

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.2.316 [14 Feb 2013]
© Copyright TRL Limited, 2014

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>

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A628 A633 dsp19.arc8

Path: C:\agito docs\F0067 Barnsley Lundwood

Report generation date: 03/08/2014 20:05:28

« (Default Analysis Set) - Scenario 1, PM

» Junction Network

» Arms

» Traffic Flows

» Entry Flows

» Turning Proportions

» Vehicle Mix

» Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm A628e	2.43	9.11	0.71	A
Arm Graln	6.24	20.10	0.87	C
Arm A628w	1.91	12.97	0.66	B
Arm A633	0.56	5.01	0.36	A

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

DT - Scenario 1, PM - model duration: 16:00 - 17:30

Run using Junctions 8.0.2.316 at 03/08/2014 20:05:27

File summary

File Description

Title	A628/A633
Location	Barnsley
Site Number	
Date	03/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	F0067
Enumerator	
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	km/h	PCU	PCU	per/hour	s	-Min	per/min

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

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
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:00	17:30	90	15		

Junction Network

Junctions

Name (untitled)	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
	Roundabout	A628e,Graln,A628w,A633			13.42	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A628e	A628 Pontefract Rd east	
Graln	Grange Lane	
A628w	A628 Pontefract Rd west	
A633	A633 Rotherham Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PH - Conflict length angle (deg)	Exit Only
A628e	3.80	5.70	22.00	84.00	26.50	40.00	
Graln	3.10	7.00	30.00	23.00	48.00	60.00	
A628w	3.30	5.80	30.00	15.00	32.00	35.00	
A633	5.70	6.50	26.00	24.00	38.00	45.00	

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
A628e	None
Graln	None
A628w	None
A633	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/h)	Final Slope	Final Intercept (PCU/h)
A628e		(calculated)	(calculated)	0.643	1606.545
Graln		(calculated)	(calculated)	0.569	1600.492
A628w		(calculated)	(calculated)	0.614	1544.156
A633		(calculated)	(calculated)	0.665	1862.265

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/h)	Flow Scaling Factor (%)
A628e	ONE HOUR	✓	888.00	100.000
Graln	ONE HOUR	✓	1066.00	100.000
A628w	ONE HOUR	✓	492.00	100.000
A633	ONE HOUR	✓	364.00	100.000

Turning Proportions

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	513.000	333.000
	Graln	621.000	0.000	32.000
	A628w	356.000	39.000	0.000
	A633	72.000	263.000	29.000

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.00	0.58	0.38
	Graln	0.58	0.00	0.03
	A628w	0.72	0.08	0.00
	A633	0.20	0.72	0.08

Vehicle Mix

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

	To			
	A628e	Graln	A628w	A633
From	A628e	1.000	1.000	1.000
	Graln	1.000	1.000	1.000
	A628w	1.000	1.000	1.000
	A633	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	0.000	0.000
	Graln	0.000	0.000	0.000
	A628w	0.000	0.000	0.000
	A633	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A628e	0.71	9.11	2.43	A
Graln	0.87	20.10	6.24	C
A628w	0.66	12.97	1.91	B
A633	0.36	5.01	0.56	A

Main Results for each time segment

Main results: (16:00-16:15)

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
A628e	668.53	665.13	248.21	0.00	1447.07	0.462	0.85	4.586	A
GrAln	802.54	797.48	302.64	0.00	1428.17	0.562	1.26	5.683	A
A628w	370.40	368.24	805.00	0.00	1050.28	0.353	0.54	5.245	A
A633	274.04	273.03	760.22	0.00	1356.35	0.202	0.25	3.320	A

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
A628e	796.29	796.60	297.15	0.00	1415.63	0.564	1.27	5.799	A
GrAln	958.31	954.81	362.44	0.00	1394.12	0.687	2.14	8.129	A
A628w	442.30	441.04	963.83	0.00	952.84	0.464	0.85	7.017	A
A633	327.23	326.84	910.32	0.00	1296.46	0.260	0.35	3.870	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
A628e	977.71	973.23	363.49	0.00	1373.00	0.712	2.39	8.905	A
GrAln	1173.69	1158.90	442.86	0.00	1346.33	0.870	5.84	17.758	C
A628w	541.70	537.79	1170.14	0.00	826.26	0.656	1.83	12.314	B
A633	400.77	399.98	1106.88	0.00	1125.65	0.356	0.55	4.956	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
A628e	977.71	977.54	364.39	0.00	1372.42	0.712	2.43	9.105	A
GrAln	1173.69	1172.07	444.74	0.00	1347.26	0.871	6.24	20.104	C
A628w	541.70	541.40	1183.13	0.00	818.30	0.662	1.91	12.971	B
A633	400.77	400.74	1117.45	0.00	1118.61	0.356	0.56	5.014	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
A628e	798.29	802.78	298.51	0.00	1414.75	0.564	1.31	5.926	A
GrAln	958.31	974.19	365.14	0.00	1392.58	0.688	2.27	8.913	A
A628w	442.30	446.33	962.91	0.00	941.13	0.470	0.90	7.395	A
A633	327.23	328.02	925.85	0.00	1246.12	0.263	0.36	3.924	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
A628e	668.53	670.32	249.63	0.00	1446.16	0.462	0.87	4.652	A
GrAln	802.54	806.41	304.94	0.00	1426.86	0.562	1.30	5.839	A
A628w	370.40	371.79	813.90	0.00	1044.82	0.355	0.55	5.361	A
A633	274.04	274.45	768.26	0.00	1351.00	0.203	0.26	3.347	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.2.316 [14 Feb 2013]
© Copyright TRL Limited, 2014For 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

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A628 A633 dma14.arc8

Path: C:\agito docs\F0067 Barnsley Lundwood

Report generation date: 03/08/2014 19:54:01

« Default Analysis Set » - Scenario 1, AM

» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm A628e	3.47	13.51	0.78	B
Arm GrAln	2.05	8.39	0.68	A
Arm A628w	0.41	5.00	0.29	A
Arm A633	0.87	5.03	0.47	A

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

TrJ - Scenario 1, AM - model duration: 07:00 - 08:30

Run using Junctions 8.0.2.316 at 03/08/2014 19:54:00

File summary

File Description

Title	A628/A633
Location	Barnsley
Site Number	
Date	03/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	F0067
Enumerator	
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	km/h	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

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
Scenario 1	Scenario 1	AM		ONE HOUR	07:00	08:30	90	15		
All										

Junction Network

Junctions

Name (untitled)	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
	Roundabout	A628e,GralN,A628w,A633			9.03	A

Junction Network Options

Driving Side	Lighting
Left	Normalunknown

Arms

Arms

Arm	Name	Description
A628e	A628 Pontefract Rd east	
GralN	Grange Lane	
A628w	A628 Pontefract Rd west	
A633	A633 Rotherham Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A628e	3.80	5.70	22.00	84.00	26.50	40.00	
GralN	3.10	7.00	30.00	23.00	48.00	60.00	
A628w	3.30	5.80	30.00	15.00	32.00	35.00	
A633	5.70	6.50	26.00	24.00	38.00	45.00	

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
A628e	None
GralN	None
A628w	None
A633	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope (calculated)	Entered intercept (PCU/h)	Final Slope (calculated)	Final Intercept (PCU/h)
A628e		(calculated)	(calculated)	0.643	1606.545
GralN		(calculated)	(calculated)	0.569	1600.492
A628w		(calculated)	(calculated)	0.614	1544.156
A633		(calculated)	(calculated)	0.665	1862.265

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/h)	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/h)	Flow Scaling Factor (%)
A628e	ONE HOUR	✓	862.00	100.000
GralN	ONE HOUR	✓	809.00	100.000
A628w	ONE HOUR	✓	270.00	100.000
A633	ONE HOUR	✓	567.00	100.000

Turning Proportions

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	464.000	364.000
	Graln	464.000	0.000	62.000
	A628w	210.000	39.000	0.000
A633	51.000	465.000	51.000	0.000

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.00	0.54	0.42
	Graln	0.57	0.00	0.08
	A628w	0.78	0.14	0.00
A633	0.09	0.82	0.09	0.00

Vehicle Mix

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

	To			
	A628e	Graln	A628w	A633
From	A628e	1.000	1.000	1.000
	Graln	1.000	1.000	1.000
	A628w	1.000	1.000	1.000
A633	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	0.000	0.000
	Graln	0.000	0.000	0.000
	A628w	0.000	0.000	0.000
A633	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
A628e	0.78	13.51	3.47	B
Graln	0.68	8.39	2.05	A
A628w	0.29	5.00	0.41	A
A633	0.47	5.03	0.87	A

Main Results for each time segment

Main results: (07:00-07:15)

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
A628e	648.96	645.24	416.28	0.00	1339.08	0.485	0.93	5.160	A
Graln	609.06	606.04	336.17	0.00	1409.08	0.432	0.75	4.466	A
A628w	203.27	202.45	585.04	0.00	1185.23	0.172	0.21	3.659	A
A633	426.87	425.29	534.29	0.00	1506.70	0.283	0.39	3.325	A

Main results: (07:15-07:30)

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
A628e	774.92	772.69	486.34	0.00	1286.36	0.602	1.49	6.977	A
Graln	727.27	725.83	402.56	0.00	1371.28	0.530	1.11	5.565	A
A628w	242.72	242.44	700.68	0.00	1114.28	0.218	0.26	4.128	A
A633	509.72	509.11	639.86	0.00	1436.43	0.355	0.55	3.879	A

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
A628e	949.08	941.59	609.84	0.00	1214.72	0.781	3.36	12.839	B
Graln	890.73	887.13	490.79	0.00	1321.04	0.674	2.01	8.228	A
A628w	297.28	296.75	856.28	0.00	1016.82	0.292	0.41	4.982	A
A633	624.28	623.02	782.48	0.00	1341.53	0.465	0.86	5.001	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
A628e	949.08	948.65	611.04	0.00	1213.95	0.782	3.47	13.511	B
Graln	890.73	890.59	494.16	0.00	1319.12	0.675	2.05	8.384	A
A628w	297.28	297.27	859.76	0.00	1016.69	0.292	0.41	5.003	A
A633	624.28	624.26	784.94	0.00	1339.89	0.466	0.87	5.030	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
A628e	774.92	782.59	500.15	0.00	1285.20	0.603	1.55	7.267	A
Graln	727.27	730.87	407.30	0.00	1368.58	0.531	1.15	5.675	A
A628w	242.72	243.25	705.73	0.00	1111.19	0.218	0.26	4.151	A
A633	509.72	510.97	643.52	0.00	1434.01	0.355	0.56	3.906	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
A628e	648.96	651.34	418.45	0.00	1337.69	0.485	0.95	5.264	A
Graln	609.06	610.57	339.19	0.00	1407.96	0.433	0.77	4.528	A
A628w	203.27	203.56	589.47	0.00	1182.51	0.172	0.21	3.677	A
A633	426.87	427.49	537.92	0.00	1504.28	0.284	0.40	3.347	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.2.316 [14 Feb 2013]
© Copyright TRL Limited, 2014

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>

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A628 A633 dma19.arc8

Path: C:\agito docs\F0067 Barnsley Lundwood

Report generation date: 03/08/2014 19:57:05

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm A628e	4.11	15.71	0.81	C
Arm Graln	2.30	9.16	0.70	A
Arm A628w	0.44	5.21	0.31	A
Arm A633	0.94	5.32	0.49	A

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

TD - Scenario 1, AM - model duration: 07:00 - 08:30

Run using Junctions 8.0.2.316 at 03/08/2014 19:57:04

File summary

File Description

Title	A628/A633
Location	Barnsley
Site Number	
Date	03/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	F0067
Enumerator	
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	km/h	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

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
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Name (untitled)	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
	Roundabout	A628e,Graln,A628w,A633			10.11	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A628e	A628 Pontefract Rd east	
Graln	Grange Lane	
A628w	A628 Pontefract Rd west	
A633	A633 Rotherham Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PH - Conflict length/ angle (deg)	Exit Only
A628e	3.80	5.70	22.00	84.00	26.50	40.00	
Graln	3.10	7.00	30.00	23.00	48.00	60.00	
A628w	3.30	5.80	30.00	15.00	32.00	35.00	
A633	5.70	6.50	26.00	24.00	38.00	45.00	

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
A628e	None
Graln	None
A628w	None
A633	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/h)	Final Slope	Final Intercept (PCU/h)
A628e		(calculated)	(calculated)	0.643	1606.545
Graln		(calculated)	(calculated)	0.569	1600.492
A628w		(calculated)	(calculated)	0.614	1544.156
A633		(calculated)	(calculated)	0.665	1862.265

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

Traffic Flows

Demand Set Data Options

	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
Default Vehicle Mix				HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/h)	Flow Scaling Factor (%)
A628e	ONE HOUR	✓	885.00	100.000
Graln	ONE HOUR	✓	836.00	100.000
A628w	ONE HOUR	✓	280.00	100.000
A633	ONE HOUR	✓	584.00	100.000

Turning Proportions

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

	To			
	A628e	Graln	A628w	A633
From	A628e	483.000	0.000	63.000
	Graln	217.000	41.000	22.000
	A628w	52.000	480.000	52.000
	A633	52.000	52.000	0.000

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.00	0.54	0.42
	Graln	0.58	0.00	0.08
	A628w	0.78	0.15	0.00
	A633	0.09	0.82	0.09

Vehicle Mix

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

	To			
	A628e	Graln	A628w	A633
From	A628e	1.000	1.000	1.000
	Graln	1.000	1.000	1.000
	A628w	1.000	1.000	1.000
	A633	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	0.000	0.000
	Graln	0.000	0.000	0.000
	A628w	0.000	0.000	0.000
	A633	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A628e	0.81	15.71	4.11	C
Graln	0.70	9.16	2.30	A
A628w	0.31	5.21	0.44	A
A633	0.49	5.32	0.94	A

Main Results for each time segment**Main results: (07:00-07:15)**

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
A628e	666.27	662.31	429.74	0.00	1330.43	0.501	0.99	5.358	A
GrAln	629.38	626.17	343.59	0.00	1404.86	0.448	0.80	4.605	A
A628w	210.80	209.93	605.17	0.00	1172.68	0.180	0.22	3.735	A
A633	439.67	438.00	555.20	0.00	1492.78	0.295	0.42	3.402	A

Main results: (07:15-07:30)

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
A628e	795.60	793.08	514.46	0.00	1276.00	0.624	1.62	7.416	A
GrAln	751.55	749.94	411.41	0.00	1366.24	0.550	1.21	5.826	A
A628w	251.71	251.41	724.79	0.00	1099.49	0.229	0.30	4.244	A
A633	525.00	524.33	664.93	0.00	1419.76	0.370	0.58	4.018	A

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
A628e	974.40	965.10	629.51	0.00	1202.09	0.811	3.95	14.645	B
GrAln	920.45	916.24	500.97	0.00	1315.25	0.700	2.26	8.927	A
A628w	306.29	307.70	885.36	0.00	1000.98	0.308	0.44	5.168	A
A633	643.00	641.58	812.88	0.00	1321.30	0.487	0.94	5.286	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
A628e	974.40	973.75	630.86	0.00	1201.22	0.811	4.11	15.708	C
GrAln	920.45	920.27	505.07	0.00	1312.91	0.701	2.30	9.158	A
A628w	306.29	308.27	889.43	0.00	998.48	0.309	0.44	5.215	A
A633	643.00	642.97	815.74	0.00	1319.40	0.487	0.94	5.321	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
A628e	795.60	805.25	516.48	0.00	1274.70	0.624	1.70	7.820	A
GrAln	751.55	755.77	417.20	0.00	1362.95	0.551	1.25	5.989	A
A628w	251.71	252.29	730.67	0.00	1095.68	0.230	0.30	4.270	A
A633	525.00	526.41	669.12	0.00	1416.97	0.371	0.59	4.050	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
A628e	666.27	668.99	432.06	0.00	1328.95	0.501	1.02	5.478	A
GrAln	629.38	631.09	346.87	0.00	1402.99	0.449	0.82	4.675	A
A628w	210.80	211.12	609.99	0.00	1169.82	0.180	0.22	3.757	A
A633	439.67	440.35	559.14	0.00	1490.16	0.295	0.42	3.433	A

Junctions 8**ARCADY 8 - Roundabout Module**Version: 8.0.2.316 [14 Feb 2013]
© Copyright TRL Limited, 2014For 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**The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution**

Filename: A628 A633 dmp14 arc8

Path: C:\agito docs\F0067 Barnsley Lundwood

Report generation date: 03/08/2014 20:00:55

« (Default Analysis Set) - Scenario 1, PM» Junction Network
» Arms
» Traffic Flows
» Entry Flows
» Turning Proportions
» Vehicle Mix
» Results**Summary of junction performance**

	PM		
	Queue (PCU)	Delay (s)	RFC LOS
A1 - Scenario 1			
Arm A628e	2.28	8.68	0.70 A
Arm GrAln	5.33	17.44	0.85 C
Arm A628w	1.69	11.74	0.63 B
Arm A633	0.53	4.84	0.35 A

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

Tr - Scenario 1, PM model duration: 16:00 - 17:30

Run using Junctions 8.0.2.316 at 03/08/2014 20:00:54

File summary**File Description**

Title	A628/A633
Location	Barnsley
Site Number	
Date	03/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	F0067
Enumerator	
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	kmh	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

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
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:00	17:30	90	15		

Junction Network

Junctions

Name (untitled)	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
	Roundabout	A628e,GralN,A628w,A633			12.03	B

Junction Network Options

Driving Side	Lighting
Left	Normalunknown

Arms

Arms

Arm	Name	Description
A628e	A628 Pontefract Rd east	
GralN	Grange Lane	
A628w	A628 Pontefract Rd west	
A633	A633 Rotherham Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A628e	3.80	5.70	22.00	84.00	26.50	40.00	
GralN	3.10	7.00	30.00	23.00	48.00	60.00	
A628w	3.30	5.80	30.00	15.00	32.00	35.00	
A633	5.70	6.50	26.00	24.00	38.00	45.00	

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
A628e	None
GralN	None
A628w	None
A633	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/h)	Final Slope	Final Intercept (PCU/h)
A628e		(calculated)	(calculated)	0.643	1606.545
GralN		(calculated)	(calculated)	0.569	1600.492
A628w		(calculated)	(calculated)	0.614	1544.156
A633		(calculated)	(calculated)	0.665	1862.265

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/h)	Flow Scaling Factor (%)
A628e	ONE HOUR	✓	871.00	100.000
GralN	ONE HOUR	✓	1042.00	100.000
A628w	ONE HOUR	✓	481.00	100.000
A633	ONE HOUR	✓	360.00	100.000

Turning Proportions

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

	To			
	A628e	Graln	A628w	A633
	A628e	0.000	501.000	329.000
	Graln	601.000	0.000	33.000
From	A628w	345.000	40.000	0.000
	A633	70.000	260.000	30.000

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

	To			
	A628e	Graln	A628w	A633
	A628e	0.00	0.58	0.38
	Graln	0.58	0.00	0.03
From	A628w	0.72	0.08	0.00
	A633	0.19	0.72	0.08

Vehicle Mix

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

	To			
	A628e	Graln	A628w	A633
	A628e	1.000	1.000	1.000
	Graln	1.000	1.000	1.000
From	A628w	1.000	1.000	1.000
	A633	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
	A628e	Graln	A628w	A633
	A628e	0.000	0.000	0.000
	Graln	0.000	0.000	0.000
From	A628w	0.000	0.000	0.000
	A633	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A628e	0.70	8.68	2.28	A
Graln	0.85	17.44	5.33	C
A628w	0.63	11.74	1.69	B
A633	0.35	4.84	0.53	A

Main Results for each time segment

Main results: (16:00-16:15)

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
A628e	655.73	652.45	247.48	0.00	1447.54	0.453	0.82	4.510	A
Graln	784.47	779.68	299.66	0.00	1429.67	0.549	1.20	5.496	A
A628w	362.12	360.07	785.70	0.00	1062.12	0.341	0.51	5.114	A
A633	271.03	270.05	737.90	0.00	1371.20	0.198	0.25	3.268	A

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
A628e	783.01	781.41	286.27	0.00	1416.19	0.553	1.22	5.656	A
Graln	936.74	933.58	356.88	0.00	1396.15	0.671	1.99	7.728	A
A628w	432.41	431.27	940.80	0.00	966.97	0.447	0.80	6.707	A
A633	323.63	323.26	883.66	0.00	1274.20	0.254	0.34	3.783	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
A628e	958.89	954.89	382.46	0.00	1373.67	0.698	2.24	8.513	A
Graln	1147.26	1135.00	438.61	0.00	1350.75	0.849	5.05	15.849	C
A628w	529.59	526.23	1144.00	0.00	842.30	0.629	1.64	11.271	B
A633	396.37	395.62	1075.84	0.00	1146.30	0.346	0.52	4.780	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
A628e	958.99	958.85	363.30	0.00	1373.12	0.698	2.28	8.662	A
Graln	1147.26	1146.16	440.35	0.00	1348.76	0.850	5.33	17.444	C
A628w	529.59	529.37	1155.00	0.00	835.55	0.634	1.69	11.740	B
A633	396.37	396.35	1084.80	0.00	1140.34	0.346	0.53	4.838	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
A628e	783.01	787.11	297.54	0.00	1415.37	0.553	1.26	5.766	A
Graln	936.74	949.86	361.39	0.00	1394.72	0.672	2.10	8.313	A
A628w	432.41	435.84	956.64	0.00	957.25	0.452	0.84	6.948	A
A633	323.63	324.37	896.60	0.00	1265.59	0.256	0.35	3.826	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
A628e	655.73	657.41	248.86	0.00	1446.65	0.453	0.84	4.572	A
Graln	784.47	787.93	301.86	0.00	1428.60	0.549	1.23	5.650	A
A628w	362.12	363.36	793.92	0.00	1057.08	0.343	0.53	5.200	A
A633	271.03	271.41	745.30	0.00	1366.28	0.198	0.25	3.268	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.2.316 [14 Feb 2013]
© Copyright TRL Limited, 2014

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>

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A628 A633 dmp19.arc8
Path: C:\agito docs\F0067 Barnsley Lundwood
Report generation date: 03/08/2014 20:03:56

« (Default Analysis Set) - Scenario 1, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm A628e	2.30	8.74	0.70	A
Arm Graln	5.54	18.02	0.86	C
Arm A628w	1.75	12.06	0.64	B
Arm A633	0.54	4.88	0.35	A

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

DT - Scenario 1, PM - model duration: 16:00 - 17:30

Run using Junctions 8.0.2.316 at 03/08/2014 20:03:55

File summary

File Description

Title	A628/A633
Location	Barnsley
Site Number	
Date	03/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	F0067
Enumerator	
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	km/h	PCU	PCU	per/hour	s	-Min	per/min

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

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
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:00	17:30	90	15		

Junction Network

Junctions

Name (untitled)	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
	Roundabout	A628e,Graln,A628w,A633			12.33	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A628e	A628 Pontefract Rd east	
Graln	Grange Lane	
A628w	A628 Pontefract Rd west	
A633	A633 Rotherham Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PH - Conflict length/ angle (deg)	Exit Only
A628e	3.80	5.70	22.00	84.00	26.50	40.00	
Graln	3.10	7.00	30.00	23.00	48.00	60.00	
A628w	3.30	5.80	30.00	15.00	32.00	35.00	
A633	5.70	6.50	26.00	24.00	38.00	45.00	

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
A628e	None
Graln	None
A628w	None
A633	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/h)	Final Slope	Final Intercept (PCU/h)
A628e		(calculated)		0.643	1606.545
Graln		(calculated)		0.569	1600.492
A628w		(calculated)		0.614	1544.156
A633		(calculated)		0.665	1862.265

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

Traffic Flows

Demand Set Data Options

	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
Default Vehicle Mix		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/h)	Flow Scaling Factor (%)
A628e	ONE HOUR	✓	873.00	100.000
Graln	ONE HOUR	✓	1050.00	100.000
A628w	ONE HOUR	✓	483.00	100.000
A633	ONE HOUR	✓	362.00	100.000

Turning Proportions

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

	To			
	A628e	Graln	A628w	A633
From	A628e	605.000	0.000	32.000
	Graln	347.000	39.000	97.000
	A628w	70.000	263.000	29.000
	A633			0.000

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.00	0.58	0.37
	Graln	0.58	0.00	0.03
	A628w	0.72	0.08	0.00
	A633	0.19	0.73	0.08

Vehicle Mix

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

	To			
	A628e	Graln	A628w	A633
From	A628e	1.000	1.000	1.000
	Graln	1.000	1.000	1.000
	A628w	1.000	1.000	1.000
	A633	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	0.000	0.000
	Graln	0.000	0.000	0.000
	A628w	0.000	0.000	0.000
	A633	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A628e	0.70	8.74	2.30	A
Graln	0.86	18.02	5.54	C
A628w	0.64	12.06	1.75	B
A633	0.35	4.88	0.54	A

Main Results for each time segment

Main results: (16:00-16:15)

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
A628e	657.24	653.94	248.23	0.00	1447.06	0.454	0.82	4.520	A
GrAln	790.50	785.63	297.41	0.00	1431.15	0.552	1.22	5.537	A
A628w	363.63	361.55	782.40	0.00	1058.01	0.344	0.52	5.153	A
A633	272.53	271.54	741.61	0.00	1368.73	0.199	0.25	3.278	A

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
A628e	784.81	783.20	297.16	0.00	1415.62	0.554	1.23	5.677	A
GrAln	943.93	940.69	356.19	0.00	1397.68	0.675	2.03	7.821	A
A628w	434.21	433.04	948.80	0.00	962.06	0.451	0.81	6.789	A
A633	325.43	325.05	888.09	0.00	1271.25	0.256	0.34	3.802	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
A628e	961.19	957.04	383.55	0.00	1372.97	0.700	2.26	8.569	A
GrAln	1156.07	1143.23	435.30	0.00	1352.64	0.855	5.24	16.271	C
A628w	531.79	528.29	1153.34	0.00	836.57	0.636	1.69	11.548	B
A633	398.57	397.81	1080.92	0.00	1142.93	0.349	0.53	4.826	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
A628e	961.19	961.05	364.40	0.00	1372.42	0.700	2.30	8.743	A
GrAln	1156.07	1154.86	437.04	0.00	1351.64	0.855	5.54	18.018	C
A628w	531.79	531.55	1164.80	0.00	829.54	0.641	1.75	12.061	B
A633	398.57	398.55	1090.23	0.00	1136.73	0.351	0.54	4.876	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
A628e	784.81	788.96	298.46	0.00	1414.79	0.555	1.26	5.791	A
GrAln	943.93	957.52	358.70	0.00	1396.25	0.676	2.14	8.447	A
A628w	434.21	437.79	965.39	0.00	951.88	0.456	0.85	7.049	A
A633	325.43	326.18	901.58	0.00	1262.27	0.258	0.35	3.848	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
A628e	657.24	658.93	249.61	0.00	1446.17	0.454	0.84	4.582	A
GrAln	790.50	794.05	299.63	0.00	1429.69	0.553	1.25	5.694	A
A628w	363.63	364.90	800.80	0.00	1052.86	0.345	0.53	5.242	A
A633	272.53	272.93	749.14	0.00	1363.72	0.200	0.25	3.303	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.2.316 [14 Feb 2013]
© Copyright TRL Limited, 2014

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

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A628 A633 dsa14.arc8

Path: C:\agito docs\F0067 Barnsley Lundwood

Report generation date: 03/08/2014 19:55:18

« Default Analysis Set » - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM		
	Queue (PCU)	Delay (s)	RFC LOS
A1 - Scenario 1			
Arm A628e	3.86	14.77	0.80 B
Arm GrAln	2.14	8.70	0.69 A
Arm A628w	0.42	5.08	0.30 A
Arm A633	0.88	5.10	0.47 A

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

Tr - Scenario 1, AM - model duration: 07:00 - 08:30

Run using Junctions 8.0.2.316 at 03/08/2014 19:55:17

File summary

File Description

Title	A628/A633
Location	Barnsley
Site Number	
Date	03/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	F0067
Enumerator	
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	km/h	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

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
Scenario 1	Scenario 1	AM		ONE HOUR	07:00	08:30	90	15		
All										

Junction Network

Junctions

Name (untitled)	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
	Roundabout	A628e,GralN,A628w,A633			9.61	A

Junction Network Options

Driving Side	Lighting
Left	Normalunknown

Arms

Arms

Arm	Name	Description
A628e	A628 Pontefract Rd east	
GralN	Grange Lane	
A628w	A628 Pontefract Rd west	
A633	A633 Rotherham Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A628e	3.80	5.70	22.00	84.00	26.50	40.00	
GralN	3.10	7.00	30.00	23.00	48.00	60.00	
A628w	3.30	5.80	30.00	15.00	32.00	35.00	
A633	5.70	6.50	26.00	24.00	38.00	45.00	

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
A628e	None
GralN	None
A628w	None
A633	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope (calculated)	Entered intercept (PCU/h)	Final Slope (calculated)	Final Intercept (PCU/h)
A628e		(calculated)	(calculated)	0.643	1606.545
GralN		(calculated)	(calculated)	0.569	1600.492
A628w		(calculated)	(calculated)	0.614	1544.156
A633		(calculated)	(calculated)	0.665	1862.265

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/h)	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/h)	Flow Scaling Factor (%)
A628e	ONE HOUR	✓	883.00	100.000
GralN	ONE HOUR	✓	817.00	100.000
A628w	ONE HOUR	✓	274.00	100.000
A633	ONE HOUR	✓	568.00	100.000

Turning Proportions

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	475.000	373.000
	Graln	472.000	0.000	62.000
	A628w	214.000	39.000	0.000
A633	52.000	465.000	51.000	0.000

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.00	0.54	0.42
	Graln	0.58	0.00	0.08
	A628w	0.78	0.14	0.00
A633	0.09	0.82	0.09	0.00

Vehicle Mix

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

	To			
	A628e	Graln	A628w	A633
From	A628e	1.000	1.000	1.000
	Graln	1.000	1.000	1.000
	A628w	1.000	1.000	1.000
A633	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	0.000	0.000
	Graln	0.000	0.000	0.000
	A628w	0.000	0.000	0.000
A633	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
A628e	0.80	14.77	3.86	B
Graln	0.69	8.70	2.14	A
A628w	0.30	5.08	0.42	A
A633	0.47	5.10	0.88	A

Main Results for each time segment

Main results: (07:00-07:15)

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
A628e	664.77	660.87	416.27	0.00	1339.09	0.496	0.97	5.279	A
Graln	615.08	611.99	343.62	0.00	1404.84	0.438	0.77	4.524	A
A628w	206.28	205.44	591.75	0.00	1181.11	0.175	0.21	3.686	A
A633	427.62	426.03	543.26	0.00	1500.73	0.285	0.40	3.348	A

Main results: (07:15-07:30)

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
A628e	793.80	791.38	488.33	0.00	1286.37	0.617	1.58	7.236	A
Graln	734.47	732.96	411.46	0.00	1366.21	0.538	1.15	5.671	A
A628w	246.32	246.03	708.71	0.00	1109.36	0.222	0.26	4.169	A
A633	510.62	510.00	650.62	0.00	1429.28	0.357	0.55	3.913	A

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
A628e	972.20	963.61	609.82	0.00	1214.74	0.800	3.73	13.879	B
Graln	899.53	895.71	501.29	0.00	1315.07	0.684	2.10	8.507	A
A628w	301.68	301.13	865.93	0.00	1012.90	0.298	0.42	5.058	A
A633	625.38	624.09	795.52	0.00	1332.85	0.469	0.87	5.070	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
A628e	972.20	971.65	611.04	0.00	1213.95	0.801	3.86	14.768	B
Graln	899.53	899.38	505.11	0.00	1312.89	0.685	2.14	8.698	A
A628w	301.68	301.67	869.64	0.00	1010.62	0.299	0.42	5.077	A
A633	625.38	625.35	798.14	0.00	1331.11	0.470	0.88	5.100	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
A628e	793.80	802.66	500.17	0.00	1285.18	0.618	1.65	7.594	A
Graln	734.47	738.30	416.84	0.00	1363.15	0.539	1.18	5.797	A
A628w	246.32	246.86	714.08	0.00	1106.06	0.223	0.29	4.192	A
A633	510.62	511.90	654.47	0.00	1426.72	0.358	0.56	3.940	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
A628e	664.77	667.37	418.46	0.00	1337.69	0.497	1.00	5.390	A
Graln	615.08	616.67	346.82	0.00	1403.02	0.438	0.79	4.586	A
A628w	206.28	206.58	596.32	0.00	1178.31	0.175	0.21	3.707	A
A633	427.62	428.26	547.01	0.00	1498.23	0.285	0.40	3.368	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.2.316 [14 Feb 2013]
© Copyright TRL Limited, 2014

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>

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A628 A633 dsa19.arc8

Path: C:\agito docs\F0067 Barnsley Lundwood

Report generation date: 03/08/2014 19:58:37

« (Default Analysis Set) - Scenario 1, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Scenario 1				
Arm A628e	4.64	17.41	0.83	C
Arm Graln	2.41	9.50	0.71	A
Arm A628w	0.46	5.29	0.31	A
Arm A633	0.96	5.40	0.49	A

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

TD - Scenario 1, AM - model duration: 07:00 - 08:30

Run using Junctions 8.0.2.316 at 03/08/2014 19:58:37

File summary

File Description

Title	A628/A633
Location	Barnsley
Site Number	
Date	03/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	F0067
Enumerator	
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	km/h	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, AM

Data Errors and Warnings

No errors or warnings

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 (H:Mm)	Model Finish Time (H:Mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Scenario 1, AM	Scenario 1	AM		ONE HOUR	07:00	08:30	90	15		

Junction Network

Junctions

Name (untitled)	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
	Roundabout	A628e,Graln,A628w,A633			10.86	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A628e	A628 Pontefract Rd east	
Graln	Grange Lane	
A628w	A628 Pontefract Rd west	
A633	A633 Rotherham Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PH - Conflict length angle (deg)	Exit Only
A628e	3.80	5.70	22.00	84.00	26.50	40.00	
Graln	3.10	7.00	30.00	23.00	48.00	60.00	
A628w	3.30	5.80	30.00	15.00	32.00	35.00	
A633	5.70	6.50	26.00	24.00	38.00	45.00	

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
A628e	None
Graln	None
A628w	None
A633	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope (calculated)	Entered intercept (PCU/h)	Final Slope (calculated)	Final Intercept (PCU/h)
A628e		(calculated)		0.643	1606.545
Graln		(calculated)		0.569	1600.492
A628w		(calculated)		0.614	1544.156
A633		(calculated)		0.665	1862.265

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/h)	Flow Scaling Factor (%)
A628e	ONE HOUR	✓	906.00	100.000
Graln	ONE HOUR	✓	844.00	100.000
A628w	ONE HOUR	✓	284.00	100.000
A633	ONE HOUR	✓	585.00	100.000

Turning Proportions

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

	To			
	A628e	Graln	A628w	A633
From	A628e	491.000	63.000	290.000
	Graln	491.000	41.000	22.000
	A628w	221.000	480.000	52.000
	A633	53.000	480.000	0.000

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

	To			
	A628e	Graln	A628w	A633
From	A628e	0.00	0.54	0.42
	Graln	0.58	0.00	0.07
	A628w	0.78	0.14	0.00
	A633	0.09	0.82	0.09

Vehicle Mix

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

	To			
	A628e	Graln	A628w	A633
From	A628e	1.000	1.000	1.000
	Graln	1.000	1.000	1.000
	A628w	1.000	1.000	1.000
	A633	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
	A628e	Graln	A628w	A633
From	A628e	0.000	0.000	0.000
	Graln	0.000	0.000	0.000
	A628w	0.000	0.000	0.000
	A633	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A628e	0.83	17.41	4.64	C
Graln	0.71	9.50	2.41	A
A628w	0.31	5.29	0.46	A
A633	0.49	5.40	0.96	A

Main Results for each time segment

Main results: (07:00-07:15)

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
A628e	682.08	677.93	429.73	0.00	1330.44	0.513	1.04	5.448	A
GrAln	635.41	632.12	350.28	0.00	1401.05	0.454	0.82	4.662	A
A628w	213.81	212.92	611.12	0.00	1169.23	0.183	0.22	3.761	A
A633	440.42	438.74	564.16	0.00	1486.82	0.296	0.42	3.428	A

Main results: (07:15-07:30)

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
A628e	814.48	811.73	514.45	0.00	1276.01	0.638	1.72	7.708	A
GrAln	758.74	757.07	419.40	0.00	1361.69	0.557	1.24	5.937	A
A628w	255.31	254.99	731.91	0.00	1095.12	0.233	0.30	4.285	A
A633	525.90	525.22	675.66	0.00	1412.62	0.372	0.59	4.057	A

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
A628e	997.52	986.74	629.47	0.00	1202.11	0.830	4.42	15.959	C
GrAln	929.26	924.78	510.20	0.00	1309.99	0.709	2.36	9.239	A
A628w	312.89	312.08	893.87	0.00	995.76	0.314	0.45	5.261	A
A633	644.10	642.84	825.90	0.00	1312.63	0.491	0.95	5.361	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
A628e	997.52	996.65	630.86	0.00	1201.22	0.830	4.64	17.409	C
GrAln	929.26	929.06	514.87	0.00	1307.33	0.711	2.41	9.504	A
A628w	312.89	312.66	898.21	0.00	993.10	0.315	0.46	5.290	A
A633	644.10	644.07	828.94	0.00	1310.62	0.491	0.96	5.400	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
A628e	814.48	825.78	516.51	0.00	1274.68	0.639	1.81	8.212	A
GrAln	758.74	763.24	426.04	0.00	1357.91	0.559	1.29	6.100	A
A628w	255.31	255.91	738.17	0.00	1091.28	0.234	0.31	4.313	A
A633	525.90	527.35	680.10	0.00	1409.66	0.373	0.60	4.086	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
A628e	682.08	685.06	432.07	0.00	1328.94	0.513	1.07	5.616	A
GrAln	635.41	637.19	353.76	0.00	1399.06	0.454	0.84	4.735	A
A628w	213.81	214.14	616.09	0.00	1166.18	0.183	0.23	3.781	A
A633	440.42	441.12	568.24	0.00	1484.11	0.297	0.42	3.453	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.2.316 [14 Feb 2013]
© Copyright TRL Limited, 2014

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

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: A628 A633 dsp14.arc8

Path: C:\agito docs\F0067 Barnsley Lundwood

Report generation date: 03/08/2014 20:02:16

« (Default Analysis Set) - Scenario 1, PM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM		
	Queue (PCU)	Delay (s)	RFC LOS
A1 - Scenario 1			
Arm A628e	2.40	9.02	0.71 A
Arm GrAln	5.97	19.34	0.87 C
Arm A628w	1.85	12.60	0.65 B
Arm A633	0.55	4.97	0.36 A

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

Tr - Scenario 1, PM model duration: 16:00 - 17:30

Run using Junctions 8.0.2.316 at 03/08/2014 20:02:16

File summary

File Description

Title	A628/A633
Location	Barnsley
Site Number	
Date	03/08/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	F0067
Enumerator	
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	kmh	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - Scenario 1, PM

Data Errors and Warnings

No errors or warnings

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
Scenario 1, PM	Scenario 1	PM		ONE HOUR	16:00	17:30	90	15		

Junction Network

Junctions

Name (untitled)	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
	Roundabout	A628e,GralN,A628w,A633			13.03	B

Junction Network Options

Driving Side	Lighting
Left	Normalunknown

Arms

Arms

Arm	Name	Description
A628e	A628 Pontefract Rd east	
GralN	Grange Lane	
A628w	A628 Pontefract Rd west	
A633	A633 Rotherham Rd	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A628e	3.80	5.70	22.00	84.00	26.50	40.00	
GralN	3.10	7.00	30.00	23.00	48.00	60.00	
A628w	3.30	5.80	30.00	15.00		35.00	
A633	5.70	6.50	26.00	24.00	38.00	45.00	

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
A628e	None
GralN	None
A628w	None
A633	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/h)	Final Slope	Final Intercept (PCU/h)
A628e		(calculated)	(calculated)	0.643	1606.545
GralN		(calculated)	(calculated)	0.569	1600.492
A628w		(calculated)	(calculated)	0.614	1544.156
A633		(calculated)	(calculated)	0.665	1862.265

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/h)	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/h)	Flow Scaling Factor (%)
A628e	ONE HOUR	✓	885.00	100.000
GralN	ONE HOUR	✓	1058.00	100.000
A628w	ONE HOUR	✓	490.00	100.000
A633	ONE HOUR	✓	362.00	100.000

Turning Proportions

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

	To			
	A628e	Graln	A628w	A633
A628e	0.000	509.000	334.000	42.000
From	Graln	617.000	0.000	33.000
A628w	354.000	40.000	0.000	96.000
A633	72.000	260.000	30.000	0.000

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

	To			
	A628e	Graln	A628w	A633
A628e	0.00	0.58	0.38	0.05
From	Graln	0.58	0.00	0.03
A628w	0.72	0.08	0.00	0.20
A633	0.20	0.72	0.08	0.00

Vehicle Mix

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

	To			
	A628e	Graln	A628w	A633
A628e	1.000	1.000	1.000	1.000
From	Graln	1.000	1.000	1.000
A628w	1.000	1.000	1.000	1.000
A633	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
	A628e	Graln	A628w	A633
A628e	0.000	0.000	0.000	0.000
From	Graln	0.000	0.000	0.000
A628w	0.000	0.000	0.000	0.000
A633	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
A628e	0.71	9.02	2.40	A
Graln	0.87	19.34	5.97	C
A628w	0.65	12.60	1.85	B
A633	0.36	4.97	0.55	A

Main Results for each time segment

Main results: (16:00-16:15)

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
A628e	666.27	662.90	247.47	0.00	1447.55	0.460	0.84	4.569	A
Graln	796.52	791.54	304.14	0.00	1427.32	0.558	1.24	5.619	A
A628w	368.90	366.76	708.31	0.00	1054.39	0.350	0.53	5.220	A
A633	272.53	271.53	756.51	0.00	1358.81	0.201	0.25	3.308	A

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
A628e	795.60	793.92	296.25	0.00	1416.20	0.562	1.26	5.770	A
Graln	951.12	947.72	384.24	0.00	1393.10	0.683	2.09	8.020	A
A628w	440.50	439.27	955.84	0.00	957.74	0.460	0.84	6.926	A
A633	325.43	325.04	905.90	0.00	1259.40	0.258	0.35	3.851	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
A628e	974.40	970.01	382.41	0.00	1373.70	0.709	2.36	8.821	A
Graln	1164.88	1150.83	445.08	0.00	1347.07	0.865	5.61	17.225	C
A628w	539.50	535.74	1160.97	0.00	831.89	0.649	1.78	12.006	B
A633	398.57	397.79	1101.92	0.00	1128.95	0.353	0.54	4.918	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
A628e	974.40	974.24	363.29	0.00	1373.13	0.710	2.40	9.016	A
Graln	1164.88	1163.43	446.94	0.00	1346.01	0.865	5.97	19.341	C
A628w	539.50	539.22	1173.37	0.00	824.28	0.655	1.85	12.603	B
A633	398.57	398.54	1112.06	0.00	1122.20	0.355	0.55	4.974	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
A628e	795.60	800.00	297.60	0.00	1415.34	0.562	1.30	5.883	A
Graln	951.12	966.12	366.92	0.00	1391.57	0.683	2.22	8.744	A
A628w	440.50	444.36	973.95	0.00	946.63	0.465	0.88	7.223	A
A633	325.43	326.20	920.72	0.00	1249.53	0.260	0.35	3.901	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
A628e	666.27	668.04	248.87	0.00	1446.64	0.461	0.86	4.633	A
Graln	796.52	800.27	306.44	0.00	1426.01	0.559	1.28	5.766	A
A628w	368.90	370.24	807.01	0.00	1049.05	0.352	0.55	5.315	A
A633	272.53	272.94	764.40	0.00	1353.56	0.201	0.25	3.334	A