	1841.24	1589.81	0.588	0.86	1.41	4.717	A
C	819.16	204.79	817.71	710.26	968.06	0.00	1643.86	1393.22	0.498	0.62	0.98	4.349	A

Main results: (13:00-13:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1332.23	333.06	1332.21	1695.52	93.58	0.00	2392.16	2354.44	0.557	1.25	1.25	3.395	A
B	1082.30	270.58	1082.27	826.85	598.95	0.00	1840.83	1589.81	0.588	1.41	1.42	4.745	A
C	819.16	204.79	819.14	711.25	969.97	0.00	1642.83	1393.22	0.499	0.98	0.99	4.370	A

Main results: (13:15-13:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1087.77	271.94	1089.44	1387.63	76.58	0.00	2401.94	2354.44	0.453	1.25	0.83	2.745	A
B	883.70	220.92	885.87	676.22	489.80	0.00	1900.44	1589.81	0.465	1.42	0.88	3.557	A
C	668.84	167.21	670.28	581.73	793.93	0.00	1738.25	1393.22	0.385	0.99	0.63	3.374	A

Main results: (13:30-13:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	910.95	227.74	911.84	1160.94	64.07	0.00	2409.13	2354.44	0.378	0.83	0.61	2.405	A
B	740.05	185.01	741.08	565.96	409.95	0.00	1944.05	1589.81	0.381	0.88	0.62	2.994	A
C	560.12	140.03	560.84	486.85	664.18	0.00	1808.59	1393.22	0.310	0.63	0.45	2.886	A

Queueing Delay Results for each time segment

Queueing Delay results: (12:15-12:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	8.91	0.59	2.394	A	A
B	8.96	0.60	2.975	A	A
C	6.56	0.44	2.872	A	A

Queueing Delay results: (12:30-12:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.15	0.81	2.736	A	A
B	12.67	0.84	3.532	A	A
C	9.15	0.61	3.358	A	A

Queueing Delay results: (12:45-13:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.26	1.22	3.384	A	A
B	20.46	1.36	4.717	A	A
C	14.37	0.96	4.349	A	A

Queueing Delay results: (13:00-13:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.74	1.25	3.395	A	A
B	21.21	1.41	4.745	A	A
C	14.81	0.99	4.370	A	A

Queueing Delay results: (13:15-13:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.72	0.85	2.745	A	A
B	13.46	0.90	3.557	A	A
C	9.64	0.64	3.374	A	A

Queueing Delay results: (13:30-13:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.29	0.62	2.405	A	A
B	9.44	0.63	2.994	A	A
C	6.87	0.46	2.886	A	A

(Default Analysis Set) - 2024 Base, AM

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2024 Base, AM	2024 Base	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	(untitled)	Roundabout	A,B,C				5.81	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.542	2168.636

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1377.00	100.000
B	ONE HOUR	✓	1061.00	100.000
C	ONE HOUR	✓	1001.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	3.000	630.000	744.000
	B	910.000	0.000	151.000
	C	807.000	194.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.46	0.54
	B	0.86	0.00	0.14
	C	0.81	0.19	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.65	4.46	1.87	A	1263.56	1895.34	111.76	3.54	1.24	111.77	3.54
B	0.68	6.53	2.10	A	973.59	1460.39	117.36	4.82	1.30	117.37	4.82
C	0.68	6.89	2.09	A	918.54	1377.80	115.05	5.01	1.28	115.06	5.01

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1036.68	259.17	1033.57	1290.03	145.50	0.00	2362.30	2281.88	0.439	0.00	0.78	2.704	A
B	798.78	199.69	795.79	618.37	560.69	0.00	1861.72	1491.85	0.429	0.00	0.75	3.367	A
C	753.61	188.40	750.74	671.70	684.79	0.00	1797.42	1472.32	0.419	0.00	0.72	3.431	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1237.89	309.47	1236.57	1543.81	174.12	0.00	2345.84	2281.87	0.528	0.78	1.11	3.240	A
B	953.82	238.45	952.35	739.87	670.82	0.00	1801.57	1491.85	0.529	0.75	1.11	4.232	A
C	899.88	224.97	898.42	803.66	819.50	0.00	1724.39	1472.32	0.522	0.72	1.08	4.350	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1516.11	379.03	1513.13	1887.31	212.84	0.00	2323.57	2281.87	0.652	1.11	1.85	4.426	A
B	1168.18	292.05	1164.35	905.12	820.85	0.00	1719.63	1491.85	0.679	1.11	2.07	6.438	A
C	1102.12	275.53	1098.21	983.26	1001.94	0.00	1625.50	1472.32	0.678	1.08	2.06	6.778	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
A	1516.11	379.03	1516.05	1893.58	213.58	0.00	2323.15	2281.87	0.653	1.85	1.87	4.460	A
B	1168.18	292.05	1168.08	907.19	822.43	0.00	1718.76	1491.85	0.680	2.07	2.10	6.535	A
C	1102.12	275.53	1102.01	985.37	1005.15	0.00	1623.76	1472.32	0.679	2.06	2.09	6.895	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
A	1237.89	309.47	1240.85	1552.71	175.16	0.00	2345.24	2281.87	0.528	1.87	1.13	3.270	A
B	953.82	238.45	957.66	742.87	673.14	0.00	1800.30	1491.85	0.530	2.10	1.14	4.292	A
C	899.88	224.97	903.80	806.73	824.07	0.00	1721.92	1472.32	0.523	2.09	1.11	4.420	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
A	1036.68	259.17	1038.04	1297.43	146.35	0.00	2361.81	2281.88	0.439	1.13	0.79	2.721	A
B	798.78	199.69	800.30	621.27	563.12	0.00	1860.40	1491.85	0.429	1.14	0.76	3.402	A
C	753.61	188.40	755.12	674.75	688.66	0.00	1795.32	1472.32	0.420	1.11	0.73	3.467	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
A	11.41	0.76	2.704	A	A
B	10.91	0.73	3.367	A	A
C	10.49	0.70	3.431	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	16.29	1.09	3.240	A	A
B	16.28	1.09	4.232	A	A
C	15.79	1.05	4.350	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	26.82	1.79	4.426	A	A
B	29.61	1.97	6.438	A	A
C	29.34	1.96	6.778	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
A	27.90	1.86	4.460	A	A
B	31.32	2.09	6.535	A	A
C	31.14	2.08	6.895	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
A	17.33	1.16	3.270	A	A
B	17.63	1.18	4.292	A	A
C	17.14	1.14	4.420	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
A	12.01	0.80	2.721	A	A
B	11.61	0.77	3.402	A	A
C	11.16	0.74	3.467	A	A

(Default Analysis Set) - 2024 Base, PM

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2024 Base, PM	2024 Base	PM		ONE HOUR	16:30	18:00	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	A,B,C				5.37	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.542	2168.636

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1569.00	100.000
B	ONE HOUR	✓	879.00	100.000
C	ONE HOUR	✓	908.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	3.000	824.000	742.000
	B	720.000	0.000	159.000
	C	724.000	184.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.53	0.47
	B	0.82	0.00	0.18
	C	0.80	0.20	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.74	5.97	2.83	A	1439.74	2159.61	157.15	4.37	1.75	157.17	4.37
B	0.56	4.79	1.28	A	806.59	1209.88	77.58	3.85	0.86	77.59	3.85
C	0.58	4.88	1.35	A	833.20	1249.80	81.32	3.90	0.90	81.33	3.90

Main Results for each time segment

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1181.23	295.31	1177.27	1085.75	138.06	0.00	2366.58	2275.17	0.499	0.00	0.99	3.017	A
B	661.76	165.44	659.56	756.33	559.00	0.00	1862.65	1577.91	0.355	0.00	0.55	2.987	A
C	683.59	170.90	681.31	676.05	542.51	0.00	1874.55	1465.63	0.365	0.00	0.57	3.012	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1410.50	352.62	1408.52	1299.31	165.22	0.00	2350.96	2275.17	0.600	0.99	1.48	3.811	A
B	790.20	197.55	789.30	904.94	668.80	0.00	1802.67	1577.91	0.438	0.55	0.78	3.549	A
C	816.27	204.07	815.32	808.88	649.22	0.00	1816.70	1465.63	0.449	0.57	0.81	3.591	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1727.50	431.88	1722.24	1589.87	202.16	0.00	2329.71	2275.17	0.742	1.48	2.80	5.874	A
B	967.80	241.95	965.82	1106.64	817.76	0.00	1721.31	1577.91	0.562	0.78	1.27	4.752	A
C	999.73	249.93	997.62	989.17	794.41	0.00	1738.00	1465.63	0.575	0.81	1.34	4.849	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1727.50	431.88	1727.36	1593.12	202.58	0.00	2329.47	2275.17	0.742	2.80	2.83	5.975	A
B	967.80	241.95	967.76	1109.75	820.19	0.00	1719.98	1577.91	0.563	1.27	1.28	4.785	A
C	999.73	249.93	999.69	991.95	796.01	0.00	1737.13	1465.63	0.576	1.34	1.35	4.881	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1410.50	352.62	1415.77	1304.11	165.84	0.00	2350.60	2275.17	0.600	2.83	1.52	3.873	A
B	790.20	197.55	792.17	909.36	672.24	0.00	1800.79	1577.91	0.439	1.28	0.79	3.578	A
C	816.27	204.07	818.37	812.83	651.58	0.00	1815.42	1465.63	0.450	1.35	0.82	3.620	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1181.23	295.31	1183.28	1090.93	138.72	0.00	2366.20	2275.17	0.499	1.52	1.00	3.047	A
B	661.76	165.44	662.69	760.15	561.85	0.00	1861.09	1577.91	0.356	0.79	0.55	3.008	A
C	683.59	170.90	684.57	679.46	545.08	0.00	1873.15	1465.63	0.365	0.82	0.58	3.033	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	14.47	0.96	3.017	A	A
B	8.05	0.54	2.987	A	A
C	8.38	0.56	3.012	A	A

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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	21.67	1.44	3.811	A	A
B	11.40	0.76	3.549	A	A
C	11.91	0.79	3.591	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	39.81	2.65	5.874	A	A
B	18.45	1.23	4.752	A	A
C	19.42	1.29	4.849	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	42.30	2.82	5.975	A	A
B	19.12	1.27	4.785	A	A
C	20.15	1.34	4.881	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	23.51	1.57	3.873	A	A
B	12.09	0.81	3.578	A	A
C	12.65	0.84	3.620	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.39	1.03	3.047	A	A
B	8.46	0.56	3.008	A	A
C	8.82	0.59	3.033	A	A

(Default Analysis Set) - 2024 Base, Saturday

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relatio
2024 Base, Saturday	2024 Base	Saturday		ONE HOUR	12:15	13:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	A,B,C				4.17	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.542	2168.636

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1235.00	100.000
B	ONE HOUR	✓	983.00	100.000
C	ONE HOUR	✓	760.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	17.000	680.000	538.000
	B	864.000	0.000	119.000
	C	673.000	87.000	0.000

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

		To		
		A	B	C
From	A	0.01	0.55	0.44
	B	0.88	0.00	0.12
	C	0.89	0.11	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.57	3.49	1.31	A	1133.26	1699.89	83.47	2.95	0.93	83.47	2.95
B	0.59	4.79	1.43	A	902.02	1353.03	86.76	3.85	0.96	86.77	3.85
C	0.51	4.47	1.03	A	697.39	1046.08	63.74	3.66	0.71	63.75	3.66

Main Results for each time segment

Main results: (12:15-12:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	929.77	232.44	927.27	1166.11	65.29	0.00	2408.43	2354.25	0.386	0.00	0.63	2.426	A
B	740.05	185.01	737.60	575.85	416.71	0.00	1940.36	1590.11	0.381	0.00	0.61	2.986	A
C	572.17	143.04	570.33	493.24	661.07	0.00	1810.28	1393.44	0.316	0.00	0.46	2.900	A

Main results: (12:30-12:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1110.24	277.56	1109.32	1395.46	78.13	0.00	2401.05	2354.25	0.462	0.63	0.86	2.786	A
B	883.70	220.92	882.68	688.93	498.52	0.00	1895.68	1590.11	0.466	0.61	0.87	3.550	A
C	683.22	170.81	682.49	590.11	791.10	0.00	1739.79	1393.44	0.393	0.46	0.64	3.403	A

Main results: (12:45-13:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1359.76	339.94	1357.95	1707.65	95.61	0.00	2390.99	2354.24	0.569	0.86	1.31	3.479	A
B	1082.30	270.58	1080.09	843.31	610.25	0.00	1834.65	1590.11	0.590	0.87	1.42	4.756	A
C	836.78	209.19	835.24	722.32	968.03	0.00	1643.88	1393.44	0.509	0.64	1.03	4.444	A

Main results: (13:00-13:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1359.76	339.94	1359.74	1710.93	95.79	0.00	2390.89	2354.24	0.569	1.31	1.31	3.490	A
B	1082.30	270.58	1082.27	844.47	611.06	0.00	1834.21	1590.11	0.590	1.42	1.43	4.787	A
C	836.78	209.19	836.75	723.36	969.97	0.00	1642.83	1393.44	0.509	1.03	1.03	4.465	A

Main results: (13:15-13:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1110.24	277.56	1112.03	1400.32	78.39	0.00	2400.90	2354.25	0.462	1.31	0.87	2.796	A
B	883.70	220.92	885.90	690.68	499.74	0.00	1895.01	1590.11	0.466	1.43	0.88	3.577	A
C	683.22	170.81	684.75	591.68	793.96	0.00	1738.24	1393.44	0.393	1.03	0.65	3.423	A

Main results: (13:30-13:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	929.77	232.44	930.71	1171.52	65.58	0.00	2408.26	2354.25	0.386	0.87	0.63	2.437	A
B	740.05	185.01	741.09	578.04	418.25	0.00	1939.52	1590.11	0.382	0.88	0.62	3.005	A
C	572.17	143.04	572.91	495.16	664.19	0.00	1808.59	1393.44	0.316	0.65	0.46	2.914	A

Queueing Delay Results for each time segment

Queueing Delay results: (12:15-12:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.21	0.61	2.426	A	A
B	9.00	0.60	2.986	A	A
C	6.76	0.45	2.900	A	A

Queueing Delay results: (12:30-12:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.61	0.84	2.786	A	A
B	12.74	0.85	3.550	A	A
C	9.47	0.63	3.403	A	A

Queueing Delay results: (12:45-13:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.13	1.28	3.479	A	A
B	20.62	1.37	4.756	A	A
C	14.98	1.00	4.444	A	A

Queueing Delay results: (13:00-13:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.66	1.31	3.490	A	A
B	21.40	1.43	4.787	A	A
C	15.46	1.03	4.465	A	A

Queueing Delay results: (13:15-13:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.24	0.88	2.796	A	A
B	13.53	0.90	3.577	A	A
C	9.99	0.67	3.423	A	A

Queueing Delay results: (13:30-13:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.62	0.64	2.437	A	A
B	9.47	0.63	3.005	A	A
C	7.09	0.47	2.914	A	A

(Default Analysis Set) - 2024 Base + Committed, AM

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2024 Base + Committed, AM	2024 Base + Committed	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	(untitled)	Roundabout	A,B,C				9.48	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.542	2168.636

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1722.00	100.000
B	ONE HOUR	✓	1166.00	100.000
C	ONE HOUR	✓	1089.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	3.000	809.000	910.000
	B	1015.000	0.000	151.000
	C	895.000	194.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.47	0.53
	B	0.87	0.00	0.13
	C	0.82	0.18	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.82	8.40	4.33	A	1580.14	2370.21	217.89	5.52	2.42	217.91	5.52
B	0.79	10.69	3.72	B	1069.94	1604.91	180.73	6.76	2.01	180.74	6.76
C	0.77	9.90	3.23	A	999.29	1498.93	160.45	6.42	1.78	160.46	6.42

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1296.41	324.10	1291.59	1434.03	145.43	0.00	2362.34	2296.67	0.549	0.00	1.21	3.347	A
B	877.83	219.46	874.03	752.22	684.80	0.00	1793.94	1502.88	0.489	0.00	0.95	3.898	A
C	819.86	204.96	816.38	795.73	763.09	0.00	1754.97	1457.28	0.467	0.00	0.87	3.822	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1548.04	387.01	1545.22	1715.99	174.03	0.00	2345.89	2296.67	0.660	1.21	1.91	4.480	A
B	1048.21	262.05	1045.86	899.98	819.27	0.00	1720.49	1502.88	0.609	0.95	1.54	5.318	A
C	978.99	244.75	976.91	952.02	913.11	0.00	1673.65	1457.28	0.585	0.87	1.39	5.151	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1895.96	473.99	1886.69	2093.28	212.35	0.00	2323.85	2296.67	0.816	1.91	4.23	8.067	A
B	1283.79	320.95	1275.51	1098.73	1000.32	0.00	1621.60	1502.88	0.792	1.54	3.61	10.165	B
C	1199.01	299.75	1192.02	1162.22	1113.61	0.00	1564.96	1457.28	0.766	1.39	3.14	9.479	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1895.96	473.99	1895.55	2105.57	213.53	0.00	2323.17	2296.67	0.816	4.23	4.33	8.396	A
B	1283.79	320.95	1283.34	1104.07	1005.02	0.00	1619.04	1502.88	0.793	3.61	3.72	10.687	B
C	1199.01	299.75	1198.65	1167.91	1120.45	0.00	1561.25	1457.28	0.768	3.14	3.23	9.904	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
A	1548.04	387.01	1557.48	1733.05	175.68	0.00	2344.95	2296.67	0.660	4.33	1.97	4.626	A
B	1048.21	262.05	1056.72	907.38	825.77	0.00	1716.94	1502.88	0.611	3.72	1.59	5.520	A
C	978.99	244.75	986.14	959.90	922.59	0.00	1668.51	1457.28	0.587	3.23	1.44	5.331	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
A	1296.41	324.10	1299.39	1444.20	146.45	0.00	2361.76	2296.67	0.549	1.97	1.23	3.397	A
B	877.83	219.46	880.32	756.90	688.93	0.00	1791.68	1502.88	0.490	1.59	0.97	3.960	A
C	819.86	204.96	822.07	800.67	768.58	0.00	1752.00	1457.28	0.468	1.44	0.89	3.880	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	17.56	1.17	3.347	A	A
B	13.82	0.92	3.898	A	A
C	12.67	0.84	3.822	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	27.71	1.85	4.480	A	A
B	22.23	1.48	5.318	A	A
C	20.17	1.34	5.151	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	58.40	3.89	8.067	A	A
B	49.48	3.30	10.165	B	B
C	43.45	2.90	9.479	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	64.35	4.29	8.396	A	A
B	55.14	3.68	10.687	B	B
C	47.90	3.19	9.904	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
A	30.98	2.07	4.626	A	A
B	25.13	1.68	5.520	A	A
C	22.62	1.51	5.331	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
A	18.89	1.26	3.397	A	A
B	14.93	1.00	3.960	A	A
C	13.65	0.91	3.880	A	A

(Default Analysis Set) - 2024 Base + Committed, PM

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2024 Base + Committed, PM	2024 Base + Committed	PM		ONE HOUR	16:30	18:00	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	A,B,C				8.41	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.542	2168.636

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

Traffic Flows

Demand Set Data Options

Default Vehicle	Vehicle Mix Varies	Vehicle Mix Varies	Vehicle Mix Varies	Vehicle Mix Source	PCU Factor for a HV	Default Turning	Estimate from entry/exit	Turning Proportions	Turning Proportions	Turning Proportions
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1782.00	100.000
B	ONE HOUR	✓	1054.00	100.000
C	ONE HOUR	✓	1045.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	3.000	948.000	831.000
	B	895.000	0.000	159.000
	C	861.000	184.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.53	0.47
	B	0.85	0.00	0.15
	C	0.82	0.18	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.84	9.74	5.17	A	1635.19	2452.79	248.82	6.09	2.76	248.84	6.09
B	0.70	7.11	2.26	A	967.17	1450.75	123.63	5.11	1.37	123.64	5.11
C	0.70	7.46	2.35	A	958.91	1438.37	126.85	5.29	1.41	126.86	5.29

Main Results for each time segment

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1341.58	335.40	1336.39	1319.13	137.98	0.00	2366.62	2300.23	0.567	0.00	1.30	3.478	A
B	793.51	198.38	790.45	848.93	625.45	0.00	1826.35	1579.97	0.434	0.00	0.76	3.465	A
C	786.73	196.68	783.66	742.44	673.46	0.00	1803.56	1439.26	0.436	0.00	0.77	3.520	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1601.98	400.50	1598.75	1578.63	165.13	0.00	2351.01	2300.23	0.681	1.30	2.10	4.764	A
B	947.52	236.88	945.96	1015.64	748.24	0.00	1759.29	1579.97	0.539	0.76	1.16	4.418	A
C	939.43	234.86	937.81	888.25	805.95	0.00	1731.74	1439.26	0.542	0.77	1.17	4.525	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1962.02	490.50	1950.39	1929.28	201.78	0.00	2329.93	2300.23	0.842	2.10	5.01	9.213	A
B	1160.48	290.12	1156.20	1239.36	912.81	0.00	1669.40	1579.97	0.695	1.16	2.22	6.956	A
C	1150.57	287.64	1146.00	1083.94	985.06	0.00	1634.64	1439.26	0.704	1.17	2.31	7.299	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1962.02	490.50	1961.40	1936.45	202.56	0.00	2329.48	2300.23	0.842	5.01	5.17	9.737	A
B	1160.48	290.12	1160.33	1246.00	917.96	0.00	1666.58	1579.97	0.696	2.22	2.26	7.106	A
C	1150.57	287.64	1150.42	1089.70	988.59	0.00	1632.73	1439.26	0.705	2.31	2.35	7.459	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1601.98	400.50	1613.94	1588.77	166.22	0.00	2350.38	2300.23	0.682	5.17	2.18	4.966	A
B	947.52	236.88	951.83	1024.82	755.35	0.00	1755.40	1579.97	0.540	2.26	1.19	4.505	A
C	939.43	234.86	944.03	896.22	810.96	0.00	1729.02	1439.26	0.543	2.35	1.20	4.612	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1341.58	335.40	1345.00	1327.06	138.82	0.00	2366.14	2300.23	0.567	2.18	1.32	3.536	A
B	793.51	198.38	795.15	854.35	629.48	0.00	1824.15	1579.97	0.435	1.19	0.78	3.505	A
C	786.73	196.68	788.42	747.17	677.46	0.00	1801.39	1439.26	0.437	1.20	0.78	3.558	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.85	1.26	3.478	A	A
B	11.15	0.74	3.465	A	A
C	11.22	0.75	3.520	A	A

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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	30.39	2.03	4.764	A	A
B	16.86	1.12	4.418	A	A
C	17.11	1.14	4.525	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	68.11	4.54	9.213	A	A
B	31.62	2.11	6.956	A	A
C	32.80	2.19	7.299	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	76.58	5.11	9.737	A	A
B	33.71	2.25	7.106	A	A
C	35.06	2.34	7.459	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	34.51	2.30	4.966	A	A
B	18.40	1.23	4.505	A	A
C	18.69	1.25	4.612	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.38	1.36	3.536	A	A
B	11.89	0.79	3.505	A	A
C	11.98	0.80	3.558	A	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]

Filename: A671_A59 with Site Access.arc8
Path: N:\Vectos Job Data\2019\VN91274 Whalley, Clitheroe\Arcady
Report generation date: 13/06/2019 09:30:13

Summary of junction performance

	AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC
	A1 - Base 2024 + Committed + Development			
Arm A	5.01	0.83	5.98	0.86
Arm B	4.67	0.82	2.55	0.72
Arm C	4.58	0.82	2.92	0.75
Arm D	0.08	0.08	0.09	0.08

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

"D1 - Base 2024 + Committed + Development, AM " model duration: 08:00 - 09:30
"D2 - Base 2024 + Committed + Development, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.6.541 at 13/06/2019 09:30:12

File summary

Title	(untitled)
Location	
Site Number	
Date	16/04/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office
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 2024 + Committed + Development, AM

Data Errors and Warnings

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

Analysis Set Details

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

Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Base 2024 + Committed + Development, AM	Base 2024 + Committed + Development	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	(untitled)	Roundabout	A,B,C,D				11.81	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	
D	D	Site Access	

Capacity Options

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	16.50	
D	3.50	7.90	30.00	40.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.528	2110.956
D		(calculated)	(calculated)	0.540	2166.190

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1728.00	100.000
B	ONE HOUR	✓	1193.00	100.000
C	ONE HOUR	✓	1108.00	100.000
D	ONE HOUR	✓	65.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	3.000	803.000	903.000	19.000
	B	1007.000	0.000	156.000	30.000
	C	889.000	197.000	0.000	22.000
	D	21.000	25.000	19.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.46	0.52	0.01
	B	0.84	0.00	0.13	0.03
	C	0.80	0.18	0.00	0.02
	D	0.32	0.38	0.29	0.00

Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.500	1.049	1.074	1.000
	B	1.068	1.000	1.041	1.000
	C	1.090	1.066	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	50.0	4.9	7.4	0.0
	B	6.8	0.0	4.1	0.0
	C	9.0	6.6	0.0	0.0
	D	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.83	9.73	5.01	A	1585.64	2378.46	245.67	6.20	2.73	245.69	6.20
B	0.82	13.21	4.67	B	1094.72	1642.08	216.56	7.91	2.41	216.58	7.91
C	0.82	13.99	4.58	B	1016.72	1525.08	211.83	8.33	2.35	211.85	8.33
D	0.08	4.24	0.08	A	59.65	89.47	5.25	3.52	0.06	5.25	3.52

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1300.93	325.23	1295.67	1438.46	180.59	0.00	2342.12	2010.86	0.555	0.00	1.31	3.636	A
B	898.15	224.54	893.87	768.43	707.83	0.00	1781.35	1461.45	0.504	0.00	1.07	4.290	A
C	834.16	208.54	829.99	808.22	793.48	0.00	1692.25	1427.11	0.493	0.00	1.04	4.503	A
D	48.94	12.23	48.78	53.20	1570.27	0.00	1318.23	742.80	0.037	0.00	0.04	2.835	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1553.44	388.36	1550.24	1721.46	216.13	0.00	2321.68	2010.87	0.669	1.31	2.11	4.934	A
B	1072.48	268.12	1069.69	919.46	846.91	0.00	1705.39	1461.45	0.629	1.07	1.77	5.991	A
C	996.07	249.02	993.33	967.05	949.55	0.00	1609.90	1427.11	0.619	1.04	1.73	6.300	A
D	58.43	14.61	58.37	63.67	1879.21	0.00	1151.40	742.80	0.051	0.04	0.05	3.293	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1902.56	475.64	1891.55	2096.26	263.38	0.00	2294.50	2010.86	0.829	2.11	4.87	9.242	A
B	1313.52	328.38	1302.68	1121.50	1033.43	0.00	1603.52	1461.45	0.819	1.77	4.48	12.293	B
C	1219.93	304.98	1209.34	1179.69	1156.42	0.00	1500.74	1427.11	0.813	1.73	4.38	12.940	B
D	71.57	17.89	71.45	77.57	2288.19	0.00	930.54	742.80	0.077	0.05	0.08	4.190	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1902.56	475.64	1901.99	2112.65	265.20	0.00	2293.46	2010.86	0.830	4.87	5.01	9.727	A
B	1313.52	328.38	1312.76	1128.13	1039.05	0.00	1600.45	1461.45	0.821	4.48	4.67	13.211	B
C	1219.93	304.98	1219.10	1186.50	1165.31	0.00	1496.04	1427.11	0.815	4.38	4.58	13.988	B
D	71.57	17.89	71.56	78.13	2306.28	0.00	920.77	742.80	0.078	0.08	0.08	4.238	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
A	1553.44	388.36	1564.73	1744.53	218.71	0.00	2320.20	2010.87	0.670	5.01	2.19	5.133	A
B	1072.48	268.12	1083.77	928.72	854.72	0.00	1701.13	1461.45	0.630	4.67	1.85	6.307	A
C	996.07	249.02	1007.16	976.51	961.98	0.00	1603.34	1427.11	0.621	4.58	1.81	6.663	A
D	58.43	14.61	58.55	64.46	1904.68	0.00	1137.64	742.80	0.051	0.08	0.05	3.335	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
A	1300.93	325.23	1304.32	1450.42	182.01	0.00	2341.30	2010.86	0.556	2.19	1.34	3.697	A
B	898.15	224.54	901.16	773.80	712.52	0.00	1778.79	1461.45	0.505	1.85	1.09	4.374	A
C	834.16	208.54	837.13	813.76	799.93	0.00	1688.85	1427.11	0.494	1.81	1.07	4.596	A
D	48.94	12.23	49.00	53.62	1583.43	0.00	1311.12	742.80	0.037	0.05	0.04	2.851	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.09	1.27	3.636	A	A
B	15.52	1.03	4.290	A	A
C	15.11	1.01	4.503	A	A
D	0.57	0.04	2.835	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	30.52	2.03	4.934	A	A
B	25.49	1.70	5.991	A	A
C	24.87	1.66	6.300	A	A
D	0.79	0.05	3.293	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service

A	66.46	4.43	9.242	A	A
B	60.22	4.01	12.293	B	B
C	58.78	3.92	12.940	B	B
D	1.22	0.08	4.190	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	74.32	4.95	9.727	A	A
B	68.91	4.59	13.211	B	B
C	67.55	4.50	13.988	B	B
D	1.25	0.08	4.238	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
A	34.61	2.31	5.133	A	A
B	29.50	1.97	6.307	A	A
C	28.98	1.93	6.663	A	A
D	0.83	0.06	3.335	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
A	20.68	1.38	3.697	A	A
B	16.92	1.13	4.374	A	A
C	16.53	1.10	4.596	A	A
D	0.59	0.04	2.851	A	A

(Default Analysis Set) - Base 2024 + Committed + Development, PM

Data Errors and Warnings

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

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Base 2024 + Committed + Development, PM	Base 2024 + Committed + Development	PM		ONE HOUR	16:30	18:00	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	A,B,C,D				9.68	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
A	A	A59 North	
B	B	A671	
C	C	A59 South	
D	D	Site Access	

Capacity Options

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

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.50	7.50	0.00	20.00	93.00	8.00	
B	3.20	6.75	87.00	40.00	94.00	0.00	
C	3.80	6.60	163.00	60.00	94.00	16.50	
D	3.50	7.90	30.00	40.00	94.00	8.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.575	2445.983
B		(calculated)	(calculated)	0.546	2167.966
C		(calculated)	(calculated)	0.528	2110.956
D		(calculated)	(calculated)	0.540	2166.190

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1787.00	100.000
B	ONE HOUR	✓	1074.00	100.000
C	ONE HOUR	✓	1060.00	100.000
D	ONE HOUR	✓	75.00	100.000

Turning Proportions

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

		To			
		A	B	C	D
From	A	3.000	939.000	823.000	22.000
	B	887.000	0.000	161.000	26.000
	C	853.000	187.000	0.000	20.000
	D	22.000	31.000	22.000	0.000

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

		To			
		A	B	C	D
From	A	0.00	0.53	0.46	0.01
	B	0.83	0.00	0.15	0.02
	C	0.80	0.18	0.00	0.02
	D	0.29	0.41	0.29	0.00

Vehicle Mix

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

		To			
		A	B	C	D
From	A	1.000	1.030	1.040	1.000
	B	1.018	1.000	1.006	1.000
	C	1.024	1.005	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.0	3.0	4.0	0.0
	B	1.8	0.0	0.6	0.0
	C	2.4	0.5	0.0	0.0
	D	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
A	0.86	11.29	5.98	B	1639.78	2459.67	277.89	6.78	3.09	277.91	6.78
B	0.72	7.89	2.55	A	985.52	1478.28	136.13	5.53	1.51	136.14	5.53
C	0.75	9.18	2.92	A	972.67	1459.01	150.53	6.19	1.67	150.54	6.19
D	0.08	3.84	0.09	A	68.82	103.23	5.63	3.27	0.06	5.63	3.27

Main Results for each time segment

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1345.35	336.34	1339.82	1323.28	179.96	0.00	2342.48	2004.29	0.574	0.00	1.38	3.694	A
B	808.56	202.14	805.31	867.47	652.31	0.00	1811.68	1530.74	0.446	0.00	0.81	3.621	A
C	798.02	199.51	794.59	754.29	703.33	0.00	1739.82	1409.51	0.459	0.00	0.86	3.871	A
D	56.46	14.12	56.29	50.98	1446.95	0.00	1384.83	734.90	0.041	0.00	0.04	2.709	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1606.48	401.62	1602.88	1583.67	215.37	0.00	2322.12	2004.30	0.692	1.38	2.28	5.150	A
B	965.50	241.38	963.76	1037.86	780.39	0.00	1741.72	1530.74	0.554	0.81	1.25	4.690	A
C	952.92	238.23	950.97	902.44	841.71	0.00	1666.80	1409.51	0.572	0.86	1.34	5.114	A
D	67.42	16.86	67.36	61.01	1731.67	0.00	1231.07	734.90	0.055	0.04	0.06	3.093	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1967.52	491.88	1953.63	1934.22	263.09	0.00	2294.67	2004.30	0.857	2.28	5.75	10.510	B
B	1182.50	295.62	1177.48	1265.46	951.26	0.00	1648.40	1530.74	0.717	1.25	2.50	7.684	A
C	1167.08	291.77	1161.02	1100.44	1028.30	0.00	1568.34	1409.51	0.744	1.34	2.86	8.885	A
D	82.58	20.64	82.46	74.46	2114.86	0.00	1024.15	734.90	0.081	0.06	0.09	3.822	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1967.52	491.88	1966.64	1942.93	264.20	0.00	2294.03	2004.30	0.858	5.75	5.98	11.290	B
B	1182.50	295.62	1182.30	1273.37	957.47	0.00	1645.01	1530.74	0.719	2.50	2.55	7.895	A
C	1167.08	291.77	1166.83	1107.19	1032.58	0.00	1566.09	1409.51	0.745	2.86	2.92	9.183	A
D	82.58	20.64	82.57	74.85	2124.55	0.00	1018.91	734.90	0.081	0.09	0.09	3.844	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1606.48	401.62	1620.91	1595.89	216.92	0.00	2321.22	2004.30	0.692	5.98	2.37	5.423	A
B	965.50	241.38	970.57	1048.84	788.99	0.00	1737.02	1530.74	0.556	2.55	1.29	4.801	A
C	952.92	238.23	959.07	911.81	847.76	0.00	1663.61	1409.51	0.573	2.92	1.39	5.256	A
D	67.42	16.86	67.54	61.55	1745.27	0.00	1223.72	734.90	0.055	0.09	0.06	3.115	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
A	1345.35	336.34	1349.18	1331.98	181.09	0.00	2341.83	2004.29	0.574	2.37	1.41	3.763	A
B	808.56	202.14	810.40	873.45	656.82	0.00	1809.22	1530.74	0.447	1.29	0.83	3.669	A
C	798.02	199.51	800.07	759.43	707.79	0.00	1737.47	1409.51	0.459	1.39	0.87	3.926	A
D	56.46	14.12	56.53	51.32	1456.54	0.00	1379.64	734.90	0.041	0.06	0.04	2.722	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:30-16:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	20.04	1.34	3.694	A	A
B	11.86	0.79	3.621	A	A
C	12.49	0.83	3.871	A	A
D	0.63	0.04	2.709	A	A

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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	32.82	2.19	5.150	A	A
B	18.19	1.21	4.690	A	A
C	19.52	1.30	5.114	A	A
D	0.86	0.06	3.093	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 (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	77.04	5.14	10.510	B	B
B	35.34	2.36	7.684	A	A
C	39.92	2.66	8.885	A	A
D	1.29	0.09	3.822	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	88.30	5.89	11.290	B	B
B	38.02	2.53	7.895	A	A
C	43.47	2.90	9.183	A	A
D	1.32	0.09	3.844	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	37.89	2.53	5.423	A	A
B	20.01	1.33	4.801	A	A
C	21.69	1.45	5.256	A	A
D	0.89	0.06	3.115	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	21.79	1.45	3.763	A	A
B	12.70	0.85	3.669	A	A

C	13.44	0.90	3.926	A	A
D	0.65	0.04	2.722	A	A

Appendix J

JUNCTIONS 8 Output – Clitheroe Road / Site Access Priority Junction

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]

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: Site Access_Clitheroe Road.arc8
Path: N:\Vectos Job Data\2019\VN91274 Whalley, Clitheroe\Picady
Report generation date: 05/06/2019 13:27:58

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Base 2024 + Committed + Development							
Stream B-AC	0.06	7.51	0.05	A	0.03	7.22	0.03	A
Stream C-AB	0.04	4.84	0.03	A	0.05	4.85	0.04	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - Base 2024 + Committed + Development, AM " model duration: 08:00 - 09:30
"D2 - Base 2024 + Committed + Development, PM" model duration: 16:30 - 18:00

Run using Junctions 8.0.6.541 at 05/06/2019 13:27:57

File summary

Title	(untitled)
Location	
Site Number	
Date	16/04/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office
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 2024 + Committed + Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
Base 2024 + Committed + Development, AM	Base 2024 + Committed + Development	AM		ONE HOUR	08:00	09:30	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		6.36	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Clitheroe Road North		Major
B	B	Site Access		Minor
C	C	Clitheroe Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.50		0.00		2.20	150.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.40										60	60

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	495.182	0.080	0.203	0.128	0.290
1	B-C	621.960	0.085	0.215	-	-
1	C-B	660.830	0.228	0.228	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	330.00	100.000
B	ONE HOUR	✓	25.00	100.000
C	ONE HOUR	✓	339.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	2.000	328.000
	B	4.000	0.000	21.000
	C	327.000	12.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.16	0.00	0.84
	C	0.96	0.04	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.066
	B	1.000	1.000	1.000
	C	1.036	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	6.6
	B	0.0	0.0	0.0
	C	3.6	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.05	7.51	0.06	A	22.94	34.41	4.13	7.20	0.05	4.13	7.20
C-AB	0.03	4.84	0.04	A	17.36	26.04	2.46	5.66	0.03	2.46	5.66
C-A	-	-	-	-	293.71	440.57	-	-	-	-	-
A-B	-	-	-	-	1.84	2.75	-	-	-	-	-
A-C	-	-	-	-	300.98	451.47	-	-	-	-	-

Main Results for each time segment

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	18.82	4.71	18.68	0.00	535.82	0.035	0.00	0.04	6.959	A
C-AB	13.01	3.25	12.93	0.00	765.05	0.017	0.00	0.02	4.837	A
C-A	242.21	60.55	242.21	0.00	-	-	-	-	-	-
A-B	1.51	0.38	1.51	0.00	-	-	-	-	-	-
A-C	246.94	61.73	246.94	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	22.47	5.62	22.44	0.00	523.63	0.043	0.04	0.04	7.182	A
C-AB	16.66	4.16	16.63	0.00	785.83	0.021	0.02	0.03	4.734	A
C-A	288.10	72.02	288.10	0.00	-	-	-	-	-	-
A-B	1.80	0.45	1.80	0.00	-	-	-	-	-	-
A-C	294.87	73.72	294.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	27.53	6.88	27.48	0.00	506.61	0.054	0.04	0.06	7.513	A
C-AB	22.39	5.60	22.35	0.00	814.49	0.027	0.03	0.04	4.606	A
C-A	350.86	87.71	350.86	0.00	-	-	-	-	-	-
A-B	2.20	0.55	2.20	0.00	-	-	-	-	-	-
A-C	361.13	90.28	361.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	27.53	6.88	27.52	0.00	506.61	0.054	0.06	0.06	7.513	A
C-AB	22.40	5.60	22.40	0.00	814.51	0.028	0.04	0.04	4.612	A
C-A	350.84	87.71	350.84	0.00	-	-	-	-	-	-
A-B	2.20	0.55	2.20	0.00	-	-	-	-	-	-
A-C	361.13	90.28	361.13	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	22.47	5.62	22.52	0.00	523.62	0.043	0.06	0.05	7.186	A
C-AB	16.67	4.17	16.71	0.00	785.85	0.021	0.04	0.03	4.746	A
C-A	288.08	72.02	288.08	0.00	-	-	-	-	-	-
A-B	1.80	0.45	1.80	0.00	-	-	-	-	-	-
A-C	294.87	73.72	294.87	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	18.82	4.71	18.86	0.00	535.82	0.035	0.05	0.04	6.963	A
C-AB	13.04	3.26	13.06	0.00	765.07	0.017	0.03	0.02	4.844	A
C-A	242.18	60.55	242.18	0.00	-	-	-	-	-	-
A-B	1.51	0.38	1.51	0.00	-	-	-	-	-	-
A-C	246.94	61.73	246.94	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.52	0.04	6.959	A	A
C-AB	0.30	0.02	4.837	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.65	0.04	7.182	A	A
C-AB	0.39	0.03	4.734	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.84	0.06	7.513	A	A
C-AB	0.53	0.04	4.606	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.86	0.06	7.513	A	A
C-AB	0.54	0.04	4.612	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.69	0.05	7.186	A	A
C-AB	0.39	0.03	4.746	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.56	0.04	6.963	A	A
C-AB	0.30	0.02	4.844	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

(Default Analysis Set) - Base 2024 + Committed + Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
Base 2024 + Committed + Development, PM	Base 2024 + Committed + Development	PM		ONE HOUR	16:30	18:00	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		5.70	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Clitheroe Road North		Major
B	B	Site Access		Minor
C	C	Clitheroe Road South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.50		0.00		2.20	150.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.40										60	60

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	495.182	0.080	0.203	0.128	0.290
1	B-C	621.960	0.085	0.215	-	-
1	C-B	660.830	0.228	0.228	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	316.00	100.000
B	ONE HOUR	✓	14.00	100.000
C	ONE HOUR	✓	338.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	3.000	313.000
	B	2.000	0.000	12.000
	C	322.000	16.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.14	0.00	0.86
	C	0.95	0.05	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.000	1.000	1.030
	B	1.000	1.000	1.000
	C	1.019	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	3.0
	B	0.0	0.0	0.0
	C	1.9	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.03	7.22	0.03	A	12.85	19.27	2.24	6.96	0.02	2.24	6.96
C-AB	0.04	4.85	0.05	A	22.97	34.45	3.44	5.99	0.04	3.44	5.99
C-A	-	-	-	-	287.19	430.78	-	-	-	-	-
A-B	-	-	-	-	2.75	4.13	-	-	-	-	-
A-C	-	-	-	-	287.21	430.82	-	-	-	-	-

Main Results for each time segment

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	10.54	2.63	10.46	0.00	541.44	0.019	0.00	0.02	6.780	A
C-AB	17.23	4.31	17.12	0.00	764.74	0.023	0.00	0.03	4.842	A
C-A	237.23	59.31	237.23	0.00	-	-	-	-	-	-
A-B	2.26	0.56	2.26	0.00	-	-	-	-	-	-
A-C	235.64	58.91	235.64	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	12.59	3.15	12.57	0.00	529.86	0.024	0.02	0.02	6.958	A
C-AB	22.04	5.51	22.01	0.00	785.43	0.028	0.03	0.04	4.744	A
C-A	281.81	70.45	281.81	0.00	-	-	-	-	-	-
A-B	2.70	0.67	2.70	0.00	-	-	-	-	-	-
A-C	281.38	70.35	281.38	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	15.41	3.85	15.39	0.00	513.71	0.030	0.02	0.03	7.223	A
C-AB	29.58	7.40	29.52	0.00	813.94	0.036	0.04	0.05	4.622	A
C-A	342.56	85.64	342.56	0.00	-	-	-	-	-	-
A-B	3.30	0.83	3.30	0.00	-	-	-	-	-	-
A-C	344.62	86.15	344.62	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	15.41	3.85	15.41	0.00	513.71	0.030	0.03	0.03	7.223	A
C-AB	29.60	7.40	29.60	0.00	813.96	0.036	0.05	0.05	4.626	A
C-A	342.55	85.64	342.55	0.00	-	-	-	-	-	-
A-B	3.30	0.83	3.30	0.00	-	-	-	-	-	-
A-C	344.62	86.15	344.62	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	12.59	3.15	12.61	0.00	529.86	0.024	0.03	0.02	6.959	A
C-AB	22.07	5.52	22.12	0.00	785.46	0.028	0.05	0.04	4.752	A
C-A	281.79	70.45	281.79	0.00	-	-	-	-	-	-
A-B	2.70	0.67	2.70	0.00	-	-	-	-	-	-
A-C	281.38	70.35	281.38	0.00	-	-	-	-	-	-

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

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-AC	10.54	2.63	10.56	0.00	541.44	0.019	0.02	0.02	6.783	A
C-AB	17.27	4.32	17.31	0.00	764.78	0.023	0.04	0.03	4.845	A
C-A	237.19	59.30	237.19	0.00	-	-	-	-	-	-
A-B	2.26	0.56	2.26	0.00	-	-	-	-	-	-
A-C	235.64	58.91	235.64	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.29	0.02	6.780	A	A
C-AB	0.41	0.03	4.842	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.36	0.02	6.958	A	A
C-AB	0.54	0.04	4.744	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.45	0.03	7.223	A	A
C-AB	0.75	0.05	4.622	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.46	0.03	7.223	A	A
C-AB	0.76	0.05	4.626	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.38	0.03	6.959	A	A
C-AB	0.55	0.04	4.752	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.31	0.02	6.783	A	A
C-AB	0.42	0.03	4.845	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-