Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

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Filename: (new file)
Path:
Report generation date: 04/09/2014 09:39:59

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 PM Design			
Dearne Valley Pkway	2.39	7.11	0.71	A
Sheffield Road (E)	2.48	13.86	0.72	B
A61 (S)	7.06	10.01	0.88	B
A61/Sheffield Road (W)	119.46	380.21	1.28	F

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

"D1 - 2014 AM Count, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM" model duration: 16:15 - 17:45
"D3 - 2014 AM Design, AM" model duration: 07:30 - 09:00
"D4 - 2014 PM Design, PM" model duration: 16:15 - 17:45
"D5 - 2019 AM Count, AM" model duration: 07:30 - 09:00
"D6 - 2019 PM Count, PM" model duration: 16:15 - 17:45
"D7 - 2019 AM Design, AM" model duration: 07:30 - 09:00
"D8 - 2019 PM Design, PM " model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:39:58

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/07/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	

Enumerator	OPTIMA\tom.pritchard
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) - 2019 PM Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2014 AM Design, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2014 PM Design, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Count, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Count, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D7 - 2019 AM Design, AM	Demand Set 7: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D8 - 2019 PM Design, PM	Demand Set 8: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2019 PM Design, PM	2019 PM Design	PM		ONE HOUR	16:15	17:45	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			80.30	F

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Name	Description
Dearne Valley Pkway	Dearne Valley Pkway	
Sheffield Road (E)	Sheffield Road (E)	
A61 (S)	A61 (S)	
A61/Sheffield Road (W)	A61/Sheffield Road (W)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Dearne Valley Pkway	7.60	9.10	6.36	22.00	64.20	34.00	
Sheffield Road (E)	3.70	7.83	14.70	62.70	64.20	27.00	
A61 (S)	10.80	11.10	3.30	37.80	64.20	26.00	
A61/Sheffield Road (W)	4.20	7.80	12.31	24.00	64.20	26.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Name	Crossing Type
Dearne Valley Pkway	None
Sheffield Road (E)	None
A61 (S)	None
A61/Sheffield Road (W)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Dearne Valley Pkway		(calculated)	(calculated)	0.671	2537.647
Sheffield Road (E)		(calculated)	(calculated)	0.571	1857.866
A61 (S)		(calculated)	(calculated)	0.837	3466.189
A61/Sheffield Road (W)		(calculated)	(calculated)	0.569	1876.530

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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Dearne Valley Pkway	ONE HOUR	✓	1112.00	100.000
Sheffield Road (E)	ONE HOUR	✓	600.00	100.000
A61 (S)	ONE HOUR	✓	2384.00	100.000
A61/Sheffield Road (W)	ONE HOUR	✓	963.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.000	41.000	919.000	152.000
	2	38.000	0.000	224.000	338.000
	3	1197.000	435.000	0.000	752.000
	4	122.000	303.000	538.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.04	0.83	0.14
	2	0.06	0.00	0.37	0.56
	3	0.50	0.18	0.00	0.32
	4	0.13	0.31	0.56	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Dearne Valley Pkway	0.71	7.11	2.39	A
Sheffield Road (E)	0.72	13.86	2.48	B

A61 (S)	0.88	10.01	7.06	B
A61/Sheffield Road (W)	1.28	380.21	119.46	F

Main Results for each time segment

Main results: (16:15-16:30)

Name	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
Dearne Valley Pkway	837.17	834.04	954.03	0.00	1897.73	0.441	0.78	3.375	A
Sheffield Road (E)	451.71	449.22	1204.71	0.00	1169.71	0.386	0.62	4.980	A
A61 (S)	1794.80	1789.48	395.51	0.00	3135.29	0.572	1.33	2.663	A
A61/Sheffield Road (W)	725.00	718.54	1253.46	0.00	1163.48	0.623	1.61	7.980	A

Main results: (16:30-16:45)

Name	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
Dearne Valley Pkway	999.67	997.71	1135.32	0.00	1776.13	0.563	1.27	4.614	A
Sheffield Road (E)	539.39	537.61	1437.49	0.00	1036.74	0.520	1.07	7.186	A
A61 (S)	2143.17	2139.37	473.28	0.00	3070.22	0.698	2.28	3.852	A
A61/Sheffield Road (W)	865.72	853.03	1498.58	0.00	1024.05	0.845	4.79	19.743	C

Main results: (16:45-17:00)

Name	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
Dearne Valley Pkway	1224.33	1220.02	1201.65	0.00	1731.64	0.707	2.35	6.979	A
Sheffield Road (E)	660.61	655.24	1639.45	0.00	921.38	0.717	2.41	13.265	B
A61 (S)	2624.83	2606.95	577.38	0.00	2983.13	0.880	6.75	9.165	A
A61/Sheffield Road (W)	1060.28	831.29	1826.12	0.00	837.72	1.266	62.04	157.024	F

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

Name	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
Dearne Valley Pkway	1224.33	1224.19	1204.08	0.00	1730.01	0.708	2.39	7.112	A
Sheffield Road (E)	660.61	660.32	1643.08	0.00	919.31	0.719	2.48	13.860	B
A61 (S)	2624.83	2623.61	581.14	0.00	2979.99	0.881	7.06	10.015	B
A61/Sheffield Road (W)	1060.28	830.59	1837.85	0.00	831.05	1.276	119.46	380.213	F

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

Name	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
Dearne Valley Pkway	999.67	1003.29	1273.54	0.00	1683.42	0.594	1.48	5.320	A
Sheffield Road (E)	539.39	544.38	1528.64	0.00	984.68	0.548	1.23	8.265	A
A61 (S)	2143.17	2161.97	478.28	0.00	3066.04	0.699	2.36	4.062	A
A61/Sheffield Road (W)	865.72	1006.57	1514.49	0.00	1015.00	0.853	84.25	358.107	F

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

Name	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
Dearne Valley Pkway	837.17	839.18	1249.31	0.00	1699.67	0.493	0.98	4.194	A
Sheffield Road (E)	451.71	453.64	1397.48	0.00	1059.60	0.426	0.75	5.961	A
A61 (S)	1794.80	1798.82	398.99	0.00	3132.38	0.573	1.35	2.709	A
A61/Sheffield Road (W)	725.00	1054.70	1260.14	0.00	1159.69	0.625	1.82	108.794	F

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

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Filename: (new file)
Path:
Report generation date: 04/09/2014 09:42:13

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 AM Design			
Dearne Valley Pkway	4.02	11.27	0.81	B
Sheffield Road (E)	14.39	73.66	0.98	F
A61 (S)	1.65	3.08	0.62	A
A61/Sheffield Road (W)	21.14	62.77	0.99	F

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

"D1 - 2014 AM Count, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM" model duration: 16:15 - 17:45
"D3 - 2014 AM Design, AM" model duration: 07:30 - 09:00
"D4 - 2014 PM Design, PM" model duration: 16:15 - 17:45
"D5 - 2019 AM Count, AM" model duration: 07:30 - 09:00
"D6 - 2019 PM Count, PM" model duration: 16:15 - 17:45
"D7 - 2019 AM Design, AM " model duration: 07:30 - 09:00
"D8 - 2019 PM Design, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:42:12

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/07/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	

Enumerator	OPTIMA\tom.pritchard
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) - 2019 AM Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A61/Sheffield Road (W) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2014 AM Design, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2014 PM Design, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Count, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Count, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D7 - 2019 AM Design, AM	Demand Set 7: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D8 - 2019 PM Design, PM	Demand Set 8: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2019 AM Design, AM	2019 AM Design	AM		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			28.97	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Name	Description
Dearne Valley Pkway	Dearne Valley Pkway	
Sheffield Road (E)	Sheffield Road (E)	
A61 (S)	A61 (S)	
A61/Sheffield Road (W)	A61/Sheffield Road (W)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Dearne Valley Pkway	7.60	9.10	6.36	22.00	64.20	34.00	
Sheffield Road (E)	3.70	7.83	14.70	62.70	64.20	27.00	
A61 (S)	10.80	11.10	3.30	37.80	64.20	26.00	
A61/Sheffield Road (W)	4.20	8.00	35.00	24.00	64.20	26.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Name	Crossing Type
Dearne Valley Pkway	None
Sheffield Road (E)	None
A61 (S)	None
A61/Sheffield Road (W)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Dearne Valley Pkway		(calculated)	(calculated)	0.671	2537.647
Sheffield Road (E)		(calculated)	(calculated)	0.571	1857.866
A61 (S)		(calculated)	(calculated)	0.837	3466.189
A61/Sheffield Road (W)		(calculated)	(calculated)	0.618	2173.977

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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Dearne Valley Pkway	ONE HOUR	✓	1203.00	100.000
Sheffield Road (E)	ONE HOUR	✓	652.00	100.000
A61 (S)	ONE HOUR	✓	1764.00	100.000
A61/Sheffield Road (W)	ONE HOUR	✓	1119.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.000	31.000	1081.000	91.000
	2	33.000	0.000	349.000	270.000
	3	1069.000	262.000	0.000	433.000
	4	149.000	341.000	629.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.03	0.90	0.08
	2	0.05	0.00	0.54	0.41
	3	0.61	0.15	0.00	0.25
	4	0.13	0.30	0.56	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Dearne Valley Pkway	0.81	11.27	4.02	B
Sheffield Road (E)	0.98	73.66	14.39	F
A61 (S)	0.62	3.08	1.65	A
A61/Sheffield Road (W)	0.99	62.77	21.14	F

Main Results for each time segment

Main results: (07:30-07:45)

Name	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
Dearne Valley Pkway	905.68	902.13	922.97	0.00	1918.57	0.472	0.89	3.531	A
Sheffield Road (E)	490.86	487.61	1349.75	0.00	1086.86	0.452	0.81	5.975	A
A61 (S)	1328.03	1325.23	294.84	0.00	3219.51	0.412	0.70	1.899	A
A61/Sheffield Road (W)	842.44	837.67	1024.61	0.00	1540.50	0.547	1.19	5.088	A

Main results: (07:45-08:00)

Name	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
Dearne Valley Pkway	1081.47	1079.06	1103.27	0.00	1797.63	0.602	1.49	4.992	A
Sheffield Road (E)	586.13	582.88	1614.06	0.00	935.88	0.626	1.63	10.105	B
A61 (S)	1585.80	1584.62	352.50	0.00	3171.27	0.500	1.00	2.268	A
A61/Sheffield Road (W)	1005.96	1001.23	1225.15	0.00	1416.52	0.710	2.37	8.571	A

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

Name	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
Dearne Valley Pkway	1324.53	1315.46	1310.74	0.00	1658.47	0.799	3.76	10.234	B
Sheffield Road (E)	717.87	684.47	1944.71	0.00	747.01	0.961	9.98	44.193	E
A61 (S)	1942.20	1939.63	417.60	0.00	3116.81	0.623	1.64	3.052	A
A61/Sheffield Road (W)	1232.04	1179.75	1498.16	0.00	1247.73	0.987	15.45	38.129	E

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

Name	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
Dearne Valley Pkway	1324.53	1323.48	1336.71	0.00	1641.05	0.807	4.02	11.266	B
Sheffield Road (E)	717.87	700.23	1969.12	0.00	733.07	0.979	14.39	73.663	F
A61 (S)	1942.20	1942.14	425.53	0.00	3110.18	0.624	1.65	3.081	A
A61/Sheffield Road (W)	1232.04	1209.27	1500.85	0.00	1246.06	0.989	21.14	62.774	F

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

Name	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

Dearne Valley Pkway	1081.47	1090.99	1172.32	0.00	1751.31	0.618	1.64	5.529	A
Sheffield Road (E)	586.13	636.00	1670.09	0.00	903.88	0.648	1.92	15.890	C
A61 (S)	1585.80	1588.34	378.09	0.00	3149.86	0.503	1.02	2.310	A
A61/Sheffield Road (W)	1005.96	1080.25	1230.65	0.00	1413.12	0.712	2.57	13.254	B

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

Name	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
Dearne Valley Pkway	905.68	908.61	932.35	0.00	1912.27	0.474	0.91	3.596	A
Sheffield Road (E)	490.86	495.16	1361.76	0.00	1080.00	0.455	0.84	6.199	A
A61 (S)	1328.03	1329.28	298.84	0.00	3216.16	0.413	0.71	1.908	A
A61/Sheffield Road (W)	842.44	847.81	1028.05	0.00	1538.37	0.548	1.23	5.252	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: (new file)
Path:
Report generation date: 04/09/2014 09:42:50

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 PM Design			
Dearne Valley Pkway	3.01	9.06	0.76	A
Sheffield Road (E)	3.18	17.95	0.77	C
A61 (S)	6.96	9.88	0.88	A
A61/Sheffield Road (W)	27.87	90.78	1.02	F

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

"D1 - 2014 AM Count, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM" model duration: 16:15 - 17:45
"D3 - 2014 AM Design, AM" model duration: 07:30 - 09:00
"D4 - 2014 PM Design, PM" model duration: 16:15 - 17:45
"D5 - 2019 AM Count, AM" model duration: 07:30 - 09:00
"D6 - 2019 PM Count, PM" model duration: 16:15 - 17:45
"D7 - 2019 AM Design, AM" model duration: 07:30 - 09:00
"D8 - 2019 PM Design, PM " model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:42:50

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	23/07/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	

Enumerator	OPTIMA\tom.pritchard
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) - 2019 PM Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	A61/Sheffield Road (W) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2014 AM Design, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2014 PM Design, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Count, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Count, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D7 - 2019 AM Design, AM	Demand Set 7: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D8 - 2019 PM Design, PM	Demand Set 8: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2019 PM Design, PM	2019 PM Design	PM		ONE HOUR	16:15	17:45	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			26.09	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Name	Description
Dearne Valley Pkway	Dearne Valley Pkway	
Sheffield Road (E)	Sheffield Road (E)	
A61 (S)	A61 (S)	
A61/Sheffield Road (W)	A61/Sheffield Road (W)	

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Dearne Valley Pkway	7.60	9.10	6.36	22.00	64.20	34.00	
Sheffield Road (E)	3.70	7.83	14.70	62.70	64.20	27.00	
A61 (S)	10.80	11.10	3.30	37.80	64.20	26.00	
A61/Sheffield Road (W)	4.20	8.00	35.00	24.00	64.20	26.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Name	Crossing Type
Dearne Valley Pkway	None
Sheffield Road (E)	None
A61 (S)	None
A61/Sheffield Road (W)	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Dearne Valley Pkway		(calculated)	(calculated)	0.671	2537.647
Sheffield Road (E)		(calculated)	(calculated)	0.571	1857.866
A61 (S)		(calculated)	(calculated)	0.837	3466.189
A61/Sheffield Road (W)		(calculated)	(calculated)	0.618	2173.977

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

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Dearne Valley Pkway	ONE HOUR	✓	1111.00	100.000
Sheffield Road (E)	ONE HOUR	✓	601.00	100.000
A61 (S)	ONE HOUR	✓	2380.00	100.000
A61/Sheffield Road (W)	ONE HOUR	✓	964.00	100.000

Turning Proportions

Turning Counts or Proportions (PCU/hr) - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.000	41.000	919.000	151.000
	2	39.000	0.000	224.000	338.000
	3	1193.000	435.000	0.000	752.000
	4	123.000	303.000	538.000	0.000

Turning Proportions (PCU) - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.04	0.83	0.14
	2	0.06	0.00	0.37	0.56
	3	0.50	0.18	0.00	0.32
	4	0.13	0.31	0.56	0.00

Vehicle Mix

Average PCU Per Vehicle - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - (untitled) (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Name	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Dearne Valley Pkway	0.76	9.06	3.01	A
Sheffield Road (E)	0.77	17.95	3.18	C
A61 (S)	0.88	9.88	6.96	A
A61/Sheffield Road (W)	1.02	90.78	27.87	F

Main Results for each time segment

Main results: (16:15-16:30)

Name	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
Dearne Valley Pkway	836.42	833.28	955.96	0.00	1896.43	0.441	0.78	3.376	A
Sheffield Road (E)	452.46	449.96	1205.19	0.00	1169.43	0.387	0.63	4.987	A
A61 (S)	1791.79	1786.49	395.51	0.00	3135.29	0.571	1.32	2.660	A
A61/Sheffield Road (W)	725.75	721.50	1251.22	0.00	1400.40	0.518	1.06	5.270	A

Main results: (16:30-16:45)

Name	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
Dearne Valley Pkway	998.77	996.79	1142.46	0.00	1771.34	0.564	1.28	4.635	A
Sheffield Road (E)	540.29	538.49	1441.13	0.00	1034.66	0.522	1.08	7.229	A
A61 (S)	2139.57	2135.80	473.26	0.00	3070.24	0.697	2.27	3.837	A
A61/Sheffield Road (W)	866.62	862.09	1495.90	0.00	1249.12	0.694	2.19	9.197	A

Main results: (16:45-17:00)

Name	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
Dearne Valley Pkway	1223.23	1216.87	1346.87	0.00	1634.23	0.749	2.87	8.498	A
Sheffield Road (E)	661.71	654.19	1729.24	0.00	870.09	0.761	2.96	16.143	C
A61 (S)	2620.43	2602.91	575.75	0.00	2984.49	0.878	6.65	9.047	A
A61/Sheffield Road (W)	1061.38	998.54	1822.93	0.00	1046.93	1.014	17.90	48.877	E

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

Name	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
Dearne Valley Pkway	1223.23	1222.67	1369.90	0.00	1618.79	0.756	3.01	9.063	A
Sheffield Road (E)	661.71	660.83	1747.65	0.00	859.58	0.770	3.18	17.954	C
A61 (S)	2620.43	2619.20	580.71	0.00	2980.35	0.879	6.96	9.884	A
A61/Sheffield Road (W)	1061.38	1021.52	1834.50	0.00	1039.78	1.021	27.87	90.782	F

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

Name	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

Dearne Valley Pkway	998.77	1005.09	1239.24	0.00	1706.42	0.585	1.43	5.177	A
Sheffield Road (E)	540.29	548.17	1508.44	0.00	996.21	0.542	1.21	8.170	A
A61 (S)	2139.57	2158.01	480.46	0.00	3064.21	0.698	2.35	4.051	A
A61/Sheffield Road (W)	866.62	968.38	1511.72	0.00	1239.34	0.699	2.43	18.643	C

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

Name	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
Dearne Valley Pkway	836.42	838.94	966.03	0.00	1889.68	0.443	0.80	3.433	A
Sheffield Road (E)	452.46	454.72	1216.00	0.00	1163.26	0.389	0.64	5.096	A
A61 (S)	1791.79	1795.79	399.27	0.00	3132.15	0.572	1.35	2.703	A
A61/Sheffield Road (W)	725.75	731.09	1257.89	0.00	1396.27	0.520	1.10	5.456	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: (new file)
Path:
Report generation date: 04/09/2014 09:44:37

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 AM Count			
Arm 1	0.95	2.88	0.49	A
Arm 2	0.08	4.59	0.07	A
Arm 3	0.90	2.81	0.47	A

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

"D1 - 2014 AM Count, AM " model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM" model duration: 16:15 - 17:45
"D3 - 2019 AM Count, AM" model duration: 07:30 - 09:00
"D4 - 2019 PM Count, PM" model duration: 16:15 - 17:45
"D5 - 2019 AM Design, AM" model duration: 07:30 - 09:00
"D6 - 2019 PM Design, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:44:37

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	22/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\tom.pritchard
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) - 2014 AM Count, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2019 AM Count, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2019 PM Count, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Design, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Design, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2014 AM Count, AM	2014 AM Count	AM		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			2.89	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A6195 (south)	
2	Shortwood Way	
3	A6195 (north)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.00	8.00	0.00	21.30	60.00	25.00	
2	3.60	6.00	5.10	20.70	60.00	27.00	
3	8.00	8.00	0.00	14.70	60.00	21.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

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)	0.696	2473.291
2		(calculated)	(calculated)	0.508	1397.657
3		(calculated)	(calculated)	0.692	2456.965

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	✓	1079.00	100.000
2	ONE HOUR	✓	55.00	100.000
3	ONE HOUR	✓	1046.00	100.000

Turning Proportions

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

	To			

		1	2	3
From	1	0.000	91.000	988.000
	2	34.000	0.000	21.000
	3	1001.000	45.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.08	0.92
	2	0.62	0.00	0.38
	3	0.96	0.04	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	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.49	2.88	0.95	A
2	0.07	4.59	0.08	A
3	0.47	2.81	0.90	A

Main Results for each time segment

Main results: (07:30-07:45)

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	812.33	810.35	33.80	0.00	2449.76	0.332	0.49	2.193	A
2	41.41	41.24	742.01	0.00	1020.84	0.041	0.04	3.674	A
3	787.48	785.58	25.49	0.00	2439.33	0.323	0.48	2.175	A

Main results: (07:45-08:00)

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	970.00	969.36	40.43	0.00	2445.14	0.397	0.65	2.438	A
2	49.44	49.39	887.60	0.00	946.90	0.052	0.05	4.011	A
3	940.33	939.73	30.53	0.00	2435.84	0.386	0.63	2.404	A

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	1188.00	1186.84	49.50	0.00	2438.82	0.487	0.94	2.872	A
2	60.56	60.47	1086.75	0.00	845.77	0.072	0.08	4.584	A
3	1151.67	1150.59	37.38	0.00	2431.11	0.474	0.89	2.808	A

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	1188.00	1187.99	49.55	0.00	2438.79	0.487	0.95	2.877	A
2	60.56	60.56	1087.80	0.00	845.24	0.072	0.08	4.587	A
3	1151.67	1151.66	37.43	0.00	2431.07	0.474	0.90	2.813	A

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	970.00	971.14	40.50	0.00	2445.09	0.397	0.66	2.443	A
2	49.44	49.53	889.24	0.00	946.07	0.052	0.06	4.015	A
3	940.33	941.40	30.62	0.00	2435.78	0.386	0.63	2.412	A

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	812.33	812.98	33.90	0.00	2449.68	0.332	0.50	2.200	A
2	41.41	41.46	744.41	0.00	1019.62	0.041	0.04	3.679	A
3	787.48	788.10	25.63	0.00	2439.24	0.323	0.48	2.182	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: (new file)
Path:
Report generation date: 04/09/2014 09:45:32

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 PM Count			
Arm 1	1.25	3.29	0.56	A
Arm 2	0.24	6.30	0.20	A
Arm 3	0.66	2.50	0.40	A

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

"D1 - 2014 AM Count, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM " model duration: 16:15 - 17:45
"D3 - 2019 AM Count, AM" model duration: 07:30 - 09:00
"D4 - 2019 PM Count, PM" model duration: 16:15 - 17:45
"D5 - 2019 AM Design, AM" model duration: 07:30 - 09:00
"D6 - 2019 PM Design, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:45:31

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	22/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\tom.pritchard
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) - 2014 PM Count, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2019 AM Count, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2019 PM Count, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Design, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Design, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2014 PM Count, PM	2014 PM Count	PM		ONE HOUR	16:15	17:45	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			3.16	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A6195 (south)	
2	Shortwood Way	
3	A6195 (north)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.00	8.00	0.00	21.30	60.00	25.00	
2	3.60	6.00	5.10	20.70	60.00	27.00	
3	8.00	8.00	0.00	14.70	60.00	21.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

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)	0.696	2473.291
2		(calculated)	(calculated)	0.508	1397.657
3		(calculated)	(calculated)	0.692	2456.965

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	✓	1244.00	100.000
2	ONE HOUR	✓	127.00	100.000
3	ONE HOUR	✓	869.00	100.000

Turning Proportions

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

	To			

		1	2	3
From	1	0.000	16.000	1228.000
	2	83.000	0.000	44.000
	3	856.000	13.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.01	0.99
	2	0.65	0.00	0.35
	3	0.99	0.01	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	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.56	3.29	1.25	A
2	0.20	6.30	0.24	A
3	0.40	2.50	0.66	A

Main Results for each time segment

Main results: (16:15-16:30)

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	936.55	934.11	9.76	0.00	2466.49	0.380	0.61	2.345	A
2	95.61	95.16	922.10	0.00	929.39	0.103	0.11	4.313	A
3	654.23	652.75	62.19	0.00	2413.94	0.271	0.37	2.042	A

Main results: (16:30-16:45)

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	1118.33	1117.47	11.68	0.00	2465.16	0.454	0.83	2.670	A
2	114.17	114.00	1103.09	0.00	837.47	0.136	0.16	4.974	A
3	781.21	780.78	74.50	0.00	2405.42	0.325	0.48	2.216	A

Main results: (16:45-17:00)

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	1369.67	1368.00	14.30	0.00	2463.33	0.556	1.24	3.283	A
2	139.83	139.49	1350.41	0.00	711.88	0.196	0.24	6.285	A
3	956.79	956.05	91.16	0.00	2393.90	0.400	0.66	2.502	A

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	1369.67	1369.65	14.31	0.00	2463.32	0.556	1.25	3.290	A
2	139.83	139.82	1352.03	0.00	711.05	0.197	0.24	6.301	A
3	956.79	956.78	91.38	0.00	2393.75	0.400	0.66	2.504	A

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	1118.33	1119.98	11.70	0.00	2465.14	0.454	0.83	2.681	A
2	114.17	114.51	1105.58	0.00	836.21	0.137	0.16	4.990	A
3	781.21	781.94	74.84	0.00	2405.19	0.325	0.48	2.220	A

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	936.55	937.43	9.79	0.00	2466.47	0.380	0.61	2.357	A
2	95.61	95.79	925.37	0.00	927.73	0.103	0.12	4.327	A
3	654.23	654.67	62.60	0.00	2413.66	0.271	0.37	2.046	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

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Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: (new file)
Path:
Report generation date: 04/09/2014 09:46:12

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 AM Count			
Arm 1	1.10	3.10	0.52	A
Arm 2	0.09	4.87	0.08	A
Arm 3	1.03	3.02	0.51	A

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

"D1 - 2014 AM Count, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM" model duration: 16:15 - 17:45
"D3 - 2019 AM Count, AM " model duration: 07:30 - 09:00
"D4 - 2019 PM Count, PM" model duration: 16:15 - 17:45
"D5 - 2019 AM Design, AM" model duration: 07:30 - 09:00
"D6 - 2019 PM Design, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:46:11

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	22/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\tom.pritchard
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) - 2019 AM Count, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2019 AM Count, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2019 PM Count, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Design, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Design, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2019 AM Count, AM	2019 AM Count	AM		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			3.11	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A6195 (south)	
2	Shortwood Way	
3	A6195 (north)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.00	8.00	0.00	21.30	60.00	25.00	
2	3.60	6.00	5.10	20.70	60.00	27.00	
3	8.00	8.00	0.00	14.70	60.00	21.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

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)	0.696	2473.291
2		(calculated)	(calculated)	0.508	1397.657
3		(calculated)	(calculated)	0.692	2456.965

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	✓	1159.00	100.000
2	ONE HOUR	✓	59.00	100.000
3	ONE HOUR	✓	1123.00	100.000

Turning Proportions

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

	To			

		1	2	3
From	1	0.000	98.000	1061.000
	2	37.000	0.000	22.000
	3	1075.000	48.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.08	0.92
	2	0.63	0.00	0.37
	3	0.96	0.04	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	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.52	3.10	1.10	A
2	0.08	4.87	0.09	A
3	0.51	3.02	1.03	A

Main Results for each time segment

Main results: (07:30-07:45)

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	872.56	870.35	36.05	0.00	2448.19	0.356	0.55	2.279	A
2	44.42	44.23	796.76	0.00	993.04	0.045	0.05	3.794	A
3	845.45	843.34	27.74	0.00	2437.78	0.347	0.53	2.255	A

Main results: (07:45-08:00)

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	1041.92	1041.16	43.12	0.00	2443.26	0.426	0.74	2.566	A
2	53.04	52.98	953.13	0.00	913.63	0.058	0.06	4.182	A
3	1009.55	1008.85	33.23	0.00	2433.98	0.415	0.71	2.524	A

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	1276.08	1274.67	52.79	0.00	2436.53	0.524	1.09	3.094	A
2	64.96	64.86	1166.89	0.00	805.07	0.081	0.09	4.863	A
3	1236.45	1235.15	40.67	0.00	2428.83	0.509	1.03	3.013	A

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	1276.08	1276.07	52.85	0.00	2436.49	0.524	1.10	3.101	A
2	64.96	64.96	1168.17	0.00	804.43	0.081	0.09	4.867	A
3	1236.45	1236.43	40.74	0.00	2428.78	0.509	1.03	3.018	A

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	1041.92	1043.31	43.21	0.00	2443.20	0.426	0.75	2.575	A
2	53.04	53.14	955.09	0.00	912.63	0.058	0.06	4.188	A
3	1009.55	1010.84	33.33	0.00	2433.91	0.415	0.71	2.531	A

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	872.56	873.32	36.17	0.00	2448.10	0.356	0.56	2.286	A
2	44.42	44.48	799.48	0.00	991.66	0.045	0.05	3.800	A
3	845.45	846.17	27.89	0.00	2437.67	0.347	0.53	2.262	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: (new file)
Path:
Report generation date: 04/09/2014 09:46:43

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 PM Count			
Arm 1	1.49	3.65	0.60	A
Arm 2	0.29	7.08	0.23	A
Arm 3	0.76	2.65	0.43	A

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

"D1 - 2014 AM Count, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM" model duration: 16:15 - 17:45
"D3 - 2019 AM Count, AM" model duration: 07:30 - 09:00
"D4 - 2019 PM Count, PM " model duration: 16:15 - 17:45
"D5 - 2019 AM Design, AM" model duration: 07:30 - 09:00
"D6 - 2019 PM Design, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:46:42

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	22/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\tom.pritchard
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) - 2019 PM Count, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2019 AM Count, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2019 PM Count, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Design, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Design, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2019 PM Count, PM	2019 PM Count	PM		ONE HOUR	16:15	17:45	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			3.45	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A6195 (south)	
2	Shortwood Way	
3	A6195 (north)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.00	8.00	0.00	21.30	60.00	25.00	
2	3.60	6.00	5.10	20.70	60.00	27.00	
3	8.00	8.00	0.00	14.70	60.00	21.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

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)	0.696	2473.291
2		(calculated)	(calculated)	0.508	1397.657
3		(calculated)	(calculated)	0.692	2456.965

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	✓	1340.00	100.000
2	ONE HOUR	✓	136.00	100.000
3	ONE HOUR	✓	936.00	100.000

Turning Proportions

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

	To			

		1	2	3
From	1	0.000	17.000	1323.000
	2	89.000	0.000	47.000
	3	922.000	14.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.01	0.99
	2	0.65	0.00	0.35
	3	0.99	0.01	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	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.60	3.65	1.49	A
2	0.23	7.08	0.29	A
3	0.43	2.65	0.76	A

Main Results for each time segment

Main results: (16:15-16:30)

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	1008.82	1006.07	10.52	0.00	2465.97	0.409	0.69	2.462	A
2	102.39	101.87	993.30	0.00	893.23	0.115	0.13	4.546	A
3	704.67	703.02	66.67	0.00	2410.85	0.292	0.41	2.106	A

Main results: (16:30-16:45)

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	1204.63	1203.59	12.58	0.00	2464.53	0.489	0.95	2.852	A
2	122.26	122.05	1188.32	0.00	794.19	0.154	0.18	5.355	A
3	841.44	840.94	79.87	0.00	2401.71	0.350	0.54	2.306	A

Main results: (16:45-17:00)

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	1475.37	1473.25	15.40	0.00	2462.57	0.599	1.48	3.631	A
2	149.74	149.30	1454.56	0.00	658.99	0.227	0.29	7.057	A
3	1030.56	1029.69	97.70	0.00	2389.38	0.431	0.75	2.646	A

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	1475.37	1475.34	15.41	0.00	2462.56	0.599	1.49	3.645	A
2	149.74	149.73	1456.62	0.00	657.94	0.228	0.29	7.082	A
3	1030.56	1030.55	97.99	0.00	2389.18	0.431	0.76	2.649	A

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	1204.63	1206.73	12.60	0.00	2464.52	0.489	0.96	2.866	A
2	122.26	122.70	1191.42	0.00	792.62	0.154	0.18	5.378	A
3	841.44	842.31	80.30	0.00	2401.42	0.350	0.54	2.311	A

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	1008.82	1009.89	10.55	0.00	2465.95	0.409	0.70	2.475	A
2	102.39	102.60	997.08	0.00	891.31	0.115	0.13	4.567	A
3	704.67	705.18	67.14	0.00	2410.52	0.292	0.41	2.112	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: (new file)
Path:
Report generation date: 04/09/2014 09:47:38

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 AM Design			
Arm 1	1.13	3.15	0.53	A
Arm 2	0.09	4.93	0.08	A
Arm 3	1.07	3.08	0.52	A

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

"D1 - 2014 AM Count, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM" model duration: 16:15 - 17:45
"D3 - 2019 AM Count, AM" model duration: 07:30 - 09:00
"D4 - 2019 PM Count, PM" model duration: 16:15 - 17:45
"D5 - 2019 AM Design, AM " model duration: 07:30 - 09:00
"D6 - 2019 PM Design, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:47:37

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	22/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\tom.pritchard
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) - 2019 AM Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2019 AM Count, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2019 PM Count, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Design, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Design, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2019 AM Design, AM	2019 AM Design	AM		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			3.16	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A6195 (south)	
2	Shortwood Way	
3	A6195 (north)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.00	8.00	0.00	21.30	60.00	25.00	
2	3.60	6.00	5.10	20.70	60.00	27.00	
3	8.00	8.00	0.00	14.70	60.00	21.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

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)	0.696	2473.291
2		(calculated)	(calculated)	0.508	1397.657
3		(calculated)	(calculated)	0.692	2456.965

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	✓	1176.00	100.000
2	ONE HOUR	✓	59.00	100.000
3	ONE HOUR	✓	1144.00	100.000

Turning Proportions

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

	To			

		1	2	3
From	1	0.000	98.000	1078.000
	2	37.000	0.000	22.000
	3	1096.000	48.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.08	0.92
	2	0.63	0.00	0.37
	3	0.96	0.04	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	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.53	3.15	1.13	A
2	0.08	4.93	0.09	A
3	0.52	3.08	1.07	A

Main Results for each time segment

Main results: (07:30-07:45)

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	885.35	883.10	36.05	0.00	2448.19	0.362	0.56	2.297	A
2	44.42	44.23	809.51	0.00	986.57	0.045	0.05	3.820	A
3	861.26	859.09	27.74	0.00	2437.78	0.353	0.54	2.277	A

Main results: (07:45-08:00)

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	1057.20	1056.42	43.12	0.00	2443.26	0.433	0.76	2.594	A
2	53.04	52.98	968.39	0.00	905.88	0.059	0.06	4.220	A
3	1028.43	1027.70	33.22	0.00	2433.98	0.423	0.73	2.558	A

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	1294.80	1293.33	52.79	0.00	2436.53	0.531	1.13	3.144	A
2	64.96	64.85	1185.55	0.00	795.60	0.082	0.09	4.926	A
3	1259.57	1258.20	40.67	0.00	2428.83	0.519	1.07	3.070	A

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	1294.80	1294.78	52.85	0.00	2436.49	0.531	1.13	3.152	A
2	64.96	64.96	1186.89	0.00	794.92	0.082	0.09	4.931	A
3	1259.57	1259.55	40.74	0.00	2428.78	0.519	1.07	3.078	A

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	1057.20	1058.65	43.21	0.00	2443.20	0.433	0.77	2.602	A
2	53.04	53.14	970.43	0.00	904.84	0.059	0.06	4.227	A
3	1028.43	1029.79	33.33	0.00	2433.91	0.423	0.74	2.565	A

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	885.35	886.15	36.17	0.00	2448.10	0.362	0.57	2.307	A
2	44.42	44.48	812.30	0.00	985.15	0.045	0.05	3.826	A
3	861.26	862.01	27.89	0.00	2437.67	0.353	0.55	2.287	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.1.305 [25 May 2012]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: (new file)
Path:
Report generation date: 04/09/2014 09:48:07

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2019 PM Design			
Arm 1	1.59	3.79	0.61	A
Arm 2	0.30	7.37	0.23	A
Arm 3	0.79	2.71	0.44	A

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

"D1 - 2014 AM Count, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Count, PM" model duration: 16:15 - 17:45
"D3 - 2019 AM Count, AM" model duration: 07:30 - 09:00
"D4 - 2019 PM Count, PM" model duration: 16:15 - 17:45
"D5 - 2019 AM Design, AM" model duration: 07:30 - 09:00
"D6 - 2019 PM Design, PM " model duration: 16:15 - 17:45

Run using Junctions 8.0.1.305 at 04/09/2014 09:48:07

File summary

File Description

Title	(untitled)
Location	
Site Number	
Date	22/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\tom.pritchard
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) - 2019 PM Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Count, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Count, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D3 - 2019 AM Count, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D4 - 2019 PM Count, PM	Demand Set 4: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?
Warning	DemandSets	D5 - 2019 AM Design, AM	Demand Set 5: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D6 - 2019 PM Design, PM	Demand Set 6: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2019 PM Design, PM	2019 PM Design	PM		ONE HOUR	16:15	17:45	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3			3.57	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A6195 (south)	
2	Shortwood Way	
3	A6195 (north)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.00	8.00	0.00	21.30	60.00	25.00	
2	3.60	6.00	5.10	20.70	60.00	27.00	
3	8.00	8.00	0.00	14.70	60.00	21.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

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)	0.696	2473.291
2		(calculated)	(calculated)	0.508	1397.657
3		(calculated)	(calculated)	0.692	2456.965

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	✓	1375.00	100.000
2	ONE HOUR	✓	136.00	100.000
3	ONE HOUR	✓	962.00	100.000

Turning Proportions

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

	To			

		To		
		1	2	3
From	1	0.000	17.000	1358.000
	2	89.000	0.000	47.000
	3	948.000	14.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.01	0.99
	2	0.65	0.00	0.35
	3	0.99	0.01	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	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.61	3.79	1.59	A
2	0.23	7.37	0.30	A
3	0.44	2.71	0.79	A

Main Results for each time segment

Main results: (16:15-16:30)

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	1035.17	1032.29	10.52	0.00	2465.97	0.420	0.72	2.505	A
2	102.39	101.86	1019.53	0.00	879.91	0.116	0.13	4.624	A
3	724.24	722.53	66.66	0.00	2410.85	0.300	0.43	2.130	A

Main results: (16:30-16:45)

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	1236.10	1234.98	12.58	0.00	2464.53	0.502	1.00	2.925	A
2	122.26	122.04	1219.71	0.00	778.25	0.157	0.19	5.485	A
3	864.82	864.29	79.87	0.00	2401.71	0.360	0.56	2.341	A

Main results: (16:45-17:00)

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	1513.90	1511.59	15.40	0.00	2462.57	0.615	1.58	3.776	A
2	149.74	149.27	1492.90	0.00	639.52	0.234	0.30	7.337	A
3	1059.18	1058.26	97.68	0.00	2389.39	0.443	0.79	2.703	A

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	1513.90	1513.87	15.41	0.00	2462.56	0.615	1.59	3.793	A
2	149.74	149.73	1495.15	0.00	638.37	0.235	0.30	7.366	A
3	1059.18	1059.17	97.99	0.00	2389.18	0.443	0.79	2.706	A

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	1236.10	1238.39	12.60	0.00	2464.52	0.502	1.01	2.943	A
2	122.26	122.73	1223.08	0.00	776.54	0.157	0.19	5.509	A
3	864.82	865.73	80.31	0.00	2401.41	0.360	0.57	2.347	A

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	1035.17	1036.32	10.55	0.00	2465.95	0.420	0.73	2.521	A
2	102.39	102.61	1023.50	0.00	877.89	0.117	0.13	4.644	A
3	724.24	724.78	67.15	0.00	2410.51	0.300	0.43	2.137	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Potential Rbt.arc8
Path: O:\Rockingham\ANALYSIS\ARCADY\Site Access Roundabout
Report generation date: 04/09/2014 18:53:45

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 AM Total Design			
Arm 1	0.01	2.13	0.01	A
Arm 2	0.04	2.57	0.04	A
Arm 3	0.14	3.07	0.12	A
Arm 4	0.27	2.90	0.21	A

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

"D1 - 2014 AM Total Design, AM " model duration: 07:30 - 09:00
"D2 - 2014 PM Total Design, PM" model duration: 16:15 - 17:45

Run using ARCADY 8.0.0.296 at 04/09/2014 18:53:44

File summary

File Description

Title	Potential Access Rbt
Location	Rockingham
Site Number	
Date	27/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Richard.Murphy
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) - 2014 AM Total Design, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Total Design, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Total Design, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2014 AM Total Design, AM	2014 AM Total Design	AM		ONE HOUR	07:30	09:00	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			2.89	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description
1	Southern Arm	
2	Western Arm	
3	Northern Arm	
4	Eastern Arm	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only

1	4.30	7.40	14.00	22.50	40.00	22.00	
2	3.70	5.40	23.00	16.50	40.00	18.00	
3	3.65	5.80	6.00	16.00	40.00	33.00	
4	3.65	7.30	7.70	15.00	40.00	20.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

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)	0.695	1914.153
2		(calculated)	(calculated)	0.629	1585.751
3		(calculated)	(calculated)	0.571	1377.518
4		(calculated)	(calculated)	0.622	1573.797

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	✓	14.00	100.000
2	ONE HOUR	✓	50.00	100.000
3	ONE HOUR	✓	150.00	100.000
4	ONE HOUR	✓	301.00	100.000

Turning Proportions

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

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	14.000
	2	0.000	0.000	0.000	50.000
	3	0.000	0.000	0.000	150.000

	4	28.000	99.000	174.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.00	0.00	1.00
	2	0.00	0.00	0.00	1.00
	3	0.00	0.00	0.00	1.00
	4	0.09	0.33	0.58	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.01	2.13	0.01	A
2	0.04	2.57	0.04	A
3	0.12	3.07	0.14	A
4	0.21	2.90	0.27	A

Main Results for each time segment

Main results: (07:30-07:45)

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	10.54	10.52	204.92	0.00	1771.80	0.006	0.01	2.043	A
2	37.64	37.54	141.12	0.00	1497.05	0.025	0.03	2.466	A
3	112.93	112.56	48.06	0.00	1350.09	0.084	0.09	2.909	A
4	226.61	225.94	0.00	0.00	1573.80	0.144	0.17	2.669	A

Main results: (07:45-08:00)

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	12.59	12.58	245.28	0.00	1743.76	0.007	0.01	2.079	A
2	44.95	44.93	168.91	0.00	1479.58	0.030	0.03	2.508	A
3	134.85	134.77	57.51	0.00	1344.70	0.100	0.11	2.974	A
4	270.59	270.44	0.00	0.00	1573.80	0.172	0.21	2.761	A

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	15.41	15.41	300.37	0.00	1705.49	0.009	0.01	2.129	A
2	55.05	55.02	206.85	0.00	1455.74	0.038	0.04	2.569	A
3	165.15	165.04	70.43	0.00	1337.33	0.123	0.14	3.070	A
4	331.41	331.17	0.00	0.00	1573.80	0.211	0.27	2.897	A

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	15.41	15.41	300.58	0.00	1705.34	0.009	0.01	2.129	A
2	55.05	55.05	206.99	0.00	1455.65	0.038	0.04	2.569	A
3	165.15	165.15	70.46	0.00	1337.31	0.124	0.14	3.070	A
4	331.41	331.41	0.00	0.00	1573.80	0.211	0.27	2.897	A

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	12.59	12.59	245.63	0.00	1743.51	0.007	0.01	2.079	A
2	44.95	44.98	169.15	0.00	1479.43	0.030	0.03	2.509	A
3	134.85	134.96	57.57	0.00	1344.66	0.100	0.11	2.975	A
4	270.59	270.82	0.00	0.00	1573.80	0.172	0.21	2.762	A

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	10.54	10.55	205.67	0.00	1771.27	0.006	0.01	2.045	A
2	37.64	37.66	141.63	0.00	1496.73	0.025	0.03	2.466	A
3	112.93	113.01	48.21	0.00	1350.01	0.084	0.09	2.912	A
4	226.61	226.77	0.00	0.00	1573.80	0.144	0.17	2.672	A

ARCADY 8

Filename: Potential Rbt.arc8
Path: O:\Rockingham\ANALYSIS\ARCADY\Site Access Roundabout
Report generation date: 04/09/2014 18:59:48

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2014 PM Total Design			
Arm 1	0.02	2.09	0.02	A
Arm 2	0.08	2.69	0.08	A
Arm 3	0.17	3.27	0.15	A
Arm 4	0.19	2.72	0.16	A

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

"D1 - 2014 AM Total Design, AM" model duration: 07:30 - 09:00
"D2 - 2014 PM Total Design, PM " model duration: 16:15 - 17:45

Run using ARCADY 8.0.0.296 at 04/09/2014 18:59:48

File summary

File Description

Title	Potential Access Rbt
Location	Rockingham
Site Number	
Date	27/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	OPTIMA\Richard.Murphy
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) - 2014 PM Total Design, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - 2014 AM Total Design, AM	Demand Set 1: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	DemandSets	D2 - 2014 PM Total Design, PM	Demand Set 2: Scenario Name includes Time Period Name ('PM'). Are you sure this is correct?

Analysis Set Details

Name	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)			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
2014 PM Total Design, PM	2014 PM Total Design	PM		ONE HOUR	16:15	17:45	90	15		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
(untitled)	Roundabout	1,2,3,4			2.86	A

Junction Network Options

Driving Side	Lighting	Road Surface
Left	Normal/unknown	(Mini-roundabouts only)

Arms

Arms

Arm	Name	Description
1	Southern Arm	
2	Western Arm	
3	Northern Arm	
4	Eastern Arm	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only

1	4.30	7.40	14.00	22.50	40.00	22.00	
2	3.70	5.40	23.00	16.50	40.00	18.00	
3	3.65	5.80	6.00	16.00	40.00	33.00	
4	3.65	7.30	7.70	15.00	40.00	20.00	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None
4	None

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)	0.695	1914.153
2		(calculated)	(calculated)	0.629	1585.751
3		(calculated)	(calculated)	0.571	1377.518
4		(calculated)	(calculated)	0.622	1573.797

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	✓	29.00	100.000
2	ONE HOUR	✓	103.00	100.000
3	ONE HOUR	✓	175.00	100.000
4	ONE HOUR	✓	228.00	100.000

Turning Proportions

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

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	29.000
	2	0.000	0.000	0.000	103.000
	3	0.000	0.000	0.000	175.000

	4	14.000	52.000	162.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.00	0.00	1.00
	2	0.00	0.00	0.00	1.00
	3	0.00	0.00	0.00	1.00
	4	0.06	0.23	0.71	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.02	2.09	0.02	A
2	0.08	2.69	0.08	A
3	0.15	3.27	0.17	A
4	0.16	2.72	0.19	A

Main Results for each time segment

Main results: (16:15-16:30)

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	21.83	21.78	160.65	0.00	1802.55	0.012	0.01	2.021	A
2	77.54	77.33	143.40	0.00	1495.62	0.052	0.05	2.538	A
3	131.75	131.31	99.11	0.00	1320.96	0.100	0.11	3.026	A
4	171.65	171.16	0.00	0.00	1573.80	0.109	0.12	2.566	A