Full Input Data And Results

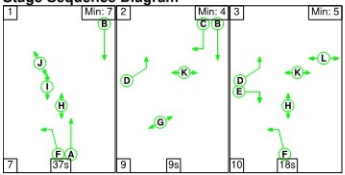
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Low Moor Road/Penny Emma Way T-Junction	**-**	**-**	**0**	**0**	**0**	**11.9**	**6.2**	**0.0**	**18.1**	**-**	**-**	**-**	**-**
Low Moor Road/Penny Emma Way	**-**	**-**	**0**	**0**	**0**	**11.9**	**6.2**	**0.0**	**18.1**	**-**	**-**	**-**	**-**
1/1+1/2	965	965	-	-	-	3.9	1.7	-	5.6	20.9	7.7	1.7	9.4
2/2+2/1	876	876	-	-	-	4.1	1.9	-	6.0	24.8	10.9	1.9	12.8
3/2+3/1	307	307	-	-	-	2.2	1.9	-	4.2	48.8	5.5	1.9	7.4
3/3	160	160	-	-	-	1.6	0.7	-	2.3	51.4	3.7	0.7	4.4
4/1	770	770	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	160	160	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	696	696	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	682	682	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 12.3 Total Delay for Signalled Lanes (pcuHr): 18.09 Cycle Time (s): 90
PRC Over All Lanes (%): 12.3 Total Delay Over All Lanes(pcuHr): 18.09

Full Input Data And Results

Scenario 4: '2032 Bkg PM' (FG4: '2032 Bkg PM', Plan 1: 'Network Control Plan 1')

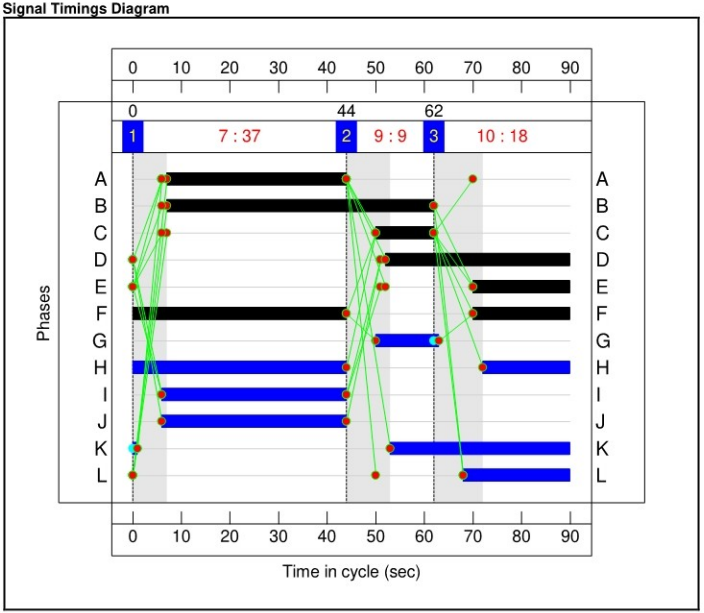
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	37	9	18
Change Point	0	44	62

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Low Moor Road/Penny Emma Way T-Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**85.6%**
Low Moor Road/Penny Emma Way	-	-	**N/A**	-	-		-	-	-	-	-	-	**85.6%**
1/1+1/2	Low Moor Rd (N) Ahead Right	U	N/A	N/A	B C		1	55:12	-	889	1915:1702	1017+246	67.5 : 82.6%
2/2+2/1	Low Moor Rd (S) Ahead Left	U	N/A	N/A	A F		1	37:64	-	1007	2055:1741	702+475	85.6 : 85.6%
3/2+3/1	Penny Emma Way Right Left	U	N/A	N/A	E D		1	20:38	-	517	1868:1741	182+441	83.0 : 83.0%
3/3	Penny Emma Way Right	U	N/A	N/A	E		1	20	-	160	1741	406	39.4%
4/1		U	N/A	N/A	-		-	-	-	837	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	160	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	967	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	609	Inf	Inf	0.0%

Full Input Data And Results

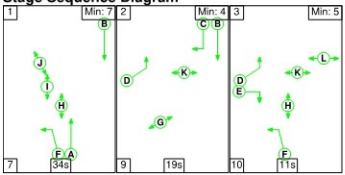
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Low Moor Road/Penny Emma Way T-Junction	-	-	0	0	0	12.8	6.7	0.0	19.6	-	-	-	-
Low Moor Road/Penny Emma Way	-	-	0	0	0	12.8	6.7	0.0	19.6	-	-	-	-
1/1+1/2	889	889	-	-	-	4.0	1.2	-	5.2	21.1	9.9	1.2	11.1
2/2+2/1	1007	1007	-	-	-	4.1	2.9	-	6.9	24.7	12.5	2.9	15.3
3/2+3/1	517	517	-	-	-	3.5	2.3	-	5.8	40.5	10.9	2.3	13.3
3/3	160	160	-	-	-	1.3	0.3	-	1.6	36.4	3.3	0.3	3.7
4/1	837	837	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	160	160	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	967	967	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	609	609	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 5.2 Total Delay for Signalled Lanes (pcuHr): 19.55 Cycle Time (s): 90
PRC Over All Lanes (%): 5.2 Total Delay Over All Lanes(pcuHr): 19.55

Full Input Data And Results

Scenario 5: '2032 WD AM' (FG5: '2032 WD AM', Plan 1: 'Network Control Plan 1')

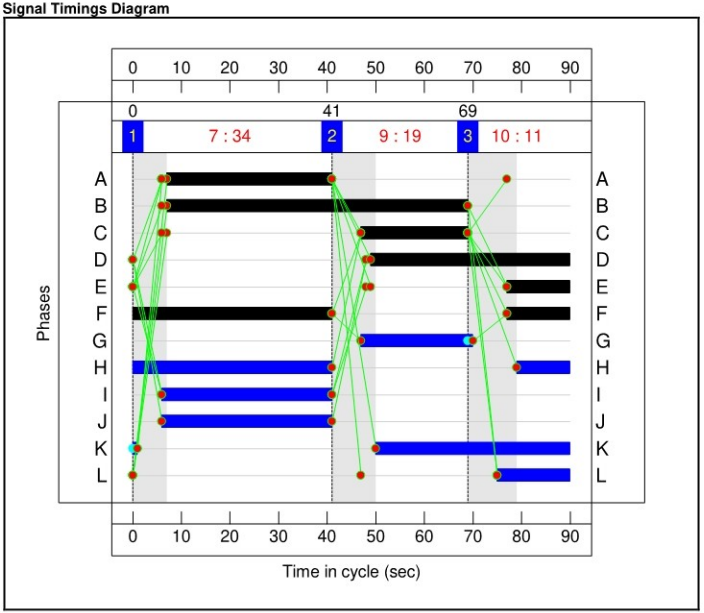
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	34	19	11
Change Point	0	41	69

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Low Moor Road/Penny Emma Way T-Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.0%**
Low Moor Road/Penny Emma Way	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.0%**
1/1+1/2	Low Moor Rd (N) Ahead Right	U	N/A	N/A	B C		1	62:22	-	1009	1915:1702	826+435	80.0 : 80.0%
2/2+2/1	Low Moor Rd (S) Ahead Left	U	N/A	N/A	A F		1	34:54	-	888	2055:1741	668+429	81.0 : 81.0%
3/2+3/1	Penny Emma Way Right Left	U	N/A	N/A	E D		1	13:41	-	310	1868:1741	174+211	80.6 : 80.6%
3/3	Penny Emma Way Right	U	N/A	N/A	E		1	13	-	160	1741	271	59.1%
4/1		U	N/A	N/A	-		-	-	-	801	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	160	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	711	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	695	Inf	Inf	0.0%

Full Input Data And Results

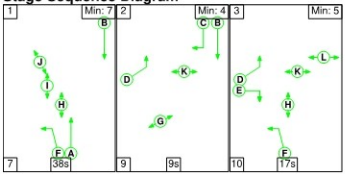
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Low Moor Road/Penny Emma Way T-Junction	**-**	**-**	**0**	**0**	**0**	**12.2**	**6.7**	**0.0**	**19.0**	**-**	**-**	**-**	**-**
Low Moor Road/Penny Emma Way	**-**	**-**	**0**	**0**	**0**	**12.2**	**6.7**	**0.0**	**19.0**	**-**	**-**	**-**	**-**
1/1+1/2	1009	1009	-	-	-	4.2	2.0	-	6.1	21.9	8.1	2.0	10.1
2/2+2/1	888	888	-	-	-	4.2	2.1	-	6.3	25.7	11.1	2.1	13.2
3/2+3/1	310	310	-	-	-	2.3	2.0	-	4.2	49.1	5.6	2.0	7.6
3/3	160	160	-	-	-	1.6	0.7	-	2.3	51.4	3.7	0.7	4.4
4/1	801	801	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	160	160	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	711	711	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	695	695	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 11.2 Total Delay for Signalled Lanes (pcuHr): 18.98 Cycle Time (s): 90
PRC Over All Lanes (%): 11.2 Total Delay Over All Lanes(pcuHr): 18.98

Full Input Data And Results

Scenario 6: '2032 WD PM' (FG6: '2032 WD PM', Plan 1: 'Network Control Plan 1')

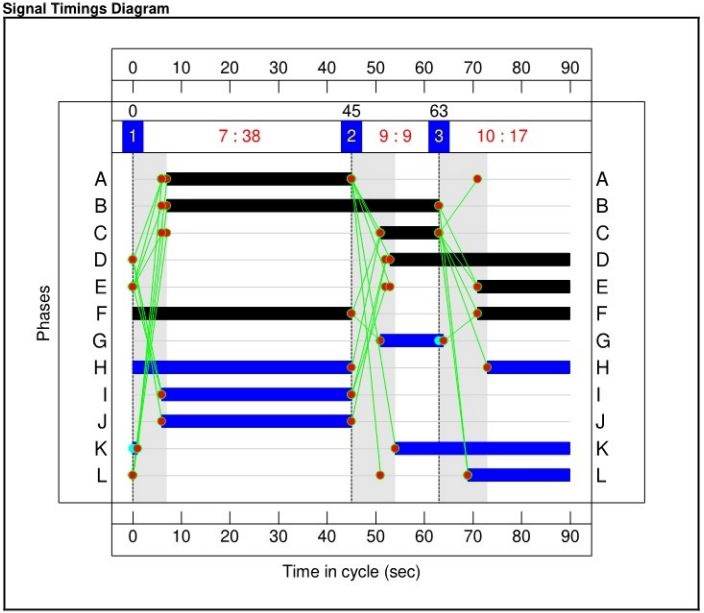
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	38	9	17
Change Point	0	45	63

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Low Moor Road/Penny Emma Way T-Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.5%**
Low Moor Road/Penny Emma Way	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.5%**
1/1+1/2	Low Moor Rd (N) Ahead Right	U	N/A	N/A	B C		1	56:12	-	903	1915:1702	1032+246	67.5 : 84.2%
2/2+2/1	Low Moor Rd (S) Ahead Left	U	N/A	N/A	A F		1	38:64	-	1036	2055:1741	720+464	87.5 : 87.5%
3/2+3/1	Penny Emma Way Right Left	U	N/A	N/A	E D		1	19:37	-	530	1868:1741	174+436	86.9 : 86.9%
3/3	Penny Emma Way Right	U	N/A	N/A	E		1	19	-	160	1741	387	41.4%
4/1		U	N/A	N/A	-		-	-	-	847	Inf	Inf	0.0%
4/2		U	N/A	N/A	-		-	-	-	160	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	1009	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	613	Inf	Inf	0.0%

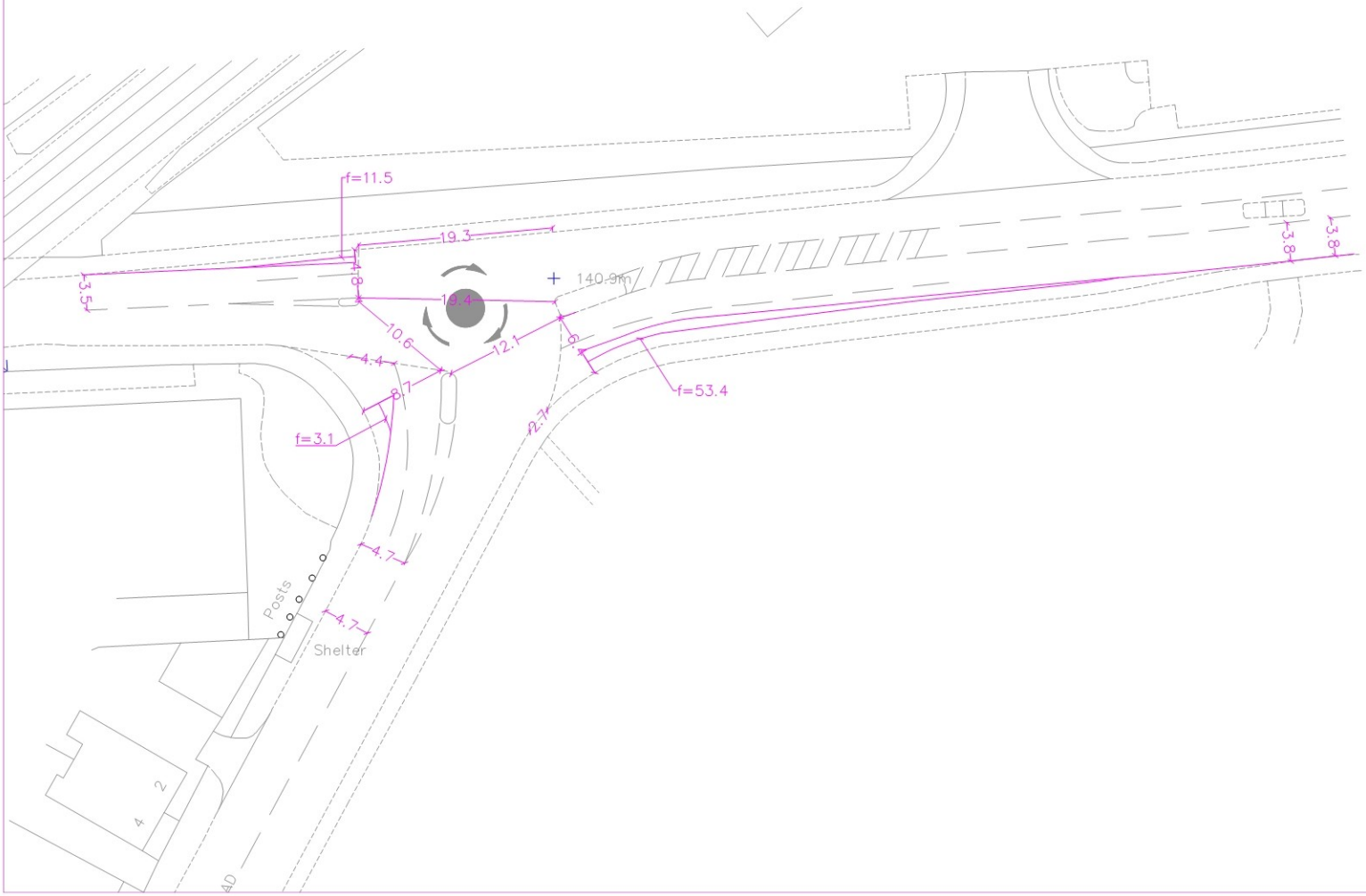
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Low Moor Road/Penny Emma Way T-Junction	-	-	0	0	0	13.2	8.0	0.0	21.2	-	-	-	-
Low Moor Road/Penny Emma Way	-	-	0	0	0	13.2	8.0	0.0	21.2	-	-	-	-
1/1+1/2	903	903	-	-	-	4.0	1.2	-	5.2	20.7	9.9	1.2	11.1
2/2+2/1	1036	1036	-	-	-	4.2	3.4	-	7.5	26.1	13.6	3.4	17.0
3/2+3/1	530	530	-	-	-	3.7	3.1	-	6.8	46.1	11.5	3.1	14.6
3/3	160	160	-	-	-	1.3	0.4	-	1.7	37.9	3.4	0.4	3.8
4/1	847	847	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	160	160	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1009	1009	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	613	613	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 2.8 Total Delay for Signalled Lanes (pcuHr): 21.18 Cycle Time (s): 90
PRC Over All Lanes (%): 2.8 Total Delay Over All Lanes(pcuHr): 21.18

APPENDIX M

JUNCTION 3: B6022 NEWARK ROAD/KIRKBY FOLLY ROAD JUNCTION (EXISTING)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4.8
19.4
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4.4
8.7
6
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3.8
3.8
f=3.1
2.7
4.7
4.7
Posts
Shelter

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Jct 3 - Newark Road-Kirkby Folly Road ARCADY Model.arc8
Path: C:\Users\ADC\Dropbox (ADC Infrastructure)\!!! ADC Projects\ADC1580 Newark Road, Sutton In Ashfield\Calculations\7. 2022 NEW Transport Assessment\1. Existing Models
Report generation date: 08/06/2022 10:01:04

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
Traffic Flows - 2022 Observed						
Arm 1	3.45	13.51	0.78	2.67	11.24	0.73
Arm 2	3.94	22.16	0.81	73.10	278.12	1.15
Arm 3	0.61	7.08	0.38	0.78	8.67	0.44
Traffic Flows - 2032 Bkg						
Arm 1	5.43	19.90	0.85	3.82	14.98	0.80
Arm 2	6.66	35.28	0.89	126.50	527.99	1.26
Arm 3	0.76	8.19	0.43	0.90	9.18	0.48
Traffic Flows - 2032 WD						
Arm 1	8.10	28.51	0.90	4.21	16.20	0.81
Arm 2	8.13	42.32	0.91	166.89	676.33	1.31
Arm 3	0.81	8.51	0.45	0.96	9.50	0.49

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

"D1 - 2022 Observed, AM " model duration: 08:00 - 09:30
"D2 - 2022 Observed, PM" model duration: 17:00 - 18:30
"D3 - 2032 Bkg, AM" model duration: 08:00 - 09:30
"D4 - 2032 Bkg, PM" model duration: 17:00 - 18:30
"D5 - 2032 WD, AM" model duration: 08:00 - 09:30
"D6 - 2032 WD, PM" model duration: 17:00 - 18:30

Run using Junctions 8.0.6.541 at 08/06/2022 10:01:00

File summary

Title	Newark Road/Kirkby Folly Road
Location	Sutton in Ashfield
Site Number	3
Date	18/05/2017
Version	v1
Status	Preliminary
Identifier	M Tatler
Client	
Jobnumber	ADC1580
Enumerator	M Tatler
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	Veh	Veh	perHour	s	-Min	perMin

Traffic Flows - 2022 Observed, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relatic
2022 Observed, AM	2022 Observed	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	Newark Road/Kirky Folly Road	Mini-roundabout	1,2,3	15.44	C

Junction Network Options

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

Arms

Arms

Arm	Arm	Name	Description
1	1	Newark Road (E)	
2	2	Kirkby Folly Road	
3	3	Newark Road (W)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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	3.80	3.80	6.40	45.00	12.10	2.70	0.00	✓
2	4.70	4.70	8.70	3.10	10.60	4.40	0.00	✓
3	3.50	3.50	4.80	11.50	19.40	19.30	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)	0.522	1306.245
2		(calculated)	(calculated)	0.496	940.565
3		(calculated)	(calculated)	0.851	1405.987

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	858.00	100.000
2	ONE HOUR	✓	606.00	100.000
3	ONE HOUR	✓	282.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	717.000	141.000
	2	540.000	0.000	66.000
	3	167.000	115.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.84	0.16
	2	0.89	0.00	0.11
	3	0.59	0.41	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.017	1.035
	2	1.035	1.000	1.091
	3	1.066	1.096	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	1.7	3.5
	2	3.5	0.0	9.1
	3	6.6	9.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.78	13.51	3.45	B	787.31	1180.97	181.64	9.23	2.02	181.67	9.23
2	0.81	22.16	3.94	C	556.08	834.11	198.14	14.25	2.20	198.19	14.26
3	0.38	7.08	0.61	A	258.77	388.15	37.80	5.84	0.42	37.80	5.84

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	645.95	161.49	641.60	527.58	86.13	0.00	1232.39	1117.84	0.524	0.00	1.09	6.051	A
2	456.23	114.06	451.71	622.29	105.44	0.00	851.42	812.81	0.536	0.00	1.13	8.909	A
3	212.31	53.08	211.20	154.63	402.51	0.00	975.04	712.08	0.218	0.00	0.28	4.706	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	771.32	192.83	768.99	633.03	103.21	0.00	1222.81	1117.85	0.631	1.09	1.67	7.890	A
2	544.78	136.20	542.20	745.83	126.37	0.00	841.09	812.81	0.648	1.13	1.77	11.937	B
3	253.51	63.38	253.09	185.42	483.15	0.00	909.14	712.09	0.279	0.28	0.38	5.483	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	944.67	236.17	937.96	770.90	126.27	0.00	1209.88	1117.86	0.781	1.67	3.35	12.923	B
2	667.22	166.80	659.34	910.09	154.14	0.00	827.39	812.81	0.806	1.77	3.74	20.494	C
3	310.49	77.62	309.63	225.95	587.53	0.00	823.84	712.09	0.377	0.38	0.60	6.989	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	944.67	236.17	944.27	777.71	126.60	0.00	1209.69	1117.86	0.781	3.35	3.45	13.506	B
2	667.22	166.80	666.44	915.70	155.18	0.00	826.88	812.81	0.807	3.74	3.94	22.163	C
3	310.49	77.62	310.45	227.76	593.86	0.00	818.67	712.09	0.379	0.60	0.61	7.083	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	771.32	192.83	778.13	643.31	103.73	0.00	1222.52	1117.85	0.631	3.45	1.75	8.220	A
2	544.78	136.20	552.89	753.98	127.87	0.00	840.35	812.81	0.648	3.94	1.91	12.853	B
3	253.51	63.38	254.36	188.09	492.68	0.00	901.36	712.09	0.281	0.61	0.39	5.573	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	645.95	161.49	648.47	535.13	86.76	0.00	1232.03	1117.84	0.524	1.75	1.12	6.194	A
2	456.23	114.06	459.15	628.67	106.57	0.00	850.86	812.81	0.536	1.91	1.18	9.257	A
3	212.31	53.08	212.75	156.57	409.14	0.00	969.62	712.08	0.219	0.39	0.28	4.758	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.57	1.04	6.051	A	A
2	15.96	1.06	8.909	A	A
3	4.04	0.27	4.706	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.94	1.60	7.890	A	A
2	25.08	1.67	11.937	B	B
3	5.63	0.38	5.483	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	45.79	3.05	12.923	B	B
2	49.54	3.30	20.494	C	C
3	8.69	0.58	6.989	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	51.15	3.41	13.506	B	B
2	57.90	3.86	22.163	C	C
3	9.05	0.60	7.083	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.79	1.85	8.220	A	A
2	31.06	2.07	12.853	B	B
3	6.08	0.41	5.573	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.40	1.16	6.194	A	A
2	18.60	1.24	9.257	A	A
3	4.32	0.29	4.758	A	A

Traffic Flows - 2022 Observed, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relatic
2022 Observed, PM	2022 Observed	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	Newark Road/Kirky Folly Road	Mini-roundabout	1,2,3	129.51	F

Junction Network Options

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

Arms

Arms

Arm	Arm	Name	Description
1	1	Newark Road (E)	
2	2	Kirkby Folly Road	
3	3	Newark Road (W)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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	3.80	3.80	6.40	45.00	12.10	2.70	0.00	✓
2	4.70	4.70	8.70	3.10	10.60	4.40	0.00	✓
3	3.50	3.50	4.80	11.50	19.40	19.30	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)	0.522	1306.245
2		(calculated)	(calculated)	0.496	940.565
3		(calculated)	(calculated)	0.851	1405.987

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	793.00	100.000
2	ONE HOUR	✓	889.00	100.000
3	ONE HOUR	✓	299.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	650.000	143.000
	2	783.000	0.000	106.000
	3	156.000	143.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.82	0.18
	2	0.88	0.00	0.12
	3	0.52	0.48	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.023	1.029
	2	1.005	1.000	1.028
	3	1.019	1.035	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	2.3	2.9
	2	0.5	0.0	2.8
	3	1.9	3.5	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.73	11.24	2.67	B	727.67	1091.51	148.47	8.16	1.65	148.49	8.16
2	1.15	278.12	73.10	F	815.76	1223.65	2876.36	141.04	31.96	2879.93	141.21
3	0.44	8.67	0.78	A	274.37	411.55	50.86	7.42	0.57	50.87	7.42

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	597.01	149.25	593.22	695.78	107.01	0.00	1219.09	1084.56	0.490	0.00	0.95	5.718	A
2	669.29	167.32	657.43	593.26	106.97	0.00	879.14	834.24	0.761	0.00	2.97	15.507	C
3	225.10	56.28	223.75	185.36	579.04	0.00	886.93	757.14	0.254	0.00	0.34	5.417	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	712.89	178.22	711.03	826.62	128.24	0.00	1207.90	1084.56	0.590	0.95	1.41	7.217	A
2	799.19	199.80	779.70	711.05	128.22	0.00	868.37	834.24	0.920	2.97	7.84	34.564	D
3	268.80	67.20	268.13	221.19	686.73	0.00	797.18	757.14	0.337	0.34	0.50	6.796	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	873.11	218.28	868.30	915.16	156.93	0.00	1192.77	1084.56	0.732	1.41	2.62	10.931	B
2	978.81	244.70	844.68	868.65	156.58	0.00	854.00	834.24	1.146	7.84	41.37	118.979	F
3	329.21	82.30	328.14	257.29	743.96	0.00	749.48	757.14	0.439	0.50	0.77	8.521	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	873.11	218.28	872.89	922.04	157.42	0.00	1192.51	1084.56	0.732	2.62	2.67	11.241	B
2	978.81	244.70	851.89	872.90	157.41	0.00	853.58	834.24	1.147	41.37	73.10	251.444	F
3	329.21	82.30	329.15	258.98	750.31	0.00	744.19	757.14	0.442	0.77	0.78	8.671	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	712.89	178.22	717.71	894.66	128.95	0.00	1207.52	1084.56	0.590	2.67	1.47	7.422	A
2	799.19	199.80	856.05	717.23	129.42	0.00	867.76	834.24	0.921	73.10	58.89	278.124	F
3	268.80	67.20	269.63	231.49	753.98	0.00	741.13	757.14	0.363	0.78	0.58	7.647	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	597.01	149.25	599.00	878.64	107.91	0.00	1218.62	1084.56	0.490	1.47	0.97	5.830	A
2	669.29	167.32	863.94	598.89	108.02	0.00	878.61	834.24	0.762	58.89	10.23	150.437	F
3	225.10	56.28	225.62	211.03	760.93	0.00	735.34	757.14	0.306	0.58	0.45	7.072	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.64	0.91	5.718	A	A
2	39.14	2.61	15.507	C	B
3	4.91	0.33	5.417	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.38	1.36	7.217	A	A
2	93.83	6.26	34.564	D	C
3	7.33	0.49	6.796	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	36.46	2.43	10.931	B	B
2	375.96	25.06	118.979	F	F
3	11.14	0.74	8.521	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	39.76	2.65	11.241	B	B
2	859.11	57.27	251.444	F	F
3	11.70	0.78	8.671	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.15	1.54	7.422	A	A
2	989.95	66.00	278.124	F	F
3	8.92	0.59	7.647	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.08	1.01	5.830	A	A
2	518.37	34.56	150.437	F	F
3	6.87	0.46	7.072	A	A

Traffic Flows - 2032 Bkg, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2032 Bkg, AM	2032 Bkg	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	Newark Road/Kirky Folly Road	Mini-roundabout	1,2,3	23.30	C

Junction Network Options

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

Arms

Arms

Arm	Arm	Name	Description
1	1	Newark Road (E)	
2	2	Kirkby Folly Road	
3	3	Newark Road (W)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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	3.80	3.80	6.40	45.00	12.10	2.70	0.00	✓
2	4.70	4.70	8.70	3.10	10.60	4.40	0.00	✓
3	3.50	3.50	4.80	11.50	19.40	19.30	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)	0.522	1306.245
2		(calculated)	(calculated)	0.496	940.565
3		(calculated)	(calculated)	0.851	1405.987

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	933.00	100.000
2	ONE HOUR	✓	659.00	100.000
3	ONE HOUR	✓	307.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	780.000	153.000
	2	587.000	0.000	72.000
	3	182.000	125.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.84	0.16
	2	0.89	0.00	0.11
	3	0.59	0.41	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.017	1.033
	2	1.036	1.000	1.097
	3	1.066	1.096	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	1.7	3.3
	2	3.6	0.0	9.7
	3	6.6	9.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.85	19.90	5.43	C	856.14	1284.21	254.14	11.87	2.82	254.19	11.88
2	0.89	35.28	6.66	E	604.71	907.07	289.68	19.16	3.22	289.76	19.17
3	0.43	8.19	0.76	A	281.71	422.56	45.85	6.51	0.51	45.85	6.51

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	702.41	175.60	697.17	573.26	93.58	0.00	1228.62	1118.40	0.572	0.00	1.31	6.709	A
2	496.13	124.03	490.61	676.42	114.33	0.00	845.88	811.92	0.587	0.00	1.38	9.987	A
3	231.13	57.78	229.84	167.93	437.00	0.00	946.53	712.41	0.244	0.00	0.32	5.014	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	838.75	209.69	835.43	687.64	112.15	0.00	1218.20	1118.41	0.689	1.31	2.14	9.322	A
2	592.43	148.11	588.66	810.58	137.00	0.00	834.73	811.92	0.710	1.38	2.32	14.401	B
3	275.99	69.00	275.45	201.31	524.34	0.00	875.08	712.41	0.315	0.32	0.46	5.999	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1027.26	256.81	1015.32	832.92	137.16	0.00	1204.17	1118.41	0.853	2.14	5.12	18.005	C
2	725.58	181.39	710.89	985.98	166.50	0.00	820.23	811.92	0.885	2.32	6.00	29.534	D
3	338.01	84.50	336.87	244.17	633.22	0.00	786.02	712.41	0.430	0.46	0.74	7.994	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1027.26	256.81	1026.05	844.26	137.60	0.00	1203.93	1118.41	0.853	5.12	5.43	19.900	C
2	725.58	181.39	722.91	995.39	168.26	0.00	819.36	811.92	0.886	6.00	6.66	35.275	E
3	338.01	84.50	337.94	247.24	643.92	0.00	777.27	712.41	0.435	0.74	0.76	8.192	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	838.75	209.69	851.31	706.49	112.84	0.00	1217.82	1118.41	0.689	5.43	2.29	10.139	B
2	592.43	148.11	608.71	824.54	139.60	0.00	833.45	811.92	0.711	6.66	2.59	17.039	C
3	275.99	69.00	277.12	206.11	542.20	0.00	860.48	712.41	0.321	0.76	0.48	6.184	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	702.41	175.60	706.12	583.34	94.35	0.00	1228.19	1118.40	0.572	2.29	1.36	6.945	A
2	496.13	124.03	500.67	684.67	115.79	0.00	845.15	811.92	0.587	2.59	1.46	10.582	B
3	231.13	57.78	231.72	170.50	445.97	0.00	939.20	712.41	0.246	0.48	0.33	5.092	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	18.68	1.25	6.709	A	A
2	19.31	1.29	9.987	A	A
3	4.67	0.31	5.014	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	30.33	2.02	9.322	A	A
2	32.28	2.15	14.401	B	B
3	6.68	0.45	5.999	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	66.75	4.45	18.005	C	B
2	74.19	4.95	29.534	D	C
3	10.74	0.72	7.994	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	79.56	5.30	19.900	C	B
2	95.76	6.38	35.275	E	D
3	11.33	0.76	8.192	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	37.51	2.50	10.139	B	B
2	44.90	2.99	17.039	C	B
3	7.37	0.49	6.184	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.31	1.42	6.945	A	A
2	23.24	1.55	10.582	B	B
3	5.05	0.34	5.092	A	A

Traffic Flows - 2032 Bkg, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2032 Bkg, PM	2032 Bkg	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	Newark Road/Kirky Folly Road	Mini-roundabout	1,2,3	242.43	F

Junction Network Options

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

Arms

Arms

Arm	Arm	Name	Description
1	1	Newark Road (E)	
2	2	Kirkby Folly Road	
3	3	Newark Road (W)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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	3.80	3.80	6.40	45.00	12.10	2.70	0.00	✓
2	4.70	4.70	8.70	3.10	10.60	4.40	0.00	✓
3	3.50	3.50	4.80	11.50	19.40	19.30	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)	0.522	1306.245
2		(calculated)	(calculated)	0.496	940.565
3		(calculated)	(calculated)	0.851	1405.987

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	861.00	100.000
2	ONE HOUR	✓	966.00	100.000
3	ONE HOUR	✓	324.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	706.000	155.000
	2	851.000	0.000	115.000
	3	169.000	155.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.82	0.18
	2	0.88	0.00	0.12
	3	0.52	0.48	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.023	1.026
	2	1.005	1.000	1.026
	3	1.019	1.032	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	2.3	2.6
	2	0.5	0.0	2.6
	3	1.9	3.2	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.80	14.98	3.82	B	790.07	1185.10	195.46	9.90	2.17	195.50	9.90
2	1.26	527.99	126.50	F	886.42	1329.63	5840.77	263.57	64.90	6127.65	276.51
3	0.48	9.18	0.90	A	297.31	445.96	58.88	7.92	0.65	58.89	7.92

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	648.21	162.05	643.70	751.91	115.93	0.00	1215.21	1085.50	0.533	0.00	1.13	6.251	A
2	727.26	181.81	710.04	643.75	115.88	0.00	875.00	834.81	0.831	0.00	4.30	20.124	C
3	243.92	60.98	242.33	200.41	625.51	0.00	849.38	757.65	0.287	0.00	0.40	5.915	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	774.02	193.51	771.49	876.49	138.95	0.00	1203.10	1085.50	0.643	1.13	1.76	8.291	A
2	868.41	217.10	822.96	771.55	138.89	0.00	863.38	834.81	1.006	4.30	15.67	57.471	F
3	291.27	72.82	290.45	236.86	724.99	0.00	766.36	757.65	0.380	0.40	0.61	7.552	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	947.98	236.99	940.25	930.14	170.11	0.00	1186.70	1085.50	0.799	1.76	3.69	14.172	B
2	1063.59	265.90	845.29	941.10	169.27	0.00	848.03	834.81	1.254	15.67	70.24	194.971	F
3	356.73	89.18	355.59	269.90	744.66	0.00	749.94	757.65	0.476	0.61	0.89	9.101	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	947.98	236.99	947.45	932.17	170.64	0.00	1186.42	1085.50	0.799	3.69	3.82	14.975	B
2	1063.59	265.90	846.94	947.53	170.56	0.00	847.37	834.81	1.255	70.24	124.40	419.791	F
3	356.73	89.18	356.69	271.39	746.11	0.00	748.73	757.65	0.476	0.89	0.90	9.182	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	774.02	193.51	781.91	910.09	139.80	0.00	1202.65	1085.50	0.644	3.82	1.85	8.711	A
2	868.41	217.10	860.04	780.95	140.76	0.00	862.43	834.81	1.007	124.40	126.50	527.990	F
3	291.27	72.82	292.23	243.15	757.65	0.00	739.10	757.65	0.394	0.90	0.66	8.075	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	648.21	162.05	650.97	891.77	116.99	0.00	1214.65	1085.50	0.534	1.85	1.16	6.419	A
2	727.26	181.81	867.49	650.77	117.19	0.00	874.34	834.81	0.832	126.50	91.44	453.336	F
3	243.92	60.98	244.55	220.46	764.21	0.00	733.63	757.65	0.332	0.66	0.50	7.372	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.12	1.07	6.251	A	A
2	54.11	3.61	20.124	C	C
3	5.79	0.39	5.915	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	25.15	1.68	8.291	A	A
2	163.99	10.93	57.471	F	E
3	8.79	0.59	7.552	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	49.92	3.33	14.172	B	B
2	646.43	43.10	194.971	F	F
3	12.85	0.86	9.101	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	56.56	3.77	14.975	B	B
2	1459.97	97.33	419.791	F	F
3	13.45	0.90	9.182	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.60	1.97	8.711	A	A
2	1881.76	125.45	527.990	F	F
3	10.23	0.68	8.075	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	18.11	1.21	6.419	A	A
2	1634.51	108.97	453.336	F	F
3	7.77	0.52	7.372	A	A

Traffic Flows - 2032 WD, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2032 WD, AM	2032 WD	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	Newark Road/Kirky Folly Road	Mini-roundabout	1,2,3	29.95	D

Junction Network Options

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

Arms

Arms

Arm	Arm	Name	Description
1	1	Newark Road (E)	
2	2	Kirkby Folly Road	
3	3	Newark Road (W)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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	3.80	3.80	6.40	45.00	12.10	2.70	0.00	✓
2	4.70	4.70	8.70	3.10	10.60	4.40	0.00	✓
3	3.50	3.50	4.80	11.50	19.40	19.30	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)	0.522	1306.245
2		(calculated)	(calculated)	0.496	940.565
3		(calculated)	(calculated)	0.851	1405.987

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	989.00	100.000
2	ONE HOUR	✓	673.00	100.000
3	ONE HOUR	✓	313.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	824.000	165.000
	2	601.000	0.000	72.000
	3	188.000	125.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.83	0.17
	2	0.89	0.00	0.11
	3	0.60	0.40	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.016	1.030
	2	1.035	1.000	1.097
	3	1.064	1.096	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	1.6	3.0
	2	3.5	0.0	9.7
	3	6.4	9.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.90	28.51	8.10	D	907.52	1361.28	337.85	14.89	3.75	337.91	14.89
2	0.91	42.32	8.13	E	617.56	926.34	332.48	21.54	3.69	332.57	21.54
3	0.45	8.51	0.81	A	287.21	430.82	48.09	6.70	0.53	48.09	6.70

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	744.57	186.14	738.56	587.97	93.58	0.00	1230.17	1122.78	0.605	0.00	1.50	7.238	A
2	506.67	126.67	500.81	708.92	123.22	0.00	842.51	811.06	0.601	0.00	1.47	10.367	B
3	235.64	58.91	234.31	176.80	447.23	0.00	939.76	713.04	0.251	0.00	0.33	5.094	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	889.09	222.27	884.77	705.14	112.14	0.00	1219.74	1122.79	0.729	1.50	2.58	10.608	B
2	605.01	151.25	600.75	849.31	147.61	0.00	830.54	811.06	0.728	1.47	2.53	15.373	C
3	281.38	70.35	280.81	211.88	536.48	0.00	866.73	713.04	0.325	0.33	0.48	6.137	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1088.90	272.23	1069.92	851.74	137.14	0.00	1205.70	1122.79	0.903	2.58	7.33	23.727	C
2	740.99	185.25	722.82	1028.56	178.50	0.00	815.39	811.06	0.909	2.53	7.08	33.623	D
3	344.62	86.15	343.39	255.83	645.49	0.00	777.53	713.04	0.443	0.48	0.78	8.268	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1088.90	272.23	1085.81	864.89	137.59	0.00	1205.45	1122.79	0.903	7.33	8.10	28.506	D
2	740.99	185.25	736.78	1042.25	181.15	0.00	814.09	811.06	0.910	7.08	8.13	42.323	E
3	344.62	86.15	344.53	259.98	657.95	0.00	767.33	713.04	0.449	0.78	0.81	8.512	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	889.09	222.27	910.25	728.77	112.86	0.00	1219.34	1122.79	0.729	8.10	2.81	12.372	B
2	605.01	151.25	626.00	871.26	151.86	0.00	828.46	811.06	0.730	8.13	2.88	19.350	C
3	281.38	70.35	282.60	218.84	559.03	0.00	848.28	713.04	0.332	0.81	0.50	6.379	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	744.57	186.14	749.55	599.12	94.36	0.00	1229.72	1122.78	0.605	2.81	1.57	7.572	A
2	506.67	126.67	511.98	718.86	125.05	0.00	841.61	811.06	0.602	2.88	1.56	11.091	B
3	235.64	58.91	236.28	179.82	457.20	0.00	931.60	713.04	0.253	0.50	0.34	5.183	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.27	1.42	7.238	A	A
2	20.43	1.36	10.367	B	B
3	4.84	0.32	5.094	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	36.14	2.41	10.608	B	B
2	34.94	2.33	15.373	C	B
3	6.96	0.46	6.137	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	90.32	6.02	23.727	C	C
2	85.03	5.67	33.623	D	C
3	11.31	0.75	8.268	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	116.67	7.78	28.506	D	C
2	115.19	7.68	42.323	E	D
3	11.98	0.80	8.512	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	48.74	3.25	12.372	B	B
2	52.01	3.47	19.350	C	B
3	7.76	0.52	6.379	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	24.71	1.65	7.572	A	A
2	24.88	1.66	11.091	B	B
3	5.24	0.35	5.183	A	A

Traffic Flows - 2032 WD, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2032 WD, PM	2032 WD	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	Newark Road/Kirky Folly Road	Mini-roundabout	1,2,3	312.16	F

Junction Network Options

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

Arms

Arms

Arm	Arm	Name	Description
1	1	Newark Road (E)	
2	2	Kirkby Folly Road	
3	3	Newark Road (W)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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	3.80	3.80	6.40	45.00	12.10	2.70	0.00	✓
2	4.70	4.70	8.70	3.10	10.60	4.40	0.00	✓
3	3.50	3.50	4.80	11.50	19.40	19.30	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)	0.522	1306.245
2		(calculated)	(calculated)	0.496	940.565
3		(calculated)	(calculated)	0.851	1405.987

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	879.00	100.000
2	ONE HOUR	✓	1009.00	100.000
3	ONE HOUR	✓	335.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	720.000	159.000
	2	894.000	0.000	115.000
	3	180.000	155.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.82	0.18
	2	0.89	0.00	0.11
	3	0.54	0.46	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.022	1.025
	2	1.004	1.000	1.026
	3	1.017	1.032	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	2.2	2.5
	2	0.4	0.0	2.6
	3	1.7	3.2	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.81	16.20	4.21	C	806.59	1209.88	210.04	10.42	2.33	210.07	10.42
2	1.31	676.33	166.89	F	925.87	1388.81	7676.89	331.66	85.30	8346.69	360.60
3	0.49	9.50	0.96	A	307.40	461.10	63.10	8.21	0.70	63.11	8.21

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	661.76	165.44	657.06	788.46	115.89	0.00	1216.42	1093.27	0.544	0.00	1.17	6.381	A
2	759.63	189.91	737.99	654.09	118.85	0.00	874.42	834.55	0.869	0.00	5.41	23.587	C
3	252.21	63.05	250.47	202.97	653.88	0.00	827.28	755.87	0.305	0.00	0.43	6.222	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	790.21	197.55	787.47	903.78	138.93	0.00	1204.28	1093.27	0.656	1.17	1.86	8.579	A
2	907.07	226.77	837.95	783.96	142.44	0.00	862.50	834.55	1.052	5.41	22.69	75.142	F
3	301.16	75.29	300.27	237.95	742.44	0.00	753.35	755.87	0.400	0.43	0.66	7.929	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	967.80	241.95	959.07	946.58	170.11	0.00	1187.86	1093.27	0.815	1.86	4.04	15.174	C
2	1110.93	277.73	845.39	955.69	173.48	0.00	846.81	834.55	1.312	22.69	89.07	248.807	F
3	368.84	92.21	367.65	269.83	749.04	0.00	747.85	755.87	0.493	0.66	0.95	9.438	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	967.80	241.95	967.14	947.60	170.64	0.00	1187.58	1093.27	0.815	4.04	4.21	16.201	C
2	1110.93	277.73	845.84	962.84	174.94	0.00	846.08	834.55	1.313	89.07	155.35	524.393	F
3	368.84	92.21	368.80	271.35	749.44	0.00	747.52	755.87	0.493	0.95	0.96	9.502	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	790.21	197.55	799.18	925.16	139.83	0.00	1203.81	1093.27	0.656	4.21	1.96	9.084	A
2	907.07	226.77	860.90	794.44	144.56	0.00	861.43	834.55	1.053	155.35	166.89	676.331	F
3	301.16	75.29	302.21	242.68	762.78	0.00	736.37	755.87	0.409	0.96	0.70	8.311	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	661.76	165.44	664.76	905.40	117.00	0.00	1215.83	1093.27	0.544	1.96	1.21	6.569	A
2	759.63	189.91	868.51	661.51	120.25	0.00	873.72	834.55	0.869	166.89	139.67	635.916	F
3	252.21	63.05	252.88	219.23	769.53	0.00	730.74	755.87	0.345	0.70	0.53	7.546	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.79	1.12	6.381	A	A
2	65.52	4.37	23.587	C	C
3	6.28	0.42	6.222	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	26.50	1.77	8.579	A	A
2	222.85	14.86	75.142	F	E
3	9.52	0.63	7.929	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	54.13	3.61	15.174	C	B
2	839.29	55.95	248.807	F	F
3	13.75	0.92	9.438	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	62.11	4.14	16.201	C	B
2	1833.25	122.22	524.393	F	F
3	14.40	0.96	9.502	A	A

Queueing Delay results: (18:00-18:15)

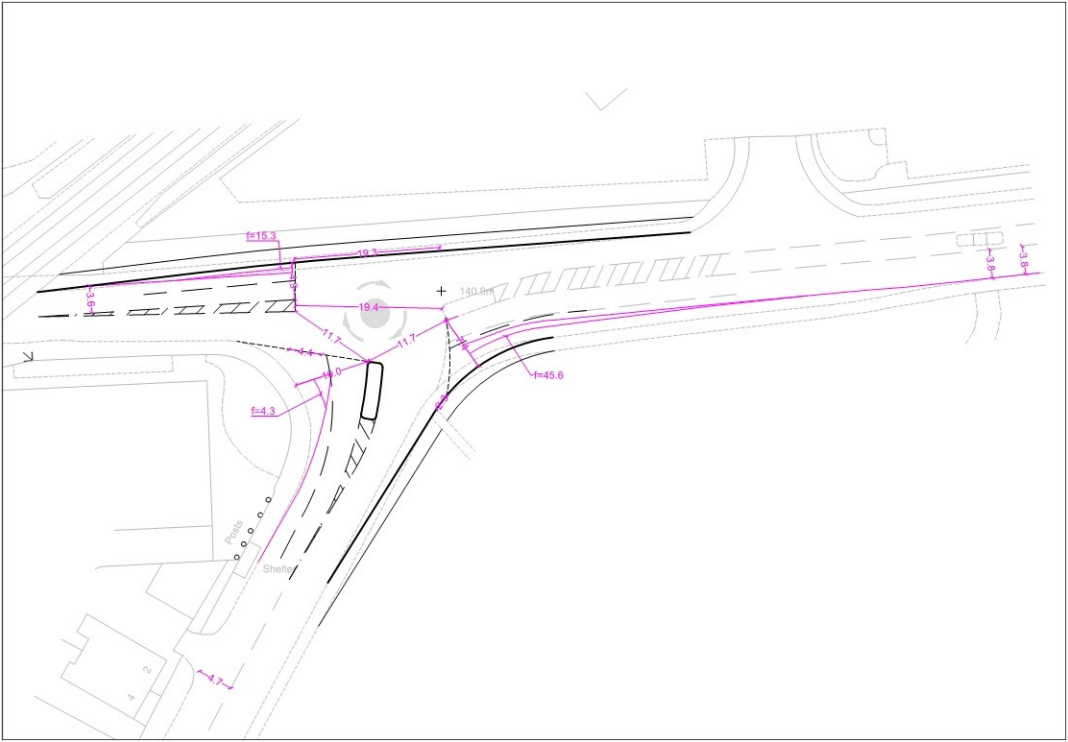
Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	31.57	2.10	9.084	A	A
2	2416.80	161.12	676.331	F	F
3	10.90	0.73	8.311	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	18.94	1.26	6.569	A	A
2	2299.18	153.28	635.916	F	F
3	8.24	0.55	7.546	A	A

APPENDIX N

JUNCTION 3: B6022 NEWARK ROAD/KIRKBY FOLLY ROAD JUNCTION (MITIGATED)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19.4
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11.7
11.7
f=45.6
f=4.3
Poste
Shelter
4.7

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Jct 3 - Newark Road-Kirkby Folly Road Proposed ARCADY Model.arc8
Path: C:\Users\ADC\Dropbox (ADC Infrastructure)\!!! ADC Projects\ADC1580 Newark Road, Sutton In Ashfield\Calculations\7. 2022 NEW Transport Assessment\2. Proposed Models
Report generation date: 08/06/2022 10:30:22

» Traffic Flows - 2032 WD, AM
» Traffic Flows - 2032 WD, PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	Junction Delay (s)
	Traffic Flows - 2032 WD							
Arm 1	4.72	16.19	0.83		2.94	11.17	0.75	
Arm 2	5.23	26.79	0.85	18.48	117.52	458.89	1.23	212.40
Arm 3	0.76	8.01	0.43		1.00	9.88	0.50	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D5 - 2032 WD, AM " model duration: 08:00 - 09:30
"D6 - 2032 WD, PM" model duration: 17:00 - 18:30

Run using Junctions 8.0.6.541 at 08/06/2022 10:30:21

File summary

Title	Newark Road/Kirkby Folly Road
Location	Sutton in Ashfield
Site Number	3
Date	18/05/2017
Version	v1
Status	Preliminary
Identifier	M Tatler
Client	
Jobnumber	ADC1580
Enumerator	M Tatler
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	Veh	Veh	perHour	s	-Min	perMin

Traffic Flows - 2032 WD, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2032 WD, AM	2032 WD	AM		ONE HOUR	08:00	09:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	Newark Road/Kirky Folly Road	Mini-roundabout	1,2,3	18.48	C

Junction Network Options

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

Arms

Arms

Arm	Arm	Name	Description
1	1	Newark Road (E)	
2	2	Kirkby Folly Road	
3	3	Newark Road (W)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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	3.80	3.80	7.40	45.00	11.70	2.70	0.00	✓
2	4.70	4.70	10.00	4.30	12.10	4.40	0.00	✓
3	3.60	3.60	4.90	15.30	19.40	19.30	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)	0.555	1416.075
2		(calculated)	(calculated)	0.511	1002.197
3		(calculated)	(calculated)	0.860	1442.076

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	989.00	100.000
2	ONE HOUR	✓	673.00	100.000
3	ONE HOUR	✓	313.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	824.000	165.000
	2	601.000	0.000	72.000
	3	188.000	125.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.83	0.17
	2	0.89	0.00	0.11
	3	0.60	0.40	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.016	1.030
	2	1.035	1.000	1.097
	3	1.064	1.096	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	1.6	3.0
	2	3.5	0.0	9.7
	3	6.4	9.6	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.83	16.19	4.72	C	907.52	1361.28	229.88	10.13	2.55	229.92	10.13
2	0.85	26.79	5.23	D	617.56	926.34	243.35	15.76	2.70	243.40	15.77
3	0.43	8.01	0.76	A	287.21	430.82	45.68	6.36	0.51	45.68	6.36

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	744.57	186.14	739.60	588.74	93.60	0.00	1334.62	1222.20	0.558	0.00	1.24	6.002	A
2	506.67	126.67	501.63	709.80	123.39	0.00	899.81	859.14	0.563	0.00	1.26	8.933	A
3	235.64	58.91	234.37	177.06	447.96	0.00	969.07	705.25	0.243	0.00	0.32	4.892	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	889.09	222.27	886.09	706.12	112.16	0.00	1323.53	1222.20	0.672	1.24	1.99	8.172	A
2	605.01	151.25	601.83	850.42	147.83	0.00	887.47	859.14	0.682	1.26	2.06	12.458	B
3	281.38	70.35	280.84	212.22	537.44	0.00	895.13	705.25	0.314	0.32	0.45	5.855	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1088.90	272.23	1078.80	858.00	137.16	0.00	1308.58	1222.21	0.832	1.99	4.52	15.035	C
2	740.99	185.25	729.78	1035.99	179.98	0.00	871.23	859.14	0.851	2.06	4.86	23.729	C
3	344.62	86.15	343.46	258.06	651.70	0.00	800.71	705.25	0.430	0.45	0.74	7.852	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1088.90	272.23	1088.10	867.36	137.60	0.00	1308.32	1222.21	0.832	4.52	4.72	16.192	C
2	740.99	185.25	739.52	1044.18	181.53	0.00	870.45	859.14	0.851	4.86	5.23	26.786	D
3	344.62	86.15	344.56	260.65	660.40	0.00	793.52	705.25	0.434	0.74	0.76	8.015	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	889.09	222.27	899.55	720.64	112.83	0.00	1323.12	1222.20	0.672	4.72	2.10	8.698	A
2	605.01	151.25	616.95	862.31	150.08	0.00	886.33	859.14	0.683	5.23	2.24	13.904	B
3	281.38	70.35	282.53	216.08	550.94	0.00	883.98	705.25	0.318	0.76	0.47	5.996	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	744.57	186.14	747.86	597.65	94.34	0.00	1334.18	1222.20	0.558	2.10	1.28	6.175	A
2	506.67	126.67	510.36	717.43	124.77	0.00	899.12	859.14	0.564	2.24	1.32	9.345	A
3	235.64	58.91	236.22	179.37	455.76	0.00	962.63	705.25	0.245	0.47	0.33	4.961	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.79	1.19	6.002	A	A
2	17.75	1.18	8.933	A	A
3	4.65	0.31	4.892	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.40	1.89	8.172	A	A
2	28.87	1.92	12.458	B	B
3	6.65	0.44	5.855	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	60.11	4.01	15.035	C	B
2	62.34	4.16	23.729	C	C
3	10.76	0.72	7.852	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	69.59	4.64	16.192	C	B
2	76.14	5.08	26.786	D	C
3	11.32	0.75	8.015	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	33.98	2.27	8.698	A	A
2	37.37	2.49	13.904	B	B
3	7.29	0.49	5.996	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.01	1.33	6.175	A	A
2	20.88	1.39	9.345	A	A
3	5.01	0.33	4.961	A	A

Traffic Flows - 2032 WD, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2032 WD, PM	2032 WD	PM		ONE HOUR	17:00	18:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Junction Delay (s)	Junction LOS
1	Newark Road/Kirky Folly Road	Mini-roundabout	1,2,3	212.40	F

Junction Network Options

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

Arms

Arms

Arm	Arm	Name	Description
1	1	Newark Road (E)	
2	2	Kirkby Folly Road	
3	3	Newark Road (W)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

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	3.80	3.80	7.40	45.00	11.70	2.70	0.00	✓
2	4.70	4.70	10.00	4.30	12.10	4.40	0.00	✓
3	3.60	3.60	4.90	15.30	19.40	19.30	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)	0.555	1416.075
2		(calculated)	(calculated)	0.511	1002.197
3		(calculated)	(calculated)	0.860	1442.076

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 (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	879.00	100.000
2	ONE HOUR	✓	1009.00	100.000
3	ONE HOUR	✓	335.00	100.000

Turning Proportions

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

		To		
		1	2	3
From	1	0.000	720.000	159.000
	2	894.000	0.000	115.000
	3	180.000	155.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.82	0.18
	2	0.89	0.00	0.11
	3	0.54	0.46	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.022	1.025
	2	1.004	1.000	1.026
	3	1.017	1.032	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	2.2	2.5
	2	0.4	0.0	2.6
	3	1.7	3.2	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.75	11.17	2.94	B	806.59	1209.88	159.92	7.93	1.78	159.95	7.93
2	1.23	458.89	117.52	F	925.87	1388.81	5297.64	228.87	58.86	5467.54	236.21
3	0.50	9.88	1.00	A	307.40	461.10	64.35	8.37	0.71	64.36	8.37

Main Results for each time segment

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	661.76	165.44	657.79	793.79	115.92	0.00	1319.88	1190.77	0.501	0.00	0.99	5.405	A
2	759.63	189.91	743.95	654.72	118.98	0.00	933.82	883.66	0.813	0.00	3.92	17.735	C
3	252.21	63.05	250.54	203.78	659.16	0.00	852.71	748.36	0.296	0.00	0.42	5.965	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	790.21	197.55	788.18	931.24	138.91	0.00	1306.99	1190.77	0.605	0.99	1.50	6.910	A
2	907.07	226.77	868.96	784.52	142.57	0.00	921.55	883.66	0.984	3.92	13.45	48.468	E
3	301.16	75.29	300.23	241.61	769.92	0.00	759.34	748.36	0.397	0.42	0.65	7.826	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	967.80	241.95	962.31	996.17	170.03	0.00	1289.55	1190.77	0.750	1.50	2.87	10.818	B
2	1110.93	277.73	901.45	958.27	174.07	0.00	905.16	883.66	1.227	13.45	65.81	170.279	F
3	368.84	92.21	367.49	276.81	798.71	0.00	735.07	748.36	0.502	0.65	0.99	9.756	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	967.80	241.95	967.54	999.22	170.63	0.00	1289.21	1190.77	0.751	2.87	2.94	11.167	B
2	1110.93	277.73	904.11	963.15	175.01	0.00	904.67	883.66	1.228	65.81	117.52	371.474	F
3	368.84	92.21	368.79	278.06	801.07	0.00	733.08	748.36	0.503	0.99	1.00	9.879	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	790.21	197.55	795.72	978.29	139.84	0.00	1306.47	1190.77	0.605	2.94	1.56	7.121	A
2	907.07	226.77	920.84	791.63	143.94	0.00	920.84	883.66	0.985	117.52	114.08	458.892	F
3	301.16	75.29	302.24	248.89	815.89	0.00	720.59	748.36	0.418	1.00	0.73	8.627	A

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

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	661.76	165.44	663.92	955.59	117.03	0.00	1319.26	1190.77	0.502	1.56	1.02	5.510	A
2	759.63	189.91	925.13	660.85	120.10	0.00	933.24	883.66	0.814	114.08	72.70	364.950	F
3	252.21	63.05	252.93	225.54	819.69	0.00	717.39	748.36	0.352	0.73	0.55	7.764	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	14.32	0.95	5.405	A	A
2	50.23	3.35	17.735	C	B
3	6.03	0.40	5.965	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.63	1.44	6.910	A	A
2	145.53	9.70	48.468	E	D
3	9.40	0.63	7.826	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	39.89	2.66	10.818	B	B
2	597.41	39.83	170.279	F	F
3	14.17	0.94	9.756	A	A

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

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	43.70	2.91	11.167	B	B
2	1375.18	91.68	371.474	F	F
3	14.93	1.00	9.879	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	24.59	1.64	7.121	A	A
2	1728.48	115.23	458.892	F	F
3	11.33	0.76	8.627	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.79	1.05	5.510	A	A
2	1400.82	93.39	364.950	F	F
3	8.49	0.57	7.764	A	A

APPENDIX O

JUNCTION 4: B6139 COXMOOR ROAD/NEWARK ROAD/CAULDWELL ROAD SIGNAL CONTROLLED JUNCTION (EXISTING)

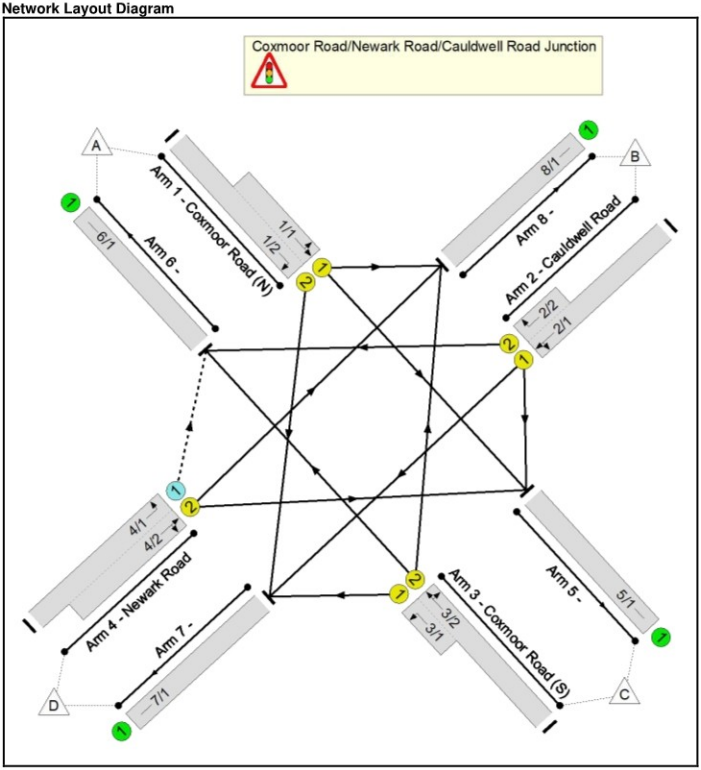
Full Input Data And Results

User and Project Details

Project:	**Newark Road, Sutton in Ashfield**
Title:	**Coxmoor Road/Newark Road/Cauldwell Road XRoads**
Location:	
Additional detail:	
File name:	Jct 4 - Coxmoor Road-Newark Road-Cauldwell Road Existing LinSig Model V2.lsg3x
Author:	
Company:	ADC Infraststructure Limited
Address:	

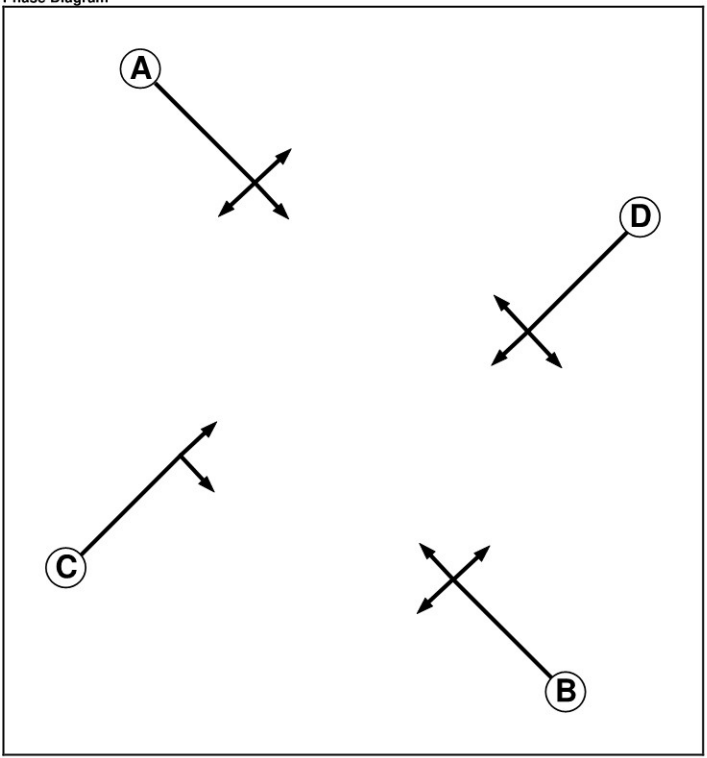
Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7

Full Input Data And Results

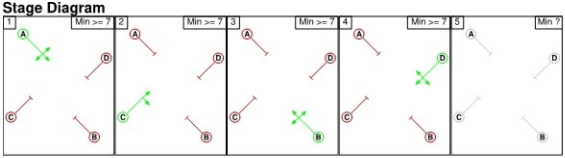
Phase Intergreens Matrix

		Starting Phase			
		A	B	C	D
Terminating Phase	A		7	5	6
	B	7		5	5
	C	6	5		7
	D	5	6	5	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	C
3	B
4	D
5	

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1		5	7	6	X
	2	6		5	7	X
	3	7	5		5	X
	4	5	5	6		X
	5	X	X	X	X	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Coxmoor Road/Newark Road/Cauldwell Road Junction

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
4/1 (Newark Road)	6/1 (Left)	1439	0	3/2	1.09	To 6/1 (Ahead)	-	-	-	-	-
				2/2	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: Coxmoor Road/Newark Road/Cauldwell Road Junction

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Coxmoor Road (N))	U	A	2	3	7.3	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	15.00
1/2 (Coxmoor Road (N))	U	A	2	3	60.0	Geom	-	3.00	0.00	N	Arm 7 Right	12.00
2/1 (Cauldwell Road)	U	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Left	Inf
											Arm 7 Ahead	10.00
2/2 (Cauldwell Road)	U	D	2	3	4.0	Geom	-	3.00	0.00	Y	Arm 6 Right	15.00
3/1 (Coxmoor Road (S))	U	B	2	3	4.0	Geom	-	3.00	0.00	Y	Arm 7 Left	12.00
3/2 (Coxmoor Road (S))	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 6 Ahead	Inf
											Arm 8 Right	10.00
4/1 (Newark Road)	O		2	3	60.0	Geom	-	3.50	0.00	Y	Arm 6 Left	15.00
4/2 (Newark Road)	U	C	2	3	10.4	Geom	-	3.50	0.00	N	Arm 5 Right	12.00
											Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	User	1300	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2022 AM'	08:00	09:00	01:00	
2: '2022 PM'	17:00	18:00	01:00	
3: '2032 AM BKG'	08:00	09:00	01:00	
4: '2032 PM BKG'	17:00	18:00	01:00	
5: '2032 AM WD'	08:00	09:00	01:00	
6: '2032 PM WD'	17:00	18:00	01:00	