APPENDIX A3
Draft Strategic Transport Assessment, February 2016

Figure 5.3: Forecast Highway Flow Change 2031 'without' and 'with' development (PM Peak hour)

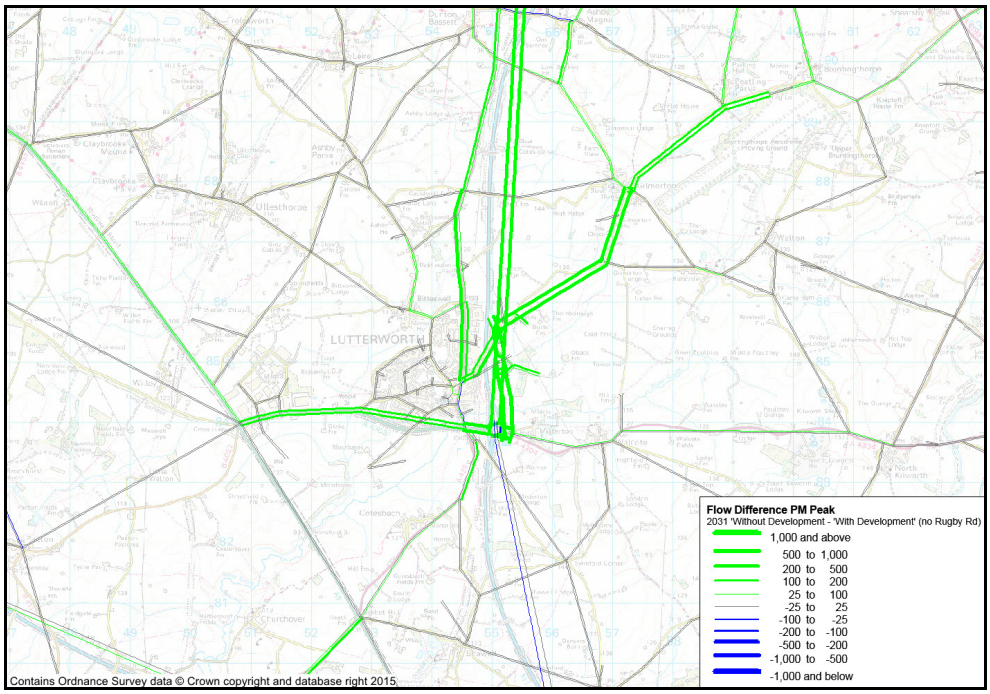


Figure 5.4: Forecast Highway Flow Change 2031 'with' development, without and with A426 link road (AM Peak hour)

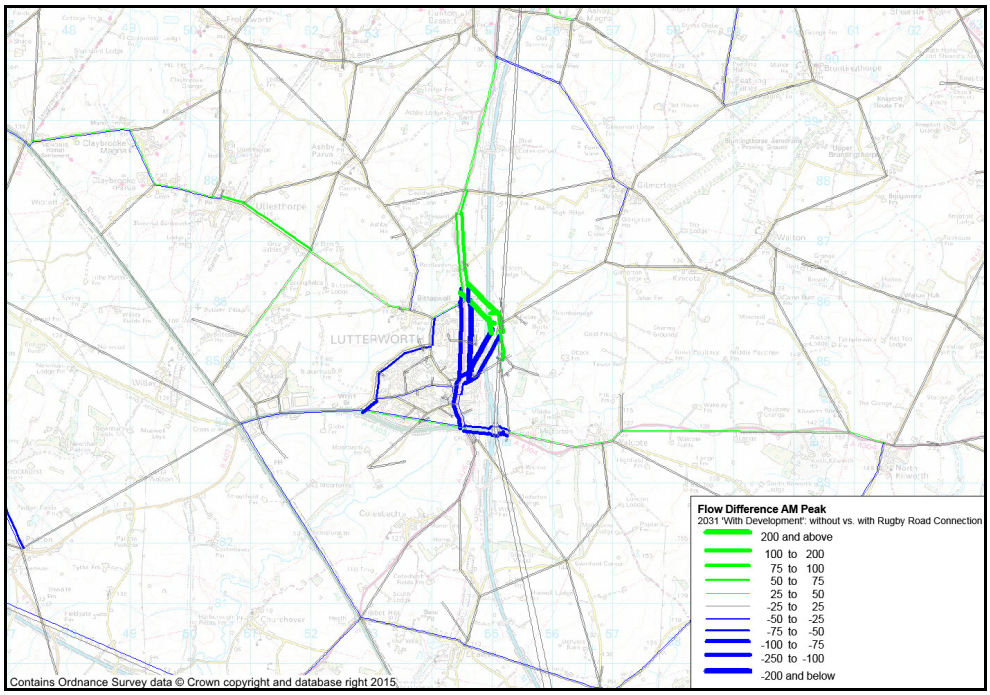


Figure 5.5: Forecast Highway Flow Change 2031 'with' development, without and with A426 link road (Interpeak hour)

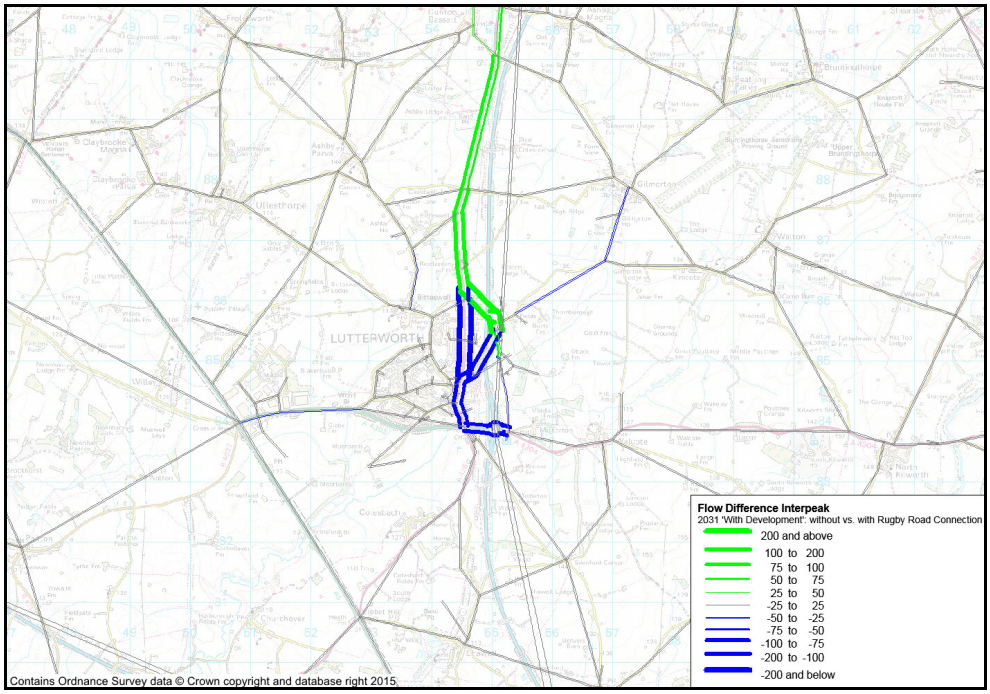
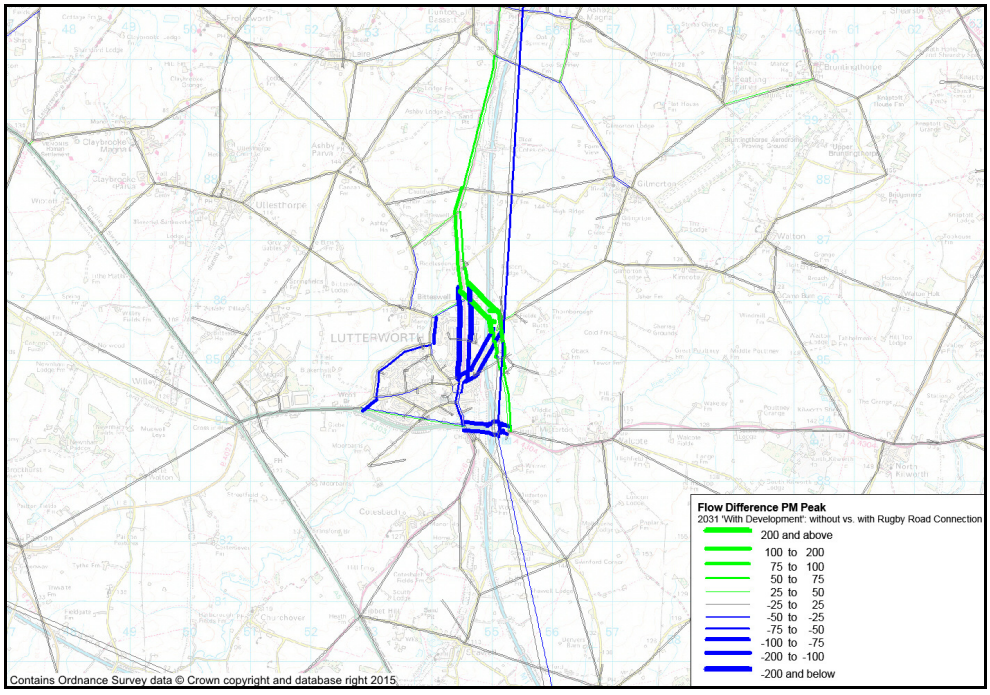


Figure 5.6: Forecast Highway Flow Change 2031 'with' development, without and with A426 link road (PM Peak hour)



TRAFFIC FLOW DIAGRAMS

D

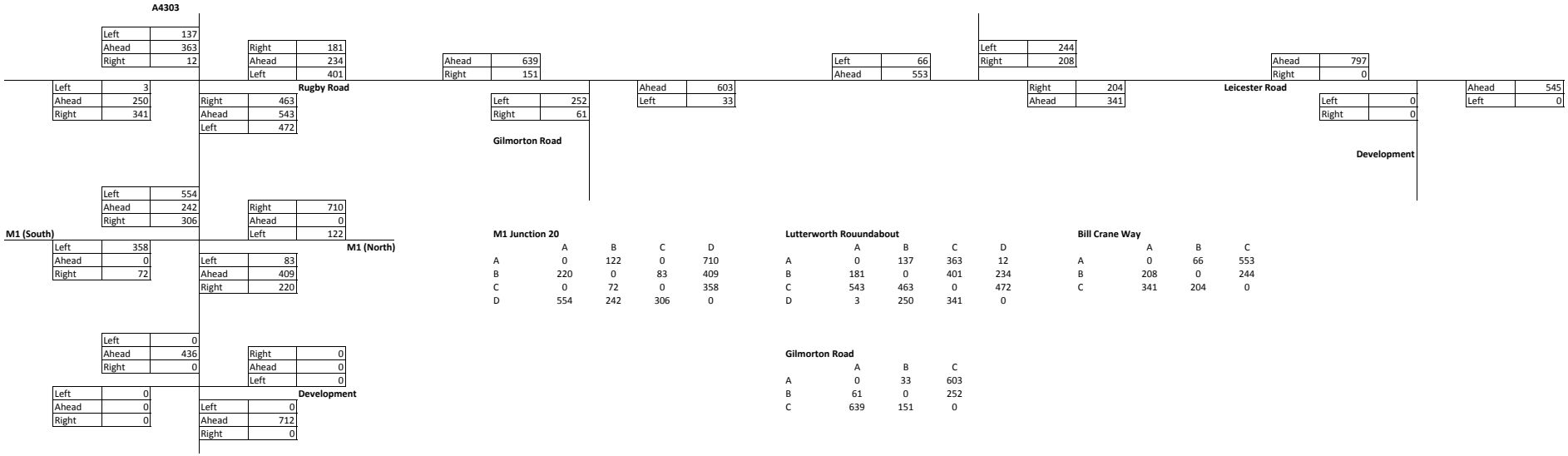


Figure 1: Baseline AM PCUs

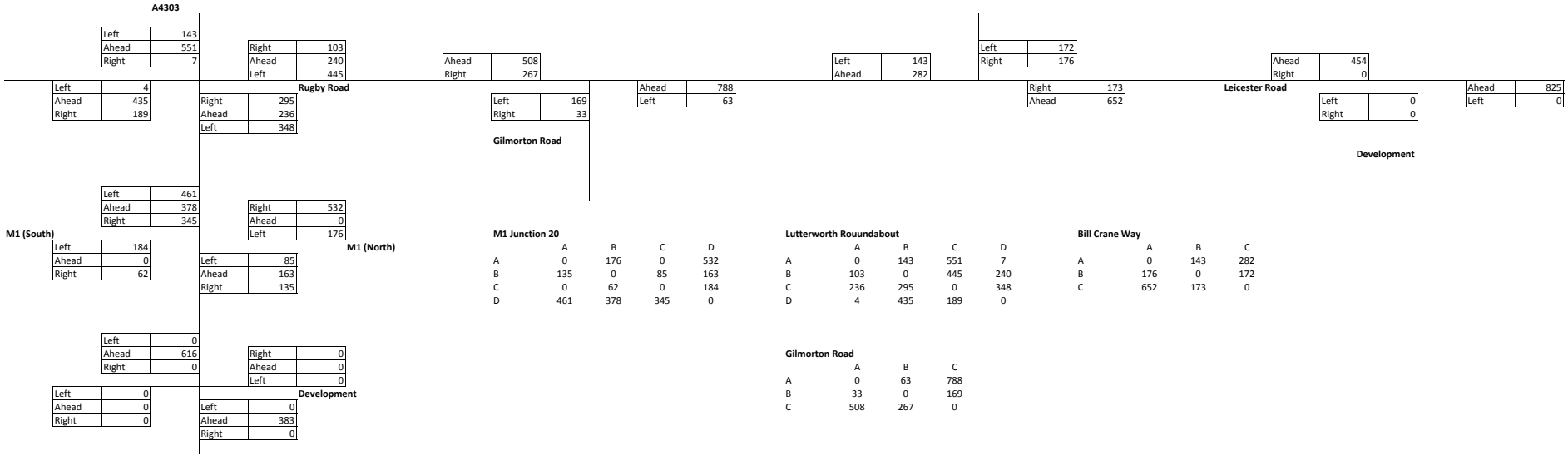


Figure 2: Baseline PM PCUs

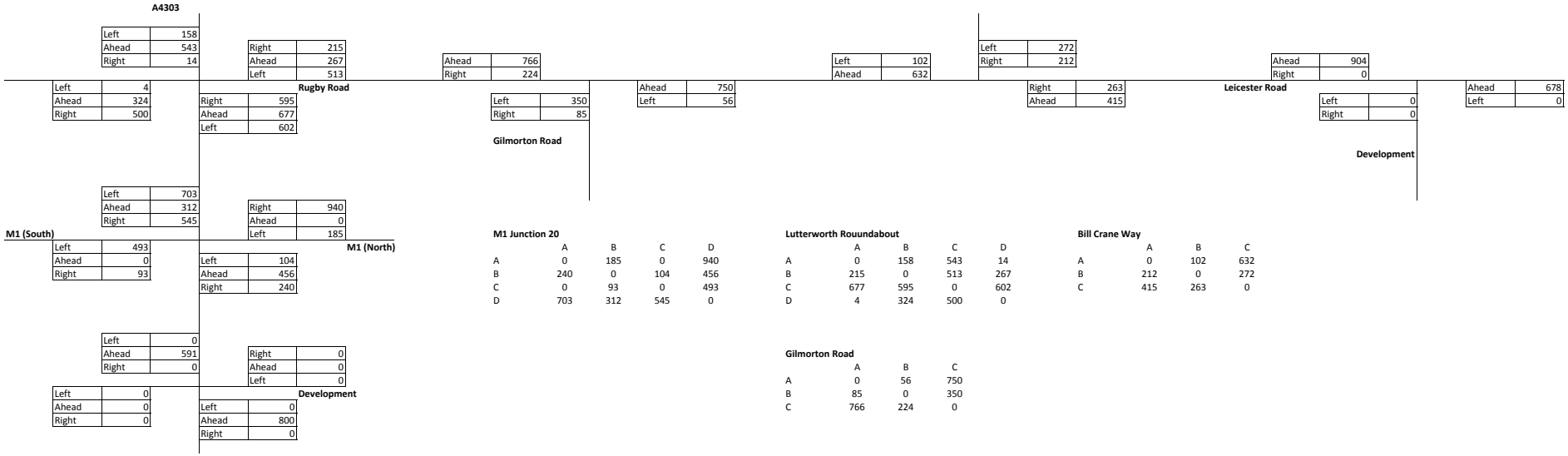


Figure 3: Reference AM PCUs

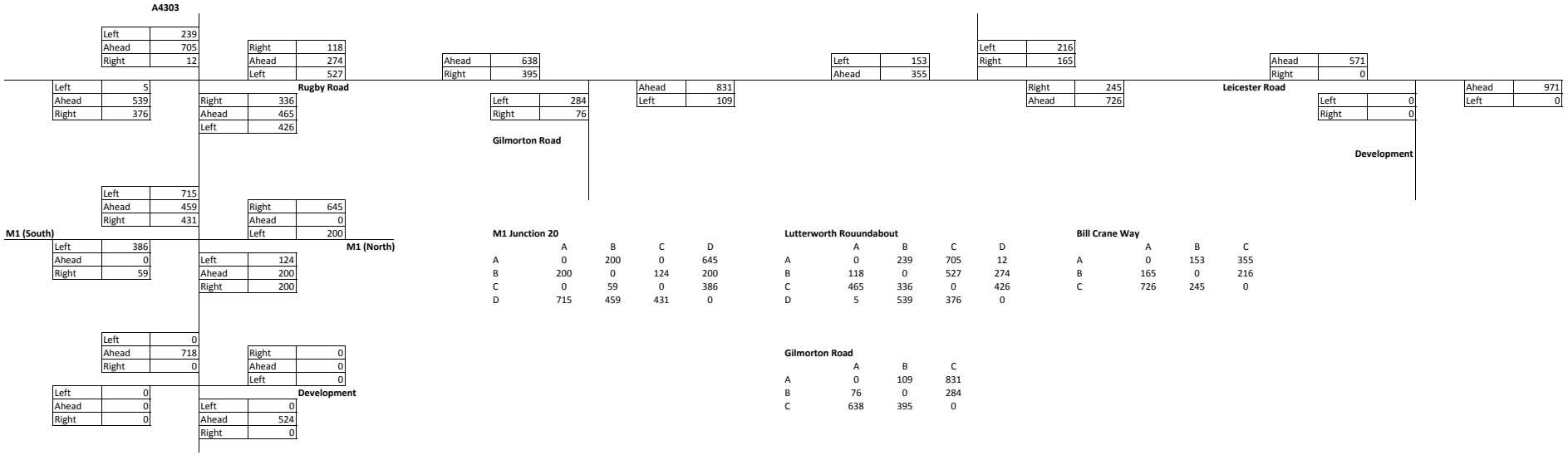


Figure 4: Reference PM PCUs

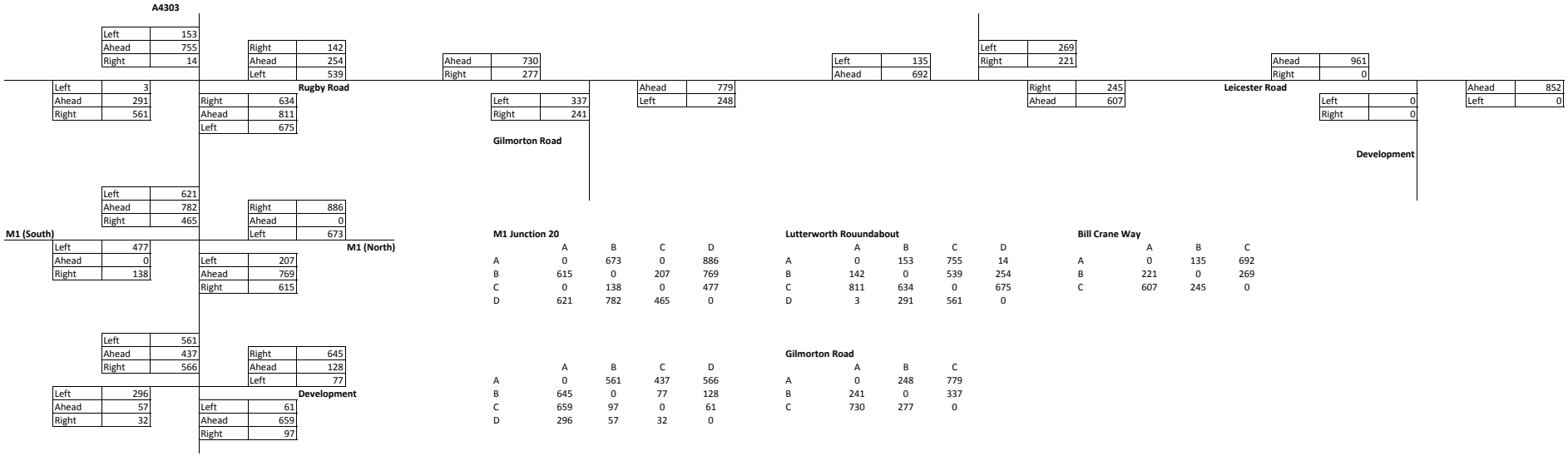


Figure 5: Design Case (without A426 Access) AM PCUs

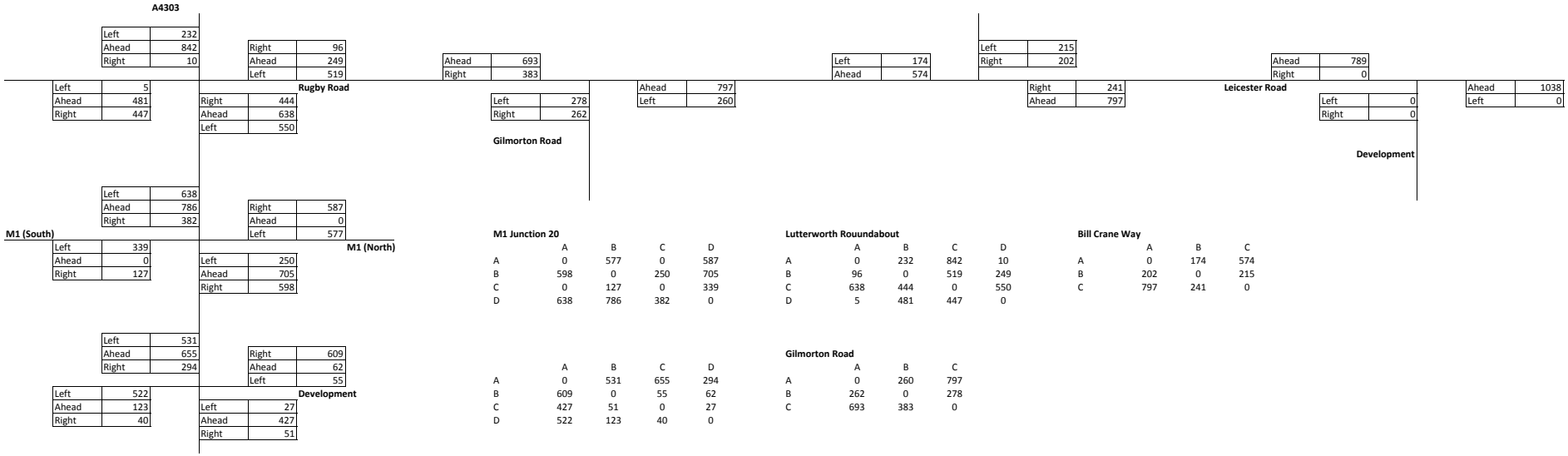


Figure 6: Design Case (without A426 Access) PM PCUs

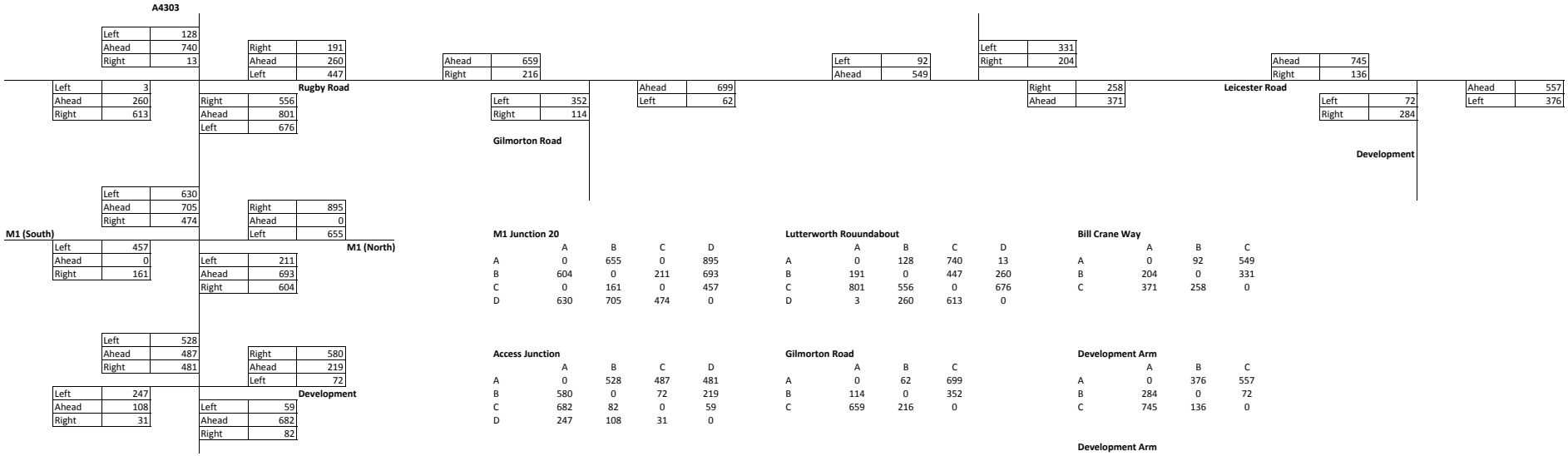


Figure 7: Design Case (with A426 Access) AM PCUs

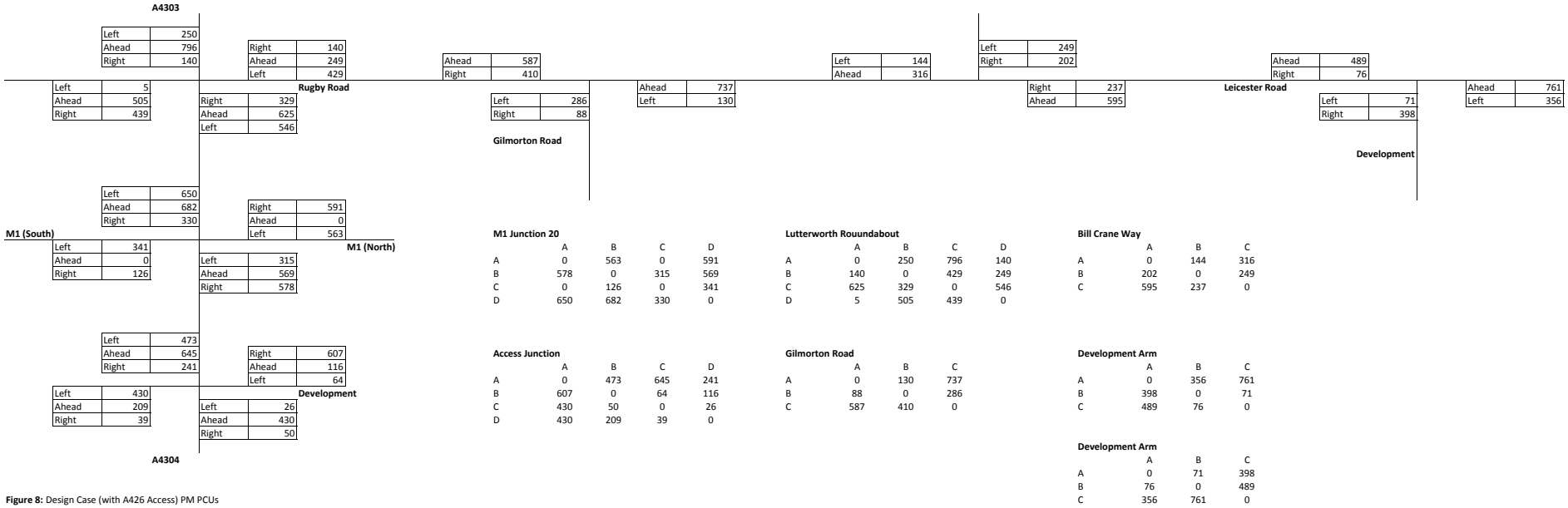
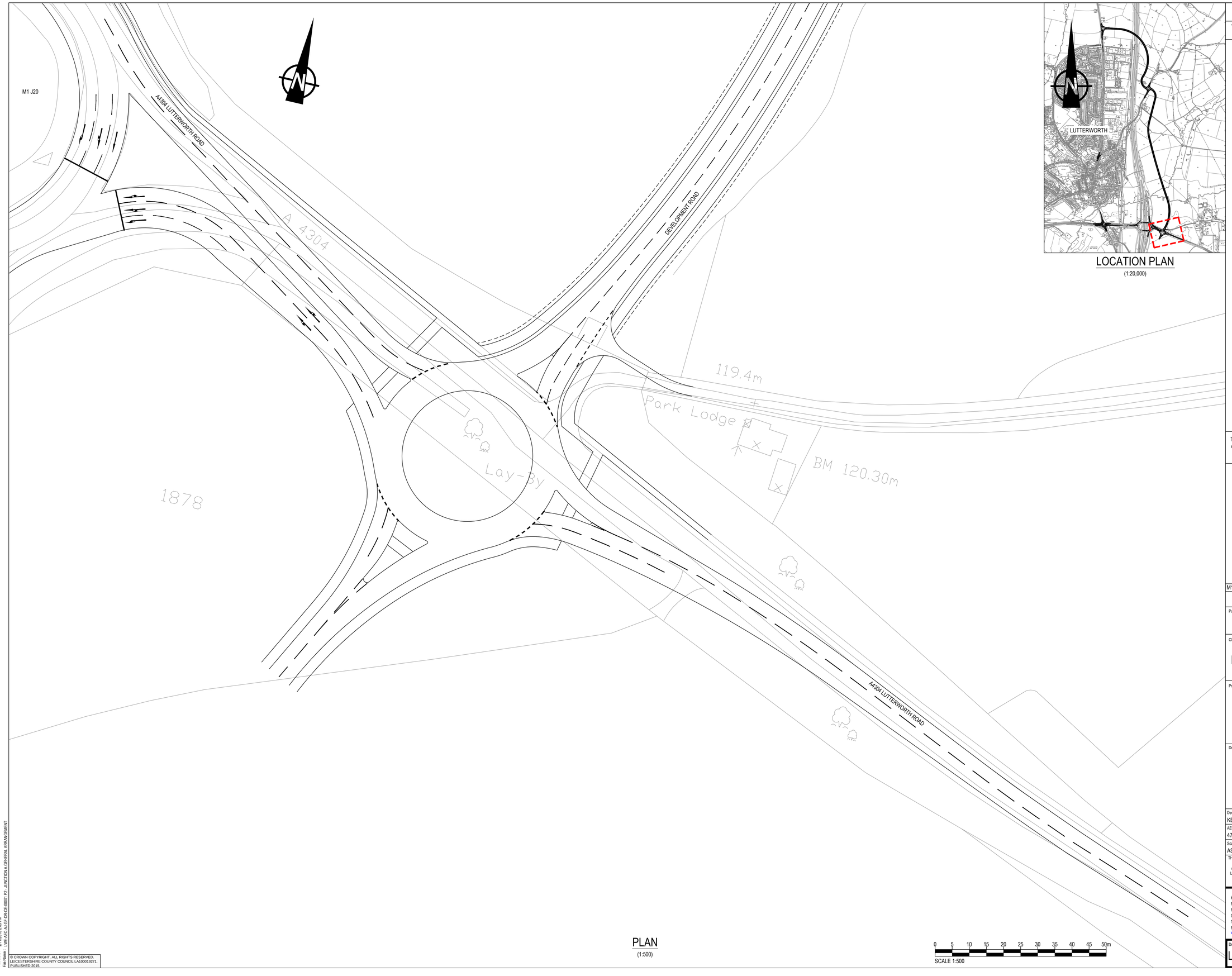


Figure 8: Design Case (with A426 Access) PM PCUs

MAIN ACCESS DESIGN AND ARCADY

E



PLAN
(1:500)

0 5 10 15 20 25 30 35 40 45 50m
SCALE 1:500

LOCATION PLAN
(1:20,000)

IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT.

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT.

This drawing is for preliminary purposes only and is subject to amendment during design development. UNDER NO CIRCUMSTANCES MUST THIS DRAWING BE USED FOR CONSTRUCTION PURPOSES

Revision Details	By / Check	Date	Suffix
M1 J20 REVISED	KB	11.02.16	P2

Purpose of issue
PRELIMINARY

Client
LEICESTERSHIRE COUNTY COUNCIL

Project Title
LUTTERWORTH EAST

Drawing Title
DRAFT
JUNCTION A
GENERAL ARRANGEMENT
WORK IN PROGRESS

Designed	Drawn	Checked	Approved	Date
KB	KB	DB	GH	27/07/15

AECOM Internal Project No.	Suitability
47074731	-
Scale @ A1	Zone
AS SHOWN	-

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Drawing Number: LWE-AEC-AJ-GF-DR-CE-00001
Rev: P2

Plot Date : 21/1/2016 2:03 PM
File Name : LWE-AEC-AJ-GF-DR-CE-00001 P2 - JUNCTION A GENERAL ARRANGEMENT

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

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

Filename: Main Access_Dual.arc8
Path: L:\MHA PSP1\LCC\47074731 - Lutterworth East\3_Analysis\ARCADY
Report generation date: 31/07/2015 09:20:00

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - With Rugby Road Link							
Arm 1	3.70	8.24	0.79	A	2.79	6.81	0.74	A
Arm 2	4.69	18.37	0.83	C	2.53	10.73	0.72	B
Arm 3	2.37	9.61	0.71	A	0.58	3.74	0.37	A
Arm 4	1.05	8.96	0.51	A	2.94	14.56	0.75	B
	A1 - Without Rigby Road							
Arm 1	4.33	9.26	0.82	A	3.48	7.83	0.78	A
Arm 2	4.60	18.48	0.83	C	2.19	10.02	0.69	B
Arm 3	2.61	10.69	0.73	B	0.58	3.74	0.37	A
Arm 4	1.14	9.84	0.54	A	3.06	15.02	0.76	C

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

"D1 - With Rugby Road Link, AM " model duration: 07:45 - 09:15
"D2 - With Rugby Road Link, PM" model duration: 16:45 - 18:15
"D3 - Without Rigby Road, AM" model duration: 07:45 - 09:15
"D4 - Without Rigby Road, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 31/07/2015 09:19:59

File summary

Title	Lutterworth East (Main Access)
Location	
Site Number	
Date	06/07/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	32309dsg
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) - With Rugby Road Link, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D1 - With Rugby Road Link, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
With Rugby Road Link, AM	With Rugby Road Link	AM		ONE HOUR	07:45	09:15	90	15	✓			✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4				11.10	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	(untitled)	
2	2	(untitled)	
3	3	(untitled)	
4	4	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

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	7.30	7.30	0.00	20.00	55.00	25.00	
2	3.50	7.00	25.00	20.00	55.00	25.00	
3	7.30	7.30	0.00	20.00	55.00	25.00	
4	3.50	7.00	15.00	20.00	55.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.689	2250.276
2		(calculated)	(calculated)	0.612	1823.996
3		(calculated)	(calculated)	0.689	2250.276
4		(calculated)	(calculated)	0.589	1696.590

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	✓	1496.00	100.000
2	ONE HOUR	✓	871.00	100.000
3	ONE HOUR	✓	823.00	100.000
4	ONE HOUR	✓	386.00	100.000

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.000	528.000	487.000	481.000
	2	580.000	0.000	72.000	219.000
	3	682.000	82.000	0.000	59.000
	4	247.000	108.000	31.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.35	0.33	0.32
	2	0.67	0.00	0.08	0.25
	3	0.83	0.10	0.00	0.07
	4	0.64	0.28	0.08	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	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.79	8.24	3.70	A	1496.00	1496.00	158.37	6.35	1.76	191.81	5.59
2	0.83	18.37	4.69	C	871.00	871.00	175.84	12.11	1.95	203.61	10.19
3	0.71	9.61	2.37	A	823.00	823.00	98.64	7.19	1.10	117.85	6.24
4	0.51	8.96	1.05	A	386.00	386.00	46.64	7.25	0.52	57.38	6.48

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1344.87	336.22	1342.40	1353.11	198.26	0.00	2113.65	2004.92	0.636	1.11	1.73	4.653	A
2	783.01	195.75	780.44	644.24	896.42	0.00	1275.69	997.89	0.614	0.91	1.56	7.231	A
3	739.86	184.97	738.33	529.32	1147.53	0.00	1459.48	1175.21	0.507	0.63	1.02	4.982	A
4	347.01	86.75	346.28	680.77	1205.09	0.00	987.39	663.50	0.351	0.35	0.54	5.610	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1647.13	411.78	1639.53	1648.32	242.12	0.00	2083.43	2004.92	0.791	1.73	3.62	7.975	A
2	958.99	239.75	947.50	786.80	1094.85	0.00	1154.32	997.89	0.831	1.56	4.43	16.563	C
3	906.14	226.53	901.03	646.02	1396.33	0.00	1288.03	1175.21	0.704	1.02	2.29	9.183	A
4	424.99	106.25	423.05	829.98	1467.38	0.00	833.04	663.50	0.510	0.54	1.02	8.739	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1647.13	411.78	1646.82	1660.42	243.26	0.00	2082.64	2004.92	0.791	3.62	3.70	8.244	A
2	958.99	239.75	957.93	790.37	1099.71	0.00	1151.35	997.89	0.833	4.43	4.69	18.373	C
3	906.14	226.53	905.83	649.41	1408.24	0.00	1279.82	1175.21	0.708	2.29	2.37	9.609	A
4	424.99	106.25	424.90	835.29	1478.78	0.00	826.33	663.50	0.514	1.02	1.05	8.964	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1344.87	336.22	1352.57	1370.31	199.90	0.00	2112.52	2004.92	0.637	3.70	1.78	4.783	A
2	783.01	195.75	795.24	649.26	903.22	0.00	1271.53	997.89	0.616	4.69	1.64	7.745	A
3	739.86	184.97	745.12	534.07	1164.38	0.00	1447.86	1175.21	0.511	2.37	1.06	5.159	A
4	347.01	86.75	348.97	688.25	1221.25	0.00	977.88	663.50	0.355	1.05	0.56	5.741	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	25.02	1.67	4.653	A	A
2	22.33	1.49	7.231	A	A
3	14.81	0.99	4.982	A	A
4	7.85	0.52	5.610	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	50.44	3.36	7.975	A	A
2	58.02	3.87	16.563	C	B
3	32.14	2.14	9.183	A	A
4	14.63	0.98	8.739	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	55.07	3.67	8.244	A	A
2	68.83	4.59	18.373	C	B
3	35.17	2.34	9.609	A	A
4	15.56	1.04	8.964	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.84	1.86	4.783	A	A
2	26.65	1.78	7.745	A	A
3	16.51	1.10	5.159	A	A
4	8.61	0.57	5.741	A	A

(Default Analysis Set) - With Rugby Road Link, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D2 - With Rugby Road Link, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
With Rugby Road Link, PM	With Rugby Road Link	PM		ONE HOUR	16:45	18:15	90	15	✓			✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4				8.85	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	(untitled)	
2	2	(untitled)	
3	3	(untitled)	
4	4	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

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	7.30	7.30	0.00	20.00	55.00	25.00	
2	3.50	7.00	25.00	20.00	55.00	25.00	
3	7.30	7.30	0.00	20.00	55.00	25.00	
4	3.50	7.00	15.00	20.00	55.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.689	2250.276
2		(calculated)	(calculated)	0.612	1823.996
3		(calculated)	(calculated)	0.689	2250.276
4		(calculated)	(calculated)	0.589	1696.590

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	✓	1359.00	100.000
2	ONE HOUR	✓	787.00	100.000
3	ONE HOUR	✓	506.00	100.000
4	ONE HOUR	✓	678.00	100.000

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.000	473.000	645.000	241.000
	2	607.000	0.000	64.000	116.000
	3	430.000	50.000	0.000	26.000
	4	430.000	209.000	39.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.35	0.47	0.18
	2	0.77	0.00	0.08	0.15
	3	0.85	0.10	0.00	0.05
	4	0.63	0.31	0.06	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	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.74	6.81	2.79	A	1359.00	1359.00	124.22	5.48	1.38	152.80	4.90
2	0.72	10.73	2.53	B	787.00	787.00	107.27	8.18	1.19	129.30	7.16
3	0.37	3.74	0.58	A	506.00	506.00	28.48	3.38	0.32	36.81	3.17
4	0.75	14.56	2.94	B	678.00	678.00	118.20	10.46	1.31	139.91	9.00

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1221.71	305.43	1219.78	1316.02	267.19	0.00	2066.15	2036.07	0.591	0.95	1.43	4.244	A
2	707.50	176.87	705.82	656.78	830.19	0.00	1316.20	995.21	0.538	0.73	1.15	5.881	A
3	454.88	113.72	454.48	671.28	864.73	0.00	1654.36	1371.40	0.275	0.28	0.38	3.000	A
4	609.51	152.38	607.70	343.70	975.52	0.00	1122.50	479.27	0.543	0.72	1.17	6.967	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1496.29	374.07	1491.01	1606.22	325.59	0.00	2025.90	2036.07	0.739	1.43	2.75	6.663	A
2	866.50	216.63	861.20	801.98	1014.62	0.00	1203.39	995.21	0.720	1.15	2.47	10.361	B
3	557.12	139.28	556.33	820.25	1055.58	0.00	1522.85	1371.40	0.366	0.38	0.57	3.720	A
4	746.49	186.62	739.84	419.93	1191.98	0.00	995.11	479.27	0.750	1.17	2.83	13.757	B

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1496.29	374.07	1496.11	1614.74	327.95	0.00	2024.28	2036.07	0.739	2.75	2.79	6.809	A
2	866.50	216.63	866.26	805.76	1018.31	0.00	1201.14	995.21	0.721	2.47	2.53	10.730	B
3	557.12	139.28	557.10	823.44	1061.13	0.00	1519.02	1371.40	0.367	0.57	0.58	3.741	A
4	746.49	186.62	746.08	421.62	1196.61	0.00	992.39	479.27	0.752	2.83	2.94	14.556	B

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1221.71	305.43	1227.01	1327.98	270.49	0.00	2063.88	2036.07	0.592	2.79	1.47	4.328	A
2	707.50	176.87	712.89	662.09	835.41	0.00	1313.01	995.21	0.539	2.53	1.18	6.050	A
3	454.88	113.72	455.66	675.79	872.51	0.00	1649.01	1371.40	0.276	0.58	0.38	3.020	A
4	609.51	152.38	616.38	346.08	982.08	0.00	1118.63	479.27	0.545	2.94	1.22	7.264	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.85	1.39	4.244	A	A
2	16.62	1.11	5.881	A	A
3	5.58	0.37	3.000	A	A
4	16.86	1.12	6.967	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	38.93	2.60	6.663	A	A
2	34.41	2.29	10.361	B	B
3	8.43	0.56	3.720	A	A
4	38.56	2.57	13.757	B	B

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	41.63	2.78	6.809	A	A
2	37.64	2.51	10.730	B	B
3	8.63	0.58	3.741	A	A
4	43.43	2.90	14.556	B	B

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	22.81	1.52	4.328	A	A
2	18.59	1.24	6.050	A	A
3	5.84	0.39	3.020	A	A
4	19.35	1.29	7.264	A	A

(Default Analysis Set) - Without Rigby Road, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D3 - Without Rigby Road, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Without Rigby Road, AM	Without Rigby Road	AM		ONE HOUR	07:45	09:15	90	15	✓			✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4				11.81	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	(untitled)	
2	2	(untitled)	
3	3	(untitled)	
4	4	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

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
1	7.30	7.30	0.00	20.00	55.00	25.00	
2	3.50	7.00	25.00	20.00	55.00	25.00	
3	7.30	7.30	0.00	20.00	55.00	25.00	
4	3.50	7.00	15.00	20.00	55.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.689	2250.276
2		(calculated)	(calculated)	0.612	1823.996
3		(calculated)	(calculated)	0.689	2250.276
4		(calculated)	(calculated)	0.589	1696.590

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	✓	1564.00	100.000
2	ONE HOUR	✓	850.00	100.000
3	ONE HOUR	✓	817.00	100.000
4	ONE HOUR	✓	385.00	100.000

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.000	561.000	437.000	566.000
	2	645.000	0.000	77.000	128.000
	3	659.000	97.000	0.000	61.000
	4	296.000	57.000	32.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.36	0.28	0.36
	2	0.76	0.00	0.09	0.15
	3	0.81	0.12	0.00	0.07
	4	0.77	0.15	0.08	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	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.82	9.26	4.33	A	1564.00	1564.00	180.60	6.93	2.01	216.75	6.04
2	0.83	18.48	4.60	C	850.00	850.00	172.31	12.16	1.91	199.44	10.23
3	0.73	10.69	2.61	B	817.00	817.00	106.13	7.79	1.18	125.73	6.71
4	0.54	9.84	1.14	A	385.00	385.00	50.04	7.80	0.56	61.08	6.92

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1406.00	351.50	1403.19	1434.54	166.84	0.00	2135.30	2055.59	0.658	1.19	1.90	4.899	A
2	764.13	191.03	761.61	641.45	928.57	0.00	1256.02	984.80	0.608	0.89	1.52	7.243	A
3	734.47	183.62	732.84	489.76	1200.42	0.00	1423.03	1120.46	0.516	0.65	1.05	5.203	A
4	346.11	86.53	345.32	677.21	1256.05	0.00	957.40	646.66	0.362	0.36	0.56	5.874	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1722.00	430.50	1712.72	1746.69	203.59	0.00	2109.98	2055.58	0.816	1.90	4.22	8.859	A
2	935.87	233.97	924.60	782.88	1133.43	0.00	1130.72	984.80	0.828	1.52	4.34	16.630	C
3	899.53	224.88	893.70	597.36	1460.67	0.00	1243.69	1120.46	0.723	1.05	2.51	10.120	B
4	423.89	105.97	421.69	825.78	1528.58	0.00	797.02	646.66	0.532	0.56	1.11	9.536	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1722.00	430.50	1721.55	1760.41	204.71	0.00	2109.20	2055.58	0.816	4.22	4.33	9.258	A
2	935.87	233.97	934.80	787.01	1139.26	0.00	1127.16	984.80	0.830	4.34	4.60	18.475	C
3	899.53	224.88	899.14	600.93	1473.14	0.00	1235.09	1120.46	0.728	2.51	2.61	10.690	B
4	423.89	105.97	423.77	830.92	1541.36	0.00	789.50	646.66	0.537	1.11	1.14	9.836	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1406.00	351.50	1415.47	1454.08	168.45	0.00	2134.20	2055.59	0.659	4.33	1.96	5.072	A
2	764.13	191.03	776.14	647.21	936.70	0.00	1251.05	984.80	0.611	4.60	1.60	7.765	A
3	734.47	183.62	740.52	494.76	1218.08	0.00	1410.86	1120.46	0.521	2.61	1.10	5.419	A
4	346.11	86.53	348.35	684.41	1274.18	0.00	946.73	646.66	0.366	1.14	0.58	6.037	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.45	1.83	4.899	A	A
2	21.84	1.46	7.243	A	A
3	15.33	1.02	5.203	A	A
4	8.18	0.55	5.874	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	57.97	3.86	8.859	A	A
2	56.89	3.79	16.630	C	B
3	34.91	2.33	10.120	B	B
4	15.84	1.06	9.536	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	64.26	4.28	9.258	A	A
2	67.50	4.50	18.475	C	B
3	38.65	2.58	10.690	B	B
4	16.97	1.13	9.836	A	A

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	30.93	2.06	5.072	A	A
2	26.08	1.74	7.765	A	A
3	17.24	1.15	5.419	A	A
4	9.04	0.60	6.037	A	A

(Default Analysis Set) - Without Rigby Road, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	DemandSets	D4 - Without Rigby Road, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Analysis Set Details

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

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Without Rigby Road, PM	Without Rigby Road	PM		ONE HOUR	16:45	18:15	90	15	✓			✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4				9.14	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	(untitled)	
2	2	(untitled)	
3	3	(untitled)	
4	4	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

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	7.30	7.30	0.00	20.00	55.00	25.00	
2	3.50	7.00	25.00	20.00	55.00	25.00	
3	7.30	7.30	0.00	20.00	55.00	25.00	
4	3.50	7.00	15.00	20.00	55.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.689	2250.276
2		(calculated)	(calculated)	0.612	1823.996
3		(calculated)	(calculated)	0.689	2250.276
4		(calculated)	(calculated)	0.589	1696.590

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	✓	1480.00	100.000
2	ONE HOUR	✓	726.00	100.000
3	ONE HOUR	✓	505.00	100.000
4	ONE HOUR	✓	685.00	100.000

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.000	531.000	655.000	294.000
	2	609.000	0.000	55.000	62.000
	3	427.000	51.000	0.000	27.000
	4	522.000	123.000	40.000	0.000

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

		To			
		1	2	3	4
From	1	0.00	0.36	0.44	0.20
	2	0.84	0.00	0.08	0.09
	3	0.85	0.10	0.00	0.05
	4	0.76	0.18	0.06	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	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.78	7.83	3.48	A	1480.00	1480.00	150.67	6.11	1.67	183.25	5.40
2	0.69	10.02	2.19	B	726.00	726.00	93.95	7.76	1.04	113.87	6.84
3	0.37	3.74	0.58	A	505.00	505.00	28.42	3.38	0.32	36.73	3.17
4	0.76	15.02	3.06	C	685.00	685.00	122.20	10.70	1.36	144.30	9.18

Main Results for each time segment

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1330.49	332.62	1328.13	1397.61	191.90	0.00	2118.03	2081.31	0.628	1.08	1.67	4.543	A
2	652.66	163.16	651.19	632.56	887.47	0.00	1281.17	991.11	0.509	0.66	1.03	5.697	A
3	453.98	113.50	453.58	672.97	865.69	0.00	1653.70	1334.09	0.275	0.28	0.38	3.000	A
4	615.80	153.95	613.93	343.69	975.58	0.00	1122.46	464.18	0.549	0.73	1.20	7.054	A

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1629.51	407.38	1622.51	1705.66	233.87	0.00	2089.11	2081.31	0.780	1.67	3.42	7.603	A
2	799.34	199.84	794.89	772.37	1084.01	0.00	1160.95	991.11	0.689	1.03	2.14	9.717	A
3	556.02	139.00	555.23	821.92	1056.98	0.00	1521.88	1334.09	0.365	0.38	0.57	3.720	A
4	754.20	188.55	747.20	419.88	1192.34	0.00	994.90	464.18	0.758	1.20	2.94	14.149	B

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1629.51	407.38	1629.24	1714.88	235.51	0.00	2087.98	2081.31	0.780	3.42	3.48	7.835	A
2	799.34	199.84	799.15	776.04	1088.71	0.00	1158.08	991.11	0.690	2.14	2.19	10.017	B
3	556.02	139.00	556.00	825.60	1062.25	0.00	1518.25	1334.09	0.366	0.57	0.58	3.740	A
4	754.20	188.55	753.75	421.62	1196.63	0.00	992.37	464.18	0.760	2.94	3.06	15.016	C

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

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	1330.49	332.62	1337.57	1410.57	194.18	0.00	2116.46	2081.31	0.629	3.48	1.72	4.662	A
2	652.66	163.16	657.17	637.70	894.05	0.00	1277.14	991.11	0.511	2.19	1.06	5.849	A
3	453.98	113.50	454.76	678.13	873.09	0.00	1648.61	1334.09	0.275	0.58	0.38	3.019	A
4	615.80	153.95	623.04	346.14	981.71	0.00	1118.86	464.18	0.550	3.06	1.25	7.365	A

Queueing Delay Results for each time segment

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	24.21	1.61	4.543	A	A
2	14.90	0.99	5.697	A	A
3	5.57	0.37	3.000	A	A
4	17.23	1.15	7.054	A	A

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

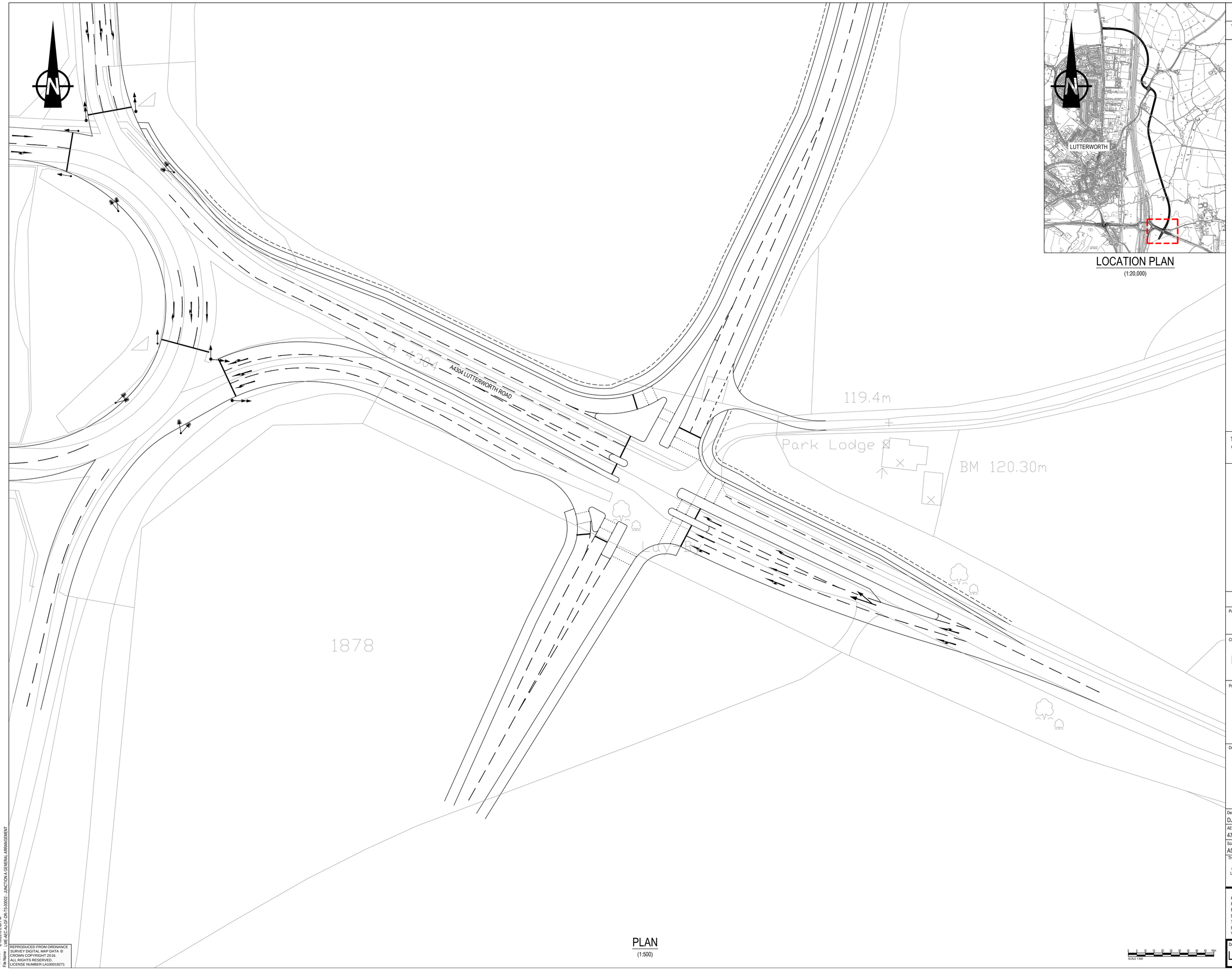
Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	47.77	3.18	7.603	A	A
2	29.99	2.00	9.717	A	A
3	8.41	0.56	3.720	A	A
4	39.95	2.66	14.149	B	B

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	51.87	3.46	7.835	A	A
2	32.51	2.17	10.017	B	B
3	8.61	0.57	3.740	A	A
4	45.19	3.01	15.016	C	B

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

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	26.82	1.79	4.662	A	A
2	16.55	1.10	5.849	A	A
3	5.82	0.39	3.019	A	A
4	19.83	1.32	7.365	A	A



PLAN
(1:500)

LOCATION PLAN
(1:20,000)

Plot Date : 2/16/2016 2:00 PM
File Name : LWE-AEC-AJ-GF-DR-TS-00002 - JUNCTION A GENERAL ARRANGEMENT

IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT.

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Revision Details	By / Check	Date	Suffix

Purpose of issue
PRELIMINARY

Client
LEICESTERSHIRE COUNTY COUNCIL

Project Title
LUTTERWORTH EAST

Drawing Title
DRAFT
JUNCTION A
GENERAL ARRANGEMENT
WORK IN PROGRESS

Designed	Drawn	Checked	Approved	Date
DJM	DJM			

AECOM Internal Project No.	Suitability
47074731	-
Scale @ A1	Zone
AS SHOWN	-

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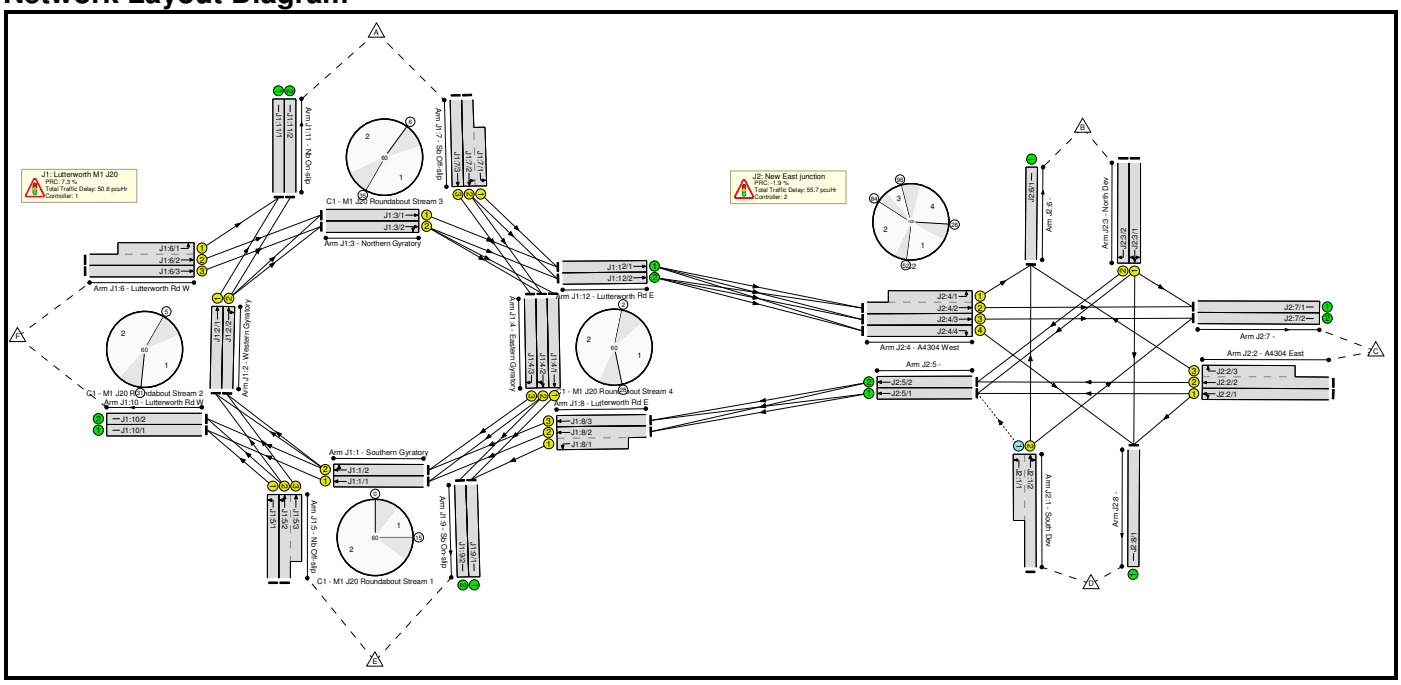
SCALE 1:500

Drawing Number	Rev
LWE-AEC-AJ-GF-DR-TS-00002	P1

Basic Results Summary

Scenario 1: 'AM' (FG1: 'AM', Plan 1: 'Lutterworth')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Deg Sat (%)	Mean Max Queue (pcu)
Network	**-**	**91.7%**	**-**
J1: Lutterworth M1 J20	**-**	**83.8%**	**-**
1/1	Southern Gyratory Ahead	74.9%	6.8
1/2	Southern Gyratory Right Ahead	80.3%	8.1
2/1	Western Gyratory Ahead	49.0%	4.6
2/2	Western Gyratory Right Ahead	54.0%	6.2
3/1	Northern Gyratory Ahead	75.8%	6.2
3/2	Northern Gyratory Right Ahead	70.9%	3.7
4/1	Eastern Gyratory Ahead	46.5%	6.0
4/2	Eastern Gyratory Right Ahead	64.7%	4.2
4/3	Eastern Gyratory Right	69.2%	2.6
5/1	Nb Off-slip Left	52.2%	3.1
5/2+5/3	Nb Off-slip Ahead Left	83.8 : 62.1%	6.1
6/2+6/1	Lutterworth Rd W Ahead Left	81.1 : 81.1%	10.0
6/3	Lutterworth Rd W Ahead	61.6%	8.4
7/2+7/1	Sb Off-slip Ahead Left	80.8 : 80.8%	9.2
7/3	Sb Off-slip Ahead	64.2%	8.0
8/2+8/1	Lutterworth Rd E Ahead Left	66.8 : 66.8%	9.4
8/3	Lutterworth Rd E Ahead	62.4%	8.5
J2: New East junction	**-**	**91.7%**	**-**
1/2+1/1	South Dev Left Ahead Right	83.6 : 83.6%	6.2
2/1	A4304 East Ahead Left	90.3%	13.3
2/2+2/3	A4304 East Ahead Right	91.7 : 91.7%	15.1
3/1	North Dev Right Left Ahead	90.2%	16.0
3/2	North Dev Right	89.6%	15.1
4/2+4/1	A4304 West Left Ahead	67.1 : 67.1%	11.6
4/3	A4304 West Ahead	41.4%	4.9
4/4	A4304 West Right	90.6%	17.2

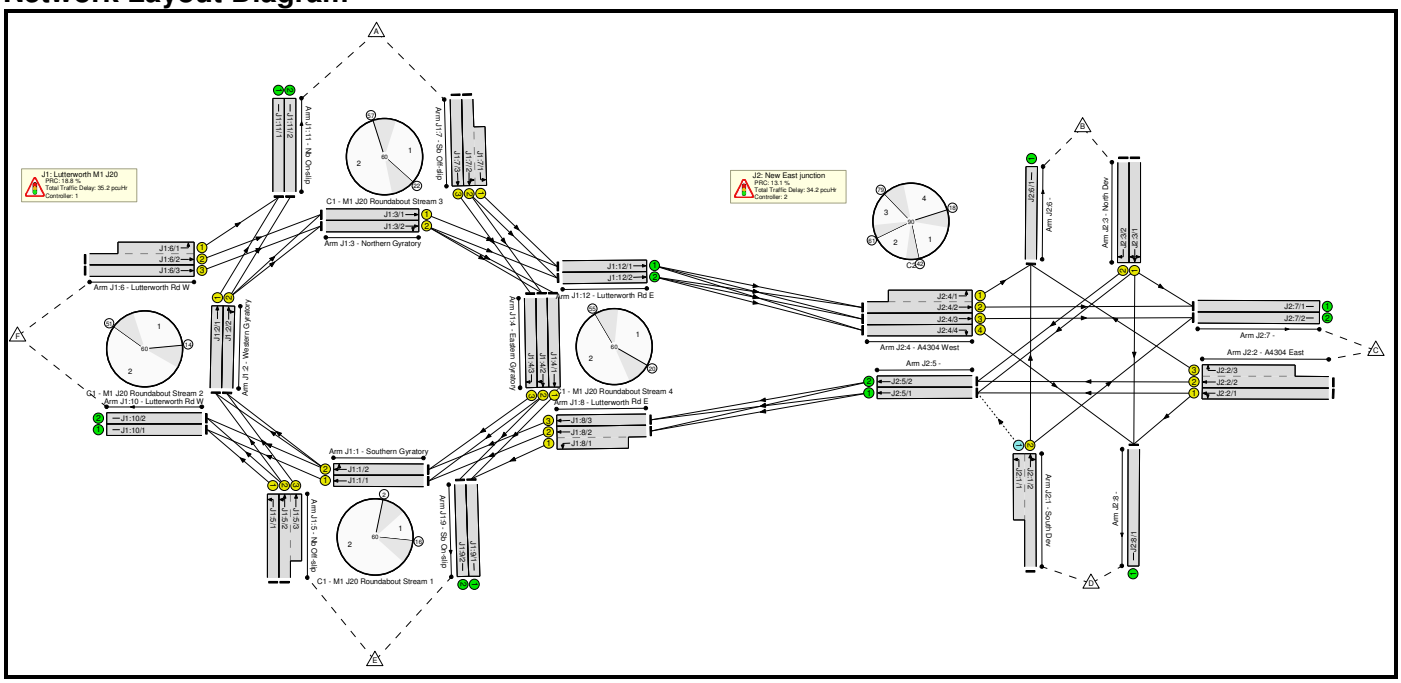
Basic Results Summary

C1 - M1 J20 Roundabout	Stream: 1	PRC for Signalled Lanes (%):	7.3	Total Delay for Signalled Lanes (pcuHr):	11.50	Cycle Time (s):	60
C1 - M1 J20 Roundabout	Stream: 2	PRC for Signalled Lanes (%):	11.0	Total Delay for Signalled Lanes (pcuHr):	12.15	Cycle Time (s):	60
C1 - M1 J20 Roundabout	Stream: 3	PRC for Signalled Lanes (%):	11.4	Total Delay for Signalled Lanes (pcuHr):	14.32	Cycle Time (s):	60
C1 - M1 J20 Roundabout	Stream: 4	PRC for Signalled Lanes (%):	30.1	Total Delay for Signalled Lanes (pcuHr):	12.65	Cycle Time (s):	60
C2		PRC for Signalled Lanes (%):	-1.9	Total Delay for Signalled Lanes (pcuHr):	55.74	Cycle Time (s):	100
		PRC Over All Lanes (%):	-1.9	Total Delay Over All Lanes(pcuHr):	106.37		

Basic Results Summary

Scenario 2: 'PM' (FG2: 'PM', Plan 1: 'Lutterworth')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Deg Sat (%)	Mean Max Queue (pcu)
Network	**-**	**79.6%**	**-**
J1: Lutterworth M1 J20	**-**	**75.7%**	**-**
1/1	Southern Gyratory Ahead	57.0%	4.4
1/2	Southern Gyratory Right Ahead	63.3%	7.1
2/1	Western Gyratory Ahead	51.5%	5.8
2/2	Western Gyratory Right Ahead	59.0%	5.2
3/1	Northern Gyratory Ahead	53.0%	7.0
3/2	Northern Gyratory Right Ahead	54.5%	2.0
4/1	Eastern Gyratory Ahead	28.6%	3.5
4/2	Eastern Gyratory Right Ahead	50.7%	3.0
4/3	Eastern Gyratory Right	47.8%	0.9
5/1	Nb Off-slip Left	37.3%	1.9
5/2+5/3	Nb Off-slip Ahead Left	75.1 : 48.4%	4.5
6/2+6/1	Lutterworth Rd W Ahead Left	75.7 : 75.7%	9.1
6/3	Lutterworth Rd W Ahead	51.7%	6.6
7/2+7/1	Sb Off-slip Ahead Left	73.5 : 73.5%	7.5
7/3	Sb Off-slip Ahead	50.6%	5.2
8/2+8/1	Lutterworth Rd E Ahead Left	55.5 : 55.5%	7.0
8/3	Lutterworth Rd E Ahead	56.2%	7.3
J2: New East junction	**-**	**79.6%**	**-**
1/2+1/1	South Dev Left Ahead Right	76.4 : 76.4%	7.5
2/1	A4304 East Ahead Left	43.1%	4.0
2/2+2/3	A4304 East Ahead Right	67.7 : 67.7%	7.7
3/1	North Dev Right Left Ahead	79.4%	11.6
3/2	North Dev Right	72.5%	9.6
4/2+4/1	A4304 West Left Ahead	79.6 : 74.6%	10.5
4/3	A4304 West Ahead	58.4%	6.8
4/4	A4304 West Right	76.0%	7.3

Basic Results Summary

C1 - M1 J20 Roundabout	Stream: 1	PRC for Signalled Lanes (%):	19.8	Total Delay for Signalled Lanes (pcuHr):	6.87	Cycle Time (s):	60
C1 - M1 J20 Roundabout	Stream: 2	PRC for Signalled Lanes (%):	18.8	Total Delay for Signalled Lanes (pcuHr):	9.91	Cycle Time (s):	60
C1 - M1 J20 Roundabout	Stream: 3	PRC for Signalled Lanes (%):	22.5	Total Delay for Signalled Lanes (pcuHr):	9.38	Cycle Time (s):	60
C1 - M1 J20 Roundabout	Stream: 4	PRC for Signalled Lanes (%):	60.3	Total Delay for Signalled Lanes (pcuHr):	9.00	Cycle Time (s):	60
C2		PRC for Signalled Lanes (%):	13.1	Total Delay for Signalled Lanes (pcuHr):	34.23	Cycle Time (s):	90
		PRC Over All Lanes (%):	13.1	Total Delay Over All Lanes(pcuHr):	69.38		

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