

Junctions 9
ARCADY 9 - Roundabout Module
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Path: H:_Planning 2\Current Jobs\SPRust(BrookLane).1\Analysis\Arcady

Report generation date: 19/04/2017 10:05:05

»2017 Observed Weekday, AM
»2019 Base + Com Dev, AM
»2022 Base + Com Dev, AM
»2019 Base + Com Dev + Dev, AM
»2022 Base + Com Dev + Dev, AM

Summary of junction performance

	AM				
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
	2017 Observed Weekday				
Arm A	1.0	0.05	0.50	A	20 % [Arm D]
Arm B	1.4	0.13	0.58	A	
Arm C	1.6	0.14	0.61	A	
Arm D	3.1	0.14	0.76	A	
Arm E	0.2	0.12	0.14	A	
	2019 Base + Com Dev				
Arm A	1.1	0.06	0.52	A	22 % [Arm C]
Arm B	1.5	0.14	0.61	A	
Arm C	1.8	0.16	0.64	A	
Arm D	2.7	0.12	0.73	A	
Arm E	0.2	0.13	0.15	A	
	2022 Base + Com Dev				
Arm A	1.2	0.06	0.55	A	16 % [Arm C]
Arm B	1.8	0.17	0.65	B	
Arm C	2.2	0.19	0.69	B	
Arm D	3.4	0.15	0.77	A	
Arm E	0.2	0.14	0.16	A	
	2019 Base + Com Dev + Dev				
Arm A	1.2	0.06	0.54	A	20 % [Arm C]
Arm B	1.6	0.15	0.62	A	
Arm C	1.9	0.17	0.65	A	
Arm D	2.9	0.13	0.74	A	
Arm E	0.2	0.13	0.15	A	
	2022 Base + Com Dev + Dev				
Arm A	1.3	0.06	0.57	A	15 % [Arm C]
Arm B	2.0	0.18	0.67	B	
Arm C	2.3	0.20	0.70	B	
Arm D	3.6	0.16	0.79	A	
Arm E	0.2	0.14	0.17	A	

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	The Body Shop Roundabout
Location	Rustington, West Sussex
Site number	
Date	19/09/2013
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAYERBROWN2Kloneaves
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	Veh	Veh	perHour	min	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (min)	Queue threshold (PCU)
5.75			✓	Delay	0.85	0.60	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)	Run automatically
D1	2017 Observed Weekday	AM	ONE HOUR	07:45	09:15	15	✓
D2	2019 Base + Com Dev	AM	ONE HOUR	07:45	09:15	15	✓
D3	2022 Base + Com Dev	AM	ONE HOUR	07:45	09:15	15	✓
D4	2019 Base + Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D5	2022 Base + Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed Weekday, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(untitled)	Standard Roundabout	A,B,C,D,E	0.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	20	Arm D

Arms

Arms

Arm	Name	Description
A	A259 East	
B	B2187 Worthing Road	
C	B2187 Horsham Road	
D	A259 Worthing Road	
E	Norway Lane	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A	7.20	10.00	21.7	25.0	75.0	42.0	
B	3.35	7.00	21.7	21.0	75.0	35.0	
C	3.70	7.60	14.5	33.0	75.0	35.0	
D	3.75	11.70	22.5	37.6	75.0	36.0	
E	3.50	7.00	5.6	18.5	75.0	43.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	2693
B	0.484	1708
C	0.496	1760
D	0.573	2272
E	0.421	1345

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)	Run automatically
D1	2017 Observed Weekday	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1014	100.000
B		ONE HOUR	✓	560	100.000
C		ONE HOUR	✓	603	100.000
D		ONE HOUR	✓	1180	100.000
E		ONE HOUR	✓	74	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A	B	C	D	E
From	A	10	15	312	623	54
	B	23	0	128	358	51
	C	333	83	0	152	35
	D	661	353	58	12	96
	E	31	15	12	16	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A	B	C	D	E
From	A	10	0	2	3	0
	B	4	0	5	4	0
	C	1	7	0	3	3
	D	5	2	2	8	82
	E	3	0	8	13	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.50	0.05	1.0	A	930	1396
B	0.58	0.13	1.4	A	514	771
C	0.61	0.14	1.6	A	553	830
D	0.76	0.14	3.1	A	1083	1624
E	0.14	0.12	0.2	A	68	102

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	763	191	411	2366	0.323	761	793	0.0	0.5	0.037	A
B	422	105	824	1250	0.337	420	349	0.0	0.5	0.072	A
C	454	113	861	1287	0.353	452	383	0.0	0.5	0.072	A
D	888	222	441	1826	0.486	885	871	0.0	0.9	0.063	A
E	56	14	1149	801	0.070	55	177	0.0	0.1	0.080	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	912	228	493	2314	0.394	911	949	0.5	0.6	0.043	A
B	503	126	985	1172	0.429	502	418	0.5	0.7	0.089	A
C	542	136	1030	1203	0.451	541	458	0.5	0.8	0.091	A
D	1061	265	529	1780	0.596	1059	1042	0.9	1.5	0.083	A
E	67	17	1375	707	0.094	66	212	0.1	0.1	0.094	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1116	279	602	2245	0.497	1115	1160	0.6	1.0	0.053	A
B	617	154	1206	1066	0.578	614	511	0.7	1.3	0.132	A
C	664	166	1260	1088	0.610	661	560	0.8	1.5	0.140	A
D	1299	325	646	1718	0.756	1293	1275	1.5	3.0	0.139	A
E	81	20	1680	581	0.140	81	259	0.1	0.2	0.120	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1116	279	604	2243	0.498	1116	1165	1.0	1.0	0.053	A
B	617	154	1208	1066	0.579	617	513	1.3	1.4	0.134	A
C	664	166	1263	1086	0.611	664	561	1.5	1.6	0.142	A
D	1299	325	648	1716	0.757	1299	1278	3.0	3.1	0.144	A
E	81	20	1688	578	0.141	81	260	0.2	0.2	0.121	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	912	228	496	2312	0.394	913	956	1.0	0.7	0.043	A
B	503	126	988	1171	0.430	506	421	1.4	0.8	0.091	A
C	542	136	1034	1201	0.452	545	460	1.6	0.8	0.092	A
D	1061	265	532	1778	0.597	1067	1047	3.1	1.5	0.085	A
E	67	17	1386	703	0.095	67	213	0.2	0.1	0.094	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	763	191	414	2364	0.323	764	798	0.7	0.5	0.038	A
B	422	105	827	1248	0.338	423	352	0.8	0.5	0.073	A
C	454	113	865	1285	0.353	455	385	0.8	0.6	0.072	A
D	888	222	444	1824	0.487	891	875	1.5	1.0	0.064	A
E	56	14	1157	797	0.070	56	178	0.1	0.1	0.081	A

2019 Base + Com Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(untitled)	Standard Roundabout	A,B,C,D,E	0.11	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	22	Arm C

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)	Run automatically
D2	2019 Base + Com Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1054	100.000
B		ONE HOUR	✓	576	100.000
C		ONE HOUR	✓	621	100.000
D		ONE HOUR	✓	1206	100.000
E		ONE HOUR	✓	75	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
	A	B	C	D	E	
From	A	13	16	326	643	56
	B	24	1	132	367	52
	C	347	85	0	153	36
	D	680	362	53	12	99
	E	32	15	12	16	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A	B	C	D	E
From	A	8	0	2	3	0
	B	4	0	5	4	0
	C	1	7	0	3	3
	D	5	2	2	8	2
	E	3	0	8	13	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.52	0.06	1.1	A	967	1451
B	0.61	0.14	1.5	A	529	793
C	0.64	0.16	1.8	A	570	855
D	0.73	0.12	2.7	A	1107	1660
E	0.15	0.13	0.2	A	69	103

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	794	198	417	2362	0.336	791	822	0.0	0.5	0.038	A
B	434	108	849	1238	0.350	432	359	0.0	0.5	0.074	A
C	468	117	888	1274	0.367	465	392	0.0	0.6	0.074	A
D	908	227	460	1930	0.470	904	893	0.0	0.9	0.058	A
E	56	14	1182	787	0.072	56	182	0.0	0.1	0.082	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	948	237	499	2310	0.410	947	983	0.5	0.7	0.044	A
B	518	129	1016	1158	0.447	517	430	0.5	0.8	0.093	A
C	558	140	1063	1186	0.471	557	470	0.6	0.9	0.095	A
D	1084	271	551	1879	0.577	1082	1069	0.9	1.3	0.075	A
E	67	17	1415	691	0.098	67	218	0.1	0.1	0.096	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1160	290	610	2240	0.518	1159	1202	0.7	1.1	0.055	A
B	634	159	1243	1049	0.605	631	525	0.8	1.5	0.143	A
C	684	171	1300	1068	0.640	680	574	0.9	1.7	0.154	A
D	1328	332	673	1810	0.734	1323	1308	1.3	2.7	0.122	A
E	83	21	1729	561	0.147	82	267	0.1	0.2	0.125	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1160	290	612	2239	0.518	1160	1207	1.1	1.1	0.056	A
B	634	159	1245	1048	0.605	634	527	1.5	1.5	0.145	A
C	684	171	1304	1066	0.641	684	576	1.7	1.8	0.157	A
D	1328	332	676	1808	0.734	1328	1311	2.7	2.7	0.125	A
E	83	21	1736	558	0.148	83	268	0.2	0.2	0.126	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	948	237	502	2308	0.411	949	990	1.1	0.7	0.044	A
B	518	129	1019	1156	0.448	521	433	1.5	0.8	0.095	A
C	558	140	1068	1184	0.471	562	472	1.8	0.9	0.097	A
D	1084	271	555	1876	0.578	1090	1074	2.7	1.4	0.077	A
E	67	17	1425	687	0.098	68	219	0.2	0.1	0.097	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	794	198	420	2361	0.336	794	827	0.7	0.5	0.038	A
B	434	108	852	1236	0.351	435	361	0.8	0.5	0.075	A
C	468	117	893	1271	0.368	469	394	0.9	0.6	0.075	A
D	908	227	463	1928	0.471	910	898	1.4	0.9	0.059	A
E	56	14	1190	784	0.072	57	183	0.1	0.1	0.083	A

2022 Base + Com Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(untitled)	Standard Roundabout	A,B,C,D,E	0.13	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	16	Arm C

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)	Run automatically
D3	2022 Base + Com Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1101	100.000
B		ONE HOUR	✓	603	100.000
C		ONE HOUR	✓	649	100.000
D		ONE HOUR	✓	1261	100.000
E		ONE HOUR	✓	79	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
	A	B	C	D	E	
From	A	13	17	341	672	58
	B	25	1	138	384	55
	C	362	89	0	160	38
	D	710	379	56	13	103
	E	33	16	13	17	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A	B	C	D	E
From	A	8	0	2	3	0
	B	4	0	6	4	0
	C	1	7	0	3	3
	D	5	2	2	7	2
	E	3	0	7	12	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.55	0.06	1.2	A	1010	1515
B	0.65	0.17	1.8	B	553	830
C	0.69	0.19	2.2	B	596	893
D	0.77	0.15	3.4	A	1157	1736
E	0.16	0.14	0.2	A	72	109

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	829	207	438	2349	0.353	827	857	0.0	0.5	0.039	A
B	454	113	888	1216	0.373	452	376	0.0	0.6	0.078	A
C	489	122	929	1254	0.390	486	411	0.0	0.6	0.078	A
D	949	237	480	1919	0.495	945	934	0.0	1.0	0.061	A
E	59	15	1235	768	0.077	59	190	0.0	0.1	0.085	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	990	247	524	2295	0.431	989	1025	0.5	0.8	0.046	A
B	542	136	1062	1133	0.478	541	450	0.6	0.9	0.101	A
C	583	146	1111	1162	0.502	582	492	0.6	1.0	0.103	A
D	1134	283	575	1865	0.608	1131	1118	1.0	1.5	0.081	A
E	71	18	1478	667	0.106	71	228	0.1	0.1	0.101	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1212	303	640	2221	0.546	1210	1252	0.8	1.2	0.059	A
B	664	166	1300	1019	0.651	660	550	0.9	1.8	0.165	A
C	715	179	1359	1039	0.688	710	602	1.0	2.1	0.180	B
D	1388	347	702	1794	0.774	1381	1367	1.5	3.3	0.143	A
E	87	22	1805	531	0.164	87	278	0.1	0.2	0.135	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1212	303	643	2219	0.546	1212	1258	1.2	1.2	0.060	A
B	664	166	1302	1018	0.652	664	553	1.8	1.8	0.169	B
C	715	179	1363	1037	0.689	714	603	2.1	2.2	0.186	B
D	1388	347	706	1792	0.775	1388	1372	3.3	3.4	0.148	A
E	87	22	1814	528	0.165	87	280	0.2	0.2	0.136	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	990	247	528	2292	0.432	992	1034	1.2	0.8	0.046	A
B	542	136	1066	1131	0.479	546	454	1.8	0.9	0.103	A
C	583	146	1117	1159	0.503	588	494	2.2	1.0	0.106	A
D	1134	283	580	1862	0.609	1141	1125	3.4	1.6	0.084	A
E	71	18	1491	662	0.107	71	230	0.2	0.1	0.102	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	829	207	441	2347	0.353	830	863	0.8	0.5	0.040	A
B	454	113	892	1215	0.374	455	379	0.9	0.6	0.079	A
C	489	122	934	1251	0.391	490	413	1.0	0.6	0.079	A
D	949	237	484	1917	0.495	952	940	1.6	1.0	0.062	A
E	59	15	1244	764	0.078	60	192	0.1	0.1	0.085	A

2019 Base + Com Dev + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(untitled)	Standard Roundabout	A,B,C,D,E	0.12	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	20	Arm C

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)	Run automatically
D4	2019 Base + Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1093	100.000
B		ONE HOUR	✓	576	100.000
C		ONE HOUR	✓	621	100.000
D		ONE HOUR	✓	1210	100.000
E		ONE HOUR	✓	75	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
	A	B	C	D	E	
From	A	41	16	328	652	56
	B	24	1	132	367	52
	C	347	85	0	153	36
	D	684	362	53	12	99
	E	32	15	12	16	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A	B	C	D	E
From	A	2	0	2	3	0
	B	4	0	5	4	0
	C	1	7	0	3	3
	D	5	2	2	8	2
	E	3	0	8	13	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.54	0.06	1.2	A	1003	1504
B	0.62	0.15	1.6	A	529	793
C	0.65	0.17	1.9	A	570	855
D	0.74	0.13	2.9	A	1110	1665
E	0.15	0.13	0.2	A	69	103

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	823	206	417	2364	0.348	821	846	0.0	0.5	0.039	A
B	434	108	878	1224	0.354	431	359	0.0	0.5	0.076	A
C	468	117	916	1260	0.371	465	394	0.0	0.6	0.075	A
D	911	228	481	1918	0.475	907	900	0.0	0.9	0.059	A
E	56	14	1206	778	0.073	56	182	0.0	0.1	0.083	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	983	246	499	2312	0.425	982	1012	0.5	0.7	0.045	A
B	518	129	1051	1141	0.454	517	430	0.5	0.8	0.096	A
C	558	140	1096	1170	0.477	557	471	0.6	0.9	0.098	A
D	1088	272	576	1865	0.583	1086	1077	0.9	1.4	0.077	A
E	67	17	1444	679	0.099	67	218	0.1	0.1	0.098	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1203	301	610	2242	0.537	1202	1236	0.7	1.1	0.058	A
B	634	159	1286	1029	0.617	631	525	0.8	1.6	0.150	A
C	684	171	1341	1048	0.652	680	577	0.9	1.8	0.161	A
D	1332	333	704	1793	0.743	1327	1317	1.4	2.8	0.127	A
E	83	21	1764	547	0.151	82	267	0.1	0.2	0.129	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1203	301	612	2240	0.537	1203	1242	1.1	1.2	0.058	A
B	634	159	1288	1028	0.617	634	527	1.6	1.6	0.152	A
C	684	171	1344	1046	0.653	684	578	1.8	1.9	0.165	A
D	1332	333	707	1791	0.744	1332	1321	2.8	2.9	0.130	A
E	83	21	1771	544	0.152	83	268	0.2	0.2	0.130	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	983	246	503	2310	0.425	984	1020	1.2	0.7	0.045	A
B	518	129	1054	1140	0.454	521	433	1.6	0.8	0.097	A
C	558	140	1101	1168	0.478	562	473	1.9	0.9	0.100	A
D	1088	272	580	1862	0.584	1093	1083	2.9	1.4	0.079	A
E	67	17	1454	675	0.100	68	219	0.2	0.1	0.099	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	823	206	420	2363	0.348	824	851	0.7	0.5	0.039	A
B	434	108	882	1222	0.355	435	361	0.8	0.6	0.076	A
C	468	117	921	1258	0.372	469	396	0.9	0.6	0.076	A
D	911	228	485	1916	0.475	913	905	1.4	0.9	0.060	A
E	56	14	1214	774	0.073	57	183	0.1	0.1	0.084	A

2022 Base + Com Dev + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (min)	Junction LOS
1	(untitled)	Standard Roundabout	A,B,C,D,E	0.14	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	15	Arm C

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)	Run automatically
D5	2022 Base + Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1140	100.000
B		ONE HOUR	✓	603	100.000
C		ONE HOUR	✓	650	100.000
D		ONE HOUR	✓	1265	100.000
E		ONE HOUR	✓	79	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
	A	B	C	D	E	
From	A	42	17	342	681	58
	B	25	1	138	384	55
	C	363	89	0	160	38
	D	714	379	56	13	103
	E	33	16	13	17	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A	B	C	D	E
From	A	2	0	2	3	0
	B	4	0	6	4	0
	C	1	7	0	3	3
	D	5	2	2	8	2
	E	3	0	8	12	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.57	0.06	1.3	A	1046	1569
B	0.67	0.18	2.0	B	553	830
C	0.70	0.20	2.3	B	596	895
D	0.79	0.16	3.6	A	1161	1741
E	0.17	0.14	0.2	A	72	109

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	858	215	438	2351	0.365	856	882	0.0	0.6	0.040	A
B	454	113	917	1203	0.377	452	376	0.0	0.6	0.080	A
C	489	122	957	1240	0.395	487	412	0.0	0.6	0.079	A
D	952	238	503	1906	0.500	948	941	0.0	1.0	0.062	A
E	59	15	1261	756	0.079	59	190	0.0	0.1	0.086	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1025	256	524	2296	0.446	1024	1056	0.6	0.8	0.047	A
B	542	136	1097	1117	0.485	541	450	0.6	0.9	0.104	A
C	584	146	1145	1146	0.510	583	493	0.6	1.0	0.106	A
D	1137	284	602	1850	0.615	1135	1126	1.0	1.6	0.084	A
E	71	18	1509	654	0.109	71	228	0.1	0.1	0.103	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1255	314	639	2223	0.565	1253	1288	0.8	1.3	0.062	A
B	664	166	1343	999	0.664	660	550	0.9	1.9	0.175	B
C	716	179	1400	1018	0.703	711	603	1.0	2.3	0.192	B
D	1393	348	734	1776	0.784	1385	1377	1.6	3.5	0.151	A
E	87	22	1841	516	0.169	87	278	0.1	0.2	0.140	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1255	314	643	2221	0.565	1255	1296	1.3	1.3	0.062	A
B	664	166	1345	998	0.665	664	553	1.9	2.0	0.179	B
C	716	179	1405	1016	0.704	715	604	2.3	2.3	0.199	B
D	1393	348	739	1773	0.785	1392	1382	3.5	3.6	0.157	A
E	87	22	1851	512	0.170	87	280	0.2	0.2	0.141	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	1025	256	529	2293	0.447	1027	1066	1.3	0.8	0.047	A
B	542	136	1101	1115	0.486	546	454	2.0	1.0	0.106	A
C	584	146	1152	1143	0.511	589	495	2.3	1.1	0.109	A
D	1137	284	608	1847	0.616	1145	1133	3.6	1.6	0.086	A
E	71	18	1523	648	0.110	71	230	0.2	0.1	0.104	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (min)	LOS
A	858	215	441	2349	0.365	859	889	0.8	0.6	0.040	A
B	454	113	921	1201	0.378	455	379	1.0	0.6	0.081	A
C	489	122	962	1237	0.396	491	414	1.1	0.7	0.081	A
D	952	238	507	1904	0.500	955	947	1.6	1.0	0.063	A
E	59	15	1270	753	0.079	60	192	0.1	0.1	0.087	A