Junctions 8

ARCADY 8 - Roundabout Module

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

Filename: Waterloo Rd Shawbridge St Prop DTPC Mini Imp Dec 2020.arc8
Path: G:\My Drive\DTP Nov 2020\DTPC 351\P 351_369 High Moor\2020\Analysis
Report generation date: 07/12/2020 09:53:39

Summary of junction performance

	AM			PM		
	Queue (PCU)	RFC	LOS	Queue (PCU)	RFC	LOS
	A1 - 2020 Background + Development Flows					
Arm 1	1.06	0.52	A	0.77	0.44	A
Arm 2	4.17	0.82	C	5.66	0.86	C
Arm 3	11.60	0.96	F	34.15	1.10	F
	A1 - 2020 Background Flows					
Arm 1	1.04	0.51	A	0.75	0.43	A
Arm 2	4.10	0.81	C	5.34	0.85	C
Arm 3	9.60	0.94	F	31.35	1.08	F
	A1 - 2030 Background + Development Flows					
Arm 1	0.86	0.46	A	1.34	0.58	B
Arm 2	10.48	0.93	E	8.11	0.91	E
Arm 3	68.95	1.24	F	29.27	1.07	F
	A1 - 2030 Background Flows					
Arm 1	0.85	0.46	A	1.30	0.57	B
Arm 2	10.18	0.93	E	7.62	0.90	D
Arm 3	62.42	1.21	F	26.70	1.06	F

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

"D1 - 2020 Background Flows, AM " model duration: 08:00 - 09:30
"D2 - 2020 Background Flows, PM" model duration: 17:00 - 18:30
"D3 - 2030 Background Flows, AM" model duration: 08:00 - 09:30
"D4 - 2030 Background Flows, PM" model duration: 17:00 - 18:30
"D5 - 2020 Background + Development Flows, AM" model duration: 08:00 - 09:30
"D6 - 2020 Background + Development Flows, PM" model duration: 17:00 - 18:30
"D7 - 2030 Background + Development Flows, AM" model duration: 08:00 - 09:30
"D8 - 2030 Background + Development Flows, PM" model duration: 17:00 - 18:30

Run using Junctions 8.0.6.541 at 07/12/2020 09:53:33

File summary

Title	(untitled)
Location	
Site Number	
Date	07/12/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Tony
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

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

(Default Analysis Set) - 2020 Background Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Background Flows, AM	2020 Background Flows	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	33.04	D

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
1	1	Waterloo Road south	
2	2	Waterloo Road north	
3	3	Shawbrdige Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.70	3.70	3.75	0.10	18.20	18.80	0.00	
2	3.55	3.55	5.20	15.00	10.50	5.80	0.00	
3	4.05	4.05	4.40	0.10	11.70	7.90	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.857	1173.507
2		(calculated)	(calculated)	0.593	1044.375
3		(calculated)	(calculated)	0.559	722.113

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	374.00	100.000
2	ONE HOUR	✓	697.00	100.000
3	ONE HOUR	✓	468.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	281.57	281.57		
08:00-08:15	2	524.74	524.74		
08:00-08:15	3	352.33	352.33		
08:15-08:30	1	336.22	336.22		
08:15-08:30	2	626.59	626.59		
08:15-08:30	3	420.72	420.72		
08:30-08:45	1	411.78	411.78		
08:30-08:45	2	767.41	767.41		
08:30-08:45	3	515.28	515.28		
08:45-09:00	1	411.78	411.78		
08:45-09:00	2	767.41	767.41		
08:45-09:00	3	515.28	515.28		
09:00-09:15	1	336.22	336.22		
09:00-09:15	2	626.59	626.59		
09:00-09:15	3	420.72	420.72		
09:15-09:30	1	281.57	281.57		
09:15-09:30	2	524.74	524.74		
09:15-09:30	3	352.33	352.33		

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	221.000	153.000
	2	283.000	0.000	414.000
	3	70.000	398.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.59	0.41
	2	0.41	0.00	0.59
	3	0.15	0.85	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.51	9.18	1.04	A
2	0.81	20.02	4.10	C
3	0.94	71.49	9.60	F

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	281.57	279.82	295.04	0.00	920.76	0.306	0.44	5.602	A
2	524.74	520.18	114.47	0.00	976.49	0.537	1.14	7.814	A
3	352.33	346.94	211.21	0.00	603.99	0.583	1.35	13.737	B

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	336.22	335.48	354.10	0.00	870.18	0.386	0.62	6.722	A
2	626.59	623.93	137.24	0.00	962.99	0.651	1.80	10.531	B
3	420.72	416.37	253.33	0.00	580.43	0.725	2.44	21.369	C

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	411.78	410.25	420.26	0.00	813.50	0.506	1.01	8.892	A
2	767.41	758.99	167.83	0.00	944.85	0.812	3.91	18.560	C
3	515.28	494.18	308.17	0.00	549.76	0.937	7.71	51.499	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	411.78	411.66	431.80	0.00	803.62	0.512	1.04	9.179	A
2	767.41	766.65	168.41	0.00	944.51	0.813	4.10	20.019	C
3	515.28	507.74	311.28	0.00	548.02	0.940	9.60	71.490	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	336.22	337.70	380.47	0.00	847.59	0.397	0.67	7.079	A
2	626.59	635.28	138.15	0.00	962.45	0.651	1.93	11.280	B
3	420.72	447.38	257.94	0.00	577.85	0.728	2.93	31.804	D

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	281.57	282.43	304.63	0.00	912.55	0.309	0.45	5.722	A
2	524.74	527.71	115.54	0.00	975.86	0.538	1.18	8.086	A
3	352.33	358.21	214.26	0.00	602.28	0.585	1.46	15.084	C

(Default Analysis Set) - 2020 Background Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Background Flows, PM	2020 Background Flows	PM		ONE HOUR	17:00	18:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	73.30	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
1	1	Waterloo Road south	
2	2	Waterloo Road north	
3	3	Shawbrdige Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.70	3.70	3.75	0.10	18.20	18.80	0.00	
2	3.55	3.55	5.20	15.00	10.50	5.80	0.00	
3	4.05	4.05	4.40	0.10	11.70	7.90	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.857	1173.507
2		(calculated)	(calculated)	0.593	1044.375
3		(calculated)	(calculated)	0.559	722.113

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	322.00	100.000
2	ONE HOUR	✓	777.00	100.000
3	ONE HOUR	✓	520.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:00-17:15	1	242.42	242.42		
17:00-17:15	2	584.97	584.97		
17:00-17:15	3	391.48	391.48		
17:15-17:30	1	289.47	289.47		
17:15-17:30	2	698.51	698.51		
17:15-17:30	3	467.47	467.47		
17:30-17:45	1	354.53	354.53		
17:30-17:45	2	855.49	855.49		
17:30-17:45	3	572.53	572.53		
17:45-18:00	1	354.53	354.53		
17:45-18:00	2	855.49	855.49		
17:45-18:00	3	572.53	572.53		
18:00-18:15	1	289.47	289.47		
18:00-18:15	2	698.51	698.51		
18:00-18:15	3	467.47	467.47		
18:15-18:30	1	242.42	242.42		
18:15-18:30	2	584.97	584.97		
18:15-18:30	3	391.48	391.48		

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	259.000	63.000
	2	315.000	0.000	462.000
	3	116.000	404.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.80	0.20
	2	0.41	0.00	0.59
	3	0.22	0.78	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.43	7.64	0.75	A
2	0.85	23.63	5.34	C
3	1.08	188.17	31.35	F

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	242.42	240.99	298.38	0.00	917.91	0.264	0.36	5.308	A
2	584.97	579.66	47.15	0.00	1016.41	0.576	1.33	8.148	A
3	391.48	384.05	235.00	0.00	590.68	0.663	1.86	16.873	C

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	289.47	288.91	356.42	0.00	868.19	0.333	0.50	6.210	A
2	698.51	695.20	56.53	0.00	1010.85	0.691	2.15	11.284	B
3	467.47	458.75	281.84	0.00	564.48	0.828	4.04	31.614	D

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	354.53	353.58	398.41	0.00	832.22	0.426	0.73	7.505	A
2	855.49	844.06	69.18	0.00	1003.35	0.853	5.01	21.191	C
3	572.53	512.80	342.19	0.00	530.73	1.079	18.97	100.150	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	354.53	354.47	406.33	0.00	825.43	0.430	0.75	7.643	A
2	855.49	854.17	69.35	0.00	1003.25	0.853	5.34	23.631	C
3	572.53	523.00	346.28	0.00	528.44	1.083	31.35	188.173	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	289.47	290.21	422.38	0.00	811.68	0.357	0.56	6.912	A
2	698.51	710.57	56.78	0.00	1010.70	0.691	2.33	12.441	B
3	467.47	543.66	288.07	0.00	561.00	0.833	12.31	151.390	F

Main results: (18:15-18:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	242.42	243.14	335.80	0.00	885.85	0.274	0.38	5.609	A
2	584.97	588.73	47.57	0.00	1016.17	0.576	1.39	8.496	A
3	391.48	432.22	238.67	0.00	588.63	0.665	2.12	28.214	D

(Default Analysis Set) - 2030 Background Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Background Flows, AM	2030 Background Flows	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	147.98	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
1	1	Waterloo Road south	
2	2	Waterloo Road north	
3	3	Shawbrdige Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.70	3.70	3.75	0.10	18.20	18.80	0.00	
2	3.55	3.55	5.20	15.00	10.50	5.80	0.00	
3	4.05	4.05	4.40	0.10	11.70	7.90	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.857	1173.507
2		(calculated)	(calculated)	0.593	1044.375
3		(calculated)	(calculated)	0.559	722.113

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	350.00	100.000
2	ONE HOUR	✓	845.00	100.000
3	ONE HOUR	✓	565.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	263.50	263.50		
08:00-08:15	2	636.16	636.16		
08:00-08:15	3	425.36	425.36		
08:15-08:30	1	314.64	314.64		
08:15-08:30	2	759.64	759.64		
08:15-08:30	3	507.92	507.92		
08:30-08:45	1	385.36	385.36		
08:30-08:45	2	930.36	930.36		
08:30-08:45	3	622.08	622.08		
08:45-09:00	1	385.36	385.36		
08:45-09:00	2	930.36	930.36		
08:45-09:00	3	622.08	622.08		
09:00-09:15	1	314.64	314.64		
09:00-09:15	2	759.64	759.64		
09:00-09:15	3	507.92	507.92		
09:15-09:30	1	263.50	263.50		
09:15-09:30	2	636.16	636.16		
09:15-09:30	3	425.36	425.36		

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	282.000	68.000
	2	342.000	0.000	503.000
	3	126.000	439.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.81	0.19
	2	0.40	0.00	0.60
	3	0.22	0.78	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.46	8.04	0.85	A
2	0.93	42.16	10.18	E
3	1.21	392.92	62.42	F

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	263.50	261.85	322.65	0.00	897.12	0.294	0.41	5.652	A
2	636.16	629.61	50.87	0.00	1014.21	0.627	1.64	9.211	A
3	425.36	415.25	254.83	0.00	579.59	0.734	2.53	20.806	C

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	314.64	313.96	380.79	0.00	847.31	0.371	0.58	6.741	A
2	759.64	754.65	61.00	0.00	1008.20	0.753	2.88	13.919	B
3	507.92	490.08	305.43	0.00	551.29	0.921	6.99	48.376	E

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	385.36	384.31	396.78	0.00	833.61	0.462	0.85	7.993	A
2	930.36	906.94	74.67	0.00	1000.10	0.930	8.74	32.478	D
3	622.08	510.66	367.07	0.00	516.82	1.204	34.84	166.394	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	385.36	385.33	397.63	0.00	832.89	0.463	0.85	8.042	A
2	930.36	924.59	74.86	0.00	999.98	0.930	10.18	42.163	E
3	622.08	511.75	374.21	0.00	512.82	1.213	62.42	350.995	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	314.64	315.52	415.93	0.00	817.21	0.385	0.63	7.187	A
2	759.64	787.35	61.30	0.00	1008.02	0.754	3.26	18.058	C
3	507.92	535.31	318.67	0.00	543.89	0.934	55.57	392.924	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	263.50	264.03	440.19	0.00	796.43	0.331	0.50	6.768	A
2	636.16	642.27	51.30	0.00	1013.96	0.627	1.73	9.839	A
3	425.36	566.53	259.95	0.00	576.73	0.738	20.28	246.438	F

(Default Analysis Set) - 2030 Background Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Background Flows, PM	2030 Background Flows	PM		ONE HOUR	17:00	18:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	68.26	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
1	1	Waterloo Road south	
2	2	Waterloo Road north	
3	3	Shawbrdige Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.70	3.70	3.75	0.10	18.20	18.80	0.00	
2	3.55	3.55	5.20	15.00	10.50	5.80	0.00	
3	4.05	4.05	4.40	0.10	11.70	7.90	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.857	1173.507
2		(calculated)	(calculated)	0.593	1044.375
3		(calculated)	(calculated)	0.559	722.113

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	410.00	100.000
2	ONE HOUR	✓	764.00	100.000
3	ONE HOUR	✓	513.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:00-17:15	1	308.67	308.67		
17:00-17:15	2	575.18	575.18		
17:00-17:15	3	386.21	386.21		
17:15-17:30	1	368.58	368.58		
17:15-17:30	2	686.82	686.82		
17:15-17:30	3	461.18	461.18		
17:30-17:45	1	451.42	451.42		
17:30-17:45	2	841.18	841.18		
17:30-17:45	3	564.82	564.82		
17:45-18:00	1	451.42	451.42		
17:45-18:00	2	841.18	841.18		
17:45-18:00	3	564.82	564.82		
18:00-18:15	1	368.58	368.58		
18:00-18:15	2	686.82	686.82		
18:00-18:15	3	461.18	461.18		
18:15-18:30	1	308.67	308.67		
18:15-18:30	2	575.18	575.18		
18:15-18:30	3	386.21	386.21		

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	242.000	168.000
	2	310.000	0.000	454.000
	3	77.000	436.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.59	0.41
	2	0.41	0.00	0.59
	3	0.15	0.85	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.57	10.56	1.30	B
2	0.90	34.81	7.62	D
3	1.06	164.18	26.70	F

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	308.67	306.59	322.21	0.00	897.49	0.344	0.52	6.072	A
2	575.18	569.49	125.63	0.00	969.88	0.593	1.42	8.871	A
3	386.21	379.12	231.08	0.00	592.88	0.651	1.77	16.349	C

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	368.58	367.60	385.30	0.00	843.44	0.437	0.77	7.550	A
2	686.82	682.75	150.62	0.00	955.05	0.719	2.44	13.021	B
3	461.18	453.35	277.03	0.00	567.17	0.813	3.73	29.694	D

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	451.42	449.42	436.33	0.00	799.73	0.564	1.26	10.218	B
2	841.18	823.72	184.15	0.00	935.17	0.899	6.81	28.596	D
3	564.82	513.39	334.23	0.00	535.18	1.055	16.59	90.320	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	451.42	451.26	445.66	0.00	791.74	0.570	1.30	10.563	B
2	841.18	837.94	184.91	0.00	934.73	0.900	7.62	34.813	D
3	564.82	524.36	340.00	0.00	531.95	1.062	26.70	164.177	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	368.58	370.15	459.27	0.00	780.08	0.472	0.91	8.817	A
2	686.82	706.49	151.67	0.00	954.43	0.720	2.70	15.540	C
3	461.18	540.38	286.66	0.00	561.79	0.821	6.90	120.697	F

Main results: (18:15-18:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	308.67	310.12	344.92	0.00	878.04	0.352	0.55	6.354	A
2	575.18	580.00	127.08	0.00	969.02	0.594	1.50	9.366	A
3	386.21	405.83	235.34	0.00	590.49	0.654	2.00	21.300	C

(Default Analysis Set) - 2020 Background + Development Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Background + Development Flows, AM	2020 Background + Development Flows	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	37.10	E

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
1	1	Waterloo Road south	
2	2	Waterloo Road north	
3	3	Shawbrdige Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.70	3.70	3.75	0.10	18.20	18.80	0.00	
2	3.55	3.55	5.20	15.00	10.50	5.80	0.00	
3	4.05	4.05	4.40	0.10	11.70	7.90	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.857	1173.507
2		(calculated)	(calculated)	0.593	1044.375
3		(calculated)	(calculated)	0.559	722.113

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	377.00	100.000
2	ONE HOUR	✓	698.00	100.000
3	ONE HOUR	✓	479.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	283.83	283.83		
08:00-08:15	2	525.49	525.49		
08:00-08:15	3	360.62	360.62		
08:15-08:30	1	338.92	338.92		
08:15-08:30	2	627.49	627.49		
08:15-08:30	3	430.61	430.61		
08:30-08:45	1	415.08	415.08		
08:30-08:45	2	768.51	768.51		
08:30-08:45	3	527.39	527.39		
08:45-09:00	1	415.08	415.08		
08:45-09:00	2	768.51	768.51		
08:45-09:00	3	527.39	527.39		
09:00-09:15	1	338.92	338.92		
09:00-09:15	2	627.49	627.49		
09:00-09:15	3	430.61	430.61		
09:15-09:30	1	283.83	283.83		
09:15-09:30	2	525.49	525.49		
09:15-09:30	3	360.62	360.62		

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	221.000	156.000
	2	283.000	0.000	415.000
	3	77.000	402.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.59	0.41
	2	0.41	0.00	0.59
	3	0.16	0.84	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.52	9.29	1.06	A
2	0.82	20.35	4.17	C
3	0.96	83.40	11.60	F

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	283.83	282.05	297.86	0.00	918.35	0.309	0.44	5.641	A
2	525.49	520.90	116.71	0.00	975.17	0.539	1.15	7.849	A
3	360.62	354.92	211.20	0.00	603.99	0.597	1.42	14.152	B

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	338.92	338.15	357.33	0.00	867.41	0.391	0.63	6.792	A
2	627.49	624.79	139.93	0.00	961.40	0.653	1.82	10.608	B
3	430.61	425.78	253.32	0.00	580.43	0.742	2.63	22.565	C

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	415.08	413.52	421.50	0.00	812.44	0.511	1.02	8.988	A
2	768.51	759.90	171.11	0.00	942.91	0.815	3.97	18.822	C
3	527.39	502.23	308.10	0.00	549.80	0.959	8.92	57.077	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	415.08	414.95	433.61	0.00	802.06	0.518	1.06	9.295	A
2	768.51	767.72	171.70	0.00	942.55	0.815	4.17	20.352	C
3	527.39	516.67	311.27	0.00	548.02	0.962	11.60	83.400	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	338.92	340.40	389.42	0.00	839.92	0.404	0.69	7.227	A
2	627.49	636.39	140.86	0.00	960.85	0.653	1.94	11.383	B
3	430.61	464.01	258.02	0.00	577.80	0.745	3.25	37.891	E

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	283.83	284.74	308.36	0.00	909.35	0.312	0.46	5.771	A
2	525.49	528.50	117.82	0.00	974.51	0.539	1.19	8.126	A
3	360.62	367.43	214.28	0.00	602.27	0.599	1.55	15.743	C

(Default Analysis Set) - 2020 Background + Development Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Background + Development Flows, PM	2020 Background + Development Flows	PM		ONE HOUR	17:00	18:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	78.38	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
1	1	Waterloo Road south	
2	2	Waterloo Road north	
3	3	Shawbrdige Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.70	3.70	3.75	0.10	18.20	18.80	0.00	
2	3.55	3.55	5.20	15.00	10.50	5.80	0.00	
3	4.05	4.05	4.40	0.10	11.70	7.90	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.857	1173.507
2		(calculated)	(calculated)	0.593	1044.375
3		(calculated)	(calculated)	0.559	722.113

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	329.00	100.000
2	ONE HOUR	✓	781.00	100.000
3	ONE HOUR	✓	526.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:00-17:15	1	247.69	247.69		
17:00-17:15	2	587.98	587.98		
17:00-17:15	3	396.00	396.00		
17:15-17:30	1	295.76	295.76		
17:15-17:30	2	702.10	702.10		
17:15-17:30	3	472.86	472.86		
17:30-17:45	1	362.24	362.24		
17:30-17:45	2	859.90	859.90		
17:30-17:45	3	579.14	579.14		
17:45-18:00	1	362.24	362.24		
17:45-18:00	2	859.90	859.90		
17:45-18:00	3	579.14	579.14		
18:00-18:15	1	295.76	295.76		
18:00-18:15	2	702.10	702.10		
18:00-18:15	3	472.86	472.86		
18:15-18:30	1	247.69	247.69		
18:15-18:30	2	587.98	587.98		
18:15-18:30	3	396.00	396.00		

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	259.000	70.000
	2	315.000	0.000	466.000
	3	120.000	406.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.79	0.21
	2	0.40	0.00	0.60
	3	0.23	0.77	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.44	7.74	0.77	A
2	0.86	25.00	5.66	C
3	1.10	201.84	34.15	F

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	247.69	246.22	299.73	0.00	916.75	0.270	0.37	5.357	A
2	587.98	582.57	52.39	0.00	1013.31	0.580	1.35	8.258	A
3	396.00	388.32	234.97	0.00	590.70	0.670	1.92	17.202	C

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	295.76	295.18	357.78	0.00	867.02	0.341	0.51	6.288	A
2	702.10	698.66	62.80	0.00	1007.13	0.697	2.21	11.538	B
3	472.86	463.53	281.79	0.00	564.51	0.838	4.25	32.868	D

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	362.24	361.25	397.30	0.00	833.17	0.435	0.76	7.613	A
2	859.90	847.62	76.86	0.00	998.80	0.861	5.28	22.168	C
3	579.14	514.73	341.87	0.00	530.91	1.091	20.35	105.490	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	362.24	362.18	404.41	0.00	827.08	0.438	0.77	7.742	A
2	859.90	858.37	77.06	0.00	998.68	0.861	5.66	24.999	C
3	579.14	523.94	346.20	0.00	528.48	1.096	34.15	201.836	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	295.76	296.54	420.54	0.00	813.26	0.364	0.58	6.979	A
2	702.10	715.17	63.09	0.00	1006.96	0.697	2.40	12.845	B
3	472.86	544.84	288.45	0.00	560.79	0.843	16.16	171.539	F

Main results: (18:15-18:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	247.69	248.41	348.70	0.00	874.80	0.283	0.40	5.755	A
2	587.98	591.92	52.85	0.00	1013.03	0.580	1.41	8.626	A
3	396.00	451.76	238.74	0.00	588.59	0.673	2.22	35.420	E

(Default Analysis Set) - 2030 Background + Development Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Background + Development Flows, AM	2030 Background + Development Flows	AM		ONE HOUR	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	165.78	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
1	1	Waterloo Road south	
2	2	Waterloo Road north	
3	3	Shawbrdige Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.70	3.70	3.75	0.10	18.20	18.80	0.00	
2	3.55	3.55	5.20	15.00	10.50	5.80	0.00	
3	4.05	4.05	4.40	0.10	11.70	7.90	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.857	1173.507
2		(calculated)	(calculated)	0.593	1044.375
3		(calculated)	(calculated)	0.559	722.113

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	353.00	100.000
2	ONE HOUR	✓	846.00	100.000
3	ONE HOUR	✓	576.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	265.76	265.76		
08:00-08:15	2	636.91	636.91		
08:00-08:15	3	433.64	433.64		
08:15-08:30	1	317.34	317.34		
08:15-08:30	2	760.54	760.54		
08:15-08:30	3	517.81	517.81		
08:30-08:45	1	388.66	388.66		
08:30-08:45	2	931.46	931.46		
08:30-08:45	3	634.19	634.19		
08:45-09:00	1	388.66	388.66		
08:45-09:00	2	931.46	931.46		
08:45-09:00	3	634.19	634.19		
09:00-09:15	1	317.34	317.34		
09:00-09:15	2	760.54	760.54		
09:00-09:15	3	517.81	517.81		
09:15-09:30	1	265.76	265.76		
09:15-09:30	2	636.91	636.91		
09:15-09:30	3	433.64	433.64		

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	282.000	71.000
	2	342.000	0.000	504.000
	3	133.000	443.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.80	0.20
	2	0.40	0.00	0.60
	3	0.23	0.77	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.46	8.04	0.86	A
2	0.93	43.33	10.48	E
3	1.24	442.32	68.95	F

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	265.76	264.08	325.21	0.00	894.92	0.297	0.42	5.692	A
2	636.91	630.32	53.12	0.00	1012.88	0.629	1.65	9.258	A
3	433.64	422.85	254.81	0.00	579.60	0.748	2.70	21.699	C

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	317.34	316.64	382.37	0.00	845.95	0.375	0.59	6.793	A
2	760.54	755.47	63.69	0.00	1006.61	0.756	2.91	14.046	B
3	517.81	497.17	305.40	0.00	551.30	0.939	7.86	52.635	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	388.66	387.61	393.74	0.00	836.22	0.465	0.85	8.005	A
2	931.46	907.34	77.96	0.00	998.14	0.933	8.94	33.096	D
3	634.19	511.95	366.80	0.00	516.97	1.227	38.42	181.315	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	388.66	388.63	393.83	0.00	836.14	0.465	0.86	8.043	A
2	931.46	925.32	78.17	0.00	998.02	0.933	10.48	43.326	E
3	634.19	512.07	374.06	0.00	512.90	1.236	68.95	384.867	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	317.34	318.23	412.15	0.00	820.45	0.387	0.64	7.180	A
2	760.54	789.27	64.01	0.00	1006.42	0.756	3.30	18.436	C
3	517.81	535.89	319.07	0.00	543.66	0.952	64.43	442.317	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	265.76	266.30	436.76	0.00	799.36	0.332	0.50	6.762	A
2	636.91	643.14	53.56	0.00	1012.61	0.629	1.74	9.900	A
3	433.64	567.89	259.99	0.00	576.70	0.752	30.87	305.972	F

(Default Analysis Set) - 2030 Background + Development Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Background + Development Flows, PM	2030 Background + Development Flows	PM		ONE HOUR	17:00	18:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1,2,3	73.15	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Arm	Name	Description
1	1	Waterloo Road south	
2	2	Waterloo Road north	
3	3	Shawbrdige Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.70	3.70	3.75	0.10	18.20	18.80	0.00	
2	3.55	3.55	5.20	15.00	10.50	5.80	0.00	
3	4.05	4.05	4.40	0.10	11.70	7.90	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.857	1173.507
2		(calculated)	(calculated)	0.593	1044.375
3		(calculated)	(calculated)	0.559	722.113

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

Traffic Flows

Demand Set Data Options

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

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	416.00	100.000
2	ONE HOUR	✓	767.00	100.000
3	ONE HOUR	✓	519.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
17:00-17:15	1	313.19	313.19		
17:00-17:15	2	577.44	577.44		
17:00-17:15	3	390.73	390.73		
17:15-17:30	1	373.98	373.98		
17:15-17:30	2	689.52	689.52		
17:15-17:30	3	466.57	466.57		
17:30-17:45	1	458.02	458.02		
17:30-17:45	2	844.48	844.48		
17:30-17:45	3	571.43	571.43		
17:45-18:00	1	458.02	458.02		
17:45-18:00	2	844.48	844.48		
17:45-18:00	3	571.43	571.43		
18:00-18:15	1	373.98	373.98		
18:00-18:15	2	689.52	689.52		
18:00-18:15	3	466.57	466.57		
18:15-18:30	1	313.19	313.19		
18:15-18:30	2	577.44	577.44		
18:15-18:30	3	390.73	390.73		

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	242.000	174.000
	2	310.000	0.000	457.000
	3	81.000	438.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.58	0.42
	2	0.40	0.00	0.60
	3	0.16	0.84	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.58	10.72	1.34	B
2	0.91	36.96	8.11	E
3	1.07	176.67	29.27	F

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	313.19	311.06	323.57	0.00	896.33	0.349	0.53	6.129	A
2	577.44	571.66	130.11	0.00	967.22	0.597	1.45	8.975	A
3	390.73	383.41	231.05	0.00	592.89	0.659	1.83	16.659	C

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	373.98	372.95	386.69	0.00	842.25	0.444	0.79	7.654	A
2	689.52	685.30	156.00	0.00	951.87	0.724	2.50	13.289	B
3	466.57	458.20	276.98	0.00	567.20	0.823	3.92	30.814	D

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	458.02	455.96	435.25	0.00	800.66	0.572	1.30	10.381	B
2	844.48	825.80	190.71	0.00	931.28	0.907	7.17	29.856	D
3	571.43	515.74	333.77	0.00	535.44	1.067	17.84	95.194	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	458.02	457.87	443.69	0.00	793.43	0.577	1.34	10.717	B
2	844.48	840.74	191.51	0.00	930.81	0.907	8.11	36.959	E
3	571.43	525.74	339.81	0.00	532.06	1.074	29.27	176.670	F

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

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	373.98	375.60	458.16	0.00	781.04	0.479	0.94	8.916	A
2	689.52	710.83	157.10	0.00	951.21	0.725	2.78	16.146	C
3	466.57	542.88	287.30	0.00	561.43	0.831	10.19	138.645	F

Main results: (18:15-18:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	313.19	314.64	357.12	0.00	867.59	0.361	0.57	6.529	A
2	577.44	582.47	131.61	0.00	966.33	0.598	1.52	9.498	A
3	390.73	423.16	235.42	0.00	590.45	0.662	2.08	25.141	D