

Full Input Data And Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	67.4%
J1: Station Road/Arundel Road/High Street	-	-	N/A	-	-		-	-	-	-	-	-	67.4%
1/1	Station Road (NE) Left Ahead	U	N/A	N/A	-		-	-	-	205	Inf	Inf	0.0%
2/1	High Street Right Left	O	N/A	N/A	-		-	-	-	279	1825	414	67.4%
3/1	Stn Road NB & High St Exit Ahead Right	O	N/A	N/A	-		-	-	-	721	1926	1575	45.8%
4/1	Station Road (SW) Left Ahead	U	N/A	N/A	-		-	-	-	699	Inf	Inf	0.0%
5/1	Stn Rd at Arundel Road Exit Right Ahead	O	N/A	N/A	-		-	-	-	354	1922	1402	25.3%
6/1	Arundel Road Exit	U	N/A	N/A	-		-	-	-	351	Inf	Inf	0.0%
7/1	Stn Road (NE) Exit	U	N/A	N/A	-		-	-	-	651	Inf	Inf	0.0%
8/1	High Street Exit	U	N/A	N/A	-		-	-	-	167	Inf	Inf	0.0%
9/1	Stn Road (SW) Exit	U	N/A	N/A	-		-	-	-	310	Inf	Inf	0.0%
10/1	Stn Road SB at Arundel Rd Ahead	U	N/A	N/A	A		1	43	-	163	1965	1441	11.3%
11/1	Stn Rd NB at High Street Ahead	U	N/A	N/A	-		-	-	-	487	Inf	Inf	0.0%
12/1	Stn Rd NB at Arundel Rd Ahead	U	N/A	N/A	B		1	43	-	392	1965	1441	27.2%
13/1+13/2	Arundel Road Left Right	O	N/A	N/A	-		-	-	-	286	1800:1800	384+773	24.7 : 24.7%
J2: Pedestrian crossing on Stn Road	-	-	N/A	-	-		-	-	-	-	-	-	19.9%

Full Input Data And Results

1/1	Station Rd (SB) Ahead	U	N/A	N/A	-		-	-	-	354	1965	1965	18.0%
2/1	Station Rd (NB) Ahead	U	N/A	N/A	-		-	-	-	392	1965	1965	19.9%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	C		1	4	-	0	-	4800	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	812	153	0	0.4	2.3	0.0	2.7	-	-	-	-
J1: Station Road/Arundel Road/High Street	-	-	812	153	0	0.4	2.0	0.0	2.4	-	-	-	-
1/1	295	295	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	279	279	279	0	0	0.0	1.0	-	1.0	13.1	0.3	1.0	1.3
3/1	721	721	70	0	0	0.0	0.4	-	0.4	2.2	2.6	0.4	3.0
4/1	699	699	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	354	354	44	0	0	0.0	0.2	-	0.2	1.7	0.0	0.2	0.2
6/1	351	351	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	651	651	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	157	157	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	310	310	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	163	163	-	-	-	0.1	0.1	-	0.2	3.8	0.8	0.1	0.8
11/1	487	487	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	392	392	-	-	-	0.3	0.2	-	0.5	4.4	2.1	0.2	2.3
13/1+13/2	286	286	419	153	0	0.0	0.2	-	0.2	2.1	0.2	0.2	0.4
J2: Pedestrian crossing on Stn Road	-	-	0	0	0	0.0	0.2	0.0	0.2	-	-	-	-
1/1	354	354	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	392	392	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

Full Input Data And Results

G1	PRC for Signalled Lanes (%):	230.8	Total Delay for Signalled Lanes (pcuHr):	0.65	Cycle Time (s):	60
	PRC Over All Lanes (%):	33.6	Total Delay Over All Lanes(pcuHr):	2.68		

Full Input Data And Results

Scenario 4: '2031 Ass' (FG6: '2031 PM Ass', Plan 1: 'Network Control Plan 1')

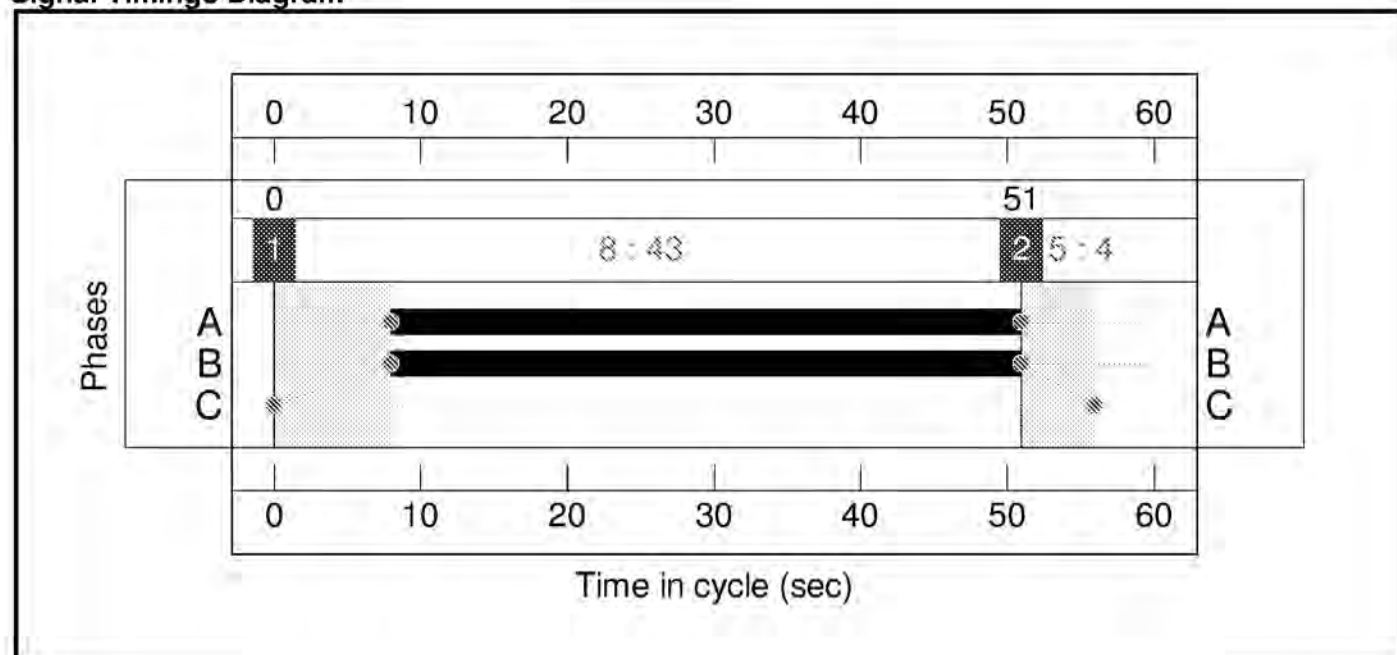
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	43	4
Change Point	0	51

Signal Timings Diagram



Full Input Data And Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	46.3%
J1: Station Road/Arundel Road/High Street	-	-	N/A	-	-		-	-	-	-	-	-	46.3%
1/1	Station Road (NE) Left Ahead	U	N/A	N/A	-		-	-	-	490	Inf	Inf	0.0%
2/1	High Street Right Left	O	N/A	N/A	-		-	-	-	157	1871	425	36.9%
3/1	Stn Road NB & High St Exit Ahead Right	O	N/A	N/A	-		-	-	-	456	1914	1280	35.6%
4/1	Station Road (SW) Left Ahead	U	N/A	N/A	-		-	-	-	438	Inf	Inf	0.0%
5/1	Stn Rd at Arundel Road Exit Right Ahead	O	N/A	N/A	-		-	-	-	608	1915	1313	46.3%
6/1	Arundel Road Exit	U	N/A	N/A	-		-	-	-	310	Inf	Inf	0.0%
7/1	Stn Road (NE) Exit	U	N/A	N/A	-		-	-	-	372	Inf	Inf	0.0%
8/1	High Street Exit	U	N/A	N/A	-		-	-	-	208	Inf	Inf	0.0%
9/1	Stn Road (SW) Exit	U	N/A	N/A	-		-	-	-	501	Inf	Inf	0.0%
10/1	Stn Road SB at Arundel Rd Ahead	U	N/A	N/A	A		1	43	-	446	1965	1441	31.0%
11/1	Stn Rd NB at High Street Ahead	U	N/A	N/A	-		-	-	-	379	Inf	Inf	0.0%
12/1	Stn Rd NB at Arundel Rd Ahead	U	N/A	N/A	B		1	43	-	285	1965	1441	19.8%
13/1+13/2	Arundel Road Left Right	O	N/A	N/A	-		-	-	-	256	1800:1800	418+720	22.5 : 22.5%
J2: Pedestrian crossing on Stn Road	-	-	N/A	-	-		-	-	-	-	-	-	30.9%

Full Input Data And Results

1/1	Station Rd (SB) Ahead	U	N/A	N/A	-		-	-	-	608	1965	1965	30.9%
2/1	Station Rd (NB) Ahead	U	N/A	N/A	-		-	-	-	285	1965	1965	14.5%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	C		1	4	-	0	-	4800	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	723	137	0	0.6	1.8	0.0	2.4	-	-	-	-
J1: Station Road/Arundel Road/High Street	-	-	723	137	0	0.6	1.5	0.0	2.1	-	-	-	-
1/1	490	490	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	157	157	157	0	0	0.0	0.3	-	0.3	6.7	0.0	0.3	0.3
3/1	456	456	84	0	0	0.0	0.3	-	0.3	2.2	1.4	0.3	1.7
4/1	498	498	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	608	608	107	0	0	0.0	0.4	-	0.5	2.8	3.1	0.4	3.6
6/1	310	310	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	372	372	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	208	208	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	501	501	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	446	446	-	-	-	0.3	0.2	-	0.6	4.6	2.5	0.2	2.7
11/1	379	379	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	285	285	-	-	-	0.2	0.1	-	0.3	4.1	1.4	0.1	1.5
13/1+13/2	256	256	375	137	0	0.0	0.1	-	0.2	2.2	0.4	0.1	0.5
J2: Pedestrian crossing on Stn Road	-	-	0	0	0	0.0	0.3	0.0	0.3	-	-	-	-
1/1	608	608	-	-	-	0.0	0.2	-	0.2	1.3	1.1	0.2	1.3
2/1	285	285	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

Full Input Data And Results

G1	PRC for Signalled Lanes (%):	190.8	Total Delay for Signalled Lanes (pcuHr):	0.89	Cycle Time (s):	60
	PRC Over All Lanes (%):	94.3	Total Delay Over All Lanes(pcuHr):	2.41		

APPENDIX 7

PICADY Output for Water Lane/A280

(Existing & Proposed)

Junctions 9							
PICADY 9 - Priority Intersection Module							
Version: 9.5.0.6896							
© Copyright TRL Limited, 2018							
For a full and complete information on the modules and interfaces, contact TRL TRL, 177-179, 177-179, 177-179, 177-179, 177-179, 177-179, 177-179, 177-179							
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution							

Filename: A280 Angmering_Water Lane - July 19.j9
Path: Z:\projects\2020 Arundel Road, Angmering\Picady\July 19
Report generation date: 30/07/2019 15:09:35

- *2031 Base Flows, AM
- *2031 Base Flows, PM
- *2031 Assessment Flows, AM
- *2031 Assessment Flows, PM

Summary of junction performance

	AM					PM			
	Queue (PCU)	Delay (s)	RFC	LOS		Queue (PCU)	Delay (s)	RFC	LOS
2031 Base Flows									
Stream B-AC	1.6	13.32	0.62	B		1.6	13.32	0.62	B
Stream C-B	2.4	18.72	0.71	C		1.6	13.32	0.62	B
2031 Assessment Flows									
Stream B-AC	1.6	13.32	0.62	B		1.8	14.23	0.64	B
Stream C-B	2.4	18.71	0.71	C		1.6	13.32	0.62	B

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

File summary

File Description

Title	A280 Angmering/Water Lane
Location	Angmering
Site number	
Date	12/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	2020
Enumerator	Croft Transport Solutions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base Flows	AM	ONE HOUR	07:45	09:15	15
D2	2031 Base Flows	PM	ONE HOUR	16:45	18:15	15
D3	2031 Assessment Flows	AM	ONE HOUR	07:45	09:15	15
D4	2031 Assessment Flows	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2031 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		163.41	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A280 Angmering Bypass (South)		Major
B	Water Lane		Minor
C	A280 Angmering Bypass (North)		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	12.21	✓	7.94	✓	3.80	130.0		-

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)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.97	154	184

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	806	0.091	0.230	0.145	0.329
1	B-C	812	0.091	0.230	-	-
1	C-B	762	0.216	0.216	-	-

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 Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base Flows	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	383	100.000
B		✓	780	100.000
C		✓	861	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	22	361
	B	0	0	780
	C	425	436	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-A	1.20	307.61	81.8	D
C-A				
C-B	0.71	18.72	2.4	C
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-A	587	748	0.785	574	3.3	19.473	D
C-A	320			320			
C-B	328	700	0.469	325	0.9	9.516	B
A-B	17			17			
A-C	272			272			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	701	735	0.954	676	9.6	47.837	E
C-A	382			382			
C-B	392	688	0.570	390	1.3	12.028	B
A-B	20			20			
A-C	325			325			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	859	718	0.836	713	46.2	155.817	F
C-A	468			468			
C-B	480	671	0.715	476	2.4	18.023	C
A-B	24			24			
A-C	397			397			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	859	718	0.836	717	81.2	323.953	F
C-A	468			468			
C-B	480	671	0.715	480	2.4	18.724	C
A-B	24			24			
A-C	397			397			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	701	735	0.954	726	76.8	387.811	F
C-A	382			382			
C-B	392	688	0.570	396	1.4	12.518	B
A-B	20			20			
A-C	325			325			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	587	748	0.785	738	37.6	273.273	F
C-A	320			320			
C-B	328	700	0.469	330	0.9	9.786	A
A-B	17			17			
A-C	272			272			

2031 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		263.25	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2031 Base Flows	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	441	100.000
B		✓	397	100.000
C		✓	1281	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	46	395
	B	0	0	397
	C	495	786	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.62	13.32	1.6	B
C-A				
C-B	1.32	835.64	180.3	F
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	299	740	0.404	296	0.7	8.061	A
C-A	373			373			
C-B	592	691	0.857	572	4.8	27.160	B
A-B	35			35			
A-C	297			297			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	357	726	0.491	356	0.9	9.684	A
C-A	445			445			
C-B	707	677	1.044	653	18.3	80.783	F
A-B	41			41			
A-C	355			355			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	437	707	0.618	435	1.6	13.088	B
C-A	545			545			
C-B	865	658	1.316	656	76.7	257.529	F
A-B	51			51			
A-C	435			435			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	437	707	0.618	437	1.6	13.318	B
C-A	545			545			
C-B	865	658	1.316	657	122.7	603.689	F
A-B	51			51			
A-C	435			435			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	357	726	0.491	359	1.0	9.872	A
C-A	445			445			
C-B	707	677	0.044	676	138.2	576.638	F
AB	41			41			
AC	355			355			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	299	740	0.404	300	0.7	8.202	A
C-A	373			373			
C-B	592	691	0.857	685	166.3	523.746	F
AB	35			35			
AC	297			297			

2031 Assessment Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		691.28	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2031 Assessment Flows	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	383	100.000
B		✓	805	100.000
C		✓	861	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A	B	C
	A	0	22	361
	B	0	0	805
	C	425	436	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.23	18.71	97.3	F
C-A				
C-B	0.71	18.71	2.4	C
AB				
AC				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	606	748	0.811	591	3.8	21.293	C
C-A	320			320			
C-B	328	700	0.469	325	0.9	9.507	A
AB	17			17			
AC	272			272			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	724	735	0.984	690	12.2	26.797	F
C-A	382			382			
C-B	392	688	0.570	390	1.3	12.016	B
AB	20			20			
AC	325			325			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	886	718	1.234	715	55.9	183.737	F
C-A	468			468			
C-B	480	671	0.715	476	2.4	18.005	C
AB	24			24			
AC	397			397			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	886	718	1.234	718	97.3	386.896	F
C-A	468			468			
C-B	480	671	0.715	480	2.4	18.705	C
AB	24			24			
AC	397			397			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	724	735	0.984	729	98.1	476.732	F
C-A	382			382			
C-B	392	688	0.570	396	1.4	12.507	B
AB	20			20			
AC	325			325			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	606	748	0.811	740	92.5	347.536	F
C-A	320			320			
C-B	328	700	0.469	330	0.9	9.778	A
AB	17			17			
AC	272			272			

2031 Assessment Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		251.92	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2031 Assessment Flows	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	441	100.000
B		✓	413	100.000
C		✓	1281	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A	B	C
	A	0	46	395
	B	0	0	413
	C	495	786	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.64	14.23	1.8	B
C-A				
C-B	1.32	675.88	13003	F
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	311	740	0.420	308	0.7	8.277	A
C-A	373			373			
C-B	592	691	0.857	572	4.8	27.138	B
AB	35			35			
AC	297			297			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	371	726	0.511	370	1.0	10.066	B
C-A	445			445			
C-B	707	677	1.044	653	18.3	89.722	F
AB	41			41			
AC	355			355			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	455	707	0.643	452	1.7	13.942	B
C-A	545			545			
C-B	865	658	1.316	656	26.7	257.587	F
AB	51			51			
AC	435			435			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	455	707	0.643	455	1.8	14.229	B
C-A	545			545			
C-B	865	658	1.316	657	122.7	623.627	F
AB	51			51			
AC	435			435			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	371	726	0.511	374	1.1	10.299	B
C-A	445			445			
C-B	707	677	0.044	676	138.2	675.380	F
AB	41			41			
AC	355			355			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	311	740	0.420	312	0.7	8.439	A
C-A	373			373			
C-B	592	691	0.857	685	166.3	623.692	F
AB	35			35			
AC	297			297			

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.0.6896 © Copyright TRL Limited, 2018
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Filename: Water Lane - A280 - July 19.j9
Path: Z:\projects\2020 Arundel Road, Angmering\Arcady\July 19
Report generation date: 30/07/2019 15:20:25

- *2031 Base Flows, AM
- *2031 Base Flows, PM
- *2031 Assessment Flows, AM
- *2031 Assessment Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2031 Base Flows								
Arm 1	0.3	2.77	0.24	A	0.4	3.23	0.28	A
Arm 2	2.1	7.03	0.68	A	0.7	3.80	0.40	A
Arm 3	1.0	3.82	0.50	A	2.5	6.65	0.72	A
2031 Assessment Flows								
Arm 1	0.3	2.78	0.25	A	0.4	3.26	0.28	A
Arm 2	2.3	7.56	0.70	A	0.7	3.90	0.42	A
Arm 3	1.0	3.85	0.50	A	2.6	6.70	0.72	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	05/07/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Cadworkstation4\Kyle
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15
D2	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15
D3	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15
D4	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2031 Base Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	5.08	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A280 South	
2	Water Lane	
3	A280 North	

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
1	3.65	7.00	43.0	30.0	40.0	11.0	
2	3.50	7.00	23.0	25.0	40.0	16.0	
3	4.96	7.00	36.0	25.0	40.0	32.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.742	2076
2	0.695	1877
3	0.709	2032

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	378	100.000
2		✓	996	100.000
3		✓	854	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1	2	3	
From	1	0	27	351
	2	192	0	804
	3	411	443	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1	2	3	
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.24	2.77	0.3	A
2	0.68	7.03	2.1	A
3	0.50	3.82	1.0	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	285	332	1830	0.156	284	0.2	2.327	A
2	750	264	1694	0.443	747	0.8	3.787	A
3	643	144	1930	0.333	641	0.5	2.791	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	340	398	1781	0.191	340	0.2	2.497	A
2	895	315	1658	0.540	894	1.2	4.701	A
3	768	172	1910	0.402	767	0.7	3.150	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	416	487	1715	0.243	416	0.3	2.771	A
2	1097	386	1609	0.682	1093	2.1	6.928	A
3	940	211	1882	0.499	939	1.0	3.812	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	416	488	1714	0.243	416	0.3	2.772	A
2	1097	386	1609	0.682	1097	2.1	7.027	A
3	940	211	1882	0.500	940	1.0	3.823	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	340	399	1780	0.191	340	0.2	2.499	A
2	895	316	1658	0.540	899	1.2	4.767	B
3	768	173	1909	0.402	769	0.7	3.164	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	285	334	1828	0.156	285	0.2	2.331	A
2	750	264	1693	0.443	751	0.8	3.826	A
3	643	145	1929	0.333	644	0.5	2.804	A

2031 Base Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	5.31	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	384	100.000
2		✓	586	100.000
3		✓	1263	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1	2	3	
From	1	0	13	371
	2	128	0	458
	3	601	662	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1	2	3	
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.28	3.23	0.4	A
2	0.40	3.80	0.7	A
3	0.72	6.65	2.5	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	289	496	1708	0.169	288	0.2	2.534	A
2	441	279	1684	0.262	440	0.4	2.892	A
3	951	96	1964	0.484	947	0.9	3.530	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	345	594	1635	0.211	345	0.3	2.789	A
2	527	333	1646	0.320	526	0.5	3.214	A
3	1135	115	1950	0.582	1134	1.4	4.400	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	423	727	1537	0.275	422	0.4	3.227	A
2	645	408	1594	0.405	644	0.7	3.788	A
3	1391	141	1932	0.720	1386	2.5	6.541	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	423	729	1536	0.275	423	0.4	3.234	A
2	645	408	1593	0.405	645	0.7	3.795	A
3	1391	141	1932	0.720	1390	2.5	6.647	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	345	597	1633	0.211	346	0.3	2.796	A
2	527	334	1645	0.320	528	0.5	3.223	A
3	1135	115	1950	0.582	1140	1.4	4.469	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	289	499	1706	0.169	289	0.2	2.543	A
2	441	280	1683	0.262	442	0.4	2.902	A
3	951	96	1963	0.484	953	0.9	3.569	A

2031 Assessment Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	5.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	382	100.000
2		✓	1029	100.000
3		✓	854	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1	2	3	
From	1	0	31	351
	2	201	0	828
	3	411	443	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1	2	3	
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.25	2.78	0.3	A
2	0.70	7.56	2.3	A
3	0.50	3.85	1.0	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	288	332	1830	0.157	287	0.2	2.332	A
2	775	264	1694	0.457	771	0.8	3.887	A
3	643	151	1925	0.334	641	0.5	2.802	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	343	398	1781	0.193	343	0.2	2.503	A
2	925	315	1658	0.558	923	1.2	4.889	A
3	768	180	1904	0.403	767	0.7	3.166	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	421	487	1715	0.245	420	0.3	2.780	A
2	1133	386	1609	0.704	1129	2.3	7.430	A
3	940	220	1876	0.501	939	1.0	3.840	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	421	488	1714	0.245	421	0.3	2.782	A
2	1133	386	1609	0.704	1133	2.3	7.560	A
3	940	221	1875	0.501	940	1.0	3.853	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	343	399	1780	0.193	344	0.2	2.508	A
2	925	316	1658	0.558	929	1.3	4.972	A
3	768	182	1903	0.403	769	0.7	3.181	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	288	334	1828	0.157	288	0.2	2.338	A
2	775	264	1693	0.457	776	0.8	3.932	A
3	643	152	1924	0.334	644	0.5	2.815	A

2031 Assessment Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	5.35	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	392	100.000
2		✓	608	100.000
3		✓	1263	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1	2	3	
From	1	0	21	371
	2	134	0	474
	3	601	662	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1	2	3	
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.28	3.26	0.4	A
2	0.42	3.90	0.7	A
3	0.72	6.70	2.6	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	295	496	1708	0.173	294	0.2	2.545	A
2	458	279	1684	0.272	456	0.4	2.929	A
3	951	101	1961	0.485	947	0.9	3.539	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	352	594	1635	0.215	352	0.3	2.805	A
2	547	333	1646	0.332	546	0.5	3.272	A
3	1135	120	1947	0.583	1134	1.4	4.418	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	432	726	1537	0.281	431	0.4	3.252	A
2	669	408	1594	0.420	669	0.7	3.887	A
3	1391	147	1927	0.721	1386	2.5	6.595	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	432	729	1536	0.281	432	0.4	3.260	A
2	669	408	1593	0.420	669	0.7	3.896	A
3	1391	148	1927	0.722	1390	2.6	6.701	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	352	598	1633	0.216	353	0.3	2.814	A
2	547	334	1645	0.332	547	0.5	3.281	A
3	1135	121	1946	0.583	1140	1.4	4.490	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	295	499	1706	0.173	295	0.2	2.554	A
2	458	280	1683	0.272	458	0.4	2.940	A
3	951	101	1960	0.485	953	0.9	3.581	A

APPENDIX 8

ARCADY Output for A529 New Road/Station Road/Roundstone Bypass Road/B2140

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896

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Filename: Station Road_Roundstone Bypass Road_B2140_A529 New Road - July 19.j9

Path: Z:\projects\2020 Arundel Road, Angmering\Arcady\July 19

Report generation date: 30/07/2019 14:41:26

*2031 Base Flows, AM

*2031 Base Flows, PM

*2031 Assessment Flows, AM

*2031 Assessment Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2031 Base Flows								
Arm 1	86.1	379.14	1.23	F	10.6	87.54	0.85	F
Arm 2	164.3	500.47	1.23	F	510.1	557.17	1.31	F
Arm 3	4.7	38.09	0.84	E	3.5	32.34	0.79	E
Arm 4	9.5	14.74	0.91	B	3.7	6.13	0.79	A
2031 Assessment Flows								
Arm 1	104.6	450.41	1.35	F	14.8	88.54	0.93	F
Arm 2	167.7	515.66	1.23	F	249.3	613.67	1.32	F
Arm 3	4.7	35.21	0.84	E	3.7	33.30	0.80	E
Arm 4	10.0	15.54	0.92	C	3.9	6.40	0.80	A

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

File summary

File Description

Title	Station Road_Roundstone Bypass Road_B2140_A529 New Road
Location	Angmering
Site number	
Date	12/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	2020
Enumerator	Croft Transport Solutions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base Flows	AM	ONE HOUR	07:45	09:15	15
D2	2031 Base Flows	PM	ONE HOUR	16:45	18:15	15
D3	2031 Assessment Flows	AM	ONE HOUR	07:45	09:15	15
D4	2031 Assessment Flows	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2031 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	253.28	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Station Road	
2	Roundstone Bypass Road	
3	B2140	
4	A529 New Road	

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
1	4.54	7.92	9.5	16.8	45.5	33.0	
2	4.30	8.63	7.4	20.5	45.5	36.0	
3	3.43	7.40	5.9	19.9	45.5	6.0	
4	9.60	9.89	0.2	26.2	45.5	27.0	

Slope / Intercept / Capacity

Roundabout Slope and intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.643	1818
2	0.625	1724
3	0.619	1536
4	0.884	2989

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base Flows	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	684	100.000
2		✓	1308	100.000
3		✓	454	100.000
4		✓	2223	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	112	123	449
	2	28	0	59	1221
	3	208	84	1	161
	4	565	1303	339	16

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	1.29	373.18	36.1	F
2	1.22	500.47	164.3	F
3	0.84	36.35	4.7	E
4	0.51	14.74	9.5	B

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	515	1307	977	0.527	511	1.1	7.643	A
2	985	694	1290	0.763	972	3.1	10.938	B
3	342	1276	747	0.458	338	0.8	8.744	A
4	1674	239	2777	0.603	1668	1.5	3.227	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	1563	813	0.756	608	2.9	16.983	C
2	1176	828	1207	0.679	1134	13.5	36.877	E
3	408	1496	611	0.668	404	1.9	17.059	C
4	1998	285	2737	0.730	1994	2.7	4.814	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	753	1899	597	1.252	589	44.7	169.202	F
2	1440	880	1174	1.227	1170	81.7	155.443	F
3	500	1521	595	0.840	490	4.3	31.633	D
4	2448	341	2687	0.911	2423	8.8	12.608	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	753	1917	585	1.287	585	86.1	379.106	F
2	1440	880	1174	1.227	1174	147.7	362.952	F
3	500	1522	595	0.841	498	4.7	36.559	D
4	2448	347	2682	0.932	2445	9.5	14.744	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	615	1588	796	0.772	787	43.0	223.551	F
2	1176	983	1110	1.059	1109	154.3	505.470	F
3	408	1591	552	0.739	415	3.1	27.328	D
4	1998	291	2731	0.732	2025	2.8	5.290	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	515	1317	971	0.530	682	1.2	23.342	C
2	985	839	1200	0.821	1192	112.4	415.813	F
3	342	1599	547	0.625	347	1.7	18.446	C
4	1674	250	2768	0.605	1679	1.5	3.320	A

2031 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	294.50	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2031 Base Flows	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	534	100.000
2		✓	1469	100.000
3		✓	378	100.000
4		✓	1990	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	59	79	396
	2	25	0	68	1376
	3	102	97	0	179
	4	394	1357	215	24

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		1	2	3	4
	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.95	87.64	10.6	F
2	1.31	567.17	210.1	F
3	0.79	32.34	3.5	D
4	0.79	6.13	3.7	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	402	1270	1001	0.402	399	0.7	5.957	A
2	1106	535	1390	0.796	1091	3.7	11.544	B
3	285	1355	698	0.408	282	0.7	8.598	A
4	1498	167	2841	0.527	1494	1.1	2.663	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	480	1519	841	0.571	478	1.3	9.838	A
2	1321	639	1325	0.997	1265	17.6	45.147	F
3	340	1582	558	0.609	337	1.5	16.054	D
4	1789	199	2813	0.636	1786	1.7	3.497	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	588	1856	624	0.942	560	8.2	44.398	F
2	1617	761	1249	1.255	1247	119.3	193.856	F
3	416	1631	527	0.789	409	3.3	28.824	D
4	2191	237	2780	0.788	2184	3.6	5.964	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	588	1864	619	0.949	578	10.6	67.336	F
2	1617	778	1238	1.306	1238	205.2	456.756	F
3	416	1636	524	0.794	415	3.5	32.338	D
4	2191	240	2777	0.789	2191	3.7	6.133	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	480	1530	834	0.575	517	1.4	12.625	B
2	1321	675	1302	1.014	1301	219.1	567.172	F
3	340	1645	518	0.656	346	2.0	21.572	D
4	1789	204	2808	0.637	1797	1.8	3.586	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	402	1277	996	0.403	405	0.7	6.113	A
2	1106	540	1387	0.798	1380	141.6	458.623	B
3	285	1634	525	0.542	288	1.2	15.368	C
4	1498	175	2834	0.529	1501	1.1	2.706	A

2031 Assessment Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	225.32	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2031 Assessment Flows	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	718	100.000
2		✓	1317	100.000
3		✓	455	100.000
4		✓	2228	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	131	126	461
	2	37	0	59	1221
	3	209	84	1	161
	4	570	1303	339	16

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1	2	3	4
	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	1.35	480.41	104.6	F
2	1.23	518.68	167.7	F
3	0.84	35.21	4.7	E
4	0.82	15.54	10.0	E

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	541	1307	977	0.553	536	1.2	8.065	A
2	992	705	1284	0.772	979	3.2	11.372	B
3	343	1291	738	0.464	339	0.9	8.961	A
4	1677	247	2771	0.605	1671	1.5	3.258	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	645	1563	813	0.794	636	3.5	19.458	C
2	1184	840	1200	0.987	1136	15.3	40.324	E
3	409	1508	603	0.678	404	2.0	17.714	B
4	2003	293	2730	0.734	1998	2.7	4.889	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	791	1898	597	1.324	591	33.2	188.075	F
2	1450	871	1180	1.225	1176	33.7	161.242	F
3	501	1521	595	0.841	491	4.4	31.920	C
4	2453	351	2679	0.916	2427	9.2	13.122	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	791	1916	585	1.350	585	104.6	450.412	F
2	1450	870	1181	1.228	1180	151.2	370.254	F
3	501	1521	596	0.841	499	4.7	35.211	B
4	2453	356	2674	0.917	2450	10.0	15.538	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	645	1590	796	0.811	788	59.0	385.327	F
2	1184	969	1119	1.058	1118	167.7	515.891	F
3	409	1588	553	0.739	416	3.1	27.275	C
4	2003	300	2724	0.735	2032	2.8	5.412	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	541	1317	971	0.557	811	1.3	80.623	F
2	992	932	1142	0.838	1135	131.8	478.648	F
3	343	1617	536	0.639	347	1.9	19.579	C
4	1677	256	2762	0.607	1682	1.6	3.349	A

2031 Assessment Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	225.00	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2031 Assessment Flows	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	555	100.000
2		✓	1485	100.000
3		✓	380	100.000
4		✓	2000	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	71	80	404
	2	41	0	68	1376
	3	104	97	0	179
	4	404	1357	215	24

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1	2	3	4
	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.99	88.54	14.8	F
2	1.32	413.67	223.3	F
3	0.80	33.30	3.7	D
4	0.80	6.40	3.9	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	418	1270	1001	0.417	415	0.7	6.113	A
2	1118	541	1386	0.807	1102	3.9	12.111	B
3	286	1372	687	0.416	283	0.7	8.849	A
4	1506	180	2829	0.532	1501	1.1	2.702	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	499	1519	841	0.593	496	1.4	10.352	B
2	1335	647	1320	1.312	1269	20.3	48.816	E
3	342	1594	550	0.621	338	1.6	16.713	C
4	1798	214	2800	0.642	1795	1.8	3.576	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	611	1856	624	0.978	575	10.5	80.170	F
2	1635	763	1247	1.311	1245	412.7	208.244	F
3	418	1633	526	0.796	411	3.4	29.604	D
4	2202	252	2766	0.796	2194	3.8	6.206	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	611	1863	619	0.957	594	14.8	88.540	F
2	1635	781	1236	1.322	1236	217.5	486.726	F
3	418	1638	523	0.800	417	3.7	33.300	D
4	2202	255	2764	0.797	2202	3.9	6.400	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	499	1530	834	0.598	552	1.5	15.212	C
2	1335	697	1288	1.036	1288	223.3	513.670	F
3	342	1652	514	0.665	348	2.1	22.416	C
4	1798	220	2795	0.643	1806	1.8	3.669	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	418	1278	996	0.419	421	0.7	6.293	A
2	1118	647	1382	0.809	1376	169.8	516.715	B
3	286	1638	523	0.547	290	1.2	15.634	C
4	1506	191	2820	0.534	1508	1.2	2.752	A

APPENDIX 9

ARCADY Output for A280/Chips Away/Roundstone Bypass Road/A529/B2140 Old Worthing Road

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A280 Chips Away+A529 (E)_B2140 Old Worthing Road_Roundstone Bypass Road - July 19.j9

Path: Z:\projects\2020 Arundel Road, Angmering\Arcady\July 19

Report generation date: 30/07/2019 14:15:44

*2031 Base Flows, AM

*2031 Base Flows, PM

*2031 Assessment Flows, AM

*2031 Assessment Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2031 Base Flows								
Arm 1	1.7	13.48	0.64	B	1.8	12.15	0.64	B
Arm 2	0.2	104.16	0.21	F	0.1	48.73	0.11	E
Arm 3	1.4	3.53	0.58	A	2.3	5.16	0.70	A
Arm 4	2.3	13.97	0.70	B	0.5	7.11	0.33	A
Arm 5	133.6	272.60	1.17	F	88.7	112.43	1.05	F
2031 Assessment Flows								
Arm 1	1.7	13.52	0.64	B	1.8	12.20	0.65	B
Arm 2	0.2	128.97	0.22	F	0.1	48.35	0.11	E
Arm 3	1.4	3.56	0.59	A	2.4	5.25	0.71	A
Arm 4	2.4	14.19	0.71	B	0.5	7.20	0.34	A
Arm 5	141.6	294.32	1.18	F	89.3	119.19	1.06	F

There are warnings associated with one or more model runs. See the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	Roundstone Bypass/A280/Chips Away/A529 (E)/B2140 Old Worthing Road
Location	
Site number	
Date	12/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Cadworkstation4\Kyle
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base Flows	AM	ONE HOUR	07:45	09:15	15
D2	2031 Base Flows	PM	ONE HOUR	16:45	18:15	15
D3	2031 Assessment Flows	AM	ONE HOUR	07:45	09:15	15
D4	2031 Assessment Flows	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2031 Base Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	156.23	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A280	
2	Chips Away	
3	A259 (E)	
4	B2140 Old Worthing Road	
5	Roundstone Bypass Road	

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
1	3.69	7.08	14.0	20.4	70.0	41.0	
2	3.00	7.00	0.1	20.0	70.1	40.0	
3	8.59	10.31	4.1	37.8	70.1	45.0	
4	4.29	6.62	10.8	18.4	70.1	37.0	
5	3.41	7.49	35.4	20.4	70.1	38.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.486	1634
2	0.369	887
3	0.663	2744
4	0.494	1669
5	0.528	1884

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base Flows	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	427	100.000
2		✓	7	100.000
3		✓	1298	100.000
4		✓	557	100.000
5		✓	1578	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	3	35	68	321
	2	0	0	7	0	0
	3	119	0	20	157	1002
	4	67	0	472	1	17
	5	198	9	1353	9	9

Vehicle Mix

Heavy Vehicle Percentages

		To				
From		1	2	3	4	5
	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	13.48	1.7	B
2	0.21	123.15	0.2	F
3	0.58	3.53	1.4	A
4	0.70	13.97	2.3	B
5	1.17	272.80	133.6	E

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	321	1399	953	0.337	319	0.5	5.660	A
2	5	1709	256	0.021	5	0.0	14.390	B
3	977	305	2542	0.384	975	0.6	2.292	A
4	419	1104	1124	0.373	417	0.6	5.077	A
5	1188	509	1616	0.735	1177	2.7	8.024	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	384	1664	824	0.466	382	0.9	8.121	A
2	6	2036	135	0.047	6	0.0	27.981	B
3	1167	365	2502	0.466	1166	0.9	2.692	A
4	501	1320	1017	0.492	499	1.0	6.934	A
5	1419	609	1563	0.698	1398	7.9	19.656	C

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	470	1835	741	0.634	467	1.7	12.975	B
2	8	2291	41	0.189	7	0.2	105.053	F
3	1429	443	2451	0.583	1427	1.4	3.509	A
4	613	1614	872	0.703	608	2.3	13.380	B
5	1737	742	1493	1.164	1483	71.6	105.979	F

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	470	1845	737	0.638	470	1.7	13.476	B
2	8	2303	36	0.212	8	0.2	124.351	F
3	1429	446	2449	0.584	1429	1.4	3.529	A
4	613	1618	870	0.705	613	2.3	13.970	B
5	1737	747	1490	1.166	1489	133.6	251.870	F

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	384	1801	758	0.507	387	1.0	9.769	A
2	6	2176	83	0.076	7	0.1	47.653	E
3	1167	371	2499	0.467	1169	0.9	2.712	A
4	501	1327	1014	0.494	506	1.0	7.163	A
5	1419	616	1559	0.910	1548	161.2	272.798	F

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	321	1753	781	0.412	323	0.7	7.880	A
2	5	2065	124	0.042	5	0.0	30.365	B
3	977	313	2537	0.385	978	0.6	2.312	A
4	419	1112	1120	0.374	421	0.6	5.160	A
5	1188	513	1614	0.736	1579	3.6	116.058	F

2031 Base Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	50.46	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2031 Base Flows	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	487	100.000
2		✓	8	100.000
3		✓	1490	100.000
4		✓	231	100.000
5		✓	1551	100.000

Origin-Destination Data

Demand (PCU/hr)

		To					
From		1	2	3	4	5	
	1	0	0	30	142	315	
	2	0	0	5	0	3	
	3	145	7	91	186	1061	
	4	36	0	176	0	19	
	5	254	0	1194	52	51	

Vehicle Mix

Heavy Vehicle Percentages

		To				
From		1	2	3	4	5
	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	12.15	1.8	E
2	0.11	48.73	0.1	E
3	0.70	5.16	2.3	A
4	0.33	7.11	0.5	A
5	1.05	112.43	53.7	E

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	367	1175	1062	0.345	365	0.5	5.144	A
2	6	1534	320	0.019	6	0.0	11.455	B
3	1122	421	2465	0.455	1118	0.8	2.666	A
4	174	1255	1049	0.166	173	0.2	4.109	A
5	1168	341	1704	0.685	1159	2.1	6.507	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	438	1403	951	0.460	437	0.8	6.978	A
2	7	1834	210	0.034	7	0.0	17.775	E
3	1339	504	2410	0.556	1338	1.2	3.353	A
4	208	1501	928	0.224	207	0.3	4.999	A
5	1394	408	1669	0.836	1384	4.7	12.216	E

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	536	1628	842	0.637	533	1.7	11.523	B
2	9	2153	92	0.096	9	0.1	43.246	E
3	1641	609	2341	0.701	1636	2.3	5.077	A
4	254	1832	764	0.333	254	0.5	7.040	A
5	1708	500	1621	1.054	1587	24.8	65.004	E

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	536	1649	831	0.645	536	1.8	12.154	B
2	9	2178	83	0.107	9	0.1	48.736	E
3	1641	613	2338	0.702	1640	2.3	5.158	A
4	254	1839	761	0.334	254	0.5	7.107	A
5	1708	501	1620	0.084	1612	58.7	112.438	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	438	1588	861	0.508	441	1.1	8.618	A
2	7	2023	140	0.051	7	0.1	27.245	E
3	1339	523	2398	0.559	1344	1.3	3.427	A
4	208	1517	920	0.226	208	0.3	5.069	A
5	1394	410	1668	0.836	1604	6.4	53.221	F

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	367	1197	1052	0.349	369	0.5	5.289	A
2	6	1560	310	0.019	6	0.0	11.838	B
3	1122	427	2462	0.456	1123	0.8	2.695	A
4	174	1263	1045	0.166	174	0.2	4.139	A
5	1168	343	1703	0.686	1184	2.2	7.152	A

2031 Assessment Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	185.45	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2031 Assessment Flows	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	427	100.000
2		✓	7	100.000
3		✓	1305	100.000
4		✓	557	100.000
5		✓	1592	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	3	35	68	321
	2	0	0	7	0	0
	3	119	0	20	157	1009
	4	67	0	472	1	17
	5	198	9	1367	9	9

Vehicle Mix

Heavy Vehicle Percentages

		To					
		1	2	3	4	5	
From	1	0	0	0	0	0	
	2	0	0	0	0	0	
	3	0	0	0	0	0	
	4	0	0	0	0	0	
	5	0	0	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	13.52	1.7	E
2	0.22	126.17	0.2	F
3	0.59	3.56	1.4	A
4	0.71	14.19	2.4	B
5	1.18	254.32	141.6	F

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	321	1409	948	0.339	319	0.5	5.704	A
2	5	1719	252	0.021	5	0.0	14.595	B
3	982	305	2542	0.386	980	0.6	2.300	A
4	419	1109	1121	0.374	417	0.6	5.098	A
5	1199	509	1616	0.742	1187	2.8	8.204	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	384	1675	819	0.469	382	0.9	8.218	A
2	6	2047	131	0.048	6	0.0	28.846	B
3	1173	365	2502	0.469	1172	0.9	2.705	A
4	501	1327	1014	0.494	499	1.0	6.982	A
5	1431	609	1563	0.916	1408	8.5	20.734	C

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	470	1838	740	0.635	467	1.7	13.034	B
2	8	2293	40	0.193	7	0.2	107.680	F
3	1437	443	2451	0.586	1435	1.4	3.535	A
4	613	1622	868	0.706	608	2.3	13.569	B
5	1753	742	1493	1.172	1484	75.6	111.569	F

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	470	1846	736	0.639	470	1.7	13.519	B
2	8	2305	36	0.216	8	0.2	128.963	F
3	1437	446	2449	0.587	1437	1.4	3.556	A
4	613	1626	866	0.708	613	2.4	14.187	B
5	1753	747	1490	0.478	1489	12.1	266.051	F

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	384	1804	757	0.507	387	1.1	9.799	A
2	6	2179	82	0.077	7	0.1	48.192	E
3	1173	371	2499	0.469	1175	0.9	2.725	A
4	501	1333	1011	0.495	506	1.0	7.219	A
5	1431	616	1559	0.395	1548	112.5	234.321	F

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	321	1773	771	0.417	323	0.7	8.048	A
2	5	2084	117	0.045	5	0.0	32.317	E
3	982	313	2537	0.387	983	0.6	2.320	A
4	419	1117	1117	0.375	421	0.6	5.186	A
5	1199	513	1614	0.743	1599	12.1	143.632	F

2031 Assessment Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 5 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	50.25	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2031 Assessment Flows	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	487	100.000
2		✓	8	100.000
3		✓	1502	100.000
4		✓	231	100.000
5		✓	1560	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	0	30	142	315
	2	0	0	5	0	3
	3	145	7	91	186	1073
	4	36	0	176	0	19
	5	254	0	1203	52	51

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.65	12.20	1.8	E
2	0.11	23.95	0.1	E
3	0.71	5.25	2.4	A
4	0.34	7.20	0.5	A
5	1.08	119.31	62.5	E

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	367	1181	1059	0.346	365	0.5	5.167	A
2	6	1541	318	0.019	6	0.0	11.544	B
3	1131	421	2465	0.459	1127	0.8	2.684	A
4	174	1264	1045	0.166	173	0.2	4.130	A
5	1174	341	1704	0.689	1166	2.2	6.585	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	438	1411	947	0.462	437	0.8	7.029	A
2	7	1841	207	0.035	7	0.0	18.027	E
3	1350	504	2410	0.560	1349	1.3	3.384	A
4	208	1512	922	0.225	207	0.3	5.036	A
5	1402	408	1669	0.840	1392	4.9	12.524	E

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	536	1632	840	0.638	533	1.7	11.586	B
2	9	2157	90	0.098	9	0.1	43.332	E
3	1654	608	2341	0.706	1649	2.4	5.168	A
4	254	1845	758	0.336	253	0.5	7.129	A
5	1718	499	1621	1.060	1590	35.8	87.248	E

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	536	1652	830	0.646	536	1.8	12.204	B
2	9	2180	82	0.108	9	0.1	45.345	E
3	1654	613	2338	0.707	1654	2.4	5.254	A
4	254	1851	755	0.337	254	0.5	7.198	A
5	1718	501	1620	0.069	1613	52.3	118.415	F

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	438	1608	852	0.514	441	1.1	8.817	A
2	7	2042	132	0.054	7	0.1	28.833	E
3	1350	524	2397	0.563	1355	1.3	3.465	A
4	208	1528	915	0.227	208	0.3	5.108	A
5	1402	411	1668	0.841	1626	7.1	78.775	F

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	367	1206	1047	0.350	369	0.5	5.323	A
2	6	1570	307	0.020	6	0.0	11.974	B
3	1131	427	2461	0.459	1133	0.9	2.712	A
4	174	1272	1041	0.167	174	0.2	4.159	A
5	1174	343	1703	0.690	1194	2.3	7.328	A

APPENDIX 10

ARCADY Output for A27 Southern Roundabout (Existing & Proposed)

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A27 South Roundabout + Existing - July 19.j9

Path: Z:\projects\2020 Arundel Road, Angmering\Arcady\July 19

Report generation date: 30/07/2019 16:12:12

- *2021 Base Flows, AM
- *2021 Base Flows, PM
- *2031 Base Flows, AM
- *2031 Base Flows, PM
- *2021 Assessment Flows, AM
- *2021 Assessment Flows, PM
- *2031 Assessment Flows, AM
- *2031 Assessment Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2021 Base Flows								
Arm 1	1.0	8.89	0.50	A	1.1	9.87	0.52	A
Arm 2	1.0	5.29	0.49	A	1.5	7.63	0.59	A
Arm 3	27.5	81.22	1.61	F	1.6	7.87	0.61	A
Arm 5	2.3	6.31	0.70	A	3.4	8.04	0.77	A
2031 Base Flows								
Arm 1	1.4	11.82	0.59	B	1.7	14.71	0.64	B
Arm 2	1.3	6.42	0.56	A	2.2	10.80	0.70	B
Arm 3	84.8	216.36	1.34	F	2.1	10.14	0.69	B
Arm 5	3.2	8.00	0.76	A	5.4	12.07	0.85	B
2021 Assessment Flows								
Arm 1	1.0	8.89	0.50	A	1.1	9.99	0.52	A
Arm 2	1.0	5.31	0.49	A	1.5	7.71	0.60	A
Arm 3	26.9	102.83	1.03	F	1.7	8.26	0.63	A
Arm 5	2.3	6.33	0.70	A	3.4	8.18	0.78	A
2031 Assessment Flows								
Arm 1	1.4	11.78	0.59	B	1.8	14.96	0.64	B
Arm 2	1.3	6.45	0.56	A	2.3	10.96	0.70	B
Arm 3	88.8	250.22	1.15	F	2.3	10.83	0.71	B
Arm 5	3.2	8.02	0.77	A	5.6	12.38	0.85	B

There are warnings associated with one or more model runs - use the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	A27 South Roundabout + Mitigation
Location	Angmering
Site number	
Date	22/05/2018
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	Croft Transport Solutions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2021 Base Flows	AM	ONE HOUR	08:00	09:30	15
D2	2021 Base Flows	PM	ONE HOUR	17:00	18:30	15
D5	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15
D6	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15
D7	2021 Assessment Flows	AM	ONE HOUR	08:00	09:30	15
D8	2021 Assessment Flows	PM	ONE HOUR	17:00	18:30	15
D11	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15
D12	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2021 Base Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	31.10	-

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A27 WB Off-Slip	
2	Titnore Lane	
3	Water Lane	
4	A27 On Slip	
5	A280 North	

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
1	4.00	6.00	35.0	25.0	60.0	38.0	
2	3.40	7.80	30.0	25.0	60.0	24.0	
3	3.65	6.00	36.0	14.0	60.0	33.0	
4							✓
5	3.70	7.80	22.0	42.0	60.0	10.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.551	1693
2	0.617	1997
3	0.539	1642
4		
5	0.648	2080

The slope and intercept shown above include any corrections and adjustments

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2021 Base Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	367	100.000
2		✓	591	100.000
3		✓	1067	100.000
4				
5		✓	1213	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	29	284	0	54
	2	0	0	114	243	234
	3	0	252	0	78	737
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	570	367	276	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
From		1	2	3	4	5
	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.50	8.89	1.0	A
2	0.49	5.29	1.0	A
3	1.01	81.50	27.0	F
4				
5	0.70	6.31	2.3	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	276	1098	1088	0.254	275	0.3	4.420	A
2	445	735	1543	0.288	443	0.4	3.268	A
3	803	605	1316	0.611	797	1.5	6.867	A
4		955						
5	913	188	1958	0.466	910	0.9	3.423	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	330	1314	969	0.340	329	0.5	5.620	A
2	531	880	1454	0.365	531	0.6	3.896	A
3	959	724	1252	0.766	953	3.1	11.813	E
4		1142						
5	1090	225	1934	0.564	1089	1.3	4.250	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	404	1595	814	0.496	402	1.0	8.695	A
2	651	1076	1333	0.488	649	0.9	5.251	A
3	1175	886	1164	0.699	1114	18.4	48.593	E
4		1349						
5	1336	263	1909	0.699	1332	2.3	6.187	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	404	1605	809	0.500	404	1.0	8.888	A
2	651	1080	1331	0.489	651	1.0	5.291	A
3	1175	888	1163	0.699	1140	27.0	81.328	F
4		1374						
5	1336	269	1905	0.701	1335	2.3	6.312	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	330	1343	953	0.346	332	0.5	5.812	A
2	531	886	1451	0.366	533	0.6	3.927	A
3	959	728	1250	0.768	1053	3.6	25.940	C
4		1236						
5	1090	249	1919	0.568	1094	1.3	4.387	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	276	1107	1083	0.255	277	0.3	4.468	A
2	445	740	1540	0.289	446	0.4	3.291	A
3	803	609	1314	0.611	811	1.6	7.268	A
4		969						
5	913	192	1956	0.467	915	0.9	3.464	A

2021 Base Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.14	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2021 Base Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	361	100.000
2		✓	629	100.000
3		✓	654	100.000
4				
5		✓	1388	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	28	301	6	26
	2	0	0	185	181	263
	3	0	147	0	49	458
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	494	587	307	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.52	9.87	1.1	A
2	0.59	7.63	1.5	A
3	0.61	7.87	1.6	A
4				
5	0.77	8.04	3.4	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	272	1151	1059	0.257	270	0.3	4.558	A
2	474	920	1430	0.331	472	0.5	3.750	A
3	492	587	1326	0.371	490	0.6	4.296	A
4		670						
5	1045	110	2008	0.520	1041	1.1	3.703	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	1377	934	0.347	324	0.5	5.891	A
2	565	1101	1318	0.429	564	0.7	4.772	A
3	588	703	1263	0.465	587	0.9	5.313	A
4		802						
5	1248	132	1994	0.626	1245	1.6	4.793	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	397	1683	766	0.519	395	1.1	9.664	A
2	693	1345	1168	0.593	690	1.4	7.490	A
3	720	859	1179	0.611	717	1.5	7.748	A
4		981						
5	1528	161	1975	0.774	1522	3.3	7.822	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	397	1690	762	0.522	397	1.1	9.871	A
2	693	1351	1164	0.595	692	1.5	7.632	A
3	720	862	1177	0.612	720	1.6	7.866	A
4		984						
5	1528	162	1975	0.774	1528	3.4	8.042	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	1387	929	0.349	327	0.5	5.999	A
2	565	1109	1313	0.431	568	0.8	4.854	A
3	588	708	1261	0.466	591	0.9	5.393	A
4		807						
5	1248	133	1994	0.626	1254	1.7	4.913	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	272	1158	1055	0.258	273	0.3	4.607	A
2	474	926	1426	0.332	475	0.5	3.791	A
3	492	591	1323	0.372	494	0.6	4.343	A
4		675						
5	1045	111	2008	0.520	1047	1.1	3.756	A

2031 Base Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	28.45	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	399	100.000
2		✓	646	100.000
3		✓	1152	100.000
4				
5		✓	1327	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	32	308	0	59
	2	0	0	122	267	257
	3	0	271	0	83	798
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	626	398	303	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.59	11.82	1.4	E
2	0.56	6.42	1.3	A
3	1.14	216.86	84.6	F
4				
5	0.76	8.00	3.2	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1197	1034	0.291	299	0.4	4.888	A
2	486	800	1503	0.323	484	0.5	3.527	A
3	867	664	1284	0.676	859	2.0	8.328	B
4		1034						
5	999	202	1949	0.513	995	1.0	3.756	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1431	904	0.397	358	0.6	6.573	A
2	581	958	1406	0.413	580	0.7	4.352	B
3	1036	795	1213	0.655	1023	5.1	17.847	C
4		1233						
5	1193	241	1924	0.620	1191	1.6	4.896	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1715	748	0.587	436	1.4	11.440	B
2	711	1170	1276	0.558	709	1.2	6.331	A
3	1268	972	1118	1.134	1104	34.2	35.422	F
4		1371						
5	1461	260	1911	0.764	1455	3.1	7.782	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1723	744	0.591	439	1.4	11.820	B
2	711	1176	1272	0.559	711	1.3	6.418	A
3	1268	975	1116	0.868	1114	34.5	215.364	F
4		1382						
5	1461	262	1910	0.765	1461	3.2	8.004	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1480	877	0.409	362	0.7	7.018	A
2	581	966	1401	0.414	583	0.7	4.411	A
3	1036	800	1211	0.855	1197	44.4	195.719	F
4		1396						
5	1193	282	1897	0.629	1199	1.7	5.195	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1245	1007	0.298	301	0.4	5.112	A
2	486	806	1500	0.324	487	0.5	3.558	A
3	867	669	1282	0.677	1036	2.2	27.680	C
4		1200						
5	999	244	1922	0.520	1002	1.1	3.923	A

2031 Base Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	11.71	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	393	100.000
2		✓	688	100.000
3		✓	705	100.000
4				
5		✓	1519	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	31	326	7	29
	2	0	0	200	199	289
	3	0	157	0	52	496
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	544	637	338	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	14.71	1.7	E
2	0.70	10.80	2.2	E
3	0.69	10.14	2.1	B
4				
5	0.85	12.07	5.4	E

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1256	1001	0.296	294	0.4	5.082	A
2	518	1002	1379	0.376	516	0.6	4.155	A
3	531	646	1294	0.410	528	0.7	4.684	B
4		727						
5	1144	118	2004	0.571	1138	1.3	4.136	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1503	865	0.409	352	0.7	7.008	A
2	618	1199	1258	0.492	617	1.0	5.606	B
3	634	773	1225	0.517	632	1.1	6.056	A
4		871						
5	1366	141	1989	0.687	1362	2.1	5.716	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1832	684	0.633	429	1.7	13.926	E
2	758	1461	1096	0.691	753	2.2	10.329	E
3	776	943	1134	0.685	772	2.1	9.833	A
4		1063						
5	1672	172	1968	0.850	1660	5.2	11.251	E

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1844	677	0.639	432	1.7	14.706	B
2	758	1471	1090	0.695	757	2.2	10.804	B
3	776	949	1131	0.686	776	2.1	10.137	B
4		1069						
5	1672	173	1968	0.850	1672	5.4	12.066	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1520	855	0.413	357	0.7	7.288	A
2	618	1214	1248	0.495	623	1.0	5.803	A
3	634	782	1221	0.519	638	1.1	6.221	A
4		879						
5	1366	142	1988	0.687	1378	2.2	6.025	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1266	996	0.297	297	0.4	5.160	A
2	518	1010	1374	0.377	520	0.6	4.219	A
3	531	651	1291	0.411	532	0.7	4.755	A
4		733						
5	1144	119	2003	0.571	1147	1.3	4.225	A

2021 Assessment Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	38.67	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2021 Assessment Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	367	100.000
2		✓	591	100.000
3		✓	1091	100.000
4				
5		✓	1217	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	29	284	0	54
	2	0	0	114	243	234
	3	0	252	0	78	761
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	570	367	280	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.50	8.89	1.0	A
2	0.49	5.31	1.0	A
3	1.03	102.53	36.3	F
4				
5	0.70	6.33	2.3	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	276	1101	1087	0.254	275	0.3	4.429	A
2	445	738	1542	0.289	443	0.4	3.274	A
3	821	608	1314	0.625	815	1.6	7.122	B
4		973						
5	916	188	1958	0.468	913	0.9	3.433	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	330	1317	967	0.341	329	0.5	5.636	A
2	531	884	1452	0.366	531	0.6	3.906	B
3	981	728	1250	0.785	974	3.4	12.720	B
4		1163						
5	1094	225	1934	0.566	1092	1.3	4.268	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	404	1595	814	0.496	402	1.0	8.704	A
2	651	1081	1331	0.489	649	0.9	5.272	A
3	1201	891	1162	1.034	1123	22.9	54.429	F
4		1359						
5	1340	259	1912	0.701	1336	2.3	6.209	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	404	1605	809	0.500	404	1.0	8.890	A
2	651	1084	1328	0.490	651	1.0	5.313	A
3	1201	893	1161	0.767	1148	35.3	102.833	F
4		1383						
5	1340	265	1908	0.702	1340	2.3	6.331	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	330	1354	947	0.348	332	0.5	5.868	A
2	531	889	1449	0.367	533	0.6	3.939	A
3	981	731	1248	0.786	1110	4.1	42.192	E
4		1290						
5	1094	256	1914	0.572	1098	1.3	4.433	B

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	276	1110	1082	0.255	277	0.3	4.480	A
2	445	743	1539	0.289	446	0.4	3.298	A
3	821	612	1312	0.626	831	1.7	7.619	A
4		989						
5	916	192	1955	0.469	918	0.9	3.475	A

2021 Assessment Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.31	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2021 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	361	100.000
2		✓	629	100.000
3		✓	670	100.000
4				
5		✓	1395	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	28	301	6	26
	2	0	0	185	181	263
	3	0	147	0	49	474
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	494	587	314	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.52	9.99	1.1	A
2	0.60	7.71	1.5	A
3	0.63	8.26	1.7	A
4				
5	0.78	8.18	3.4	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	272	1156	1056	0.257	270	0.3	4.574	A
2	474	925	1427	0.332	472	0.5	3.761	A
3	504	592	1323	0.381	502	0.6	4.374	A
4		682						
5	1050	110	2008	0.523	1046	1.1	3.723	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	1384	931	0.349	324	0.5	5.924	A
2	565	1107	1314	0.430	564	0.7	4.795	A
3	602	709	1260	0.478	601	0.9	5.456	A
4		817						
5	1254	132	1994	0.629	1252	1.7	4.832	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	397	1690	762	0.522	395	1.1	9.771	A
2	693	1352	1163	0.595	690	1.4	7.562	A
3	738	866	1175	0.628	735	1.6	8.120	A
4		998						
5	1536	161	1975	0.778	1529	3.4	7.949	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	397	1697	758	0.525	397	1.1	9.987	A
2	693	1358	1159	0.597	692	1.5	7.707	A
3	738	870	1173	0.629	738	1.7	8.259	A
4		1002						
5	1536	162	1975	0.778	1536	3.4	8.182	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	1394	925	0.351	327	0.5	6.038	A
2	565	1116	1309	0.432	568	0.8	4.877	A
3	602	714	1257	0.479	605	0.9	5.547	A
4		822						
5	1254	133	1994	0.629	1261	1.7	4.958	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	272	1164	1052	0.258	273	0.4	4.625	A
2	474	931	1423	0.333	475	0.5	3.803	A
3	504	596	1321	0.382	506	0.6	4.426	A
4		687						
5	1050	111	2008	0.523	1053	1.1	3.780	A

2031 Assessment Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	35.34	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	399	100.000
2		✓	646	100.000
3		✓	1176	100.000
4				
5		✓	1331	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	32	308	0	59
	2	0	0	122	267	257
	3	0	271	0	83	822
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	626	398	307	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.59	11.78	1.4	B
2	0.56	6.45	1.3	A
3	1.16	36.22	38.8	F
4				
5	0.77	8.02	3.2	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1200	1032	0.291	299	0.4	4.899	A
2	486	803	1502	0.324	484	0.5	3.534	A
3	885	667	1282	0.690	877	2.2	8.702	B
4		1052						
5	1002	202	1949	0.514	998	1.0	3.768	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1434	903	0.397	358	0.7	6.593	A
2	581	962	1404	0.414	580	0.7	4.363	B
3	1057	799	1212	0.672	1042	5.9	19.759	C
4		1252						
5	1197	240	1924	0.622	1194	1.6	4.916	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1714	749	0.587	436	1.4	11.425	B
2	711	1174	1273	0.559	709	1.2	6.362	A
3	1295	976	1116	0.882	1105	63.3	107.778	F
4		1374						
5	1465	255	1915	0.765	1459	3.1	7.800	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1722	744	0.590	439	1.4	11.783	B
2	711	1180	1269	0.560	711	1.3	6.450	A
3	1295	980	1114	0.882	1113	55.5	250.221	F
4		1382						
5	1465	256	1914	0.766	1465	3.2	8.016	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1478	879	0.408	362	0.7	7.003	A
2	581	969	1399	0.415	583	0.7	4.423	A
3	1057	804	1209	0.875	1197	52.8	244.371	F
4		1398						
5	1197	276	1901	0.629	1202	1.7	5.195	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1265	996	0.302	301	0.4	5.192	A
2	486	809	1498	0.325	487	0.5	3.567	A
3	885	672	1280	0.692	1131	2.4	50.749	F
4		1290						
5	1002	261	1911	0.524	1004	1.1	3.983	A

2031 Assessment Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	12.05	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	393	100.000
2		✓	688	100.000
3		✓	722	100.000
4				
5		✓	1526	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	31	326	7	29
	2	0	0	200	199	289
	3	0	157	0	52	513
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	544	637	345	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	14.96	1.8	E
2	0.70	10.96	2.3	E
3	0.71	10.83	2.3	B
4				
5	0.86	12.38	5.6	E

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1261	998	0.296	294	0.4	5.098	A
2	518	1007	1376	0.376	516	0.6	4.171	A
3	544	651	1291	0.421	541	0.7	4.780	B
4		740						
5	1149	118	2004	0.573	1144	1.3	4.160	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1509	861	0.410	352	0.7	7.055	A
2	618	1205	1254	0.493	617	1.0	5.640	B
3	649	779	1222	0.531	647	1.1	6.249	A
4		886						
5	1372	141	1989	0.690	1368	2.2	5.772	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1839	680	0.637	429	1.7	14.135	E
2	758	1468	1092	0.694	753	2.2	10.463	E
3	795	950	1130	0.704	790	2.3	10.456	E
4		1081						
5	1680	172	1968	0.858	1667	5.4	11.496	E

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1852	672	0.643	432	1.8	14.957	B
2	758	1479	1085	0.698	757	2.3	10.960	B
3	795	956	1127	0.706	795	2.3	10.830	B
4		1087						
5	1680	173	1968	0.854	1679	5.6	12.376	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1527	852	0.415	357	0.7	7.344	A
2	618	1221	1244	0.497	624	1.0	5.846	A
3	649	788	1217	0.533	654	1.2	6.444	A
4		895						
5	1372	142	1988	0.690	1385	2.3	6.100	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1271	993	0.298	297	0.4	5.182	A
2	518	1015	1371	0.378	520	0.6	4.235	A
3	544	656	1288	0.422	545	0.7	4.858	A
4		746						
5	1149	119	2003	0.574	1153	1.4	4.252	A

KEY:

----- HIGHWAY BOUNDARY

HIGHWAY BOUNDARY

- A27 OFF-SLIP

REVISED KERB TO PROVIDE
TWO LANES ON APPROACH

A280 SOUTH WEST

REVISED ROAD MARKINGS TO
ALLOW FOR TWO LANE ENTRY

— TITNORE LANE

EXISTING ROAD MARKINGS
TO BE REMOVED

SCALE BAR @ 1:500

DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.



B	19.06.17	MC	UPDATED AS PER STAGE 1 RSA COMMENTS	TW	TW
A	04.11.16	MC	MINOR AMENDMENTS	TW	TW
REV	DATE	BY	DESCRIPTION	CHK	APD
STATUS: FOR INFORMATION					

PROPOSED IMPROVEMENT SCHEME TO A280 / A27 / TITNORE LANE ROUNDABOUT

LAND SOUTH OF WATER LANE, ANGMERING

RYDON HOMES, GLEESON DEVELOPMENTS LTD

1:500

ITB9105-GA-024

TW

MC

TW

14.07.16

ITB9105-GA-024

ITB9105

REV:	
------	--

B

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A27 South Roundabout + IMPS - July 19.j9

Path: Z:\projects\2020 Arundel Road, Angmering\Arcady\July 19

Report generation date: 30/07/2019 16:27:21

- *2021 Base Flows, AM
- *2021 Base Flows, PM
- *2031 Base Flows, AM
- *2031 Base Flows, PM
- *2021 Assessment Flows, AM
- *2021 Assessment Flows, PM
- *2031 Assessment Flows, AM
- *2031 Assessment Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2021 Base Flows								
Arm 1	1.0	8.99	0.50	A	1.1	9.87	0.52	A
Arm 2	1.0	5.29	0.49	A	1.5	7.63	0.59	A
Arm 3	3.7	11.78	0.79	B	0.9	4.65	0.48	A
Arm 5	2.3	6.37	0.70	A	3.4	8.04	0.77	A
2031 Base Flows								
Arm 1	1.5	12.62	0.61	B	1.7	14.71	0.64	B
Arm 2	1.3	6.42	0.56	A	2.2	10.80	0.70	B
Arm 3	7.3	21.82	0.83	C	1.2	5.41	0.54	A
Arm 5	3.4	8.43	0.77	A	5.4	12.07	0.85	B
2021 Assessment Flows								
Arm 1	1.0	9.04	0.50	A	1.1	9.99	0.52	A
Arm 2	1.0	5.31	0.49	A	1.5	7.71	0.60	A
Arm 3	4.2	12.99	0.81	B	1.0	4.78	0.50	A
Arm 5	2.4	6.42	0.71	A	3.4	8.18	0.78	A
2031 Assessment Flows								
Arm 1	1.5	12.72	0.61	B	1.8	14.96	0.64	B
Arm 2	1.3	6.45	0.56	A	2.3	10.96	0.70	B
Arm 3	8.7	25.85	0.91	C	1.2	5.60	0.55	A
Arm 5	3.4	8.52	0.78	A	5.6	12.38	0.86	B

There are warnings associated with one or more model runs - use the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	A27 South Roundabout + Mitigation
Location	Angmering
Site number	
Date	22/05/2018
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	Croft Transport Solutions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2021 Base Flows	AM	ONE HOUR	08:00	09:30	15
D2	2021 Base Flows	PM	ONE HOUR	17:00	18:30	15
D5	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15
D6	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15
D7	2021 Assessment Flows	AM	ONE HOUR	08:00	09:30	15
D8	2021 Assessment Flows	PM	ONE HOUR	17:00	18:30	15
D11	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15
D12	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2021 Base Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.25	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A27 WB Off-Slip	
2	Titnore Lane	
3	Water Lane	
4	A27 On Slip	
5	A280 North	

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
1	4.00	6.00	35.0	25.0	60.0	38.0	
2	3.40	7.80	30.0	25.0	60.0	24.0	
3	3.65	7.50	50.0	20.0	60.0	33.0	
4							✓
5	3.70	7.80	22.0	42.0	60.0	10.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.551	1693
2	0.617	1997
3	0.610	2021
4		
5	0.648	2080

The slope and intercept shown above include any corrections and adjustments

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2021 Base Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	367	100.000
2		✓	591	100.000
3		✓	1067	100.000
4				
5		✓	1213	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	29	284	0	54
	2	0	0	114	243	234
	3	0	252	0	78	737
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	570	367	276	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
From		1	2	3	4	5
	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.50	8.99	1.0	A
2	0.49	5.29	1.0	A
3	0.79	11.78	3.7	B
4				
5	0.70	6.37	2.3	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	276	1099	1088	0.254	275	0.3	4.421	A
2	445	735	1543	0.288	443	0.4	3.268	A
3	803	605	1651	0.486	800	0.9	4.207	A
4		957						
5	913	189	1957	0.467	910	0.9	3.425	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	330	1315	969	0.341	329	0.5	5.624	A
2	531	880	1454	0.365	531	0.6	3.896	A
3	959	724	1579	0.608	957	1.5	5.766	A
4		1145						
5	1090	226	1933	0.564	1089	1.3	4.253	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	404	1607	808	0.500	402	1.0	8.838	A
2	651	1076	1333	0.488	649	0.9	5.250	A
3	1175	886	1480	0.794	1166	3.6	11.181	B
4		1397						
5	1336	275	1901	0.702	1331	2.3	6.272	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	404	1613	804	0.502	404	1.0	8.989	A
2	651	1080	1331	0.489	651	1.0	5.291	A
3	1175	888	1479	0.794	1174	3.7	11.779	B
4		1406						
5	1336	277	1900	0.703	1335	2.3	6.369	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	330	1323	964	0.342	332	0.5	5.712	A
2	531	886	1451	0.366	533	0.6	3.927	A
3	959	728	1577	0.608	968	1.6	5.996	B
4		1157						
5	1090	229	1932	0.565	1095	1.3	4.322	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	276	1105	1084	0.255	277	0.3	4.463	A
2	445	740	1541	0.289	446	0.4	3.291	A
3	803	609	1649	0.487	806	1.0	4.279	A
4		964						
5	913	190	1956	0.467	915	0.9	3.461	A

2021 Base Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	7.44	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2021 Base Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	361	100.000
2		✓	629	100.000
3		✓	654	100.000
4				
5		✓	1388	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	28	301	6	26
	2	0	0	185	181	263
	3	0	147	0	49	458
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	494	587	307	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.52	9.87	1.1	A
2	0.59	7.63	1.5	A
3	0.48	4.65	0.9	A
4				
5	0.77	8.04	3.4	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	272	1151	1059	0.257	270	0.3	4.558	A
2	474	920	1430	0.331	472	0.5	3.748	A
3	492	587	1663	0.296	491	0.4	3.068	A
4		671						
5	1045	110	2008	0.520	1041	1.1	3.703	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	1377	934	0.347	324	0.5	5.891	A
2	565	1101	1318	0.429	564	0.7	4.771	A
3	588	703	1592	0.369	587	0.6	3.581	A
4		803						
5	1248	132	1994	0.626	1245	1.6	4.793	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	397	1683	766	0.519	395	1.1	9.668	A
2	693	1345	1168	0.593	690	1.4	7.488	A
3	720	859	1497	0.481	719	0.9	4.618	A
4		982						
5	1528	162	1975	0.774	1522	3.3	7.825	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	397	1690	762	0.522	397	1.1	9.871	A
2	693	1351	1164	0.595	692	1.5	7.630	A
3	720	862	1495	0.482	720	0.9	4.645	A
4		984						
5	1528	162	1975	0.774	1528	3.4	8.042	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	1387	929	0.349	327	0.5	5.997	A
2	565	1109	1313	0.431	568	0.8	4.853	A
3	588	708	1589	0.370	589	0.6	3.604	A
4		806						
5	1248	132	1994	0.626	1254	1.7	4.910	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	272	1158	1055	0.258	273	0.3	4.607	A
2	474	926	1426	0.332	475	0.5	3.787	A
3	492	591	1660	0.297	493	0.4	3.085	A
4		674						
5	1045	111	2008	0.520	1047	1.1	3.758	A

2031 Base Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	12.91	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	399	100.000
2		✓	646	100.000
3		✓	1152	100.000
4				
5		✓	1327	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	32	308	0	59
	2	0	0	122	267	257
	3	0	271	0	83	798
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	626	398	303	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.61	12.62	1.5	B
2	0.56	6.42	1.3	A
3	0.537	21.82	7.3	C
4				
5	0.77	8.43	3.4	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1198	1033	0.291	299	0.4	4.891	A
2	486	800	1503	0.323	484	0.5	3.528	A
3	867	664	1615	0.537	863	1.1	4.754	B
4		1037						
5	999	203	1948	0.513	995	1.0	3.758	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1433	903	0.397	358	0.7	6.587	A
2	581	958	1406	0.413	580	0.7	4.353	B
3	1036	795	1536	0.674	1032	2.0	7.099	B
4		1241						
5	1193	243	1922	0.621	1191	1.6	4.903	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1748	730	0.602	436	1.5	12.129	B
2	711	1169	1276	0.557	709	1.2	6.328	A
3	1268	972	1428	0.685	1250	6.7	18.534	C
4		1506						
5	1461	294	1889	0.773	1454	3.3	8.152	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1759	724	0.607	439	1.5	12.618	B
2	711	1176	1272	0.559	711	1.3	6.419	A
3	1268	975	1426	0.683	1266	7.3	21.818	C
4		1523						
5	1461	298	1887	0.774	1461	3.4	8.433	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1448	895	0.401	362	0.7	6.793	A
2	581	967	1401	0.415	583	0.7	4.415	A
3	1036	800	1533	0.676	1056	2.1	7.869	A
4		1266						
5	1193	248	1919	0.622	1200	1.7	5.053	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1206	1028	0.292	301	0.4	4.960	A
2	486	806	1500	0.324	487	0.5	3.558	A
3	867	668	1613	0.538	871	1.2	4.879	A
4		1047						
5	999	205	1947	0.513	1001	1.1	3.815	A

2031 Base Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.70	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	393	100.000
2		✓	688	100.000
3		✓	705	100.000
4				
5		✓	1519	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	31	326	7	29
	2	0	0	200	199	289
	3	0	157	0	52	496
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	544	637	338	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	14.71	1.7	E
2	0.70	10.80	2.2	E
3	0.54	5.41	1.2	A
4				
5	0.85	12.07	5.4	E

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1256	1001	0.296	294	0.4	5.083	A
2	518	1002	1379	0.376	516	0.6	4.155	A
3	531	646	1627	0.326	529	0.5	3.273	B
4		728						
5	1144	118	2003	0.571	1138	1.3	4.137	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1503	865	0.409	352	0.7	7.009	A
2	618	1199	1258	0.492	617	1.0	5.606	B
3	634	773	1549	0.409	633	0.7	3.926	A
4		871						
5	1366	141	1988	0.687	1362	2.1	5.717	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1833	683	0.633	429	1.7	13.942	E
2	758	1461	1096	0.691	753	2.2	10.329	E
3	776	943	1446	0.537	774	1.1	5.349	A
4		1065						
5	1672	172	1968	0.850	1660	5.2	11.262	E

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1845	677	0.639	432	1.7	14.706	B
2	758	1471	1090	0.695	757	2.2	10.804	B
3	776	949	1442	0.538	776	1.2	5.406	A
4		1069						
5	1672	173	1968	0.850	1672	5.4	12.069	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1520	856	0.413	357	0.7	7.281	A
2	618	1214	1248	0.495	623	1.0	5.805	A
3	634	782	1544	0.411	636	0.7	3.972	A
4		877						
5	1366	142	1988	0.687	1378	2.2	6.024	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1266	996	0.297	297	0.4	5.161	A
2	518	1010	1374	0.377	520	0.6	4.220	A
3	531	651	1624	0.327	532	0.5	3.298	A
4		733						
5	1144	118	2003	0.571	1147	1.3	4.224	A

2021 Assessment Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2021 Assessment Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	367	100.000
2		✓	591	100.000
3		✓	1091	100.000
4				
5		✓	1217	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	29	284	0	54
	2	0	0	114	243	234
	3	0	252	0	78	761
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	570	367	280	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.50	9.04	1.0	A
2	0.49	5.31	1.0	A
3	0.81	12.99	4.2	B
4				
5	0.71	6.42	2.4	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	276	1102	1086	0.254	275	0.3	4.430	A
2	445	738	1542	0.289	443	0.4	3.275	A
3	821	608	1650	0.498	817	1.0	4.306	B
4		975						
5	916	189	1957	0.468	913	0.9	3.434	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	330	1318	967	0.341	329	0.5	5.642	A
2	531	884	1452	0.366	531	0.6	3.907	B
3	981	728	1577	0.622	978	1.6	5.991	A
4		1167						
5	1094	226	1933	0.566	1092	1.3	4.272	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	404	1611	805	0.502	402	1.0	8.873	A
2	651	1081	1331	0.489	649	0.9	5.273	A
3	1201	890	1478	0.813	1191	4.1	12.187	C
4		1423						
5	1340	275	1901	0.705	1336	2.3	6.317	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	404	1617	802	0.504	404	1.0	9.043	A
2	651	1084	1328	0.490	651	1.0	5.314	A
3	1201	893	1476	0.814	1201	4.2	12.993	B
4		1432						
5	1340	277	1900	0.705	1340	2.4	6.420	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	330	1327	962	0.343	332	0.5	5.730	A
2	531	889	1448	0.367	533	0.6	3.940	A
3	981	732	1574	0.623	991	1.7	6.271	A
4		1180						
5	1094	229	1932	0.566	1098	1.3	4.342	B

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	276	1108	1082	0.255	277	0.3	4.473	A
2	445	743	1539	0.289	446	0.4	3.296	A
3	821	612	1648	0.499	824	1.0	4.387	A
4		982						
5	916	190	1956	0.468	918	0.9	3.474	A

2021 Assessment Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	7.55	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2021 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	361	100.000
2		✓	629	100.000
3		✓	670	100.000
4				
5		✓	1395	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	28	301	6	26
	2	0	0	185	181	263
	3	0	147	0	49	474
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	494	587	314	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.52	9.99	1.1	A
2	0.60	7.71	1.5	A
3	0.50	4.78	1.0	A
4				
5	0.78	8.18	3.4	B

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	272	1156	1056	0.257	270	0.3	4.575	A
2	474	925	1427	0.332	472	0.5	3.761	A
3	504	592	1659	0.304	503	0.4	3.108	A
4		683						
5	1050	110	2008	0.523	1046	1.1	3.724	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	1384	931	0.349	324	0.5	5.925	A
2	565	1107	1314	0.430	564	0.7	4.795	A
3	602	709	1588	0.379	602	0.6	3.647	A
4		817						
5	1254	132	1994	0.629	1252	1.7	4.832	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	397	1691	761	0.522	395	1.1	9.776	A
2	693	1352	1163	0.595	690	1.4	7.562	A
3	738	866	1492	0.494	736	1.0	4.752	A
4		999						
5	1536	162	1975	0.778	1529	3.4	7.951	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	397	1698	758	0.525	397	1.1	9.987	A
2	693	1358	1159	0.597	692	1.5	7.707	A
3	738	870	1490	0.495	738	1.0	4.783	A
4		1002						
5	1536	162	1975	0.778	1536	3.4	8.182	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	325	1393	925	0.351	327	0.5	6.034	A
2	565	1116	1309	0.432	568	0.8	4.877	A
3	602	714	1585	0.380	604	0.6	3.675	A
4		821						
5	1254	132	1994	0.629	1261	1.7	4.957	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	272	1164	1052	0.258	273	0.4	4.622	A
2	474	931	1423	0.333	475	0.5	3.803	A
3	504	596	1657	0.304	505	0.4	3.128	A
4		686						
5	1050	111	2008	0.523	1053	1.1	3.780	A

2031 Assessment Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	14.35	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	399	100.000
2		✓	646	100.000
3		✓	1176	100.000
4				
5		✓	1331	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	32	308	0	59
	2	0	0	122	267	257
	3	0	271	0	83	822
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	626	398	307	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.61	12.72	1.5	B
2	0.56	6.45	1.3	A
3	0.549	25.85	8.7	B
4				
5	0.78	8.52	3.4	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1201	1031	0.291	299	0.4	4.902	A
2	486	803	1502	0.324	484	0.5	3.534	A
3	885	667	1614	0.549	881	1.2	4.880	B
4		1055						
5	1002	203	1948	0.514	998	1.0	3.770	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1437	901	0.398	358	0.7	6.610	A
2	581	962	1404	0.414	580	0.7	4.363	B
3	1057	799	1534	0.689	1053	2.2	7.438	A
4		1263						
5	1197	243	1923	0.622	1194	1.6	4.927	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1752	728	0.604	436	1.5	12.204	B
2	711	1174	1273	0.559	709	1.2	6.357	A
3	1295	976	1425	0.508	1272	7.8	20.971	C
4		1529						
5	1465	293	1890	0.775	1459	3.3	8.220	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1763	722	0.609	439	1.5	12.717	B
2	711	1180	1269	0.560	711	1.3	6.446	A
3	1295	980	1423	0.699	1291	8.7	25.850	C
4		1548						
5	1465	298	1887	0.777	1465	3.4	8.517	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1453	892	0.402	362	0.7	6.828	A
2	581	970	1399	0.415	583	0.7	4.425	A
3	1057	804	1530	0.691	1083	2.3	8.489	A
4		1292						
5	1197	250	1918	0.624	1203	1.7	5.086	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1209	1027	0.293	301	0.4	4.972	A
2	486	809	1498	0.325	487	0.5	3.564	A
3	885	672	1611	0.550	890	1.2	5.018	A
4		1065						
5	1002	205	1947	0.515	1004	1.1	3.828	A

2031 Assessment Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.92	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	393	100.000
2		✓	688	100.000
3		✓	722	100.000
4				
5		✓	1526	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	31	326	7	29
	2	0	0	200	199	289
	3	0	157	0	52	513
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	544	637	345	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	14.96	1.8	E
2	0.70	10.96	2.3	E
3	0.55	5.60	1.2	A
4				
5	0.88	12.38	5.6	E

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1261	998	0.296	294	0.4	5.098	A
2	518	1007	1376	0.376	516	0.6	4.173	A
3	544	651	1623	0.335	542	0.5	3.322	A
4		741						
5	1149	118	2003	0.573	1144	1.3	4.161	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1509	861	0.410	352	0.7	7.057	A
2	618	1205	1254	0.493	617	1.0	5.642	A
3	649	779	1545	0.420	648	0.7	4.008	A
4		887						
5	1372	141	1988	0.690	1368	2.2	5.773	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1840	679	0.637	429	1.7	14.150	E
2	758	1468	1092	0.694	753	2.2	10.466	E
3	795	950	1441	0.552	793	1.2	5.537	A
4		1084						
5	1680	172	1968	0.858	1667	5.4	11.509	E

17:45 - 18:00

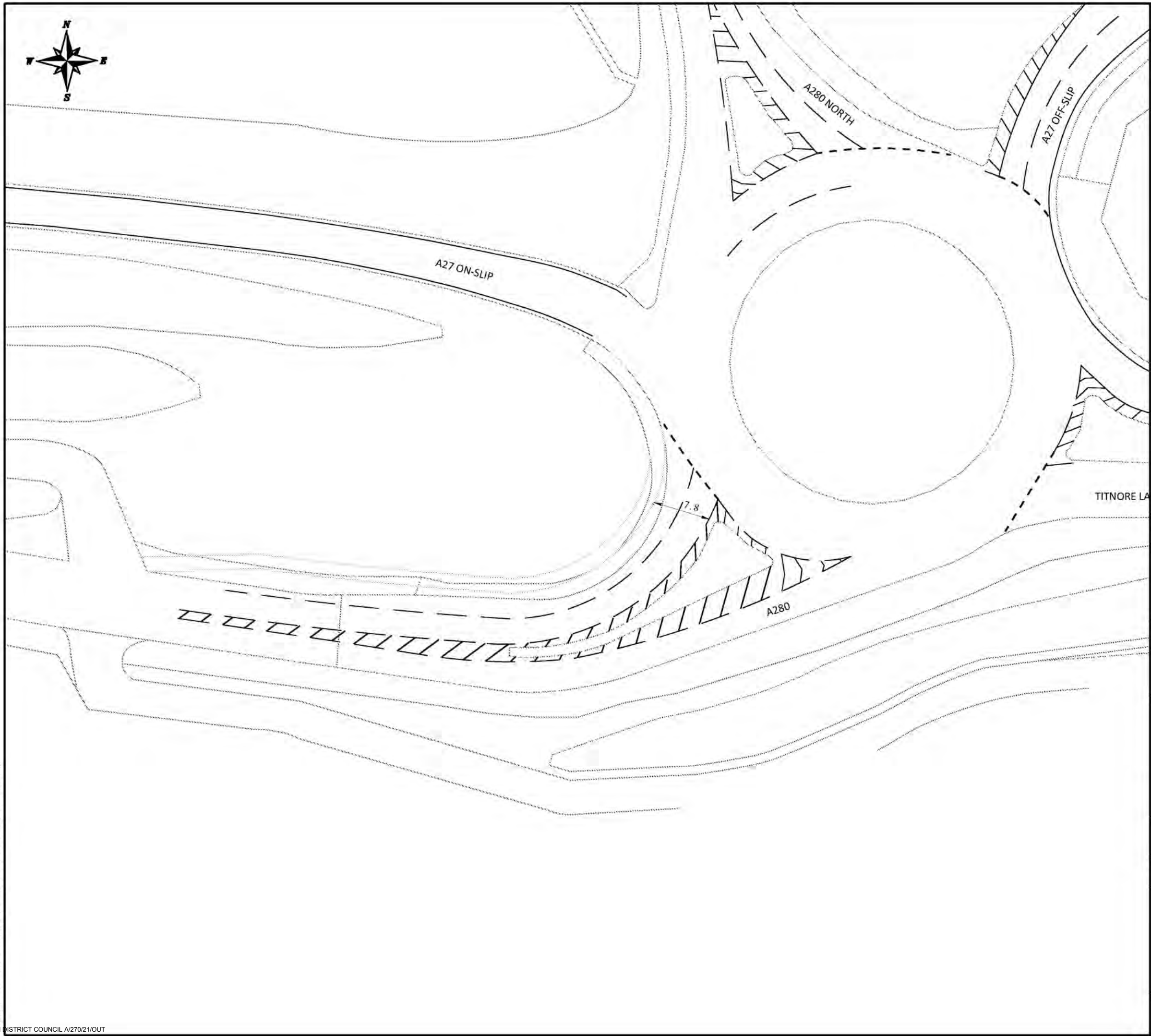
Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1852	672	0.643	432	1.8	14.961	B
2	758	1479	1085	0.698	757	2.3	10.963	B
3	795	956	1437	0.553	795	1.2	5.603	A
4		1088						
5	1680	173	1968	0.854	1679	5.6	12.380	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1527	852	0.415	357	0.7	7.342	A
2	618	1221	1244	0.497	624	1.0	5.845	A
3	649	788	1540	0.421	651	0.7	4.058	A
4		892						
5	1372	142	1988	0.690	1385	2.3	6.096	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1271	993	0.298	297	0.4	5.184	A
2	518	1015	1371	0.378	520	0.6	4.238	A
3	544	656	1620	0.335	544	0.5	3.350	A
4		745						
5	1149	118	2003	0.574	1153	1.4	4.251	A



NOTES

THIS IS NOT A CONSTRUCTION DRAWING AND IS FOR INDICATIVE PURPOSES ONLY. THE DRAWING WILL BE SUBJECT TO CHANGE FOLLOWING LOCAL AUTHORITY REVIEW AND CONFIRMATION OF PUBLIC HIGHWAY AND THIRD PARTY LAND BOUNDARIES.

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
GLADMAN

PROJECT:
ARUNDEL ROAD, ANGERMING

DRAWING TITLE:
**POTENTIAL A280/A2700
ROUNDAABOUT IMPROVEMENTS**

SCALES:
1:500 @ A3

DRAWN: JC	CHECKED: MR	DATE: AUG 18
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Croft Transport Planning & Design
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DRAWING NUMBER: 2020-F04	REVISION: -	 CROFT
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Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.5.0.6896			
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution			

Filename: A27 South Roundabout + IMPS + CROFT IMPS - July 19.j9

Path: Z:\projects\2020 Arundel Road, Angmering\Arcady\July 19

Report generation date: 30/07/2019 16:31:09

*2031 Base Flows, AM

*2031 Base Flows, PM

*2031 Assessment Flows, AM

*2031 Assessment Flows, PM

Summary of junction performance

	AM					PM			
	Queue (PCU)	Delay (s)	RFC	LOS		Queue (PCU)	Delay (s)	RFC	LOS
	2031 Base Flows								
Arm 1	1.5	12.62	0.61	B		1.7	14.71	0.64	B
Arm 2	1.3	6.42	0.56	A		2.2	10.80	0.70	B
Arm 3	5.8	17.19	0.86	C		1.1	5.05	0.52	A
Arm 5	3.4	8.44	0.77	A		5.4	12.07	0.85	B
	2031 Assessment Flows								
Arm 1	1.5	12.73	0.61	B		1.8	14.96	0.64	B
Arm 2	1.3	6.45	0.56	A		2.3	10.96	0.70	B
Arm 3	6.8	19.77	0.88	C		1.1	5.22	0.54	A
Arm 5	3.4	8.52	0.78	A		5.6	12.38	0.86	B

There are warnings, associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	A27 South Roundabout + Mitigation
Location	Angmering
Site number	
Date	22/05/2018
Version	
Status	
Identifier	
Client	
Job number	
Enumerator	Croft Transport Solutions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15
D6	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15
D11	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15
D12	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2031 Base Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	11.40	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A27 WB Off-Slip	
2	Titnore Lane	
3	Water Lane	
4	A27 On Slip	
5	A280 North	

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
1	4.00	6.00	35.0	25.0	60.0	38.0	
2	3.40	7.80	30.0	25.0	60.0	24.0	
3	3.65	7.80	50.0	20.0	60.0	33.0	
4							✓
5	3.70	7.80	22.0	42.0	60.0	10.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.551	1693
2	0.617	1997
3	0.620	2078
4		
5	0.648	2080

The slope and intercept shown above include any corrections and adjustments

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	399	100.000
2		✓	646	100.000
3		✓	1152	100.000
4				
5		✓	1327	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	32	308	0	59
	2	0	0	122	267	257
	3	0	271	0	83	798
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	626	398	303	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.61	12.62	1.5	B
2	0.56	6.42	1.3	A
3	0.88	17.19	5.8	C
4				
5	0.77	8.44	3.4	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1198	1033	0.291	299	0.4	4.891	A
2	486	800	1503	0.323	484	0.5	3.528	A
3	867	664	1666	0.521	863	1.1	4.461	A
4		1038						
5	999	203	1948	0.513	995	1.0	3.759	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1434	903	0.397	358	0.7	6.587	A
2	581	958	1406	0.413	580	0.7	4.353	A
3	1036	795	1585	0.653	1033	1.8	6.481	A
4		1242						
5	1193	243	1922	0.621	1191	1.6	4.903	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1749	729	0.603	436	1.5	12.151	B
2	711	1169	1276	0.557	709	1.2	6.328	A
3	1268	972	1475	0.663	1254	5.5	15.349	B
4		1510						
5	1461	295	1889	0.774	1454	3.3	8.163	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1759	724	0.607	439	1.5	12.624	B
2	711	1176	1272	0.559	711	1.3	6.419	A
3	1268	975	1473	0.661	1267	5.8	17.194	B
4		1524						
5	1461	298	1887	0.774	1461	3.4	8.437	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1447	896	0.400	362	0.7	6.788	A
2	581	967	1401	0.415	583	0.7	4.415	A
3	1036	800	1582	0.655	1051	1.9	6.976	B
4		1261						
5	1193	247	1920	0.621	1200	1.7	5.048	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1206	1028	0.292	301	0.4	4.958	A
2	486	806	1500	0.324	487	0.5	3.558	A
3	867	668	1663	0.521	871	1.1	4.561	A
4		1046						
5	999	205	1947	0.513	1001	1.1	3.815	A

2031 Base Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.62	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	393	100.000
2		✓	688	100.000
3		✓	705	100.000
4				
5		✓	1519	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	31	326	7	29
	2	0	0	200	199	289
	3	0	157	0	52	496
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	544	637	338	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	14.71	1.7	E
2	0.70	10.80	2.2	E
3	0.52	5.05	1.1	A
4				
5	0.85	12.07	5.4	E

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1256	1001	0.296	294	0.4	5.083	A
2	518	1002	1379	0.376	516	0.6	4.155	A
3	531	646	1677	0.316	529	0.5	3.129	A
4		728						
5	1144	118	2003	0.571	1138	1.3	4.137	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1503	865	0.409	352	0.7	7.009	A
2	618	1199	1258	0.492	617	1.0	5.606	A
3	634	773	1599	0.396	633	0.7	3.725	A
4		872						
5	1366	141	1988	0.687	1362	2.1	5.717	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1833	683	0.633	429	1.7	13.943	E
2	758	1461	1096	0.691	753	2.2	10.329	E
3	776	943	1493	0.520	775	1.1	4.998	A
4		1065						
5	1672	172	1968	0.850	1660	5.2	11.262	E

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1845	677	0.639	432	1.7	14.706	B
2	758	1471	1090	0.695	757	2.2	10.805	B
3	776	949	1490	0.521	776	1.1	5.046	A
4		1069						
5	1672	173	1968	0.850	1672	5.4	12.069	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1520	856	0.413	357	0.7	7.281	A
2	618	1214	1248	0.495	623	1.0	5.803	A
3	634	782	1593	0.398	635	0.7	3.765	A
4		877						
5	1366	142	1988	0.687	1378	2.2	6.024	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1266	996	0.297	297	0.4	5.161	A
2	518	1010	1374	0.377	520	0.6	4.220	A
3	531	651	1674	0.317	532	0.5	3.152	A
4		732						
5	1144	118	2003	0.571	1147	1.3	4.223	A

2031 Assessment Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	12.34	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	399	100.000
2		✓	646	100.000
3		✓	1176	100.000
4				
5		✓	1331	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	32	308	0	59
	2	0	0	122	267	257
	3	0	271	0	83	822
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	626	398	307	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.61	12.73	1.5	B
2	0.56	6.45	1.3	A
3	0.532	19.77	6.8	C
4				
5	0.78	8.52	3.4	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1201	1031	0.291	299	0.4	4.902	A
2	486	803	1502	0.324	484	0.5	3.534	A
3	885	667	1664	0.532	881	1.1	4.571	B
4		1056						
5	1002	203	1948	0.514	998	1.0	3.770	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1437	901	0.398	358	0.7	6.611	A
2	581	962	1404	0.414	580	0.7	4.363	B
3	1057	799	1583	0.668	1054	2.0	6.764	A
4		1263						
5	1197	243	1922	0.622	1194	1.6	4.927	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1753	727	0.604	436	1.5	12.233	B
2	711	1174	1273	0.559	709	1.2	6.357	A
3	1295	976	1473	0.673	1278	6.3	17.125	C
4		1534						
5	1465	294	1889	0.776	1459	3.3	8.236	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	439	1763	722	0.609	439	1.5	12.729	B
2	711	1180	1269	0.560	711	1.3	6.447	A
3	1295	980	1470	0.683	1293	6.8	19.775	C
4		1549						
5	1465	298	1887	0.777	1465	3.4	8.522	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	359	1451	893	0.402	362	0.7	6.817	A
2	581	970	1399	0.415	583	0.7	4.427	A
3	1057	804	1579	0.669	1076	2.1	7.407	A
4		1285						
5	1197	248	1919	0.623	1203	1.7	5.078	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	300	1209	1027	0.293	301	0.4	4.970	A
2	486	809	1498	0.325	487	0.5	3.564	A
3	885	672	1661	0.533	889	1.2	4.683	A
4		1065						
5	1002	205	1947	0.515	1004	1.1	3.828	A

2031 Assessment Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.84	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	393	100.000
2		✓	688	100.000
3		✓	722	100.000
4				
5		✓	1526	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	31	326	7	29
	2	0	0	200	199	289
	3	0	157	0	52	513
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	544	637	345	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	Exit-only	Exit-only	Exit-only	Exit-only
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	14.96	1.8	E
2	0.70	10.96	2.3	E
3	0.54	5.22	1.1	A
4				
5	0.88	12.38	5.6	E

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1261	998	0.296	294	0.4	5.098	A
2	518	1007	1376	0.376	516	0.6	4.171	A
3	544	651	1674	0.325	542	0.5	3.174	A
4		741						
5	1149	118	2003	0.573	1144	1.3	4.161	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1509	861	0.410	352	0.7	7.057	A
2	618	1205	1254	0.493	617	1.0	5.640	A
3	649	779	1595	0.407	648	0.7	3.800	A
4		887						
5	1372	141	1988	0.690	1368	2.2	5.773	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1840	679	0.637	429	1.7	14.151	E
2	758	1468	1092	0.694	753	2.2	10.463	E
3	795	950	1489	0.534	793	1.1	5.162	A
4		1084						
5	1680	172	1968	0.858	1667	5.4	11.510	E

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	1852	672	0.643	432	1.8	14.962	B
2	758	1479	1085	0.698	757	2.3	10.960	B
3	795	956	1485	0.535	795	1.1	5.217	A
4		1088						
5	1680	173	1968	0.854	1679	5.6	12.380	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	353	1527	852	0.415	357	0.7	7.339	A
2	618	1221	1244	0.497	624	1.0	5.846	A
3	649	788	1589	0.408	651	0.7	3.846	A
4		892						
5	1372	142	1988	0.690	1385	2.3	6.098	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	296	1271	993	0.298	297	0.4	5.184	A
2	518	1015	1371	0.378	520	0.6	4.235	A
3	544	656	1671	0.325	544	0.5	3.198	A
4		745						
5	1149	118	2003	0.574	1153	1.4	4.251	A

APPENDIX 11

ARCADY Output for A27 Northern Roundabout

Existing & Proposed

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896

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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A27 North Roundabout + Existing - July 19.j9

Path: Z:\projects\2020 Arundel Road, Angmering\Arcady\July 19

Report generation date: 30/07/2019 15:42:24

- *2021 Base Flows, AM
- *2021 Base Flows, PM
- *2031 Base Flows, AM
- *2031 Base Flows, PM
- *2021 Assessment Flows, AM
- *2021 Assessment Flows, PM
- *2031 Assessment Flows, AM
- *2031 Assessment Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2021 Base Flows								
Arm 1	1.8	7.21	0.64	A	3.6	10.73	0.79	B
Arm 3	1.4	4.55	0.59	A	0.8	3.29	0.43	A
Arm 4	2.7	12.71	0.73	B	0.6	4.78	0.39	A
Arm 5	0.1	8.82	0.12	A	0.1	5.09	0.08	A
2031 Base Flows								
Arm 1	2.6	9.72	0.73	A	6.7	18.55	0.88	C
Arm 3	1.8	5.20	0.64	A	0.9	3.55	0.47	A
Arm 4	5.1	22.46	0.85	C	0.8	5.39	0.44	A
Arm 5	0.2	11.25	0.16	B	0.1	5.60	0.09	A
2021 Assessment Flows								
Arm 1	1.8	7.48	0.65	A	3.8	11.25	0.80	B
Arm 3	1.5	4.70	0.60	A	0.8	3.35	0.44	A
Arm 4	2.9	13.59	0.75	B	0.6	4.90	0.39	A
Arm 5	0.1	9.16	0.13	A	0.1	5.18	0.08	A
2031 Assessment Flows								
Arm 1	2.7	10.21	0.74	B	7.2	20.00	0.83	C
Arm 3	1.9	5.41	0.65	A	0.9	3.61	0.48	A
Arm 4	5.7	25.15	0.88	C	0.8	5.53	0.45	A
Arm 5	0.2	11.80	0.17	B	0.1	5.71	0.09	A

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

File summary

File Description

Title	A27 North Roundabout + Mitigation
Location	Angmering
Site number	
Date	22/05/2018
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	Croft Transport Solutions
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2021 Base Flows	AM	ONE HOUR	08:00	09:30	15
D2	2021 Base Flows	PM	ONE HOUR	17:00	18:30	15
D5	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15
D6	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15
D7	2021 Assessment Flows	AM	ONE HOUR	08:00	09:30	15
D8	2021 Assessment Flows	PM	ONE HOUR	17:00	18:30	15
D11	2031 Assessment Flows	AM	ONE HOUR	08:00	09:30	15
D12	2031 Assessment Flows	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2021 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	7.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A280 Long Furlong	
2	A27 On Slip	
3	A280 South	
4	A27 Off-Slip	
5	Arundel Road	

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
1	3.65	7.30	29.0	35.0	60.0	35.0	
2							✓
3	3.65	8.10	14.0	37.0	60.0	12.0	
4	3.65	6.60	30.0	15.0	60.0	44.0	
5	3.65	6.30	6.5	25.0	60.0	45.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.593	1901
2		
3	0.618	1925
4	0.535	1670
5	0.493	1393

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2021 Base Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	811	100.000
2				
3		✓	1027	100.000
4		✓	709	100.000
5		✓	51	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	19	788	0	4
	2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	3	746	257	0	0	24
	4	218	36	455	0	0
	5	19	6	26	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
From		1	2	3	4	5
	1	0	0	0	0	0
	2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	7.21	1.8	A
2				
3	0.59	4.55	1.4	A
4	0.73	12.71	2.7	B
5	0.12	8.82	0.1	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	611	584	1555	0.393	608	0.6	3.794	B
2		954						
3	773	3	1923	0.402	771	0.7	3.117	A
4	534	774	1256	0.425	531	0.7	4.943	A
5	38	1283	761	0.050	38	0.1	4.982	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	729	700	1486	0.491	728	1.0	4.738	A
2		1142						
3	923	4	1923	0.480	922	0.9	3.594	A
4	637	926	1175	0.543	636	1.2	6.655	A
5	46	1536	636	0.072	46	0.1	6.100	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	893	854	1395	0.640	890	1.7	7.085	A
2		1395						
3	1131	4	1922	0.588	1129	1.4	4.525	A
4	781	1133	1064	0.734	775	2.6	12.208	B
5	56	1877	468	0.120	56	0.1	8.734	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	893	859	1392	0.641	893	1.8	7.207	A
2		1401						
3	1131	4	1922	0.588	1131	1.4	4.547	A
4	781	1135	1063	0.734	780	2.7	12.707	B
5	56	1885	464	0.121	56	0.1	8.821	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	729	706	1483	0.492	732	1.0	4.816	A
2		1151						
3	923	4	1923	0.480	925	0.9	3.617	B
4	637	929	1173	0.543	643	1.2	6.869	B
5	46	1547	631	0.073	46	0.1	6.160	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	611	589	1552	0.393	612	0.7	3.833	A
2		961						
3	773	3	1923	0.402	774	0.7	3.135	B
4	534	777	1254	0.426	536	0.7	5.023	A
5	38	1292	756	0.051	38	0.1	5.014	A

2021 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	7.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2021 Base Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1128	100.000
2				
3		✓	753	100.000
4		✓	428	100.000
5		✓	54	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	35	1088	0	5
	2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	3	521	205	0	0	27
	4	181	16	231	0	0
	5	8	8	38	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0	0	0	0
	4	0	0	0	0
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.79	10.73	3.6	E
2				
3	0.43	3.29	0.8	A
4	0.39	4.78	0.6	A
5	0.08	5.09	0.1	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	849	374	1680	0.506	845	1.0	4.293	A
2		1021						
3	567	4	1923	0.295	565	0.4	2.648	B
4	322	569	1366	0.236	321	0.3	3.443	B
5	41	866	966	0.042	40	0.0	3.889	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1014	447	1636	0.620	1012	1.6	5.744	A
2		1222						
3	677	4	1922	0.352	676	0.5	2.887	B
4	385	681	1306	0.295	384	0.4	3.905	A
5	49	1037	882	0.055	48	0.1	4.318	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1242	548	1577	0.788	1234	3.5	10.290	B
2		1492						
3	829	5	1922	0.431	828	0.8	3.287	A
4	471	834	1224	0.385	470	0.6	4.772	A
5	59	1269	768	0.077	59	0.1	5.083	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1242	548	1576	0.788	1242	3.6	10.727	B
2		1499						
3	829	6	1922	0.431	829	0.8	3.294	A
4	471	835	1224	0.385	471	0.6	4.784	A
5	59	1271	767	0.078	59	0.1	5.088	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1014	448	1635	0.620	1022	1.7	5.940	A
2		1233						
3	677	5	1922	0.352	678	0.5	2.894	A
4	385	682	1305	0.295	386	0.4	3.920	A
5	49	1039	881	0.055	49	0.1	4.325	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	849	375	1679	0.506	852	1.0	4.367	A
2		1028						
3	567	4	1923	0.295	567	0.4	2.658	A
4	322	571	1365	0.236	323	0.3	3.458	A
5	41	870	964	0.042	41	0.0	3.897	A

2031 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	11.45	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2031 Base Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	889	100.000
2				
3		✓	1117	100.000
4		✓	775	100.000
5		✓	56	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
From		1	2	3	4	5
	1	0	21	863	0	5
	2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	3	813	277	0	0	27
	4	239	39	497	0	0
	5	21	7	28	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0	0	0	0
	4	0	0	0	0
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.73	9.72	2.6	A
2				
3	0.64	5.20	1.8	A
4	0.85	22.46	5.1	C
5	0.16	11.25	0.2	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	669	635	1525	0.439	666	0.8	4.178	A
2		1043						
3	841	4	1923	0.437	838	0.8	3.308	A
4	583	842	1220	0.478	580	0.9	5.597	A
5	42	1397	704	0.060	42	0.1	5.434	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	799	760	1451	0.551	797	1.2	5.498	A
2		1249						
3	1004	4	1922	0.522	1003	1.1	3.909	A
4	697	1007	1131	0.616	694	1.6	8.189	A
5	50	1673	569	0.089	50	0.1	6.942	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	979	924	1353	0.723	974	2.5	9.350	A
2		1520						
3	1230	5	1922	0.640	1227	1.8	5.164	A
4	853	1233	1011	0.844	841	4.7	19.850	C
5	62	2038	389	0.159	61	0.2	10.986	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	979	933	1348	0.726	979	2.6	9.720	A
2		1533						
3	1230	6	1922	0.640	1230	1.8	5.202	A
4	853	1235	1009	0.845	852	5.1	22.456	B
5	62	2052	382	0.162	62	0.2	11.246	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	799	773	1443	0.554	805	1.3	5.682	A
2		1266						
3	1004	5	1922	0.522	1007	1.1	3.944	A
4	697	1011	1129	0.617	710	1.7	8.870	A
5	50	1693	559	0.090	51	0.1	7.093	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	669	641	1521	0.440	671	0.8	4.243	A
2		1052						
3	841	4	1923	0.437	842	0.8	3.334	A
4	583	846	1218	0.479	586	0.9	5.732	A
5	42	1408	699	0.060	42	0.1	5.484	A

2031 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	11.10	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2031 Base Flows	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1235	100.000
2				
3		✓	823	100.000
4		✓	467	100.000
5		✓	60	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	38	1191	0	6
	2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	3	571	222	0	0	30
	4	199	17	251	0	0
	5	9	9	42	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0	0	0	0
	4	0	0	0	0
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.88	18.55	6.7	C
2				
3	0.47	3.55	0.9	A
4	0.44	5.39	0.8	A
5	0.09	5.60	0.1	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	930	406	1661	0.560	925	1.3	4.859	A
2		1116						
3	620	4	1922	0.322	618	0.5	2.756	B
4	352	622	1337	0.263	350	0.4	3.642	A
5	45	945	927	0.049	45	0.1	4.080	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1110	486	1613	0.688	1107	2.2	7.056	A
2		1336						
3	740	5	1922	0.385	739	0.6	3.042	B
4	420	745	1272	0.330	419	0.5	4.220	A
5	54	1132	835	0.065	54	0.1	4.607	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1360	595	1549	0.875	1343	6.3	16.366	C
2		1624						
3	906	7	1921	0.472	905	0.9	3.540	A
4	514	912	1182	0.435	513	0.8	5.369	A
5	66	1385	710	0.093	66	0.1	5.584	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1360	596	1548	0.678	1358	6.7	18.553	B
2		1639						
3	906	7	1921	0.472	906	0.9	3.546	A
4	514	913	1182	0.435	514	0.8	5.391	A
5	66	1387	709	0.093	66	0.1	5.595	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1110	487	1612	0.689	1128	2.3	7.689	A
2		1357						
3	740	5	1922	0.385	741	0.6	3.053	A
4	420	746	1271	0.330	421	0.5	4.242	A
5	54	1135	834	0.065	54	0.1	4.619	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	930	408	1659	0.560	934	1.3	4.986	A
2		1126						
3	620	5	1922	0.322	620	0.5	2.767	A
4	352	625	1336	0.263	352	0.4	3.663	A
5	45	950	925	0.049	45	0.1	4.092	A

2021 Assessment Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2021 Assessment Flows	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	811	100.000
2				
3		✓	1051	100.000
4		✓	713	100.000
5		✓	51	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
From		1	2	3	4	5
	1	0	19	788	0	4
	2	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	3	746	281	0	0	24
	4	218	36	459	0	0
	5	19	6	26	0	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	5
From	1	0	0	0	0
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0	0	0	0
	4	0	0	0	0
	5	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.65	7.48	1.8	A
2				
3	0.60	4.70	1.5	A
4	0.75	13.59	2.9	B
5	0.13	9.16	0.1	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	611	605	1542	0.396	608	0.7	3.842	A
2		957						
3	791	3	1923	0.411	788	0.7	3.164	A
4	537	791	1247	0.431	534	0.7	5.029	A
5	38	1304	750	0.051	38	0.1	5.055	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	729	725	1472	0.495	728	1.0	4.833	A
2		1146						
3	945	4	1923	0.491	944	1.0	3.674	A
4	641	947	1163	0.551	639	1.2	6.841	A
5	46	1561	624	0.074	46	0.1	6.231	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	893	884	1377	0.649	890	1.8	7.339	A
2		1399						
3	1157	4	1922	0.602	1155	1.5	4.678	A
4	785	1159	1050	0.748	779	2.8	12.975	B
5	56	1907	453	0.124	56	0.1	9.058	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	893	889	1374	0.650	893	1.8	7.477	A
2		1406						
3	1157	4	1922	0.602	1157	1.5	4.704	A
4	785	1162	1049	0.749	785	2.9	13.587	B
5	56	1915	449	0.125	56	0.1	9.161	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	729	732	1467	0.497	732	1.0	4.919	A
2		1156						
3	945	4	1923	0.491	947	1.0	3.695	A
4	641	951	1162	0.552	648	1.3	7.091	A
5	46	1573	618	0.074	46	0.1	6.298	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	611	610	1540	0.397	612	0.7	3.887	A
2		964						
3	791	3	1923	0.411	792	0.7	3.185	A
4	537	795	1245	0.431	539	0.8	5.115	A
5	38	1313	746	0.051	39	0.1	5.089	A