

Junctions 11

ARCADY 11 - Roundabout Module

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Path: \\uk-lon-fas02\projects\UNIF\Projects\BESP0016 Kent Countywide Model\KCC Model Custodian Framework\Call-off Tasks\Tonbridge & Malling and Sevenoaks LP\15 Local Modelling\July 2025 Modelling\J22
Report generation date: 29.07.2025 09:53:07

- »D1 - 2019 | Base | AM
- »D2 - 2019 | Base | PM
- »D3 - 2040 | T&M LP_High | AM
- »D4 - 2040 | T&M LP_High | PM
- »D5 - 2042 | Forecast Baseline | AM
- »D6 - 2042 | Forecast Baseline | PM

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2019 - Base											
A - B2260 N	D1	0,6	4,03	0,37	A	15 % [D - Barden Rd]	D2	0,6	3,71	0,36	A	22 % [D - Barden Rd]
B - Vale Rd		0,4	4,41	0,28	A			0,5	4,47	0,34	A	
C - B2260 S		1,1	5,72	0,52	A			1,3	6,03	0,55	A	
D - Barden Rd		1,1	18,60	0,53	C			0,7	15,47	0,42	C	
	2040 - T&M LP_High											
A - B2260 N	D3	0,8	4,44	0,43	A	9 % [D - Barden Rd]	D4	0,7	3,99	0,40	A	11 % [D - Barden Rd]
B - Vale Rd		0,5	4,86	0,32	A			0,5	4,56	0,32	A	
C - B2260 S		1,3	6,25	0,56	A			1,8	7,42	0,65	A	
D - Barden Rd		1,4	22,41	0,59	C			1,0	20,75	0,50	C	
	2042 - Forecast Baseline											
A - B2260 N	D5	0,6	4,05	0,37	A	12 % [D - Barden Rd]	D6	0,6	3,80	0,36	A	21 % [D - Barden Rd]
B - Vale Rd		0,4	4,53	0,30	A			0,6	5,13	0,36	A	
C - B2260 S		1,2	5,88	0,54	A			1,2	5,90	0,54	A	
D - Barden Rd		1,3	20,32	0,56	C			0,8	15,78	0,43	C	

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. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	24.07.2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JEGINTL\SIUDZIS
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	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0,85	36,00	20,00

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2019	Base	AM	ONE HOUR	08:00	09:30	15
D2	2019	Base	PM	ONE HOUR	17:00	18:30	15
D3	2040	T&M LP_High	AM	ONE HOUR	08:00	09:30	15
D4	2040	T&M LP_High	PM	ONE HOUR	17:00	18:30	15
D5	2042	Forecast Baseline	AM	ONE HOUR	08:00	09:30	15
D6	2042	Forecast Baseline	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100,000

D1 - 2019 | Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - B2260 N - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	B - Vale Rd - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	6,56	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	15	D - Barden Rd	6,56	A

Arms

Arms

Arm	Name	Description	No give-way line
A	B2260 N		
B	Vale Rd		
C	B2260 S		
D	Barden Rd		

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)	Entry only	Exit only
A - B2260 N	3,15	6,29	50,4	10,0	26,2	34,0		
B - Vale Rd	3,70	5,83	10,5	47,0	26,2	19,0		
C - B2260 S	3,88	5,32	2,6	492,0	26,2	8,0		
D - Barden Rd	3,00	3,00	0,0	4,7	26,2	8,0		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B - Vale Rd	3,00	3,00	2,90	1,00	6,00	6,00	7,00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - B2260 N	0,629	1638
B - Vale Rd	0,664	1613
C - B2260 S	0,658	1497
D - Barden Rd	0,456	832

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2019	Base	AM	ONE HOUR	08:00	09:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B2260 N		✓	498	100,000
B - Vale Rd		✓	302	100,000
C - B2260 S		✓	661	100,000
D - Barden Rd		✓	205	100,000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - B2260 N	
B - Vale Rd	0,00
C - B2260 S	
D - Barden Rd	

Origin-Destination Data

Demand (PCU/hr)

	To				
From		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	45	0	453	0
	B - Vale Rd	108	0	194	0
	C - B2260 S	580	81	0	0
	D - Barden Rd	52	76	77	0

Vehicle Mix

Heavy Vehicle %

	To				
From		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	2	0	4	0
	B - Vale Rd	1	0	8	0
	C - B2260 S	5	3	0	0
	D - Barden Rd	1	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - B2260 N	0,37	4,03	0,6	A
B - Vale Rd	0,28	4,41	0,4	A
C - B2260 S	0,52	5,72	1,1	A
D - Barden Rd	0,53	18,60	1,1	C

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	375	175		1528	0,245	374	0,3	3,235	A
B - Vale Rd	227	431	0,00	1327	0,171	226	0,2	3,443	A
C - B2260 S	498	115		1422	0,350	495	0,6	4,060	A
D - Barden Rd	154	610		553	0,279	153	0,4	9,141	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	448	210		1506	0,297	447	0,4	3,530	A
B - Vale Rd	271	516	0,00	1270	0,214	271	0,3	3,798	A
C - B2260 S	594	137		1407	0,422	593	0,8	4,630	A
D - Barden Rd	184	731		498	0,370	183	0,6	11,645	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	548	256		1477	0,371	548	0,6	4,018	A
B - Vale Rd	333	632	0,00	1193	0,279	332	0,4	4,403	A
C - B2260 S	728	168		1387	0,525	726	1,1	5,701	A
D - Barden Rd	226	894		424	0,533	224	1,1	18,176	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	548	258		1476	0,371	548	0,6	4,028	A
B - Vale Rd	333	633	0,00	1192	0,279	333	0,4	4,411	A
C - B2260 S	728	168		1387	0,525	728	1,1	5,724	A
D - Barden Rd	226	896		423	0,534	226	1,1	18,603	C

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	448	212		1505	0,298	448	0,4	3,539	A
B - Vale Rd	271	518	0,00	1269	0,214	272	0,3	3,810	A
C - B2260 S	594	138		1407	0,422	596	0,8	4,658	A
D - Barden Rd	184	734		497	0,371	186	0,6	11,910	B

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	375	177		1527	0,246	375	0,3	3,248	A
B - Vale Rd	227	434	0,00	1325	0,172	228	0,2	3,457	A
C - B2260 S	498	115		1421	0,350	498	0,6	4,090	A
D - Barden Rd	154	614		552	0,280	155	0,4	9,289	A

D2 - 2019 | Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - B2260 N - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	B - Vale Rd - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5,85	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	22	D - Barden Rd	5,85	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2019	Base	PM	ONE HOUR	17:00	18:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B2260 N		✓	505	100,000
B - Vale Rd		✓	369	100,000
C - B2260 S		✓	688	100,000
D - Barden Rd		✓	152	100,000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - B2260 N	
B - Vale Rd	0,00
C - B2260 S	
D - Barden Rd	

Origin-Destination Data

Demand (PCU/hr)

	To				
From		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	47	0	458	0
	B - Vale Rd	125	0	244	0
	C - B2260 S	636	52	0	0
	D - Barden Rd	43	66	43	0

Vehicle Mix

Heavy Vehicle %

From	To				
		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	1	0	0	1
	B - Vale Rd	0	0	0	1
	C - B2260 S	3	3	0	0
	D - Barden Rd	0	0	0	2

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - B2260 N	0,36	3,71	0,6	A
B - Vale Rd	0,34	4,47	0,5	A
C - B2260 S	0,55	6,03	1,3	A
D - Barden Rd	0,42	15,47	0,7	C

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	380	120		1562	0,243	379	0,3	3,042	A
B - Vale Rd	278	411	0,00	1340	0,207	277	0,3	3,383	A
C - B2260 S	518	129		1412	0,367	516	0,6	4,124	A
D - Barden Rd	114	645		538	0,213	113	0,3	8,463	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	454	144		1547	0,293	454	0,4	3,295	A
B - Vale Rd	332	492	0,00	1286	0,258	331	0,3	3,771	A
C - B2260 S	618	154		1396	0,443	618	0,8	4,761	A
D - Barden Rd	137	772		480	0,285	136	0,4	10,467	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	556	176		1527	0,364	555	0,6	3,706	A
B - Vale Rd	406	602	0,00	1213	0,335	406	0,5	4,458	A
C - B2260 S	758	189		1373	0,552	756	1,2	5,991	A
D - Barden Rd	167	945		401	0,418	166	0,7	15,264	C

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	556	177		1527	0,364	556	0,6	3,711	A
B - Vale Rd	406	603	0,00	1212	0,335	406	0,5	4,466	A
C - B2260 S	758	189		1373	0,552	757	1,3	6,026	A
D - Barden Rd	167	947		400	0,419	167	0,7	15,473	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	454	146		1546	0,294	455	0,4	3,304	A
B - Vale Rd	332	494	0,00	1285	0,258	332	0,3	3,780	A
C - B2260 S	618	155		1395	0,443	620	0,8	4,793	A
D - Barden Rd	137	775		478	0,286	138	0,4	10,617	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	380	122		1561	0,243	381	0,3	3,053	A
B - Vale Rd	278	413	0,00	1338	0,208	278	0,3	3,395	A
C - B2260 S	518	130		1412	0,367	519	0,6	4,155	A
D - Barden Rd	114	649		536	0,214	115	0,3	8,562	A

D3 - 2040 | T&M LP_High | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - B2260 N - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	B - Vale Rd - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	7,30	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	9	D - Barden Rd	7,30	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2040	T&M LP_High	AM	ONE HOUR	08:00	09:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B2260 N		✓	573	100,000
B - Vale Rd		✓	331	100,000
C - B2260 S		✓	706	100,000
D - Barden Rd		✓	211	100,000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - B2260 N	
B - Vale Rd	0,00
C - B2260 S	
D - Barden Rd	

Origin-Destination Data

Demand (PCU/hr)

From	To				
		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	43	9	521	0
	B - Vale Rd	118	0	213	0
	C - B2260 S	614	92	0	0
	D - Barden Rd	53	82	76	0

Vehicle Mix

Heavy Vehicle %

	To				
		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	3	0	3	0
	B - Vale Rd	1	0	8	0
	C - B2260 S	5	3	0	0
	D - Barden Rd	1	2	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - B2260 N	0,43	4,44	0,8	A
B - Vale Rd	0,32	4,86	0,5	A
C - B2260 S	0,56	6,25	1,3	A
D - Barden Rd	0,59	22,41	1,4	C

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	431	187		1521	0,284	430	0,4	3,393	A
B - Vale Rd	249	480	0,00	1294	0,193	248	0,3	3,623	A
C - B2260 S	532	121		1418	0,375	529	0,6	4,230	A
D - Barden Rd	159	650		535	0,297	157	0,4	9,710	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	515	224		1497	0,344	515	0,5	3,769	A
B - Vale Rd	298	574	0,00	1231	0,242	297	0,3	4,061	A
C - B2260 S	635	145		1402	0,453	634	0,9	4,900	A
D - Barden Rd	190	778		477	0,398	189	0,7	12,763	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	631	273		1466	0,430	630	0,8	4,426	A
B - Vale Rd	364	703	0,00	1146	0,318	364	0,5	4,845	A
C - B2260 S	777	177		1381	0,563	775	1,3	6,207	A
D - Barden Rd	232	952		397	0,585	229	1,4	21,639	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	631	275		1465	0,431	631	0,8	4,443	A
B - Vale Rd	364	705	0,00	1145	0,318	364	0,5	4,860	A
C - B2260 S	777	177		1381	0,563	777	1,3	6,248	A
D - Barden Rd	232	955		396	0,586	232	1,4	22,405	C

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	515	227		1495	0,345	516	0,5	3,790	A
B - Vale Rd	298	577	0,00	1229	0,242	298	0,3	4,076	A
C - B2260 S	635	145		1402	0,453	637	0,9	4,937	A
D - Barden Rd	190	782		475	0,399	193	0,7	13,172	B

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	431	189		1519	0,284	432	0,4	3,409	A
B - Vale Rd	249	483	0,00	1292	0,193	250	0,3	3,642	A
C - B2260 S	532	121		1417	0,375	532	0,6	4,266	A
D - Barden Rd	159	654		533	0,298	160	0,4	9,901	A

D4 - 2040 | T&M LP_High | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - B2260 N - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	B - Vale Rd - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	7,03	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	11	D - Barden Rd	7,03	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2040	T&M LP_High	PM	ONE HOUR	17:00	18:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B2260 N		✓	551	100,000
B - Vale Rd		✓	343	100,000
C - B2260 S		✓	819	100,000
D - Barden Rd		✓	160	100,000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - B2260 N	
B - Vale Rd	0,00
C - B2260 S	
D - Barden Rd	

Origin-Destination Data

Demand (PCU/hr)

From	To				
		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	53	0	498	0
	B - Vale Rd	86	0	257	0
	C - B2260 S	756	63	0	0
	D - Barden Rd	49	69	42	0

Vehicle Mix

Heavy Vehicle %

	To				
		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	1	0	1	0
	B - Vale Rd	0	0	2	0
	C - B2260 S	2	3	0	0
	D - Barden Rd	0	0	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - B2260 N	0,40	3,99	0,7	A
B - Vale Rd	0,32	4,56	0,5	A
C - B2260 S	0,65	7,42	1,8	A
D - Barden Rd	0,50	20,75	1,0	C

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	415	130		1556	0,267	413	0,4	3,177	A
B - Vale Rd	258	445	0,00	1318	0,196	257	0,2	3,443	A
C - B2260 S	617	104		1429	0,432	614	0,8	4,490	A
D - Barden Rd	120	718		504	0,239	119	0,3	9,391	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	495	156		1540	0,322	495	0,5	3,476	A
B - Vale Rd	308	532	0,00	1259	0,245	308	0,3	3,840	A
C - B2260 S	736	125		1415	0,520	735	1,1	5,392	A
D - Barden Rd	144	860		440	0,327	143	0,5	12,212	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	607	190		1519	0,400	606	0,7	3,980	A
B - Vale Rd	378	652	0,00	1180	0,320	377	0,5	4,547	A
C - B2260 S	902	153		1397	0,646	899	1,8	7,337	A
D - Barden Rd	176	1052		352	0,500	174	1,0	20,180	C

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	607	191		1518	0,400	607	0,7	3,991	A
B - Vale Rd	378	653	0,00	1179	0,320	378	0,5	4,557	A
C - B2260 S	902	153		1397	0,646	902	1,8	7,421	A
D - Barden Rd	176	1055		351	0,502	176	1,0	20,747	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	495	158		1539	0,322	496	0,5	3,489	A
B - Vale Rd	308	534	0,00	1258	0,245	309	0,3	3,852	A
C - B2260 S	736	125		1415	0,520	739	1,1	5,461	A
D - Barden Rd	144	864		437	0,329	146	0,5	12,519	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	415	132		1555	0,267	415	0,4	3,192	A
B - Vale Rd	258	447	0,00	1316	0,196	259	0,2	3,455	A
C - B2260 S	617	105		1428	0,432	618	0,8	4,543	A
D - Barden Rd	120	723		502	0,240	121	0,3	9,544	A

D5 - 2042 | Forecast Baseline | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - B2260 N - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Pedestrian Crossing	B - Vale Rd - Pedestrian crossing	Pedestrian crossing uses default flow of 0. Is this correct?

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	6,89	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	12	D - Barden Rd	6,89	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2042	Forecast Baseline	AM	ONE HOUR	08:00	09:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B2260 N		✓	489	100,000
B - Vale Rd		✓	326	100,000
C - B2260 S		✓	674	100,000
D - Barden Rd		✓	212	100,000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - B2260 N	
B - Vale Rd	0,00
C - B2260 S	
D - Barden Rd	

Origin-Destination Data

Demand (PCU/hr)

	To				
From		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	44	9	436	0
	B - Vale Rd	114	0	212	0
	C - B2260 S	581	93	0	0
	D - Barden Rd	51	73	88	0

Vehicle Mix

Heavy Vehicle %

From	To				
		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	3	0	4	0
	B - Vale Rd	1	0	8	0
	C - B2260 S	5	3	0	0
	D - Barden Rd	1	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - B2260 N	0,37	4,05	0,6	A
B - Vale Rd	0,30	4,53	0,4	A
C - B2260 S	0,54	5,88	1,2	A
D - Barden Rd	0,56	20,32	1,3	C

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	368	190		1519	0,242	367	0,3	3,242	A
B - Vale Rd	245	426	0,00	1330	0,185	244	0,2	3,493	A
C - B2260 S	507	118		1419	0,358	505	0,6	4,114	A
D - Barden Rd	160	624		547	0,292	158	0,4	9,409	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	440	228		1495	0,294	439	0,4	3,541	A
B - Vale Rd	293	510	0,00	1274	0,230	293	0,3	3,867	A
C - B2260 S	606	142		1404	0,432	605	0,8	4,714	A
D - Barden Rd	191	747		491	0,388	190	0,6	12,170	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	538	278		1463	0,368	538	0,6	4,035	A
B - Vale Rd	359	624	0,00	1199	0,299	358	0,4	4,514	A
C - B2260 S	742	174		1383	0,537	740	1,2	5,851	A
D - Barden Rd	233	914		415	0,563	231	1,3	19,761	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	538	280		1462	0,368	538	0,6	4,045	A
B - Vale Rd	359	625	0,00	1198	0,300	359	0,4	4,525	A
C - B2260 S	742	174		1383	0,537	742	1,2	5,882	A
D - Barden Rd	233	916		414	0,564	233	1,3	20,324	C

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	440	230		1493	0,294	440	0,4	3,551	A
B - Vale Rd	293	512	0,00	1273	0,230	294	0,3	3,880	A
C - B2260 S	606	142		1404	0,432	608	0,8	4,745	A
D - Barden Rd	191	750		490	0,389	193	0,7	12,499	B

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	368	192		1517	0,243	369	0,3	3,257	A
B - Vale Rd	245	428	0,00	1328	0,185	246	0,2	3,509	A
C - B2260 S	507	119		1419	0,358	508	0,6	4,144	A
D - Barden Rd	160	627		546	0,293	161	0,4	9,578	A

D6 - 2042 | Forecast Baseline | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A - B2260 N - 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		A, B, C, D	6,04	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	21	D - Barden Rd	6,04	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2042	Forecast Baseline	PM	ONE HOUR	17:00	18:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - B2260 N		✓	499	100,000
B - Vale Rd		✓	370	100,000
C - B2260 S		✓	673	100,000
D - Barden Rd		✓	159	100,000

Demand overview (Pedestrians)

Arm	Average pedestrian flow (Ped/hr)
A - B2260 N	
B - Vale Rd	50,00
C - B2260 S	
D - Barden Rd	

Origin-Destination Data

Demand (PCU/hr)

	To				
		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	47	0	452	0
	B - Vale Rd	129	0	241	0
	C - B2260 S	612	61	0	0
	D - Barden Rd	42	65	52	0

Vehicle Mix

Heavy Vehicle %

From	To				
		A - B2260 N	B - Vale Rd	C - B2260 S	D - Barden Rd
	A - B2260 N	1	0	2	0
	B - Vale Rd	0	0	2	0
	C - B2260 S	3	3	0	0
	D - Barden Rd	0	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A - B2260 N	0,36	3,80	0,6	A
B - Vale Rd	0,36	5,13	0,6	A
C - B2260 S	0,54	5,90	1,2	A
D - Barden Rd	0,43	15,78	0,8	C

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	376	133		1554	0,242	374	0,3	3,106	A
B - Vale Rd	279	413	37,64	1252	0,223	277	0,3	3,737	A
C - B2260 S	507	132		1411	0,359	504	0,6	4,083	A
D - Barden Rd	120	636		541	0,221	119	0,3	8,580	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	449	160		1538	0,292	448	0,4	3,367	A
B - Vale Rd	333	495	44,95	1194	0,278	332	0,4	4,227	A
C - B2260 S	605	158		1393	0,434	604	0,8	4,693	A
D - Barden Rd	143	762		484	0,295	142	0,4	10,631	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	549	195		1515	0,363	549	0,6	3,793	A
B - Vale Rd	407	606	55,05	1117	0,365	407	0,6	5,128	A
C - B2260 S	741	193		1370	0,541	739	1,2	5,863	A
D - Barden Rd	175	933		406	0,431	174	0,7	15,559	C

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	549	196		1515	0,363	549	0,6	3,799	A
B - Vale Rd	407	607	55,05	1121	0,364	407	0,6	5,111	A
C - B2260 S	741	194		1370	0,541	741	1,2	5,895	A
D - Barden Rd	175	935		405	0,432	175	0,8	15,784	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	449	161		1537	0,292	449	0,4	3,374	A
B - Vale Rd	333	496	44,95	1199	0,277	333	0,4	4,216	A
C - B2260 S	605	159		1393	0,434	607	0,8	4,724	A
D - Barden Rd	143	765		483	0,296	144	0,4	10,790	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A - B2260 N	376	135		1553	0,242	376	0,3	3,118	A
B - Vale Rd	279	415	37,64	1257	0,222	279	0,3	3,729	A
C - B2260 S	507	133		1410	0,359	508	0,6	4,112	A
D - Barden Rd	120	640		540	0,222	120	0,3	8,687	A