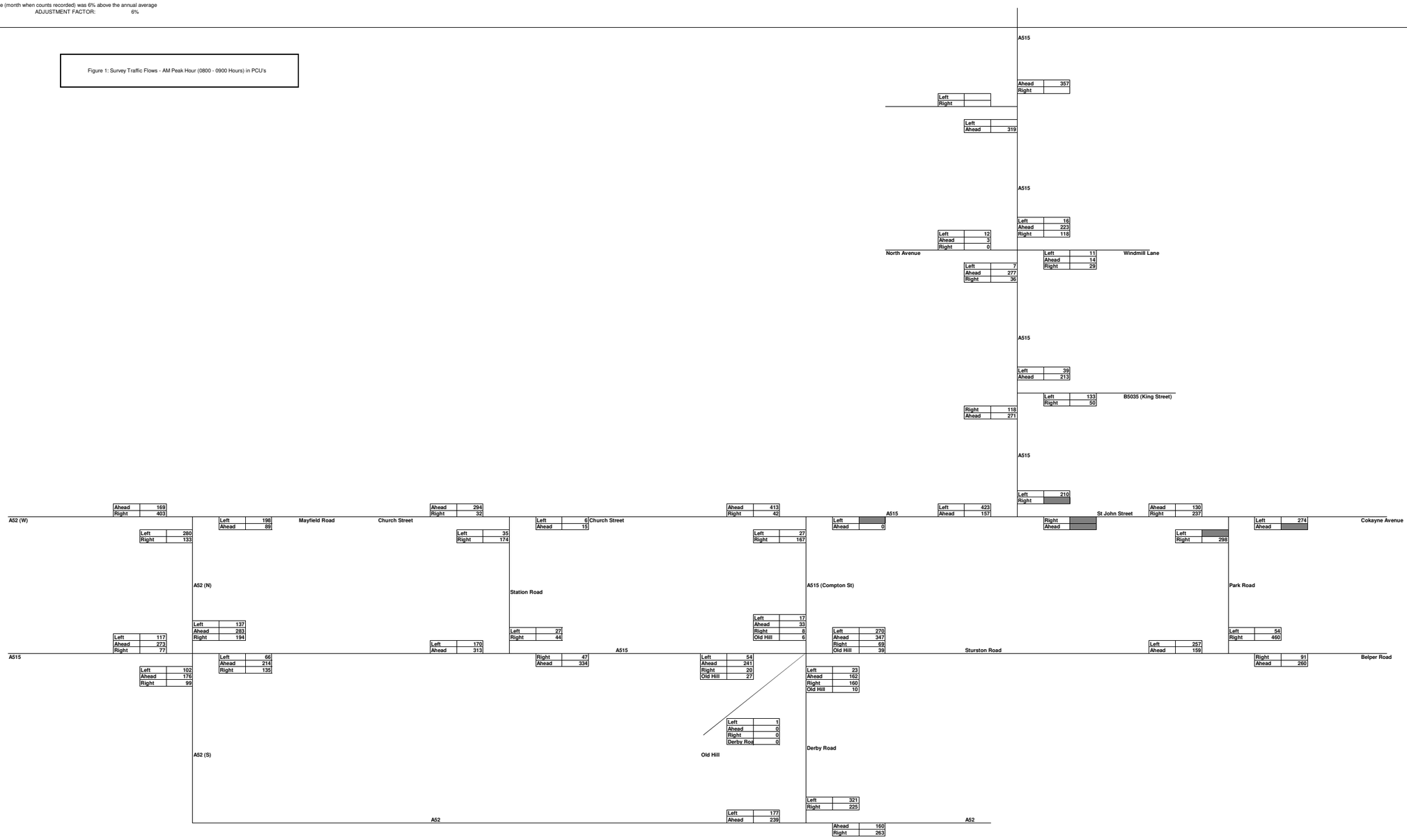
Appendix A

Baseline Traffic Flow Diagrams

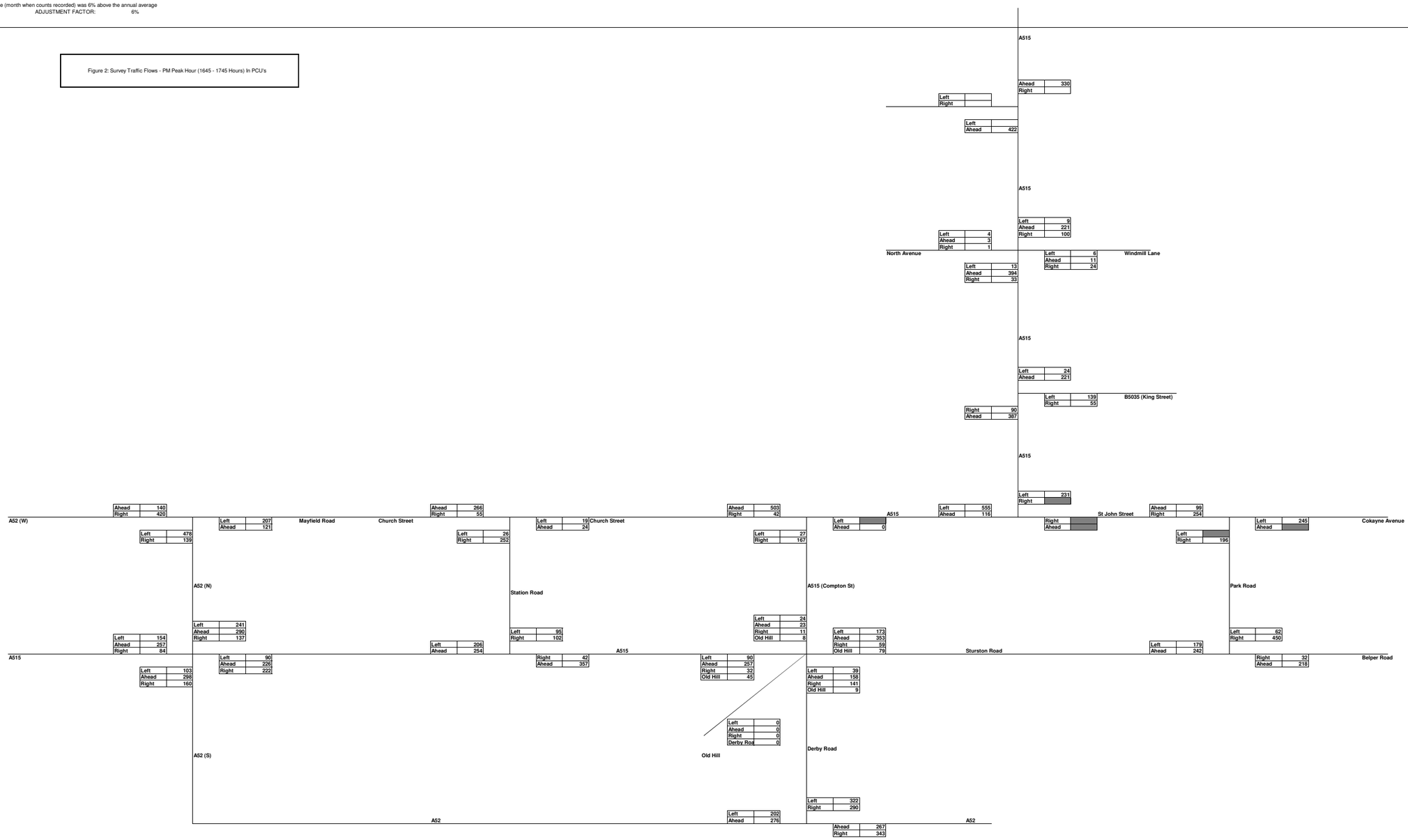
Suvey has been reduced by 6% since June (month when counts recorded) was 6% above the annual average
ADJUSTMENT FACTOR: 6%

Figure 1: Survey Traffic Flows - AM Peak Hour (0800 - 0900 Hours) in PCU's



Suvey has been reduced by 6% since June (month when counts recorded) was 6% above the annual average
ADJUSTMENT FACTOR: 6%

Figure 2: Survey Traffic Flows - PM Peak Hour (1645 - 1745 Hours) In PCU's



Suvey has been reduced by 6% since June (month when counts recorded) was 6% above the annual average
ADJUSTMENT FACTOR: 6%

Figure 3: Survey Traffic Flows - Interpeak (1000 - 1600 Hours) In PCU's

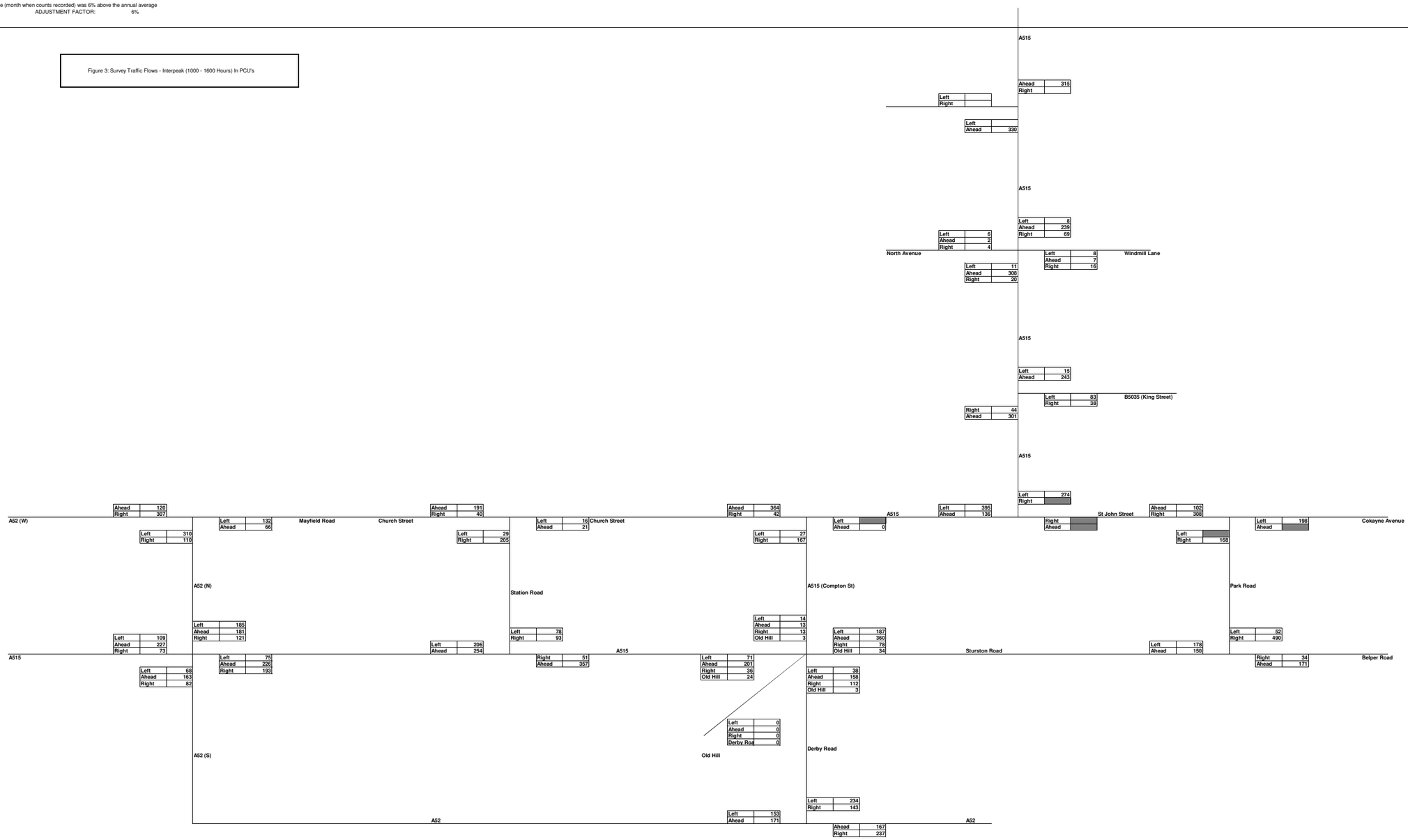


Figure 4: Queue Lengths - AM Peak Hour (0800 - 0900 Hours) in PCU's

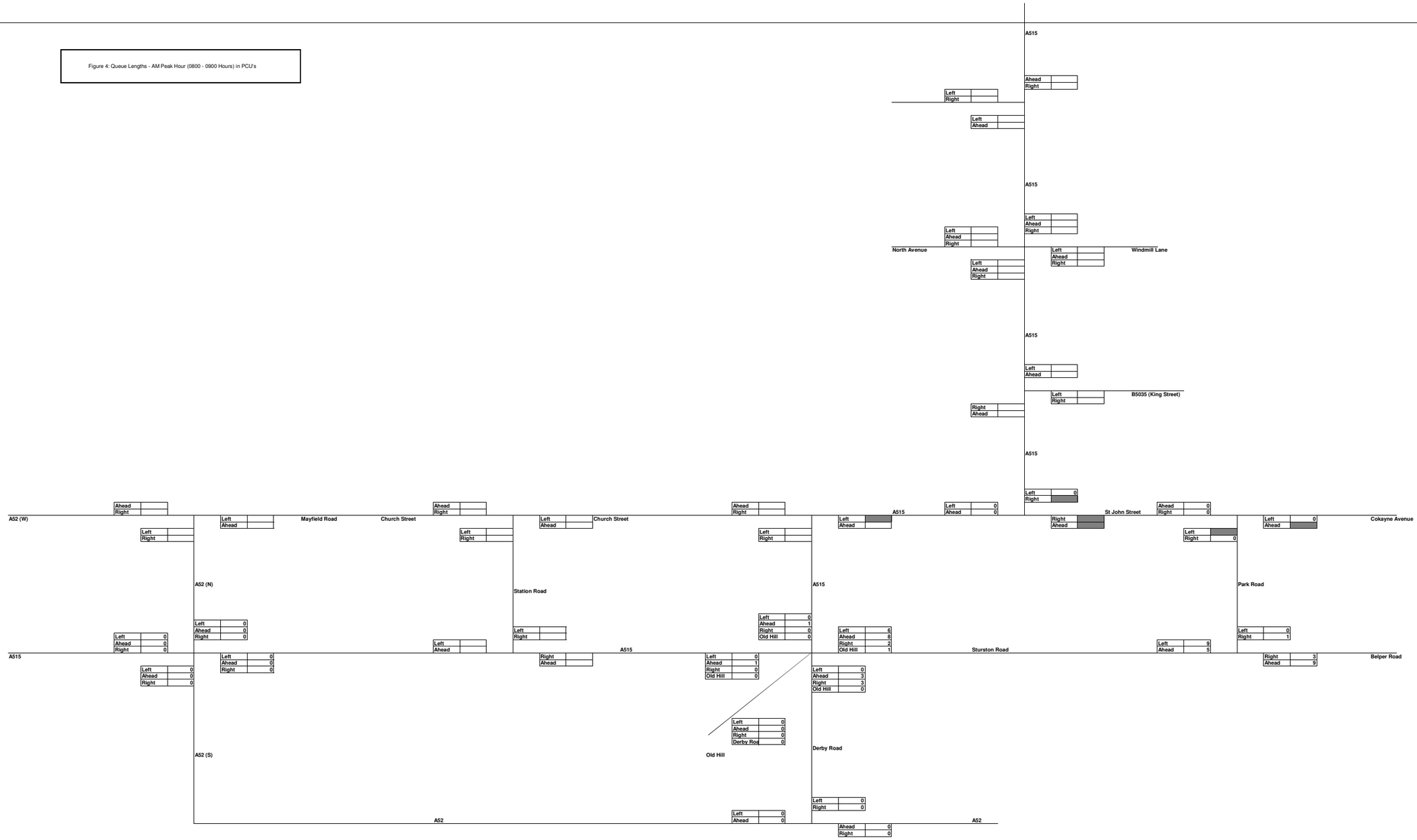
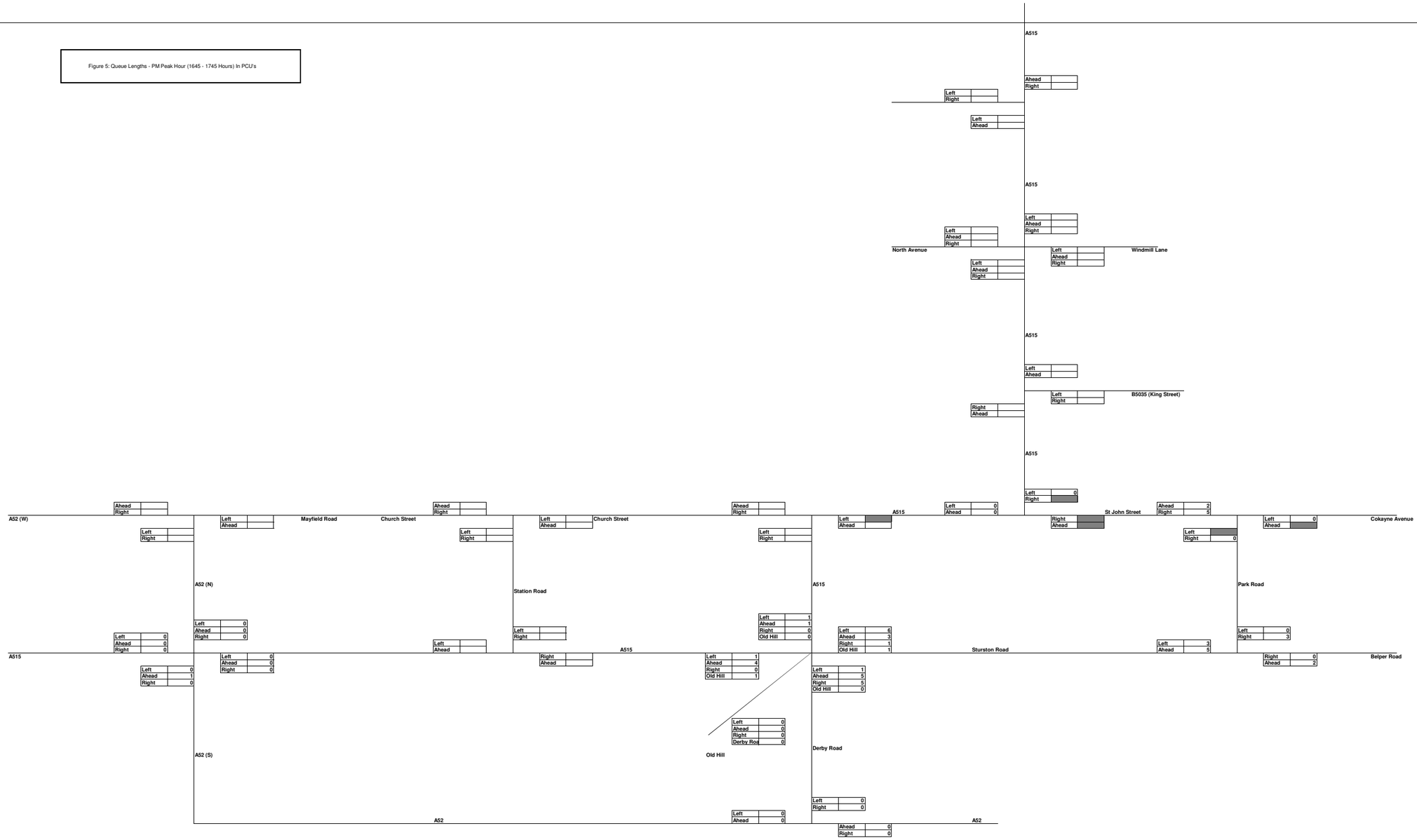
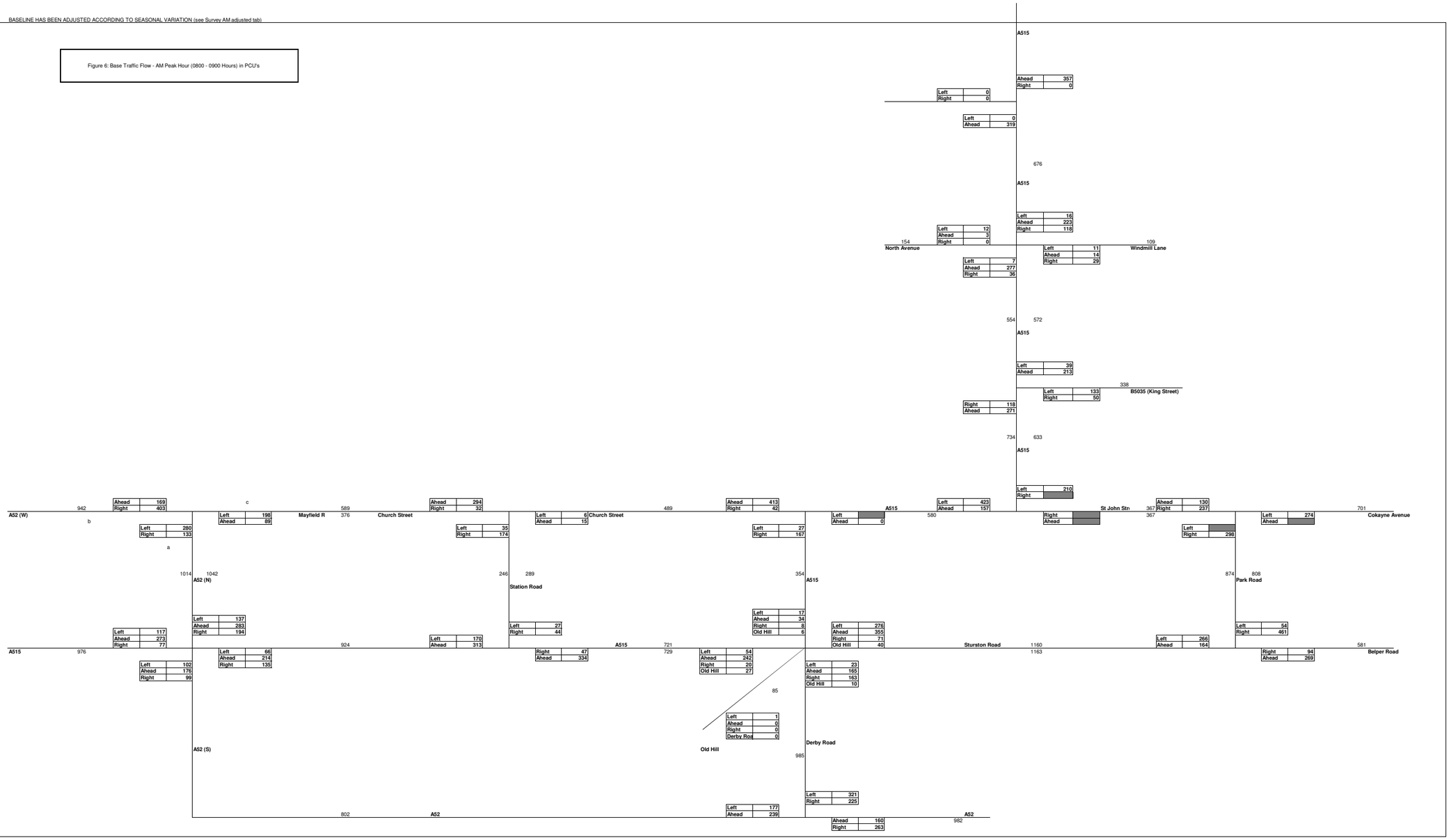


Figure 5: Queue Lengths - PM Peak Hour (1645 - 1745 Hours) In PCU's



BASELINE HAS BEEN ADJUSTED ACCORDING TO SEASONAL VARIATION (see Survey AM adjusted tab)

Figure 6: Base Traffic Flow - AM Peak Hour (0800 - 0900 Hours) in PCU's



	A	B	C	D	E	F	
A	0	34	6	8	10	6	**65**
B	165	0	10	23	101	62	**360**
C	0	0	0	1	0	0	**1**
D	54	20	27	0	149	92	**342**
E	44	171	25	220	0	54	**514**
F	26	100	15	129	94	0	**364**

742

0.095209 0.3718014 0.054574 0.4784156

E-A	E-B	E-C	E-D
44	171	25	220

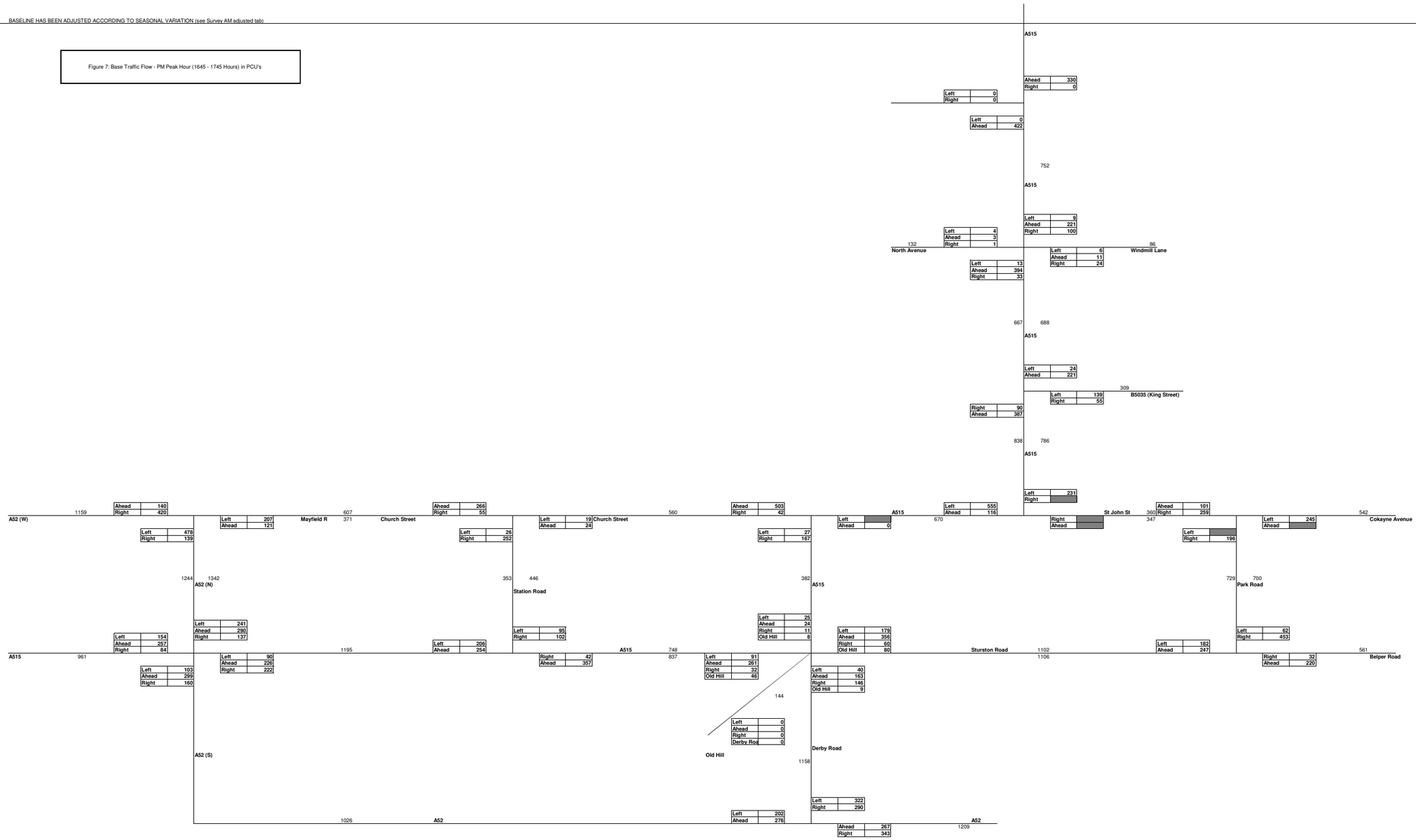
F-A	F-B	F-C	F-D
26	100	15	129

429

To E	0.6184688
To F	0.3815312

BASELINE HAS BEEN ADJUSTED ACCORDING TO SEASONAL VARIATION (see Survey AM adjusted tab)

Figure 7: Base Traffic Flow - PM Peak Hour (1645 - 1745 Hours) in PCU's



	A	B	C	D	E	F	
A	0	24	8	11	10	14	**68**
B	163	0	9	40	62	84	**359**
C	0	0	0	0	0	0	**0**
D	91	32	46	0	111	150	**430**
E	40	120	54	239	0	62	**515**
F	20	58	26	116	32	0	**252**

675

0.089262 0.265267 0.118522 0.526948

E-A	E-B	E-C	E-D
40	120	54	239

F-A	F-B	F-C	F-D
20	58	26	116

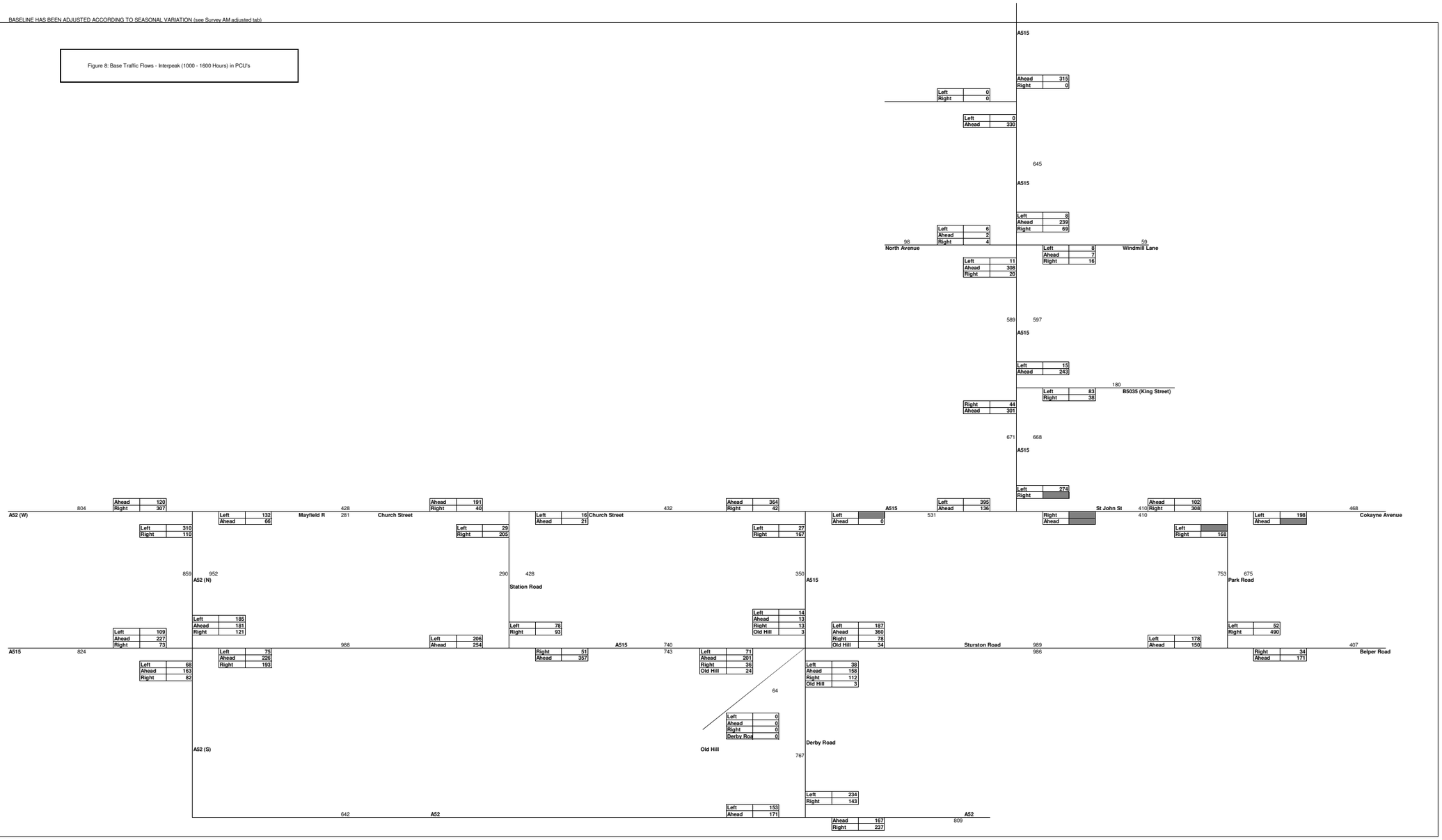
428

To E 0.424121

To F **0.575879**

BASELINE HAS BEEN ADJUSTED ACCORDING TO SEASONAL VARIATION (see Survey AM adjusted tab)

Figure 8: Base Traffic Flows - Interpeak (1000 - 1600 Hours) in PCU's



	A	B	C	D	E	F	
A		0	13	3	13	8	6	**43**
B		158	0	3	38	61	51	**310**
C		0	0	0	0	0	0	**0**
D		71	36	24	0	109	92	**332**
E		58	139	25	268	0	52	**541**
F		20	49	9	93	34	0	**205**

659

0.118402 0.28388 0.051355 0.546362

E-A 58 E-B 139 E-C 25 E-D 268

F-A 20 F-B 49 F-C 9 F-D 93

328

To E 0.541547

To F **0.458453**

Appendix B

Bluetooth Origin – Destination Matrix

Date **Thursday 29th June 2017**

Time	In	Out							
		A	B	C	D	E	F	**Total Result**	**Unmatched**
07:00	A	0	0	0	2	6	1	9	7
	B	0	0	0	0	0	0	0	3
	C	0	0	0	0	0	0	0	1
	D	2	0	0	0	1	2	5	21
	E	2	1	0	1	0	1	5	18
	F	0	3	3	3	4	0	13	12
07:15	A	0	0	0	4	7	0	11	10
	B	0	0	0	0	0	0	0	8
	C	0	1	0	0	2	1	4	4
	D	0	0	0	0	2	2	4	20
	E	7	1	1	1	0	2	12	12
	F	1	1	2	4	1	0	9	9
07:30	A	0	0	1	5	3	2	11	8
	B	0	0	0	0	3	3	6	2
	C	1	0	0	0	1	1	3	11
	D	0	1	0	0	0	1	2	33
	E	5	0	1	3	0	5	14	19
	F	0	0	2	4	7	0	13	13
07:45	A	0	0	0	2	8	1	11	7
	B	0	0	0	1	0	1	2	5
	C	0	0	0	0	0	8	8	6
	D	0	0	0	0	2	2	4	36
	E	6	0	2	1	0	4	13	23
	F	0	1	2	6	4	0	13	15
08:00	A	0	0	1	1	7	4	13	3
	B	0	0	0	0	0	2	2	9
	C	1	0	0	0	0	2	3	6
	D	2	0	0	0	1	2	5	30
	E	5	1	2	1	0	4	13	14
	F	1	0	1	5	3	0	10	10
08:15	A	0	1	0	1	3	2	7	5
	B	0	0	0	0	2	2	4	6
	C	0	0	0	0	2	0	2	9
	D	3	0	0	0	0	3	6	37
	E	10	1	1	0	0	3	15	26
	F	1	2	0	6	6	0	15	17
08:30	A	0	0	0	0	4	1	5	10
	B	0	0	0	0	0	0	0	9
	C	0	0	0	0	3	2	5	12
	D	6	1	2	0	0	6	15	28
	E	6	2	3	3	0	2	16	20
	F	1	5	6	4	6	0	22	19
08:45	A	0	1	0	7	3	0	11	12
	B	0	0	0	1	1	0	2	12
	C	0	0	0	0	3	1	4	13
	D	1	0	0	0	3	5	9	26
	E	5	0	0	2	0	1	8	27
	F	1	2	3	6	2	0	14	19
09:00	A	0	1	0	2	8	2	13	12
	B	1	0	0	0	0	1	2	13
	C	2	0	0	0	0	1	3	5
	D	0	0	0	0	2	4	6	33
	E	12	0	1	1	0	2	16	21
	F	1	0	0	2	7	0	10	15
09:15	A	0	0	0	4	4	4	12	13
	B	0	0	0	2	0	0	2	8
	C	0	1	0	0	1	2	4	4
	D	5	0	0	0	0	9	14	29
	E	8	2	0	2	0	0	12	15
	F	1	1	0	1	4	0	7	14
	A	0	0	0	5	11	0	16	15

09:30	B	0	0	0	0	1	2	3	5
	C	0	0	0	2	0	2	4	9
	D	3	0	0	0	1	12	16	28
	E	7	1	0	0	0	3	11	25
	F	3	3	0	5	2	0	13	24
09:45	A	0	0	0	2	7	1	10	8
	B	0	0	0	0	0	0	0	8
	C	0	2	0	0	1	0	3	6
	D	4	1	0	0	1	5	11	15
	E	6	0	0	1	0	7	14	15
	F	1	0	1	3	4	0	9	10

10:00	A	0	0	0	1	7	1	9	11
	B	1	0	0	1	0	1	3	9
	C	1	0	0	0	1	3	5	9
	D	2	0	0	0	1	1	4	26
	E	4	0	0	0	0	1	5	16
	F	0	0	1	6	9	0	16	17
10:15	A	0	0	0	2	13	2	17	12
	B	0	0	0	0	0	1	1	4
	C	3	1	0	1	1	1	7	15
	D	1	1	1	0	4	5	12	22
	E	4	1	0	4	0	5	14	27
	F	0	2	2	6	12	0	22	16
10:30	A	0	0	0	2	15	1	18	12
	B	0	0	0	0	2	1	3	3
	C	0	0	0	0	0	0	0	3
	D	3	0	1	0	0	4	8	22
	E	7	0	0	0	0	2	9	19
	F	0	2	1	4	3	0	10	17
10:45	A	0	1	2	5	5	0	13	16
	B	1	0	1	0	1	1	4	13
	C	4	0	0	2	0	0	6	7
	D	2	0	0	0	1	8	11	13
	E	2	0	0	4	0	2	8	8
	F	3	2	0	6	2	0	13	17
11:00	A	0	0	0	1	6	1	8	15
	B	1	0	0	0	0	0	1	3
	C	1	0	0	0	2	2	5	3
	D	1	1	0	0	2	3	7	25
	E	3	3	0	2	0	0	8	14
	F	1	1	0	1	1	0	4	13
11:15	A	0	0	1	2	3	0	6	17
	B	1	0	0	1	1	1	4	5
	C	0	0	0	2	1	3	6	9
	D	1	2	0	0	2	2	7	31
	E	4	0	2	1	0	0	7	19
	F	1	3	0	1	4	0	9	15
11:30	A	0	1	0	5	3	1	10	12
	B	0	0	0	0	1	0	1	6
	C	0	0	0	1	1	2	4	10
	D	2	0	0	0	0	6	8	25
	E	4	0	2	3	0	4	13	25
	F	3	2	0	1	5	0	11	23
11:45	A	0	1	1	2	3	1	8	8
	B	1	0	0	3	3	0	7	10
	C	1	0	0	0	0	0	1	8
	D	0	0	0	0	5	1	6	24
	E	3	1	1	1	0	1	7	8
	F	1	0	0	9	4	0	14	24
12:00	A	0	2	1	4	4	1	12	16
	B	0	0	0	0	1	1	2	3
	C	1	0	0	1	2	3	7	12
	D	0	0	0	0	2	2	4	26
	E	11	0	7	3	0	6	27	22
	F	0	2	2	3	1	0	8	17
12:15	A	0	0	0	1	7	1	9	13
	B	1	0	0	0	0	0	1	9
	C	0	0	0	1	0	2	3	8
	D	2	0	0	0	1	4	7	24
	E	7	2	0	0	0	1	10	27
	F	1	2	2	6	3	0	14	15
12:30	A	0	0	0	6	8	0	14	15
	B	0	0	1	1	1	0	3	6
	C	2	0	0	1	1	1	5	11
	D	1	1	0	0	0	6	8	22
	E	3	0	0	1	0	3	7	18

	F	0	0	0	0	2	0	2	18
12:45	A	0	0	1	3	3	0	7	5
	B	0	0	0	0	0	3	3	6
	C	1	0	0	1	0	0	2	1
	D	4	1	0	0	1	4	10	34
	E	3	1	0	2	0	3	9	19
	F	1	0	2	3	1	0	7	16

13:00	A	0	0	0	2	6	0	8	12
	B	1	0	0	0	1	0	2	11
	C	0	1	0	1	0	2	4	7
	D	1	0	1	0	2	4	8	21
	E	9	2	0	0	0	1	12	28
	F	0	0	0	4	6	0	10	20
13:15	A	0	1	0	1	5	3	10	9
	B	0	0	0	1	0	0	1	10
	C	0	0	0	1	0	1	2	10
	D	3	0	0	0	3	4	10	24
	E	12	0	1	2	0	0	15	13
	F	3	0	0	4	1	0	8	23
13:30	A	0	1	0	2	0	1	4	11
	B	0	0	0	1	1	0	2	10
	C	3	0	0	0	0	1	4	12
	D	7	0	1	0	1	4	13	31
	E	4	1	0	2	0	4	11	17
	F	0	1	2	5	3	0	11	13
13:45	A	0	1	0	5	3	1	10	8
	B	0	0	0	0	0	3	3	7
	C	0	0	0	0	1	0	1	10
	D	2	0	1	0	2	5	10	25
	E	4	0	2	0	0	2	8	16
	F	2	1	2	3	2	0	10	21
14:00	A	0	0	0	5	2	0	7	13
	B	2	0	0	0	0	0	2	2
	C	0	0	0	0	1	0	1	8
	D	0	0	0	0	0	1	1	29
	E	7	3	3	2	0	4	19	20
	F	4	2	1	3	1	0	11	15
14:15	A	0	1	0	6	3	1	11	6
	B	1	0	0	1	0	2	4	4
	C	0	0	0	0	0	3	3	8
	D	1	0	0	0	0	7	8	27
	E	12	1	1	2	0	2	18	14
	F	1	0	0	3	2	0	6	15
14:30	A	0	0	0	2	5	2	9	17
	B	0	0	0	0	0	1	1	7
	C	0	0	0	0	0	0	0	6
	D	0	0	1	0	4	6	11	35
	E	11	0	1	2	0	2	16	21
	F	0	1	1	5	1	0	8	13
14:45	A	0	0	0	6	5	1	12	14
	B	1	0	0	0	0	0	1	4
	C	0	0	0	0	0	1	1	13
	D	3	0	0	0	1	3	7	18
	E	11	0	0	0	0	0	11	17
	F	2	3	2	3	3	0	13	16
15:00	A	0	0	3	5	4	0	12	16
	B	1	0	0	0	1	1	3	5
	C	0	0	0	0	0	2	2	4
	D	3	1	0	0	2	3	9	23
	E	7	0	2	1	0	2	12	19
	F	1	0	4	2	3	0	10	19
15:15	A	0	2	2	0	6	0	10	12
	B	1	0	1	1	1	1	5	11
	C	0	0	0	2	2	1	5	1
	D	3	0	0	0	3	3	9	39
	E	5	0	1	1	0	3	10	17
	F	1	0	2	3	3	0	9	17
15:30	A	0	2	0	2	5	1	10	20
	B	0	0	0	1	0	2	3	9
	C	1	0	0	0	0	0	1	10
	D	1	1	0	0	2	5	9	25
	E	4	1	2	8	0	5	20	22

	F	2	0	2	5	3	0	12	13
15:45	A	0	1	0	0	3	1	5	12
	B	1	0	0	0	0	0	1	11
	C	0	0	0	0	0	2	2	10
	D	3	0	0	0	4	3	10	31
	E	4	1	0	1	0	3	9	26
	F	1	3	4	4	2	0	14	13

16:00	A	0	0	0	4	4	1	9	9
	B	0	0	0	1	1	1	3	5
	C	0	0	0	0	0	4	4	10
	D	0	0	0	0	4	5	9	30
	E	6	0	1	0	0	3	10	20
	F	2	0	1	9	1	0	13	16
16:15	A	0	1	0	1	5	3	10	15
	B	2	0	0	2	0	0	4	14
	C	0	0	0	1	0	0	1	3
	D	1	0	0	0	2	2	5	25
	E	6	0	1	1	0	2	10	18
	F	5	1	1	6	1	0	14	26
16:30	A	0	1	0	1	3	0	5	14
	B	1	0	0	0	2	1	4	12
	C	0	1	0	1	1	1	4	6
	D	2	0	0	0	0	4	6	30
	E	6	0	0	0	0	5	11	27
	F	1	1	1	7	1	0	11	17
16:45	A	0	0	0	5	2	0	7	13
	B	0	0	0	0	2	1	3	5
	C	0	0	0	0	0	1	1	12
	D	1	0	1	0	2	2	6	24
	E	1	2	4	1	0	0	8	20
	F	0	0	0	4	3	0	7	21
17:00	A	0	0	1	0	8	1	10	12
	B	0	0	0	0	0	3	3	14
	C	1	2	0	1	1	1	6	16
	D	1	0	1	0	0	9	11	45
	E	3	1	4	0	0	0	8	15
	F	1	1	4	6	2	0	14	23
17:15	A	0	1	0	0	4	3	8	8
	B	1	0	0	0	0	1	2	17
	C	0	0	0	0	2	1	3	13
	D	2	0	1	0	0	8	11	29
	E	3	2	0	1	0	6	12	28
	F	1	1	1	4	1	0	8	23
17:30	A	0	1	0	0	2	1	4	12
	B	0	0	2	0	0	0	2	9
	C	0	0	0	0	0	4	4	17
	D	0	1	0	0	3	2	6	27
	E	4	1	0	2	0	4	11	25
	F	4	3	3	6	2	0	18	20
17:45	A	0	0	0	3	5	1	9	4
	B	1	0	0	0	0	2	3	8
	C	0	0	0	0	2	3	5	9
	D	1	0	0	0	0	4	5	18
	E	7	1	3	0	0	3	14	21
	F	0	0	0	5	3	0	8	23
18:00	A	0	1	0	1	7	2	11	11
	B	0	0	0	0	0	1	1	8
	C	0	0	0	0	1	0	1	7
	D	2	0	0	0	0	7	9	21
	E	6	2	2	1	0	1	12	11
	F	1	0	2	10	0	0	13	21
18:15	A	0	0	0	0	4	1	5	6
	B	0	0	0	0	0	1	1	5
	C	1	0	0	1	0	0	2	6
	D	0	0	0	0	2	9	11	19
	E	5	0	2	2	0	0	9	18
	F	3	1	1	4	1	0	10	10
18:30	A	0	0	0	2	2	1	5	12
	B	0	0	0	0	1	0	1	5
	C	1	0	0	0	0	1	2	4
	D	1	0	0	0	0	0	1	25
	E	0	1	2	0	0	7	10	14

	F	1	0	1	7	3	0	12	14
18:45	A	0	0	0	1	0	1	2	11
	B	0	0	0	0	0	0	0	7
	C	0	0	0	0	1	1	2	3
	D	2	0	0	0	0	1	3	8
	E	3	0	0	1	0	1	5	13
	F	1	0	1	1	0	0	3	15
Total		463	132	151	436	516	483	2181	4279

Appendix C

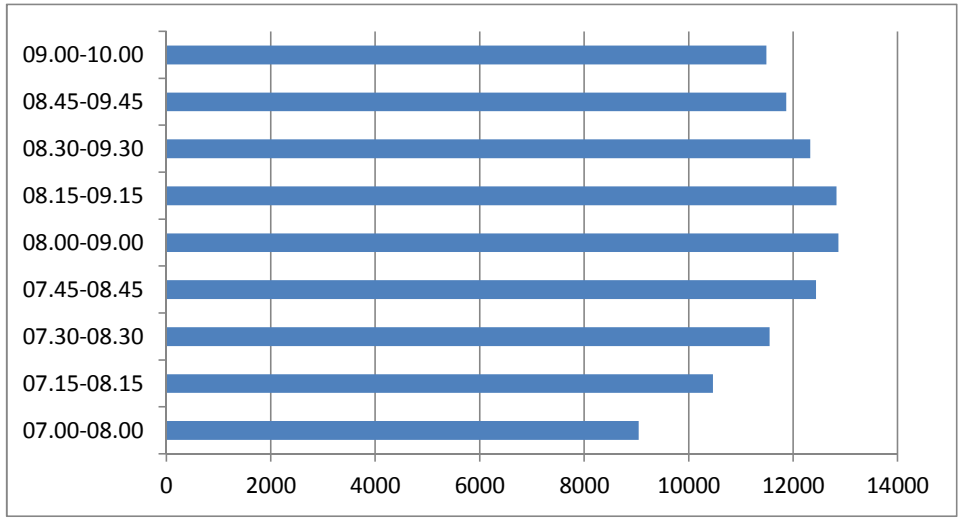
Traffic Flow Profiles (For roundabout and priority controlled junctions)

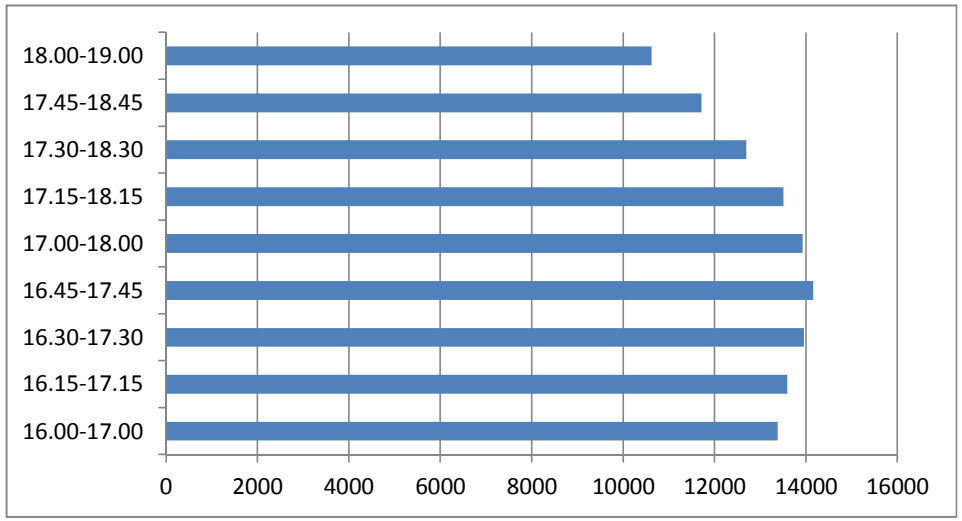
Time	Total network	
07.00-08.00	9039	70%
07.15-08.15	10463	81%
07.30-08.30	11544	90%
07.45-08.45	12432	97%
08.00-09.00	12861	100%
08.15-09.15	12827	100%
08.30-09.30	12323	96%
08.45-09.45	11863	92%
09.00-10.00	11484	89%

Peak x 3	38,582
Total across Period	33,383
Factor	*86.5%*

16.00-17.00	13378	95%
16.15-17.15	13586	96%
16.30-17.30	13951	99%
16.45-17.45	14155	100%
17.00-18.00	13926	98%
17.15-18.15	13502	95%
17.30-18.30	12689	90%
17.45-18.45	11713	83%
18.00-19.00	10621	75%

Peak x 3	42,466
Total across Period	37,925
Factor	*89.3%*





Appendix D

A52 / Mayfield Road Junction Capacity Results

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Import of Junction 1 A52_Mayfield Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 13:40:42

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Arm 1	0.4	3.19	0.29	A	3.71	0.8	4.09	0.44	A	4.07	0.4	3.17	0.29	A	3.27
Arm 2	0.7	3.86	0.40	A		0.7	3.82	0.40	A		0.4	3.25	0.30	A	
Arm 3	0.4	4.18	0.27	A		0.4	4.47	0.31	A		0.2	3.53	0.18	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15
D2	Base	PM	ONE HOUR	17:00	18:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	3.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	(untitled)	A52 E
2	(untitled)	A52 W
3	(untitled)	Mayfield Road

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	4.60	5.50	8.6	42.6	37.0	28.8	
2	3.00	6.60	31.4	19.3	37.0	38.3	
3	3.35	6.70	10.9	27.0	37.0	51.4	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.647	1646
2	0.630	1655
3	0.575	1433

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	413	100.000
2		✓	572	100.000
3		✓	287	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	280	133
	2	403	0	169
	3	198	89	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.29	3.19	0.4	A
2	0.40	3.86	0.7	A
3	0.27	4.18	0.4	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	311	67	1603	0.194	310	0.2	2.783	A
2	431	100	1592	0.271	429	0.4	3.091	A
3	216	302	1259	0.172	215	0.2	3.444	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	371	80	1595	0.233	371	0.3	2.942	A
2	514	119	1580	0.326	514	0.5	3.375	A
3	258	362	1224	0.211	258	0.3	3.723	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	455	98	1583	0.287	454	0.4	3.190	A
2	630	146	1563	0.403	629	0.7	3.852	A
3	316	443	1178	0.268	316	0.4	4.173	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	455	98	1583	0.287	455	0.4	3.190	A
2	630	146	1563	0.403	630	0.7	3.858	A
3	316	444	1177	0.268	316	0.4	4.178	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	371	80	1594	0.233	372	0.3	2.944	A
2	514	120	1579	0.326	515	0.5	3.386	A
3	258	363	1224	0.211	258	0.3	3.728	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	311	67	1603	0.194	311	0.2	2.789	A
2	431	100	1592	0.271	431	0.4	3.102	A
3	216	304	1258	0.172	216	0.2	3.458	A

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	4.07	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	617	100.000
2		✓	560	100.000
3		✓	328	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	478	139
	2	420	0	140
	3	207	121	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.44	4.09	0.8	A
2	0.40	3.82	0.7	A
3	0.31	4.47	0.4	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	465	91	1588	0.293	463	0.4	3.197	A
2	422	104	1589	0.265	420	0.4	3.075	A
3	247	315	1251	0.197	246	0.2	3.577	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	555	109	1576	0.352	554	0.5	3.521	A
2	503	125	1576	0.319	503	0.5	3.352	A
3	295	377	1216	0.243	295	0.3	3.907	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	679	133	1560	0.435	678	0.8	4.078	A
2	617	153	1559	0.396	616	0.7	3.813	A
3	361	462	1167	0.309	361	0.4	4.461	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	679	133	1560	0.435	679	0.8	4.087	A
2	617	153	1558	0.396	617	0.7	3.821	A
3	361	462	1167	0.310	361	0.4	4.468	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	555	109	1576	0.352	556	0.5	3.533	A
2	503	125	1576	0.319	504	0.5	3.362	A
3	295	378	1215	0.243	295	0.3	3.915	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	465	91	1587	0.293	465	0.4	3.211	A
2	422	105	1589	0.265	422	0.4	3.088	A
3	247	317	1251	0.197	247	0.2	3.588	A

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	3.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	420	100.000
2		✓	427	100.000
3		✓	198	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	310	110
	2	307	0	120
	3	132	66	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.29	3.17	0.4	A
2	0.30	3.25	0.4	A
3	0.18	3.53	0.2	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	316	50	1614	0.196	315	0.2	2.770	A
2	321	83	1603	0.201	320	0.2	2.807	A
3	149	230	1300	0.115	149	0.1	3.124	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	378	59	1608	0.235	377	0.3	2.925	A
2	384	99	1593	0.241	384	0.3	2.977	A
3	178	276	1274	0.140	178	0.2	3.283	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	462	73	1599	0.289	462	0.4	3.165	A
2	470	121	1579	0.298	470	0.4	3.246	A
3	218	338	1238	0.176	218	0.2	3.527	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	462	73	1599	0.289	462	0.4	3.166	A
2	470	121	1579	0.298	470	0.4	3.247	A
3	218	338	1238	0.176	218	0.2	3.527	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	378	59	1608	0.235	378	0.3	2.927	A
2	384	99	1592	0.241	384	0.3	2.982	A
3	178	276	1274	0.140	178	0.2	3.288	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	316	50	1614	0.196	316	0.2	2.776	A
2	321	83	1603	0.201	322	0.3	2.812	A
3	149	231	1300	0.115	149	0.1	3.131	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Junction 1 A52_Mayfield Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 01/06/2018 13:43:34

»(Default Analysis Set) - Without Bypass, AM
»(Default Analysis Set) - Without Bypass, PM
»(Default Analysis Set) - Without Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Arm 1	0.5	3.40	0.32	A	4.05	0.9	4.55	0.49	A	4.50	0.5	3.50	0.35	A	3.58
Arm 2	0.8	4.23	0.46	A		0.8	4.28	0.46	A		0.6	3.58	0.36	A	
Arm 3	0.5	4.59	0.31	A		0.5	4.84	0.34	A		0.3	3.77	0.20	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D2	Without Bypass	PM	ONE HOUR	17:00	18:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	4.05	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	(untitled)	A52 E
2	(untitled)	A52 W
3	(untitled)	Mayfield Road

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	4.60	5.50	8.6	42.6	37.0	28.8	
2	3.00	6.60	31.4	19.3	37.0	38.3	
3	3.35	6.70	10.9	27.0	37.0	51.4	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.647	1646
2	0.630	1655
3	0.575	1433

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	453	100.000
2		✓	646	100.000
3		✓	325	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	320	133
	2	460	0	186
	3	198	127	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.32	3.40	0.5	A
2	0.46	4.23	0.8	A
3	0.31	4.59	0.5	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	341	95	1585	0.215	340	0.3	2.889	A
2	486	100	1592	0.306	485	0.4	3.241	A
3	245	345	1234	0.198	244	0.2	3.631	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	407	114	1572	0.259	407	0.3	3.088	A
2	581	119	1580	0.368	580	0.6	3.600	A
3	292	413	1195	0.244	292	0.3	3.985	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	499	140	1556	0.321	498	0.5	3.401	A
2	711	146	1563	0.455	710	0.8	4.217	A
3	358	506	1142	0.313	357	0.5	4.586	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	499	140	1556	0.321	499	0.5	3.404	A
2	711	146	1563	0.455	711	0.8	4.228	A
3	358	506	1141	0.314	358	0.5	4.594	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	407	114	1572	0.259	408	0.4	3.091	A
2	581	120	1579	0.368	582	0.6	3.613	A
3	292	414	1194	0.245	293	0.3	3.995	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	341	96	1584	0.215	341	0.3	2.896	A
2	486	100	1592	0.306	487	0.4	3.261	A
3	245	347	1233	0.198	245	0.2	3.642	A

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	4.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	683	100.000
2		✓	651	100.000
3		✓	351	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	544	139
	2	478	0	173
	3	207	144	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.49	4.55	0.9	A
2	0.46	4.28	0.8	A
3	0.34	4.84	0.5	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	514	108	1576	0.326	512	0.5	3.377	A
2	490	104	1589	0.308	488	0.4	3.264	A
3	264	359	1226	0.215	263	0.3	3.734	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	614	129	1563	0.393	613	0.6	3.791	A
2	585	125	1576	0.371	585	0.6	3.628	A
3	316	429	1186	0.266	315	0.4	4.133	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	752	158	1544	0.487	751	0.9	4.533	A
2	717	153	1559	0.460	716	0.8	4.265	A
3	386	526	1130	0.342	386	0.5	4.831	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	752	159	1544	0.487	752	0.9	4.546	A
2	717	153	1558	0.460	717	0.8	4.276	A
3	386	526	1130	0.342	386	0.5	4.841	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	614	130	1562	0.393	615	0.7	3.804	A
2	585	125	1576	0.371	586	0.6	3.640	A
3	316	430	1185	0.266	316	0.4	4.145	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	514	109	1576	0.326	515	0.5	3.393	A
2	490	105	1589	0.308	491	0.4	3.281	A
3	264	360	1225	0.216	265	0.3	3.750	A

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	3.58	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	503	100.000
2		✓	508	100.000
3		✓	222	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	371	132
	2	368	0	140
	3	132	90	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.35	3.50	0.5	A
2	0.36	3.58	0.6	A
3	0.20	3.77	0.3	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	379	68	1603	0.236	377	0.3	2.936	A
2	382	99	1592	0.240	381	0.3	2.969	A
3	167	276	1274	0.131	167	0.2	3.249	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	452	81	1594	0.284	452	0.4	3.152	A
2	457	119	1580	0.289	456	0.4	3.203	A
3	200	331	1243	0.161	199	0.2	3.450	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	554	99	1582	0.350	553	0.5	3.497	A
2	559	145	1563	0.358	559	0.6	3.581	A
3	244	405	1200	0.204	244	0.3	3.766	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	554	99	1582	0.350	554	0.5	3.499	A
2	559	145	1563	0.358	559	0.6	3.584	A
3	244	405	1200	0.204	244	0.3	3.767	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	452	81	1594	0.284	453	0.4	3.158	A
2	457	119	1580	0.289	457	0.4	3.207	A
3	200	331	1242	0.161	200	0.2	3.453	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	379	68	1602	0.236	379	0.3	2.943	A
2	382	99	1592	0.240	383	0.3	2.976	A
3	167	277	1273	0.131	167	0.2	3.254	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Junction 1 A52_Mayfield Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:26:39

»(Default Analysis Set) - With Bypass, AM
»(Default Analysis Set) - With Bypass, PM
»(Default Analysis Set) - With Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Arm 1	1.8	6.37	0.65	A	6.87	3.3	9.93	0.77	A	8.86	1.6	5.90	0.62	A	5.67
Arm 2	2.3	7.66	0.70	A		2.6	8.32	0.72	A		1.4	5.63	0.59	A	
Arm 3	0.3	5.05	0.21	A		0.4	6.04	0.29	A		0.2	4.38	0.15	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15
D2	With Bypass	PM	ONE HOUR	17:00	18:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	6.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	(untitled)	A52 E
2	(untitled)	A52 W
3	(untitled)	Mayfield Road

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	4.60	5.50	8.6	42.6	37.0	28.8	
2	3.00	6.60	31.4	19.3	37.0	38.3	
3	3.35	6.70	10.9	27.0	37.0	51.4	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.647	1646
2	0.630	1655
3	0.575	1433

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	944	100.000
2		✓	993	100.000
3		✓	175	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	811	133
	2	832	0	161
	3	116	59	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.65	6.37	1.8	A
2	0.70	7.66	2.3	A
3	0.21	5.05	0.3	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	711	44	1618	0.439	708	0.8	3.942	A
2	748	100	1592	0.470	744	0.9	4.229	A
3	132	623	1074	0.123	131	0.1	3.816	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	849	53	1612	0.526	847	1.1	4.701	A
2	893	119	1580	0.565	891	1.3	5.215	A
3	157	747	1003	0.157	157	0.2	4.254	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	1039	65	1604	0.648	1037	1.8	6.309	A
2	1093	146	1563	0.700	1089	2.3	7.540	A
3	193	913	908	0.212	192	0.3	5.031	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	1039	65	1604	0.648	1039	1.8	6.370	A
2	1093	146	1563	0.700	1093	2.3	7.663	A
3	193	916	906	0.213	193	0.3	5.048	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	849	53	1612	0.527	851	1.1	4.753	A
2	893	120	1579	0.565	897	1.3	5.304	A
3	157	751	1000	0.157	158	0.2	4.272	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	711	44	1617	0.439	712	0.8	3.981	A
2	748	100	1592	0.470	749	0.9	4.283	A
3	132	628	1071	0.123	132	0.1	3.834	A

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	8.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1110	100.000
2		✓	1023	100.000
3		✓	221	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	971	139
	2	937	0	86
	3	133	88	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.77	9.93	3.3	A
2	0.72	8.32	2.6	A
3	0.29	6.04	0.4	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	836	66	1604	0.521	831	1.1	4.636	A
2	770	104	1589	0.485	766	0.9	4.356	A
3	166	702	1029	0.162	166	0.2	4.167	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	998	79	1595	0.626	996	1.6	5.982	A
2	920	125	1576	0.583	918	1.4	5.451	A
3	199	841	949	0.209	198	0.3	4.796	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	1222	97	1584	0.772	1216	3.2	9.619	A
2	1126	152	1559	0.723	1122	2.5	8.148	A
3	243	1027	841	0.289	243	0.4	6.008	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	1222	97	1584	0.772	1222	3.3	9.930	A
2	1126	153	1558	0.723	1126	2.6	8.319	A
3	243	1032	839	0.290	243	0.4	6.041	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	998	79	1595	0.626	1004	1.7	6.161	A
2	920	126	1576	0.584	924	1.4	5.563	A
3	199	847	946	0.210	199	0.3	4.826	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	836	66	1603	0.521	838	1.1	4.718	A
2	770	105	1589	0.485	772	0.9	4.419	A
3	166	707	1026	0.162	167	0.2	4.192	A

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	5.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	904	100.000
2		✓	839	100.000
3		✓	133	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	772	132
	2	733	0	106
	3	75	58	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.62	5.90	1.6	A
2	0.59	5.63	1.4	A
3	0.15	4.38	0.2	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	681	43	1618	0.421	678	0.7	3.817	A
2	632	99	1593	0.397	629	0.7	3.728	A
3	100	550	1117	0.090	100	0.1	3.541	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	813	52	1613	0.504	812	1.0	4.488	A
2	754	118	1580	0.477	753	0.9	4.347	A
3	120	658	1054	0.113	119	0.1	3.852	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	995	64	1605	0.620	993	1.6	5.858	A
2	924	145	1564	0.591	922	1.4	5.591	A
3	146	805	969	0.151	146	0.2	4.372	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	995	64	1605	0.620	995	1.6	5.904	A
2	924	145	1563	0.591	924	1.4	5.628	A
3	146	807	968	0.151	146	0.2	4.379	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	813	52	1612	0.504	815	1.0	4.529	A
2	754	119	1580	0.477	756	0.9	4.383	A
3	120	661	1053	0.114	120	0.1	3.860	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	681	44	1618	0.421	682	0.7	3.851	A
2	632	100	1592	0.397	633	0.7	3.755	A
3	100	553	1115	0.090	100	0.1	3.551	A

Appendix E

A52 / A515 Junction Capacity Results

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Import of Junction 2 A52_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 14:04:03

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Arm 1	0.6	4.54	0.37	A	4.73	0.9	5.24	0.46	A	5.91	0.7	4.36	0.40	A	4.02
Arm 2	0.5	4.71	0.35	A		1.1	6.73	0.54	A		0.4	4.30	0.29	A	
Arm 3	0.3	2.19	0.24	A		0.4	2.62	0.28	A		0.3	2.14	0.21	A	
Arm 4	1.3	6.80	0.56	A		1.7	8.20	0.63	A		0.8	5.07	0.43	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15
D2	Base	PM	ONE HOUR	17:00	18:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	4.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A52 E	A52 E
2	(untitled)	A515 S
3	(untitled)	A52 W
4	(untitled)	A515 N

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	3.30	7.40	12.1	41.5	49.0	33.5	
2	3.60	6.20	16.5	13.3	49.0	40.9	
3	5.50	9.20	21.7	37.4	49.0	22.8	
4	3.60	6.70	11.1	14.4	49.0	44.3	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.601	1617
2	0.559	1514
3	0.780	2506
4	0.551	1478

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	415	100.000
2		✓	377	100.000
3		✓	467	100.000
4		✓	614	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	66	214	135
	2	99	0	102	176
	3	273	77	0	117
	4	137	283	194	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.37	4.54	0.6	A
2	0.35	4.71	0.5	A
3	0.24	2.19	0.3	A
4	0.56	6.80	1.3	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	312	415	1367	0.228	311	0.3	3.405	A
2	284	407	1286	0.221	283	0.3	3.585	A
3	352	307	2266	0.155	351	0.2	1.879	A
4	462	337	1292	0.358	460	0.6	4.315	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	373	497	1318	0.283	373	0.4	3.805	A
2	339	488	1241	0.273	339	0.4	3.987	A
3	420	368	2219	0.189	420	0.2	2.000	A
4	552	403	1256	0.440	551	0.8	5.102	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	457	608	1251	0.365	456	0.6	4.523	A
2	415	597	1180	0.352	414	0.5	4.698	A
3	514	451	2154	0.239	514	0.3	2.194	A
4	676	494	1206	0.561	674	1.3	6.745	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	457	610	1251	0.365	457	0.6	4.535	A
2	415	598	1179	0.352	415	0.5	4.710	A
3	514	451	2154	0.239	514	0.3	2.195	A
4	676	494	1206	0.561	676	1.3	6.796	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	373	500	1317	0.283	374	0.4	3.822	A
2	339	489	1240	0.273	340	0.4	4.002	A
3	420	369	2218	0.189	420	0.2	2.004	A
4	552	404	1255	0.440	554	0.8	5.144	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	312	418	1366	0.229	313	0.3	3.421	A
2	284	409	1285	0.221	284	0.3	3.601	A
3	352	309	2265	0.155	352	0.2	1.883	A
4	462	338	1292	0.358	463	0.6	4.351	A

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	5.91	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	538	100.000
2		✓	562	100.000
3		✓	495	100.000
4		✓	668	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	90	226	222
	2	160	0	103	299
	3	257	84	0	154
	4	241	290	137	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.46	5.24	0.9	A
2	0.54	6.73	1.1	A
3	0.28	2.62	0.4	A
4	0.63	8.20	1.7	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	405	383	1387	0.292	403	0.4	3.653	A
2	423	439	1268	0.334	421	0.5	4.240	A
3	373	510	2108	0.177	372	0.2	2.072	A
4	503	376	1271	0.396	500	0.6	4.656	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	484	459	1341	0.361	483	0.6	4.191	A
2	505	525	1220	0.414	504	0.7	5.026	A
3	445	611	2029	0.219	445	0.3	2.272	A
4	601	450	1230	0.488	599	0.9	5.697	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	592	561	1280	0.463	591	0.9	5.217	A
2	619	643	1154	0.536	617	1.1	6.679	A
3	545	748	1922	0.283	545	0.4	2.612	A
4	735	551	1175	0.626	733	1.6	8.095	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	592	563	1279	0.463	592	0.9	5.242	A
2	619	644	1153	0.536	619	1.1	6.731	A
3	545	750	1921	0.284	545	0.4	2.615	A
4	735	552	1174	0.626	735	1.7	8.201	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	484	461	1340	0.361	485	0.6	4.215	A
2	505	527	1219	0.415	507	0.7	5.071	A
3	445	614	2027	0.220	445	0.3	2.278	A
4	601	451	1229	0.488	603	1.0	5.773	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	405	386	1385	0.292	406	0.4	3.678	A
2	423	441	1267	0.334	424	0.5	4.276	A
3	373	514	2105	0.177	373	0.2	2.079	A
4	503	378	1270	0.396	504	0.7	4.709	A

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	4.02	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	494	100.000
2		✓	313	100.000
3		✓	409	100.000
4		✓	487	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	75	226	193
	2	82	0	68	163
	3	227	73	0	109
	4	185	181	121	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.40	4.36	0.7	A
2	0.29	4.30	0.4	A
3	0.21	2.14	0.3	A
4	0.43	5.07	0.8	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	372	281	1448	0.257	371	0.3	3.336	A
2	236	405	1287	0.183	235	0.2	3.417	A
3	308	329	2250	0.137	307	0.2	1.853	A
4	367	287	1320	0.278	365	0.4	3.763	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	444	337	1415	0.314	444	0.5	3.705	A
2	281	485	1242	0.226	281	0.3	3.744	A
3	368	393	2199	0.167	368	0.2	1.965	A
4	438	343	1289	0.340	437	0.5	4.224	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	544	412	1369	0.397	543	0.7	4.354	A
2	345	594	1182	0.292	344	0.4	4.297	A
3	450	482	2130	0.211	450	0.3	2.142	A
4	536	420	1246	0.430	535	0.7	5.056	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	544	413	1369	0.397	544	0.7	4.363	A
2	345	595	1181	0.292	345	0.4	4.303	A
3	450	482	2130	0.211	450	0.3	2.143	A
4	536	421	1246	0.430	536	0.8	5.069	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	444	338	1414	0.314	445	0.5	3.716	A
2	281	486	1242	0.227	282	0.3	3.751	A
3	368	394	2198	0.167	368	0.2	1.968	A
4	438	344	1289	0.340	439	0.5	4.240	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	372	283	1447	0.257	372	0.3	3.352	A
2	236	407	1286	0.183	236	0.2	3.428	A
3	308	330	2248	0.137	308	0.2	1.857	A
4	367	288	1319	0.278	367	0.4	3.781	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Junction 2 A52_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 04/06/2018 15:50:00

»(Default Analysis Set) - Without Bypass, AM
»(Default Analysis Set) - Without Bypass, PM
»(Default Analysis Set) - Without Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Arm 1	0.7	5.14	0.42	A	5.48	1.0	5.85	0.50	A	7.06	0.8	4.81	0.43	A	4.45
Arm 2	0.7	5.28	0.40	A		1.5	8.04	0.60	A		0.5	4.75	0.34	A	
Arm 3	0.4	2.30	0.26	A		0.5	2.85	0.33	A		0.3	2.27	0.25	A	
Arm 4	1.7	8.22	0.63	A		2.3	10.45	0.70	B		1.0	5.80	0.49	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D2	Without Bypass	PM	ONE HOUR	17:00	18:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	5.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A52 E	A52 E
2	(untitled)	A515 S
3	(untitled)	A52 W
4	(untitled)	A515 N

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	3.30	7.40	12.1	41.5	49.0	33.5	
2	3.60	6.20	16.5	13.3	49.0	40.9	
3	5.50	9.20	21.7	37.4	49.0	22.8	
4	3.60	6.70	11.1	14.4	49.0	44.3	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.601	1617
2	0.559	1514
3	0.780	2506
4	0.551	1478

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	453	100.000
2		✓	416	100.000
3		✓	513	100.000
4		✓	681	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	66	252	135
	2	99	0	116	201
	3	292	88	0	133
	4	137	323	221	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.42	5.14	0.7	A
2	0.40	5.28	0.7	A
3	0.26	2.30	0.4	A
4	0.63	8.22	1.7	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	341	474	1332	0.256	340	0.3	3.621	A
2	313	456	1259	0.249	312	0.3	3.797	A
3	386	326	2252	0.172	385	0.2	1.928	A
4	513	360	1280	0.401	510	0.7	4.661	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	407	567	1276	0.319	407	0.5	4.139	A
2	374	546	1208	0.309	374	0.4	4.310	A
3	461	391	2201	0.210	461	0.3	2.068	A
4	612	430	1241	0.493	611	1.0	5.705	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	499	694	1200	0.416	498	0.7	5.116	A
2	458	668	1140	0.402	457	0.7	5.263	A
3	565	478	2133	0.265	564	0.4	2.295	A
4	750	527	1188	0.631	747	1.7	8.112	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	499	696	1199	0.416	499	0.7	5.140	A
2	458	669	1139	0.402	458	0.7	5.283	A
3	565	479	2132	0.265	565	0.4	2.296	A
4	750	527	1187	0.631	750	1.7	8.219	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	407	570	1274	0.320	408	0.5	4.161	A
2	374	548	1207	0.310	375	0.5	4.330	A
3	461	392	2200	0.210	462	0.3	2.072	A
4	612	431	1241	0.494	615	1.0	5.782	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	341	477	1330	0.256	342	0.3	3.641	A
2	313	459	1257	0.249	314	0.3	3.819	A
3	386	328	2250	0.172	386	0.2	1.931	A
4	513	361	1279	0.401	514	0.7	4.711	A

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	7.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	561	100.000
2		✓	618	100.000
3		✓	566	100.000
4		✓	727	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	90	249	222
	2	160	0	118	340
	3	295	95	0	176
	4	241	330	156	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.50	5.85	1.0	A
2	0.60	8.04	1.5	A
3	0.33	2.85	0.5	A
4	0.70	10.45	2.3	B

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	422	435	1356	0.312	421	0.4	3.843	A
2	465	470	1251	0.372	463	0.6	4.555	A
3	426	541	2084	0.204	425	0.3	2.169	A
4	547	413	1251	0.438	544	0.8	5.073	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	504	521	1304	0.387	504	0.6	4.495	A
2	556	563	1199	0.463	555	0.9	5.577	A
3	509	648	2000	0.254	508	0.3	2.412	A
4	654	494	1206	0.542	652	1.2	6.481	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	618	637	1234	0.500	616	1.0	5.808	A
2	680	688	1129	0.603	678	1.5	7.939	A
3	623	792	1888	0.330	623	0.5	2.843	A
4	800	604	1145	0.699	796	2.2	10.193	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	618	640	1233	0.501	618	1.0	5.852	A
2	680	690	1128	0.603	680	1.5	8.045	A
3	623	795	1886	0.330	623	0.5	2.850	A
4	800	606	1144	0.699	800	2.3	10.445	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	504	525	1301	0.388	506	0.6	4.532	A
2	556	566	1197	0.464	558	0.9	5.655	A
3	509	652	1998	0.255	509	0.3	2.421	A
4	654	496	1205	0.542	658	1.2	6.631	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	422	439	1353	0.312	423	0.5	3.872	A
2	465	473	1249	0.372	466	0.6	4.605	A
3	426	545	2081	0.205	426	0.3	2.177	A
4	547	415	1250	0.438	549	0.8	5.152	A

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	4.45	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	518	100.000
2		✓	358	100.000
3		✓	468	100.000
4		✓	547	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	75	250	193
	2	82	0	81	195
	3	250	88	0	130
	4	185	217	145	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.43	4.81	0.8	A
2	0.34	4.75	0.5	A
3	0.25	2.27	0.3	A
4	0.49	5.80	1.0	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	390	337	1414	0.276	388	0.4	3.505	A
2	270	441	1267	0.213	268	0.3	3.602	A
3	352	352	2231	0.158	352	0.2	1.915	A
4	412	315	1304	0.316	410	0.5	4.018	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	466	404	1374	0.339	465	0.5	3.959	A
2	322	528	1218	0.264	321	0.4	4.011	A
3	421	422	2177	0.193	421	0.2	2.049	A
4	492	377	1270	0.387	491	0.6	4.617	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	570	495	1320	0.432	569	0.8	4.791	A
2	394	646	1152	0.342	394	0.5	4.740	A
3	515	517	2103	0.245	515	0.3	2.267	A
4	602	462	1223	0.492	601	1.0	5.771	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	570	495	1319	0.432	570	0.8	4.806	A
2	394	647	1152	0.342	394	0.5	4.752	A
3	515	517	2102	0.245	515	0.3	2.268	A
4	602	462	1223	0.492	602	1.0	5.796	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	466	405	1373	0.339	467	0.5	3.975	A
2	322	530	1217	0.264	322	0.4	4.025	A
3	421	423	2176	0.193	421	0.2	2.051	A
4	492	378	1270	0.387	493	0.6	4.642	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	390	339	1413	0.276	391	0.4	3.524	A
2	270	443	1266	0.213	270	0.3	3.615	A
3	352	354	2230	0.158	353	0.2	1.920	A
4	412	316	1304	0.316	413	0.5	4.044	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Junction 2 A52_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:28:20

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Arm 1	0.5	5.50	0.35	A	10.17	1.0	7.53	0.51	A	23.75	0.7	5.39	0.40	A	6.66
Arm 2	2.4	10.40	0.71	B		4.2	17.06	0.82	C		1.3	6.99	0.56	A	
Arm 3	0.4	2.77	0.30	A		0.6	3.32	0.36	A		0.4	2.58	0.27	A	
Arm 4	4.4	15.46	0.82	C		14.8	45.92	0.96	E		2.4	9.27	0.71	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15
D2	With Bypass	PM	ONE HOUR	17:00	18:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	10.17	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A52 E	A52 E
2	(untitled)	A515 S
3	(untitled)	A52 W
4	(untitled)	A515 N

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	3.30	7.40	12.1	41.5	49.0	33.5	
2	3.60	6.20	16.5	13.3	49.0	40.9	
3	5.50	9.20	21.7	37.4	49.0	22.8	
4	3.60	6.70	11.1	14.4	49.0	44.3	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.601	1617
2	0.559	1514
3	0.780	2506
4	0.551	1478

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	322	100.000
2		✓	753	100.000
3		✓	513	100.000
4		✓	969	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	66	148	108
	2	99	0	116	538
	3	111	88	0	314
	4	137	537	295	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.35	5.50	0.5	A
2	0.71	10.40	2.4	B
3	0.30	2.77	0.4	A
4	0.82	15.46	4.4	C

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	242	689	1203	0.201	241	0.3	3.739	A
2	567	413	1283	0.442	564	0.8	4.983	A
3	386	558	2071	0.187	385	0.2	2.135	A
4	730	224	1355	0.538	725	1.2	5.675	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	289	825	1122	0.258	289	0.3	4.322	A
2	677	494	1237	0.547	675	1.2	6.388	A
3	461	668	1985	0.232	461	0.3	2.362	A
4	871	268	1331	0.655	868	1.9	7.740	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	355	1005	1013	0.350	354	0.5	5.452	A
2	829	603	1176	0.705	825	2.3	10.108	B
3	565	816	1869	0.302	564	0.4	2.757	A
4	1067	327	1298	0.822	1057	4.2	14.426	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	355	1012	1009	0.351	355	0.5	5.502	A
2	829	606	1175	0.706	829	2.4	10.400	B
3	565	820	1866	0.303	565	0.4	2.765	A
4	1067	328	1297	0.822	1066	4.4	15.457	C

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	289	836	1115	0.260	290	0.4	4.370	A
2	677	499	1235	0.548	681	1.2	6.557	A
3	461	674	1980	0.233	462	0.3	2.370	A
4	871	269	1330	0.655	881	1.9	8.189	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	242	695	1199	0.202	243	0.3	3.767	A
2	567	416	1281	0.443	569	0.8	5.065	A
3	386	562	2067	0.187	387	0.2	2.142	A
4	730	225	1354	0.539	733	1.2	5.818	A

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	23.75	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	459	100.000
2		✓	846	100.000
3		✓	565	100.000
4		✓	1112	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	90	164	205
	2	160	0	118	568
	3	78	95	0	392
	4	241	630	241	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.51	7.53	1.0	A
2	0.82	17.06	4.2	C
3	0.36	3.32	0.6	A
4	0.96	45.92	14.8	E

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	346	722	1183	0.292	344	0.4	4.282	A
2	637	457	1258	0.506	633	1.0	5.719	A
3	425	698	1961	0.217	424	0.3	2.341	A
4	837	250	1340	0.625	831	1.6	6.976	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	413	864	1098	0.376	412	0.6	5.242	A
2	761	547	1208	0.630	758	1.7	7.952	A
3	508	836	1854	0.274	508	0.4	2.674	A
4	1000	299	1313	0.761	994	3.0	11.077	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	505	1035	995	0.508	504	1.0	7.304	A
2	931	663	1143	0.815	922	4.0	15.644	C
3	622	1018	1711	0.363	621	0.6	3.301	A
4	1224	365	1277	0.959	1189	12.0	32.186	D

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	505	1055	983	0.514	505	1.0	7.529	A
2	931	669	1139	0.817	931	4.2	17.063	C
3	622	1026	1705	0.365	622	0.6	3.323	A
4	1224	366	1276	0.959	1213	14.8	45.916	E

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	413	904	1074	0.384	414	0.6	5.472	A
2	761	560	1201	0.633	770	1.8	8.552	A
3	508	848	1844	0.275	509	0.4	2.698	A
4	1000	301	1312	0.762	1045	3.4	15.554	C

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	346	733	1177	0.294	346	0.4	4.340	A
2	637	461	1256	0.507	640	1.0	5.874	A
3	425	705	1956	0.218	426	0.3	2.353	A
4	837	251	1339	0.625	844	1.7	7.358	A

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3, 4	6.66	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	406	100.000
2		✓	591	100.000
3		✓	469	100.000
4		✓	857	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	75	149	182
	2	82	0	81	428
	3	72	88	0	309
	4	185	438	234	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.40	5.39	0.7	A
2	0.56	6.99	1.3	A
3	0.27	2.58	0.4	A
4	0.71	9.27	2.4	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	306	569	1275	0.240	304	0.3	3.704	A
2	445	423	1277	0.348	443	0.5	4.306	A
3	353	519	2101	0.168	352	0.2	2.057	A
4	645	182	1378	0.468	642	0.9	4.868	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	365	682	1207	0.302	365	0.4	4.270	A
2	531	507	1230	0.432	530	0.8	5.139	A
3	422	621	2021	0.209	421	0.3	2.249	A
4	770	217	1358	0.567	769	1.3	6.090	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	447	833	1116	0.400	446	0.7	5.363	A
2	651	620	1167	0.558	649	1.2	6.922	A
3	516	760	1913	0.270	516	0.4	2.576	A
4	944	266	1331	0.709	939	2.4	9.082	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	447	837	1114	0.401	447	0.7	5.394	A
2	651	622	1166	0.558	651	1.3	6.988	A
3	516	762	1912	0.270	516	0.4	2.579	A
4	944	266	1331	0.709	943	2.4	9.274	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	365	687	1204	0.303	366	0.4	4.297	A
2	531	510	1229	0.432	533	0.8	5.193	A
3	422	624	2019	0.209	422	0.3	2.256	A
4	770	218	1358	0.567	775	1.3	6.218	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	306	574	1272	0.240	306	0.3	3.729	A
2	445	426	1275	0.349	446	0.5	4.344	A
3	353	522	2099	0.168	353	0.2	2.064	A
4	645	182	1377	0.468	647	0.9	4.939	A

Appendix F

Church Street / Station Road Junction Capacity Results

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Import of Junction 3 Church Street_Station Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 14:12:10

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Stream B-C	0.1	6.79	0.07	A	3.61	0.1	7.32	0.06	A	5.27	0.1	6.96	0.06	A	4.67
Stream B-A	0.5	8.82	0.32	A		0.8	11.05	0.46	B		0.6	9.12	0.36	A	
Stream C-AB	0.1	4.81	0.07	A		0.2	5.08	0.11	A		0.1	5.20	0.08	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15
D2	Base	PM	ONE HOUR	16:00	17:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	3.61	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.60			120.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	6.90	5.50	5.50	5.50	✓	3.00	110	120

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	675	0.109	0.276	0.173	0.394
1	B-C	625	0.085	0.215	-	-
1	C-B	643	0.221	0.221	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	21	100.000
B		✓	209	100.000
C		✓	326	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	6	15
	B	174	0	35
	C	294	32	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.07	6.79	0.1	A
B-A	0.32	8.82	0.5	A
C-AB	0.07	4.81	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	589	0.045	26	0.0	6.394	A
B-A	131	624	0.210	130	0.3	7.278	A
C-AB	34	783	0.043	33	0.1	4.804	A
C-A	212			212			
A-B	5			5			
A-C	11			11			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	31	581	0.054	31	0.1	6.550	A
B-A	156	614	0.255	156	0.3	7.865	A
C-AB	43	810	0.053	43	0.1	4.693	A
C-A	250			250			
A-B	5			5			
A-C	13			13			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	39	569	0.068	38	0.1	6.784	A
B-A	192	600	0.319	191	0.5	8.799	A
C-AB	57	847	0.067	57	0.1	4.556	A
C-A	302			302			
A-B	7			7			
A-C	17			17			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	39	569	0.068	39	0.1	6.786	A
B-A	192	600	0.319	192	0.5	8.820	A
C-AB	57	847	0.068	57	0.1	4.557	A
C-A	302			302			
A-B	7			7			
A-C	17			17			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	31	581	0.054	32	0.1	6.555	A
B-A	156	614	0.255	157	0.3	7.893	A
C-AB	43	810	0.053	43	0.1	4.698	A
C-A	250			250			
A-B	5			5			
A-C	13			13			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	589	0.045	26	0.0	6.402	A
B-A	131	624	0.210	131	0.3	7.320	A
C-AB	34	783	0.043	34	0.1	4.807	A
C-A	212			212			
A-B	5			5			
A-C	11			11			

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	5.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	43	100.000
B		✓	278	100.000
C		✓	321	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	19	24
	B	252	0	26
	C	266	55	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	7.32	0.1	A
B-A	0.46	11.05	0.8	B
C-AB	0.11	5.08	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	20	556	0.035	19	0.0	6.706	A
B-A	190	630	0.301	188	0.4	8.109	A
C-AB	56	766	0.073	56	0.1	5.068	A
C-A	186			186			
A-B	14			14			
A-C	18			18			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	23	543	0.043	23	0.0	6.928	A
B-A	227	619	0.366	226	0.6	9.150	A
C-AB	71	790	0.090	71	0.1	5.009	A
C-A	218			218			
A-B	17			17			
A-C	22			22			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	29	521	0.055	29	0.1	7.315	A
B-A	277	603	0.460	276	0.8	10.986	B
C-AB	94	823	0.115	94	0.2	4.942	A
C-A	259			259			
A-B	21			21			
A-C	26			26			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	29	520	0.055	29	0.1	7.323	A
B-A	277	603	0.460	277	0.8	11.054	B
C-AB	94	823	0.115	94	0.2	4.943	A
C-A	259			259			
A-B	21			21			
A-C	26			26			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	23	542	0.043	23	0.0	6.937	A
B-A	227	619	0.366	228	0.6	9.228	A
C-AB	71	790	0.090	71	0.1	5.013	A
C-A	217			217			
A-B	17			17			
A-C	22			22			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	20	555	0.035	20	0.0	6.718	A
B-A	190	630	0.301	190	0.4	8.195	A
C-AB	56	766	0.073	56	0.1	5.076	A
C-A	185			185			
A-B	14			14			
A-C	18			18			

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	4.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	37	100.000
B		✓	234	100.000
C		✓	231	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	16	21
	B	205	0	29
	C	191	40	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	6.96	0.1	A
B-A	0.36	9.12	0.6	A
C-AB	0.08	5.20	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	22	573	0.038	22	0.0	6.526	A
B-A	154	640	0.241	153	0.3	7.368	A
C-AB	37	730	0.051	37	0.1	5.194	A
C-A	136			136			
A-B	12			12			
A-C	16			16			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	564	0.046	26	0.0	6.695	A
B-A	184	632	0.292	184	0.4	8.029	A
C-AB	47	747	0.063	47	0.1	5.141	A
C-A	161			161			
A-B	14			14			
A-C	19			19			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	32	549	0.058	32	0.1	6.954	A
B-A	226	620	0.364	225	0.6	9.092	A
C-AB	61	771	0.079	61	0.1	5.070	A
C-A	194			194			
A-B	18			18			
A-C	23			23			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	32	549	0.058	32	0.1	6.957	A
B-A	226	620	0.364	226	0.6	9.121	A
C-AB	61	771	0.079	61	0.1	5.072	A
C-A	194			194			
A-B	18			18			
A-C	23			23			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	563	0.046	26	0.0	6.700	A
B-A	184	632	0.292	185	0.4	8.065	A
C-AB	47	747	0.063	47	0.1	5.142	A
C-A	161			161			
A-B	14			14			
A-C	19			19			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	22	573	0.038	22	0.0	6.537	A
B-A	154	640	0.241	155	0.3	7.422	A
C-AB	38	730	0.051	38	0.1	5.201	A
C-A	136			136			
A-B	12			12			
A-C	16			16			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 3 Church Street_Station Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 04/06/2018 15:52:02

»(Default Analysis Set) - Without Bypass, AM
»(Default Analysis Set) - Without Bypass, PM
»(Default Analysis Set) - Without Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Stream B-C	0.2	7.18	0.14	A	4.43	0.1	8.01	0.11	A	6.84	0.1	7.29	0.11	A	5.50
Stream B-A	0.6	9.93	0.37	A		1.2	13.74	0.55	B		0.7	10.25	0.42	B	
Stream C-AB	0.2	4.91	0.10	A		0.3	5.29	0.18	A		0.2	5.32	0.11	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D2	Without Bypass	PM	ONE HOUR	16:00	17:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	4.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.60			120.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	6.90	5.50	5.50	5.50	✓	3.00	110	120

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	655	0.106	0.267	0.168	0.382
1	B-C	649	0.088	0.223	-	-
1	C-B	643	0.221	0.221	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	21	100.000
B		✓	266	100.000
C		✓	343	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	6	15
	B	193	0	73
	C	296	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.14	7.18	0.2	A
B-A	0.37	9.93	0.6	A
C-AB	0.10	4.91	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	55	607	0.091	55	0.1	6.511	A
B-A	145	600	0.242	144	0.3	7.872	A
C-AB	49	784	0.063	49	0.1	4.901	A
C-A	209			209			
A-B	5			5			
A-C	11			11			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	66	597	0.110	66	0.1	6.772	A
B-A	174	590	0.294	173	0.4	8.636	A
C-AB	63	811	0.078	63	0.1	4.815	A
C-A	245			245			
A-B	5			5			
A-C	13			13			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	80	582	0.138	80	0.2	7.169	A
B-A	212	575	0.370	212	0.6	9.895	A
C-AB	84	849	0.099	84	0.2	4.711	A
C-A	293			293			
A-B	7			7			
A-C	17			17			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	80	582	0.138	80	0.2	7.176	A
B-A	212	575	0.370	212	0.6	9.931	A
C-AB	84	849	0.099	84	0.2	4.713	A
C-A	293			293			
A-B	7			7			
A-C	17			17			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	66	597	0.110	66	0.1	6.781	A
B-A	174	590	0.294	174	0.4	8.678	A
C-AB	63	811	0.078	63	0.1	4.819	A
C-A	245			245			
A-B	5			5			
A-C	13			13			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	55	606	0.091	55	0.1	6.528	A
B-A	145	600	0.242	146	0.3	7.929	A
C-AB	50	784	0.063	50	0.1	4.907	A
C-A	209			209			
A-B	5			5			
A-C	11			11			

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	6.84	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	43	100.000
B		✓	339	100.000
C		✓	354	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	19	24
	B	290	0	49
	C	270	84	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.11	8.01	0.1	A
B-A	0.55	13.74	1.2	B
C-AB	0.18	5.29	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	37	557	0.066	37	0.1	6.915	A
B-A	218	612	0.357	216	0.5	9.039	A
C-AB	86	768	0.112	85	0.2	5.274	A
C-A	180			180			
A-B	14			14			
A-C	18			18			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	44	539	0.082	44	0.1	7.275	A
B-A	261	599	0.435	260	0.8	10.587	B
C-AB	109	792	0.138	109	0.2	5.272	A
C-A	209			209			
A-B	17			17			
A-C	22			22			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	54	504	0.107	54	0.1	7.987	A
B-A	319	581	0.550	318	1.2	13.575	B
C-AB	145	826	0.175	145	0.3	5.286	A
C-A	245			245			
A-B	21			21			
A-C	26			26			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	54	503	0.107	54	0.1	8.011	A
B-A	319	581	0.550	319	1.2	13.743	B
C-AB	145	826	0.176	145	0.3	5.293	A
C-A	245			245			
A-B	21			21			
A-C	26			26			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	44	538	0.082	44	0.1	7.299	A
B-A	261	599	0.435	262	0.8	10.746	B
C-AB	109	792	0.138	110	0.2	5.281	A
C-A	209			209			
A-B	17			17			
A-C	22			22			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	37	556	0.066	37	0.1	6.940	A
B-A	218	612	0.357	219	0.6	9.183	A
C-AB	86	768	0.112	86	0.2	5.287	A
C-A	180			180			
A-B	14			14			
A-C	18			18			

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	5.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	37	100.000
B		✓	280	100.000
C		✓	251	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	16	21
	B	227	0	53
	C	193	58	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.11	7.29	0.1	A
B-A	0.42	10.25	0.7	B
C-AB	0.11	5.32	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	40	582	0.069	40	0.1	6.637	A
B-A	171	623	0.274	169	0.4	7.908	A
C-AB	54	731	0.075	54	0.1	5.315	A
C-A	134			134			
A-B	12			12			
A-C	16			16			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	48	570	0.084	48	0.1	6.887	A
B-A	204	614	0.332	204	0.5	8.765	A
C-AB	68	748	0.091	68	0.1	5.293	A
C-A	158			158			
A-B	14			14			
A-C	19			19			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	58	552	0.106	58	0.1	7.282	A
B-A	250	601	0.416	249	0.7	10.208	B
C-AB	88	772	0.114	88	0.2	5.266	A
C-A	188			188			
A-B	18			18			
A-C	23			23			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	58	552	0.106	58	0.1	7.291	A
B-A	250	601	0.416	250	0.7	10.254	B
C-AB	88	772	0.114	88	0.2	5.268	A
C-A	188			188			
A-B	18			18			
A-C	23			23			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	48	570	0.084	48	0.1	6.896	A
B-A	204	614	0.332	205	0.5	8.821	A
C-AB	68	748	0.091	68	0.1	5.297	A
C-A	158			158			
A-B	14			14			
A-C	19			19			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	40	581	0.069	40	0.1	6.652	A
B-A	171	623	0.274	171	0.4	7.980	A
C-AB	55	731	0.075	55	0.1	5.325	A
C-A	134			134			
A-B	12			12			
A-C	16			16			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 3 Church Street_Station Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:29:59

»(Default Analysis Set) - With Bypass, AM
»(Default Analysis Set) - With Bypass, PM
»(Default Analysis Set) - With Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Stream B-C	0.1	5.74	0.07	A	2.30	0.0	6.53	0.04	A	3.82	0.1	6.26	0.06	A	3.40
Stream B-A	0.1	7.46	0.12	A		0.3	7.84	0.23	A		0.2	7.33	0.17	A	
Stream C-AB	0.2	4.98	0.10	A		0.3	5.65	0.16	A		0.2	5.44	0.11	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15
D2	With Bypass	PM	ONE HOUR	16:00	17:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	2.30	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.60			120.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	6.90	5.50	5.50	5.50	✓	3.00	110	120

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	616	0.100	0.252	0.158	0.359
1	B-C	697	0.095	0.239	-	-
1	C-B	643	0.221	0.221	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	21	100.000
B		✓	98	100.000
C		✓	318	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	6	15
	B	57	0	41
	C	271	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.07	5.74	0.1	A
B-A	0.12	7.46	0.1	A
C-AB	0.10	4.98	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	31	680	0.045	31	0.0	5.540	A
B-A	43	568	0.076	43	0.1	6.849	A
C-AB	48	771	0.062	48	0.1	4.974	A
C-A	191			191			
A-B	5			5			
A-C	11			11			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	37	677	0.054	37	0.1	5.625	A
B-A	51	558	0.092	51	0.1	7.097	A
C-AB	61	796	0.077	61	0.1	4.897	A
C-A	225			225			
A-B	5			5			
A-C	13			13			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	45	672	0.067	45	0.1	5.743	A
B-A	63	545	0.115	63	0.1	7.455	A
C-AB	81	831	0.097	81	0.2	4.801	A
C-A	269			269			
A-B	7			7			
A-C	17			17			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	45	672	0.067	45	0.1	5.744	A
B-A	63	545	0.115	63	0.1	7.458	A
C-AB	81	831	0.097	81	0.2	4.804	A
C-A	269			269			
A-B	7			7			
A-C	17			17			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	37	677	0.054	37	0.1	5.630	A
B-A	51	558	0.092	51	0.1	7.103	A
C-AB	61	797	0.077	61	0.1	4.899	A
C-A	225			225			
A-B	5			5			
A-C	13			13			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	31	680	0.045	31	0.0	5.547	A
B-A	43	568	0.076	43	0.1	6.862	A
C-AB	48	772	0.063	48	0.1	4.980	A
C-A	191			191			
A-B	5			5			
A-C	11			11			

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	3.82	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	43	100.000
B		✓	147	100.000
C		✓	267	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	19	24
	B	128	0	19
	C	183	84	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.04	6.53	0.0	A
B-A	0.23	7.84	0.3	A
C-AB	0.16	5.65	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	14	587	0.024	14	0.0	6.281	A
B-A	96	626	0.154	96	0.2	6.775	A
C-AB	78	725	0.108	77	0.2	5.554	A
C-A	123			123			
A-B	14			14			
A-C	18			18			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	17	581	0.029	17	0.0	6.382	A
B-A	115	615	0.187	115	0.2	7.193	A
C-AB	97	741	0.131	97	0.2	5.587	A
C-A	143			143			
A-B	17			17			
A-C	22			22			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	21	572	0.037	21	0.0	6.529	A
B-A	141	600	0.235	141	0.3	7.827	A
C-AB	126	764	0.165	126	0.3	5.643	A
C-A	168			168			
A-B	21			21			
A-C	26			26			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	21	572	0.037	21	0.0	6.530	A
B-A	141	600	0.235	141	0.3	7.837	A
C-AB	126	764	0.165	126	0.3	5.649	A
C-A	168			168			
A-B	21			21			
A-C	26			26			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	17	581	0.029	17	0.0	6.384	A
B-A	115	615	0.187	115	0.2	7.208	A
C-AB	97	742	0.131	98	0.2	5.596	A
C-A	143			143			
A-B	17			17			
A-C	22			22			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	14	587	0.024	14	0.0	6.287	A
B-A	96	626	0.154	97	0.2	6.802	A
C-AB	78	725	0.108	78	0.2	5.568	A
C-A	123			123			
A-B	14			14			
A-C	18			18			

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	3.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	37	100.000
B		✓	128	100.000
C		✓	217	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	16	21
	B	94	0	34
	C	159	58	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	6.26	0.1	A
B-A	0.17	7.33	0.2	A
C-AB	0.11	5.44	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	624	0.041	25	0.0	6.009	A
B-A	71	614	0.115	70	0.1	6.615	A
C-AB	52	715	0.073	52	0.1	5.431	A
C-A	111			111			
A-B	12			12			
A-C	16			16			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	31	619	0.049	31	0.1	6.113	A
B-A	85	606	0.140	84	0.2	6.904	A
C-AB	65	729	0.089	65	0.1	5.424	A
C-A	130			130			
A-B	14			14			
A-C	19			19			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	37	613	0.061	37	0.1	6.258	A
B-A	103	594	0.174	103	0.2	7.328	A
C-AB	84	748	0.112	83	0.2	5.418	A
C-A	155			155			
A-B	18			18			
A-C	23			23			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	37	612	0.061	37	0.1	6.259	A
B-A	103	594	0.174	103	0.2	7.335	A
C-AB	84	748	0.112	84	0.2	5.422	A
C-A	155			155			
A-B	18			18			
A-C	23			23			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	31	619	0.049	31	0.1	6.118	A
B-A	85	606	0.140	85	0.2	6.912	A
C-AB	65	729	0.089	65	0.1	5.428	A
C-A	130			130			
A-B	14			14			
A-C	19			19			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	26	624	0.041	26	0.0	6.015	A
B-A	71	614	0.115	71	0.1	6.633	A
C-AB	53	715	0.074	53	0.1	5.441	A
C-A	111			111			
A-B	12			12			
A-C	16			16			

Appendix G

A515 / Station Road Junction Capacity Results

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Import of Junction 4 Station Road_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 14:22:31

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Arm 1	1.3	8.59	0.56	A	9.30	1.1	8.04	0.53	A	10.03	1.1	8.15	0.53	A	10.10
Arm 2	0.2	7.26	0.14	A		0.5	9.08	0.35	A		0.4	8.47	0.31	A	
Arm 3	1.2	10.58	0.55	B		1.5	12.81	0.61	B		1.6	12.98	0.62	B	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Mini-roundabout model	Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9			0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15
D2	Base	PM	ONE HOUR	17:00	18:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 92% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	9.30	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	(untitled)	A515 (E)
2	(untitled)	A515 (W)
3	(untitled)	Station Road

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.75	3.75	4.22	1.0	15.46	7.10	0.0	
2	3.50	3.25	3.60	1.0	11.03	4.24	0.0	
3	2.65	2.55	3.60	1.0	16.08	15.71	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.626	983
2	0.606	783
3	0.618	789

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	483	100.000
2		✓	71	100.000
3		✓	381	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	170	313
	2	44	0	27
	3	334	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.56	8.59	1.3	A
2	0.14	7.26	0.2	A
3	0.55	10.58	1.2	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	364	35	961	0.378	361	0.6	5.977	A
2	53	234	641	0.083	53	0.1	6.120	A
3	287	33	769	0.373	284	0.6	7.394	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	434	42	957	0.454	433	0.8	6.867	A
2	64	281	613	0.104	64	0.1	6.559	A
3	343	39	765	0.448	342	0.8	8.487	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	532	52	951	0.559	530	1.2	8.522	A
2	78	344	575	0.136	78	0.2	7.248	A
3	419	48	760	0.552	418	1.2	10.485	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	532	52	951	0.559	532	1.3	8.589	A
2	78	345	574	0.136	78	0.2	7.260	A
3	419	48	759	0.552	419	1.2	10.582	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	434	42	957	0.454	436	0.8	6.938	A
2	64	282	612	0.104	64	0.1	6.577	A
3	343	40	765	0.448	344	0.8	8.588	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	364	35	961	0.378	365	0.6	6.045	A
2	53	236	640	0.084	54	0.1	6.145	A
3	287	33	769	0.373	288	0.6	7.494	A

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	10.03	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	460	100.000
2		✓	197	100.000
3		✓	399	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	206	254
	2	102	0	95
	3	357	42	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.53	8.04	1.1	A
2	0.35	9.08	0.5	A
3	0.61	12.81	1.5	B

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	346	31	963	0.359	344	0.6	5.791	A
2	148	190	668	0.222	147	0.3	6.904	A
3	300	76	742	0.405	298	0.7	8.050	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	414	38	960	0.431	413	0.7	6.574	A
2	177	228	645	0.275	177	0.4	7.687	A
3	359	92	733	0.489	358	0.9	9.564	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	506	46	954	0.531	505	1.1	7.986	A
2	217	279	614	0.353	216	0.5	9.040	A
3	439	112	720	0.610	437	1.5	12.606	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	506	46	954	0.531	506	1.1	8.039	A
2	217	280	613	0.354	217	0.5	9.081	A
3	439	112	720	0.610	439	1.5	12.805	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	414	38	959	0.431	415	0.8	6.629	A
2	177	229	644	0.275	178	0.4	7.732	A
3	359	92	733	0.490	361	1.0	9.746	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	346	32	963	0.360	347	0.6	5.852	A
2	148	192	667	0.222	149	0.3	6.958	A
3	300	77	742	0.405	302	0.7	8.197	A

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 83% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	10.10	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	460	100.000
2		✓	171	100.000
3		✓	408	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	206	254
	2	93	0	78
	3	357	51	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.53	8.15	1.1	A
2	0.31	8.47	0.4	A
3	0.62	12.98	1.6	B

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	346	38	959	0.361	344	0.6	5.831	A
2	129	190	668	0.193	128	0.2	6.658	A
3	307	70	746	0.411	304	0.7	8.095	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	414	46	954	0.433	413	0.8	6.635	A
2	154	228	645	0.238	153	0.3	7.323	A
3	367	83	738	0.497	366	1.0	9.642	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	506	56	948	0.534	505	1.1	8.096	A
2	188	279	614	0.307	188	0.4	8.440	A
3	449	102	726	0.618	447	1.6	12.767	B

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	506	56	948	0.534	506	1.1	8.152	A
2	188	280	613	0.307	188	0.4	8.469	A
3	449	102	726	0.619	449	1.6	12.981	B

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	414	46	954	0.433	415	0.8	6.693	A
2	154	229	644	0.239	154	0.3	7.358	A
3	367	84	738	0.497	369	1.0	9.832	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	346	39	959	0.361	347	0.6	5.891	A
2	129	192	667	0.193	129	0.2	6.702	A
3	307	70	746	0.412	308	0.7	8.249	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Junction 4 Station Road_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 04/06/2018 15:53:19

»(Default Analysis Set) - Without Bypass, AM
»(Default Analysis Set) - Without Bypass, PM
»(Default Analysis Set) - Without Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Arm 1	1.5	9.76	0.60	A	11.58	1.4	9.29	0.59	A	11.93	1.3	9.03	0.57	A	11.93
Arm 2	0.2	7.51	0.16	A		0.7	9.87	0.41	A		0.5	8.86	0.34	A	
Arm 3	2.0	14.32	0.67	B		2.1	15.90	0.69	C		2.2	16.24	0.70	C	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Mini-roundabout model	Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9			0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D2	Without Bypass	PM	ONE HOUR	17:00	18:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 91% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	11.58	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	(untitled)	A515 (E)
2	(untitled)	A515 (W)
3	(untitled)	Station Road

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.75	3.75	4.22	1.0	15.46	7.10	0.0	
2	3.50	3.25	3.60	1.0	11.03	4.24	0.0	
3	2.65	2.55	3.60	1.0	16.08	15.71	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.626	983
2	0.606	783
3	0.618	789

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	502	100.000
2		✓	86	100.000
3		✓	462	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	189	313
	2	44	0	42
	3	372	90	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.60	9.76	1.5	A
2	0.16	7.51	0.2	A
3	0.67	14.32	2.0	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	378	67	941	0.402	375	0.7	6.334	A
2	65	234	641	0.101	64	0.1	6.239	A
3	348	33	769	0.452	345	0.8	8.418	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	451	81	933	0.484	450	0.9	7.446	A
2	77	281	613	0.126	77	0.1	6.721	A
3	415	39	765	0.543	414	1.2	10.212	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	553	98	921	0.600	551	1.5	9.653	A
2	95	343	575	0.165	94	0.2	7.492	A
3	509	48	760	0.670	506	1.9	13.996	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	553	99	921	0.600	553	1.5	9.764	A
2	95	345	574	0.165	95	0.2	7.510	A
3	509	48	759	0.670	509	2.0	14.316	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	451	82	932	0.484	453	1.0	7.552	A
2	77	283	611	0.126	78	0.1	6.744	A
3	415	40	765	0.543	418	1.2	10.479	B

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	378	68	940	0.402	379	0.7	6.423	A
2	65	236	640	0.101	65	0.1	6.267	A
3	348	33	769	0.452	349	0.8	8.611	A

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	11.93	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	498	100.000
2		✓	226	100.000
3		✓	449	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	244	254
	2	102	0	124
	3	380	69	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.59	9.29	1.4	A
2	0.41	9.87	0.7	A
3	0.69	15.90	2.1	C

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	375	51	951	0.394	372	0.6	6.195	A
2	170	190	668	0.255	169	0.3	7.198	A
3	338	76	742	0.455	335	0.8	8.764	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	448	62	944	0.474	447	0.9	7.218	A
2	203	228	645	0.315	203	0.5	8.137	A
3	404	91	733	0.551	402	1.2	10.833	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	548	75	936	0.586	546	1.4	9.193	A
2	249	279	614	0.405	248	0.7	9.814	A
3	494	112	720	0.686	491	2.1	15.446	C

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	548	76	936	0.586	548	1.4	9.290	A
2	249	280	613	0.406	249	0.7	9.874	A
3	494	112	720	0.687	494	2.1	15.899	C

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	448	63	944	0.474	450	0.9	7.313	A
2	203	229	644	0.316	204	0.5	8.202	A
3	404	92	733	0.551	407	1.3	11.178	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	375	52	950	0.394	376	0.7	6.277	A
2	170	192	667	0.255	171	0.3	7.268	A
3	338	77	742	0.456	340	0.9	8.987	A

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 83% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	11.93	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	482	100.000
2		✓	188	100.000
3		✓	459	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	228	254
	2	93	0	95
	3	381	78	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.57	9.03	1.3	A
2	0.34	8.86	0.5	A
3	0.70	16.24	2.2	C

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	363	58	947	0.383	360	0.6	6.114	A
2	142	190	668	0.212	140	0.3	6.815	A
3	346	69	746	0.463	342	0.8	8.833	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	433	70	939	0.461	432	0.8	7.087	A
2	169	228	645	0.262	169	0.4	7.558	A
3	413	83	738	0.559	411	1.2	10.962	B

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	531	85	930	0.571	529	1.3	8.938	A
2	207	279	614	0.337	206	0.5	8.821	A
3	505	102	726	0.696	502	2.2	15.756	C

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	531	86	929	0.571	531	1.3	9.026	A
2	207	280	613	0.338	207	0.5	8.859	A
3	505	102	726	0.696	505	2.2	16.243	C

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	433	71	939	0.462	435	0.9	7.174	A
2	169	229	644	0.263	170	0.4	7.602	A
3	413	84	738	0.559	416	1.3	11.332	B

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	363	59	946	0.384	364	0.6	6.194	A
2	142	192	667	0.212	142	0.3	6.865	A
3	346	70	746	0.463	347	0.9	9.067	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Junction 4 Station Road_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:31:27

»(Default Analysis Set) - With Bypass, AM
»(Default Analysis Set) - With Bypass, PM
»(Default Analysis Set) - With Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Arm 1	0.6	6.10	0.37	A	7.17	0.6	7.49	0.39	A	8.76	0.5	5.92	0.36	A	8.04
Arm 2	0.2	7.07	0.16	A		0.6	8.99	0.38	A		0.5	8.25	0.32	A	
Arm 3	0.8	8.34	0.43	A		0.9	9.73	0.49	A		1.0	9.89	0.50	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Mini-roundabout model	Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9			0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15
D2	With Bypass	PM	ONE HOUR	17:00	18:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 87% of the total flow for the roundabout for one or more time segments]
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	7.17	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	(untitled)	A515 (E)
2	(untitled)	A515 (W)
3	(untitled)	Station Road

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	3.75	3.75	4.22	1.0	15.46	7.10	0.0	
2	3.50	3.25	3.60	1.0	11.03	4.24	0.0	
3	2.65	2.55	3.60	1.0	16.08	15.71	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.626	983
2	0.606	783
3	0.618	789

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	321	100.000
2		✓	86	100.000
3		✓	298	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	53	268
	2	44	0	42
	3	240	58	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.37	6.10	0.6	A
2	0.16	7.07	0.2	A
3	0.43	8.34	0.8	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	242	43	956	0.253	240	0.3	5.021	A
2	65	201	661	0.098	64	0.1	6.028	A
3	224	33	769	0.292	223	0.4	6.569	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	289	52	951	0.304	288	0.4	5.431	A
2	77	241	637	0.121	77	0.1	6.429	A
3	268	39	765	0.350	267	0.5	7.226	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	353	64	943	0.375	353	0.6	6.091	A
2	95	295	604	0.157	94	0.2	7.060	A
3	328	48	760	0.432	327	0.7	8.311	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	353	64	943	0.375	353	0.6	6.104	A
2	95	295	604	0.157	95	0.2	7.068	A
3	328	48	759	0.432	328	0.8	8.343	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	289	52	950	0.304	289	0.4	5.451	A
2	77	241	636	0.121	77	0.1	6.444	A
3	268	40	765	0.350	269	0.5	7.269	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	242	44	956	0.253	242	0.3	5.046	A
2	65	202	660	0.098	65	0.1	6.049	A
3	224	33	769	0.292	225	0.4	6.625	A

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	8.76	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	282	100.000
2		✓	226	100.000
3		✓	318	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	82	200
	2	102	0	124
	3	39	279	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.39	7.49	0.6	A
2	0.38	8.99	0.6	A
3	0.49	9.73	0.9	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	212	208	853	0.249	211	0.3	5.599	A
2	170	150	692	0.246	169	0.3	6.864	A
3	239	76	742	0.323	238	0.5	7.107	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	254	250	826	0.307	253	0.4	6.279	A
2	203	179	674	0.301	203	0.4	7.633	A
3	286	92	733	0.390	285	0.6	8.029	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	310	306	791	0.392	310	0.6	7.461	A
2	249	220	650	0.383	248	0.6	8.947	A
3	350	112	720	0.486	349	0.9	9.663	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	310	307	791	0.393	310	0.6	7.494	A
2	249	220	649	0.383	249	0.6	8.988	A
3	350	112	720	0.486	350	0.9	9.727	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	254	252	825	0.307	254	0.4	6.313	A
2	203	180	673	0.302	204	0.4	7.680	A
3	286	92	733	0.390	287	0.6	8.102	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	212	211	851	0.249	213	0.3	5.641	A
2	170	151	691	0.246	171	0.3	6.921	A
3	239	77	742	0.323	240	0.5	7.186	A

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Mini-roundabout	1, 2, 3	8.04	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	304	100.000
2		✓	188	100.000
3		✓	329	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	95	209
	2	93	0	95
	3	270	59	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.36	5.92	0.5	A
2	0.32	8.25	0.5	A
3	0.50	9.89	1.0	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	229	44	956	0.240	228	0.3	4.938	A
2	142	156	688	0.206	141	0.3	6.564	A
3	248	70	746	0.332	246	0.5	7.163	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	273	53	950	0.288	273	0.4	5.315	A
2	169	188	669	0.253	169	0.3	7.190	A
3	296	83	738	0.401	295	0.7	8.131	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	335	65	943	0.355	334	0.5	5.912	A
2	207	230	644	0.322	206	0.5	8.226	A
3	362	102	726	0.499	361	1.0	9.820	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	335	65	942	0.355	335	0.5	5.923	A
2	207	230	643	0.322	207	0.5	8.250	A
3	362	102	726	0.499	362	1.0	9.888	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	273	53	950	0.288	274	0.4	5.330	A
2	169	188	669	0.253	170	0.3	7.222	A
3	296	84	738	0.401	297	0.7	8.193	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	229	45	955	0.240	229	0.3	4.962	A
2	142	158	687	0.206	142	0.3	6.603	A
3	248	70	746	0.332	248	0.5	7.243	A

Appendix H

A52 / Derby Road Junction Capacity Results

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Import of Junction 5 A52_Derby Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 14:31:26

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Arm 1	0.3	2.69	0.26	A	3.64	0.6	3.31	0.38	A	4.16	0.3	2.53	0.24	A	2.93
Arm 2	0.3	2.34	0.23	A		0.4	2.55	0.27	A		0.2	2.17	0.18	A	
Arm 3	0.9	5.36	0.47	A		1.2	6.25	0.54	A		0.5	4.00	0.32	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15
D2	Base	PM	ONE HOUR	17:00	18:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	3.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	(untitled)	A52 E
2	(untitled)	A52 W
3	(untitled)	Derby Road

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	3.70	7.40	27.4	42.4	50.0	27.2	
2	6.60	7.90	35.0	19.1	50.0	48.6	
3	3.55	6.20	5.7	39.8	50.0	32.6	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.670	1972
2	0.683	2195
3	0.560	1420

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	423	100.000
2		✓	416	100.000
3		✓	546	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	160	263
	2	239	0	177
	3	321	225	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.26	2.69	0.3	A
2	0.23	2.34	0.3	A
3	0.47	5.36	0.9	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	318	169	1859	0.171	318	0.2	2.335	A
2	313	197	2060	0.152	312	0.2	2.059	A
3	411	180	1319	0.312	409	0.4	3.947	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	380	202	1836	0.207	380	0.3	2.472	A
2	374	236	2033	0.184	374	0.2	2.169	A
3	491	215	1300	0.378	490	0.6	4.445	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	466	247	1806	0.258	465	0.3	2.685	A
2	458	289	1997	0.229	458	0.3	2.338	A
3	601	263	1273	0.472	600	0.9	5.344	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	466	248	1806	0.258	466	0.3	2.686	A
2	458	290	1997	0.229	458	0.3	2.339	A
3	601	263	1272	0.472	601	0.9	5.361	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	380	203	1836	0.207	381	0.3	2.476	A
2	374	237	2033	0.184	374	0.2	2.172	A
3	491	215	1299	0.378	492	0.6	4.465	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	318	170	1858	0.171	319	0.2	2.338	A
2	313	198	2059	0.152	313	0.2	2.063	A
3	411	180	1319	0.312	412	0.5	3.970	A

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	4.16	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	610	100.000
2		✓	478	100.000
3		✓	612	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	267	343
	2	276	0	202
	3	322	290	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.38	3.31	0.6	A
2	0.27	2.55	0.4	A
3	0.54	6.25	1.2	A

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	459	217	1826	0.252	458	0.3	2.629	A
2	360	257	2019	0.178	359	0.2	2.168	A
3	461	207	1304	0.353	459	0.5	4.248	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	548	260	1797	0.305	548	0.4	2.882	A
2	430	308	1984	0.217	429	0.3	2.315	A
3	550	248	1281	0.430	549	0.7	4.916	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	672	319	1758	0.382	671	0.6	3.309	A
2	526	377	1937	0.272	526	0.4	2.551	A
3	674	304	1250	0.539	672	1.2	6.215	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	672	319	1758	0.382	672	0.6	3.314	A
2	526	378	1937	0.272	526	0.4	2.551	A
3	674	304	1250	0.539	674	1.2	6.250	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	548	261	1796	0.305	549	0.4	2.887	A
2	430	309	1984	0.217	430	0.3	2.317	A
3	550	248	1281	0.430	552	0.8	4.950	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	459	219	1825	0.252	460	0.3	2.636	A
2	360	258	2018	0.178	360	0.2	2.171	A
3	461	208	1303	0.353	462	0.6	4.280	A

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	2.93	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	404	100.000
2		✓	324	100.000
3		✓	377	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	167	237
	2	171	0	153
	3	234	143	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.24	2.53	0.3	A
2	0.18	2.17	0.2	A
3	0.32	4.00	0.5	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	304	107	1900	0.160	303	0.2	2.254	A
2	244	178	2073	0.118	243	0.1	1.967	A
3	284	128	1348	0.211	283	0.3	3.377	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	363	128	1886	0.193	363	0.2	2.364	A
2	291	213	2049	0.142	291	0.2	2.047	A
3	339	154	1334	0.254	339	0.3	3.617	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	445	157	1866	0.238	445	0.3	2.532	A
2	357	261	2017	0.177	357	0.2	2.168	A
3	415	188	1314	0.316	415	0.5	3.999	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	445	157	1866	0.238	445	0.3	2.532	A
2	357	261	2016	0.177	357	0.2	2.168	A
3	415	188	1314	0.316	415	0.5	4.002	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	363	129	1885	0.193	363	0.2	2.365	A
2	291	213	2049	0.142	291	0.2	2.048	A
3	339	154	1334	0.254	339	0.3	3.621	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	304	108	1899	0.160	304	0.2	2.258	A
2	244	179	2073	0.118	244	0.1	1.970	A
3	284	129	1348	0.211	284	0.3	3.384	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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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: Junction 5 A52_Derby Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 04/06/2018 15:55:10

»(Default Analysis Set) - Without Bypass, AM
»(Default Analysis Set) - Without Bypass, PM
»(Default Analysis Set) - Without Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Arm 1	0.5	3.09	0.33	A	5.83	1.0	4.21	0.49	A	6.96	0.4	2.88	0.31	A	3.71
Arm 2	0.4	2.57	0.28	A		0.5	2.93	0.34	A		0.3	2.36	0.22	A	
Arm 3	2.3	9.62	0.70	A		3.1	12.15	0.76	B		0.9	5.39	0.48	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D2	Without Bypass	PM	ONE HOUR	17:00	18:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	5.83	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	(untitled)	A52 E
2	(untitled)	A52 W
3	(untitled)	Derby Road

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	3.70	7.40	27.4	42.4	50.0	27.2	
2	6.60	7.90	35.0	19.1	50.0	48.6	
3	3.55	6.20	5.7	39.8	50.0	32.6	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.670	1972
2	0.683	2195
3	0.560	1420

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	513	100.000
2		✓	495	100.000
3		✓	798	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	182	331
	2	272	0	223
	3	470	328	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.33	3.09	0.5	A
2	0.28	2.57	0.4	A
3	0.70	9.62	2.3	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	386	246	1807	0.214	385	0.3	2.531	A
2	373	248	2025	0.184	372	0.2	2.176	A
3	601	204	1305	0.460	597	0.8	5.060	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	461	294	1774	0.260	461	0.3	2.740	A
2	445	297	1992	0.223	445	0.3	2.327	A
3	717	244	1283	0.559	716	1.2	6.329	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	565	359	1731	0.326	564	0.5	3.084	A
2	545	364	1946	0.280	545	0.4	2.569	A
3	879	299	1252	0.702	875	2.3	9.427	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	565	361	1730	0.327	565	0.5	3.089	A
2	545	364	1946	0.280	545	0.4	2.569	A
3	879	299	1252	0.702	878	2.3	9.615	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	461	297	1773	0.260	462	0.4	2.746	A
2	445	298	1991	0.223	445	0.3	2.329	A
3	717	245	1283	0.559	721	1.3	6.461	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	386	248	1806	0.214	387	0.3	2.536	A
2	373	249	2024	0.184	373	0.2	2.181	A
3	601	205	1305	0.460	602	0.9	5.137	A

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	6.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	746	100.000
2		✓	575	100.000
3		✓	845	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	304	442
	2	315	0	260
	3	445	400	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.49	4.21	1.0	A
2	0.34	2.93	0.5	A
3	0.76	12.15	3.1	B

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	562	299	1771	0.317	560	0.5	2.969	A
2	433	332	1968	0.220	432	0.3	2.342	A
3	636	237	1287	0.494	632	1.0	5.464	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	671	359	1731	0.387	670	0.6	3.390	A
2	517	397	1924	0.269	517	0.4	2.558	A
3	760	283	1261	0.602	758	1.5	7.115	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	821	438	1678	0.489	820	0.9	4.188	A
2	633	486	1863	0.340	633	0.5	2.924	A
3	930	347	1226	0.759	924	3.0	11.708	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	821	440	1677	0.490	821	1.0	4.209	A
2	633	487	1862	0.340	633	0.5	2.928	A
3	930	347	1226	0.759	930	3.1	12.146	B

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	671	362	1729	0.388	672	0.6	3.412	A
2	517	398	1923	0.269	517	0.4	2.562	A
3	760	283	1261	0.602	766	1.5	7.356	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	562	302	1769	0.317	562	0.5	2.986	A
2	433	333	1967	0.220	433	0.3	2.347	A
3	636	237	1287	0.494	638	1.0	5.571	A

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	3.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	503	100.000
2		✓	399	100.000
3		✓	568	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	200	303
	2	205	0	194
	3	341	227	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.31	2.88	0.4	A
2	0.22	2.36	0.3	A
3	0.48	5.39	0.9	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	379	170	1858	0.204	378	0.3	2.431	A
2	300	227	2039	0.147	300	0.2	2.068	A
3	428	154	1334	0.321	426	0.5	3.957	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	452	204	1835	0.246	452	0.3	2.602	A
2	359	272	2009	0.179	359	0.2	2.181	A
3	511	184	1317	0.388	510	0.6	4.458	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	554	249	1804	0.307	553	0.4	2.877	A
2	439	333	1967	0.223	439	0.3	2.356	A
3	625	226	1294	0.483	624	0.9	5.368	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	554	250	1804	0.307	554	0.4	2.878	A
2	439	334	1967	0.223	439	0.3	2.356	A
3	625	226	1293	0.484	625	0.9	5.388	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	452	205	1835	0.246	453	0.3	2.607	A
2	359	273	2008	0.179	359	0.2	2.182	A
3	511	184	1317	0.388	512	0.6	4.481	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	379	171	1857	0.204	379	0.3	2.437	A
2	300	228	2039	0.147	301	0.2	2.071	A
3	428	154	1333	0.321	428	0.5	3.980	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: Junction 5 A52_Derby Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:33:33

»(Default Analysis Set) - With Bypass, AM
»(Default Analysis Set) - With Bypass, PM
»(Default Analysis Set) - With Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Arm 1	0.5	3.09	0.33	A	14.89	1.1	4.93	0.53	A	12.18	0.5	3.00	0.32	A	4.41
Arm 2	0.6	2.98	0.39	A		1.0	3.82	0.51	A		0.5	2.71	0.34	A	
Arm 3	8.4	29.62	0.91	D		7.0	25.42	0.89	D		1.4	7.05	0.59	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	02/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15
D2	With Bypass	PM	ONE HOUR	17:00	18:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	14.89	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	(untitled)	A52 E
2	(untitled)	A52 W
3	(untitled)	Derby Road

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	3.70	7.40	27.4	42.4	50.0	27.2	
2	6.60	7.90	35.0	19.1	50.0	48.6	
3	3.55	6.20	5.7	39.8	50.0	32.6	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.670	1972
2	0.683	2195
3	0.560	1420

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	514	100.000
2		✓	710	100.000
3		✓	986	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	242	272
	2	362	0	348
	3	658	328	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.33	3.09	0.5	A
2	0.39	2.98	0.6	A
3	0.91	29.62	8.4	D

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	387	245	1807	0.214	386	0.3	2.532	A
2	535	204	2055	0.260	533	0.4	2.363	A
3	742	272	1268	0.586	737	1.4	6.712	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	462	293	1775	0.260	462	0.4	2.741	A
2	638	244	2028	0.315	638	0.5	2.590	A
3	886	325	1238	0.716	882	2.4	10.007	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	566	354	1734	0.326	565	0.5	3.078	A
2	782	299	1990	0.393	781	0.6	2.975	A
3	1086	398	1197	0.907	1065	7.5	24.266	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	566	360	1730	0.327	566	0.5	3.090	A
2	782	299	1990	0.393	782	0.6	2.978	A
3	1086	399	1197	0.907	1082	8.4	29.620	D

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	462	303	1769	0.261	463	0.4	2.756	A
2	638	245	2027	0.315	639	0.5	2.593	A
3	886	326	1237	0.716	909	2.6	11.684	B

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	387	249	1805	0.214	387	0.3	2.541	A
2	535	205	2055	0.260	535	0.4	2.370	A
3	742	273	1267	0.586	747	1.4	6.986	A

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	12.18	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	PM	ONE HOUR	17:00	18:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	746	100.000
2		✓	875	100.000
3		✓	960	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	360	386
	2	371	0	504
	3	389	571	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.53	4.93	1.1	A
2	0.51	3.82	1.0	A
3	0.89	25.42	7.0	D

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	562	427	1686	0.333	560	0.5	3.192	A
2	659	290	1997	0.330	657	0.5	2.683	A
3	723	278	1264	0.572	717	1.3	6.529	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	671	511	1629	0.412	670	0.7	3.749	A
2	787	347	1958	0.402	786	0.7	3.070	A
3	863	333	1233	0.700	859	2.3	9.527	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	821	619	1557	0.528	820	1.1	4.871	A
2	963	424	1905	0.506	962	1.0	3.813	A
3	1057	408	1191	0.887	1040	6.5	21.703	C

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	821	627	1551	0.529	821	1.1	4.932	A
2	963	425	1904	0.506	963	1.0	3.824	A
3	1057	408	1191	0.887	1055	7.0	25.419	D

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	671	524	1620	0.414	672	0.7	3.803	A
2	787	348	1957	0.402	788	0.7	3.082	A
3	863	334	1233	0.700	882	2.4	10.751	B

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	562	432	1682	0.334	562	0.5	3.217	A
2	659	291	1996	0.330	659	0.5	2.696	A
3	723	280	1263	0.572	727	1.4	6.766	A

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	(untitled)	Standard Roundabout	1, 2, 3	4.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	503	100.000
2		✓	619	100.000
3		✓	669	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	257	246
	2	280	0	339
	3	375	294	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	0
	2	0	0	0
	3	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
1	0.32	3.00	0.5	A
2	0.34	2.71	0.5	A
3	0.59	7.05	1.4	A

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	379	220	1824	0.208	378	0.3	2.488	A
2	466	185	2068	0.225	465	0.3	2.244	A
3	504	210	1302	0.387	501	0.6	4.482	A

12:00 - 12:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	452	264	1795	0.252	452	0.3	2.680	A
2	556	221	2044	0.272	556	0.4	2.420	A
3	601	252	1279	0.470	600	0.9	5.298	A

12:15 - 12:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	554	323	1755	0.316	553	0.5	2.993	A
2	682	271	2010	0.339	681	0.5	2.707	A
3	737	308	1247	0.591	734	1.4	6.989	A

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	554	324	1755	0.316	554	0.5	2.997	A
2	682	271	2010	0.339	682	0.5	2.710	A
3	737	308	1247	0.591	737	1.4	7.046	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	452	265	1794	0.252	453	0.3	2.686	A
2	556	221	2043	0.272	557	0.4	2.424	A
3	601	252	1279	0.470	604	0.9	5.347	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
1	379	222	1823	0.208	379	0.3	2.495	A
2	466	185	2068	0.225	466	0.3	2.249	A
3	504	211	1302	0.387	505	0.6	4.522	A

Appendix I

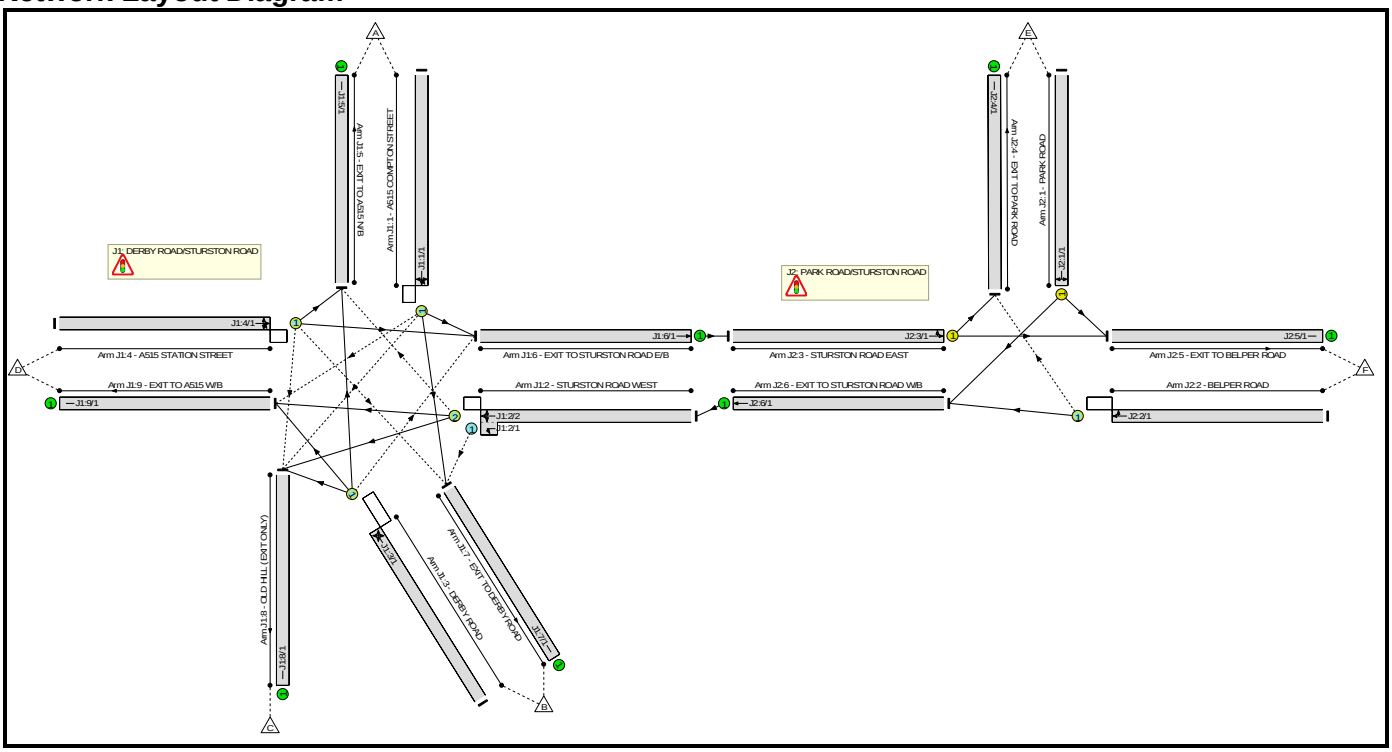
A515 / Derby Road / Sturston Road / Old Hill & Park Road / Sturston Road / Belper Road Junction Capacity Results

Full Input Data And Results

User and Project Details

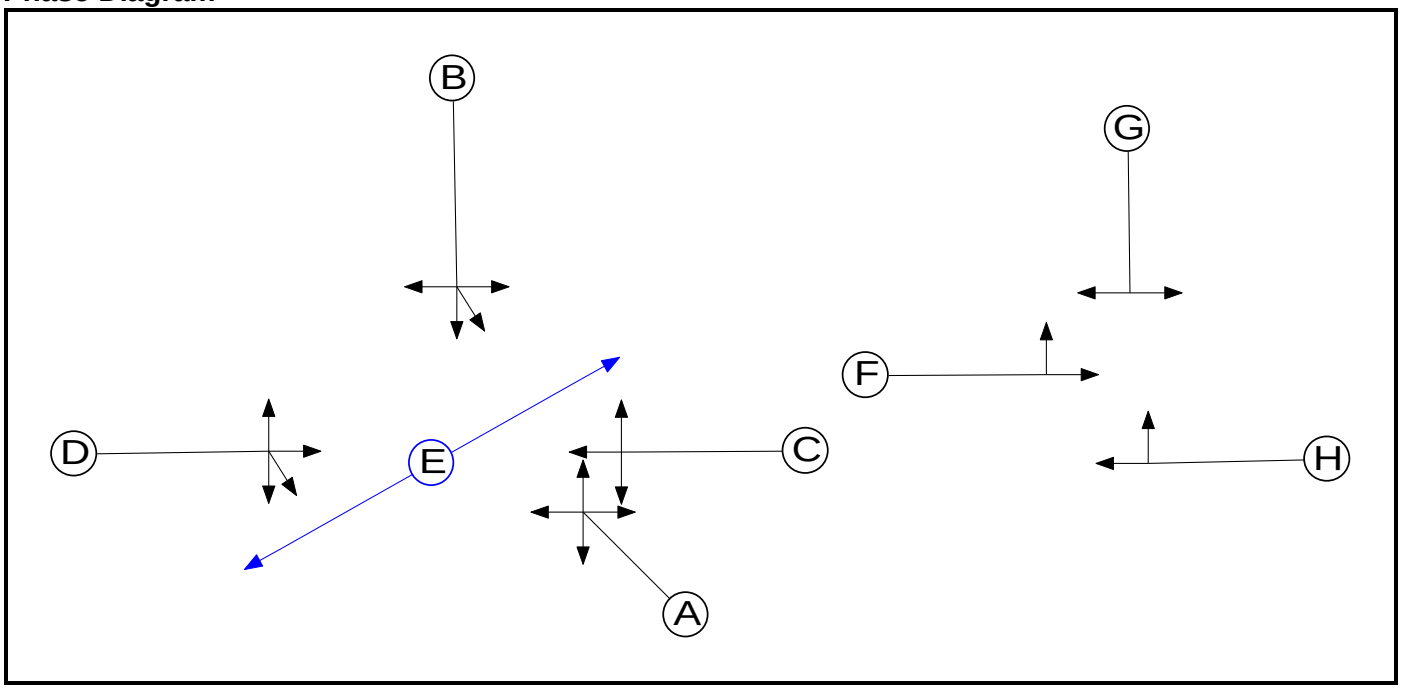
Project:	**Improving the Sturston Road-Derby Road Junction in Ashbourne**
Title:	**Current Junction Performance**
Location:	Ashbourne
File name:	Sturston Road_A515_Park Road.lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	5
C	Traffic	1		7	7
D	Traffic	1		7	7
E	Pedestrian	1		6	6
F	Traffic	1		7	7
G	Traffic	1		7	7
H	Traffic	1		7	7

Full Input Data And Results

Phase Intergreens Matrix

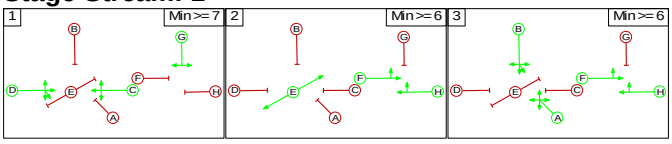
		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		-	8	8	11	-	-	-
	B	-		6	5	8	-	-	-
	C	5	6		-	9	-	-	-
	D	5	6	-		8	-	-	-
	E	10	10	10	10		-	-	-
	F	-	-	-	-	-		6	-
	G	-	-	-	-	-	5		5
	H	-	-	-	-	-	-	6	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	C D G
1	2	E F H
1	3	A B F H

Stage Diagram

Stage Stream: 1



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	D	Losing	1	1
3	1	B	Losing	2	2
3	2	B	Losing	3	3

Prohibited Stage Change

Stage Stream: 1

		To Stage		
		1	2	3
From Stage	1		9	6
	2	10		10
	3	8	11	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
J1:1/1 (A515 COMPTON STREET)	J1:8/1 (Ahead)	1440	0	J1:3/1	1.09	To J1:5/1 (Ahead) To J1:8/1 (U-Turn) To J1:9/1 (Left)	2.00	2.00	0.50	2	2.00
	J1:9/1 (Right)	1440	0	J1:3/1	1.09	To J1:5/1 (Ahead) To J1:9/1 (Left)					
J1:2/1 (STURSTON ROAD WEST)	J1:7/1 (Left)	715	0	J1:1/1	0.22	To J1:7/1 (Ahead)	-	-	-	-	-
				J1:4/1	0.22	To J1:7/1 (Right)					
J1:2/2 (STURSTON ROAD WEST)	J1:5/1 (Right)	1440	0	J1:4/1	1.09	To J1:5/1 (Left) To J1:6/1 (Ahead)	2.00	2.00	0.50	2	2.00
J1:3/1 (DERBY ROAD)	J1:6/1 (Right)	1440	0	J1:1/1	1.09	To J1:6/1 (Left) To J1:7/1 (Ahead)	4.00	4.00	0.50	4	4.00
J1:4/1 (A515 STATION STREET)	J1:7/1 (Right)	1440	0	J1:2/2	1.09	To J1:8/1 (Left) To J1:9/1 (Ahead)	2.00	2.00	0.50	2	2.00
	J1:8/1 (Right)	1440	0	J1:2/2	1.09	To J1:8/1 (Left) To J1:9/1 (Ahead)					

Junction: J2: PARK ROAD/STURSTON ROAD

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
J2:2/1 (BELPER ROAD)	J2:4/1 (Right)	1440	0	J2:3/1	1.09	To J2:4/1 (Left) To J2:5/1 (Ahead)	3.00	3.00	0.50	3	3.00

Full Input Data And Results

Lane Input Data

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J1:1/1 (A515 COMPTON STREET)	O	B	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J1:6 Left	11.00
											Arm J1:7 Ahead	25.00
											Arm J1:8 Ahead	Inf
											Arm J1:9 Right	11.00
J1:2/1 (STURSTON ROAD WEST)	O		2	3	2.0	Geom	-	5.00	0.00	Y	Arm J1:7 Left	9.00
J1:2/2 (STURSTON ROAD WEST)	O	C	2	3	10.0	Geom	-	4.00	0.00	Y	Arm J1:5 Right	10.00
											Arm J1:8 Left	14.00
											Arm J1:9 Ahead	Inf
J1:3/1 (DERBY ROAD)	O	A	2	3	60.0	Geom	-	4.50	0.00	Y	Arm J1:5 Ahead	20.00
											Arm J1:6 Right	5.00
											Arm J1:8 U-Turn	5.00
											Arm J1:9 Left	16.00
J1:4/1 (A515 STATION STREET)	O	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:5 Left	17.00
											Arm J1:6 Ahead	Inf
											Arm J1:7 Right	22.00
											Arm J1:8 Right	7.00
J1:5/1 (EXIT TO A515 N/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

J1:6/1 (EXIT TO STURSTON ROAD E/B)	U		2	3	10.0	Inf	-	-	-	-	-	-
J1:7/1 (EXIT TO DERBY ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:8/1 (OLD HILL (EXIT ONLY))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:9/1 (EXIT TO A515 W/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J2: PARK ROAD/STURSTON ROAD

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J2:1/1 (PARK ROAD)	U	G	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:5 Left	12.00
											Arm J2:6 Right	18.00
J2:2/1 (BELPER ROAD)	O	H	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J2:4 Right	18.00
											Arm J2:6 Ahead	Inf
J2:3/1 (STURSTON ROAD EAST)	U	F	2	3	10.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	15.00
											Arm J2:5 Ahead	Inf
J2:4/1 (EXIT TO PARK ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/1 (EXIT TO BELPER ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1 (EXIT TO STURSTON ROAD W/B)	U		2	3	10.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'January 2015 AM Peak'	08:00	09:00	01:00	
2: 'January 2015 PM Peak'	16:45	17:45	01:00	
3: 'Base AM Peak'	08:00	09:00	01:00	
4: 'Base PM Peak'	16:45	17:45	01:00	
5: 'Base Interpeak'	12:00	13:00	01:00	

Scenario 1: '2015 AM Peak' (FG1: 'January 2015 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	25	6	12	8	5	56
	B	208	0	7	30	96	59	400
	C	0	0	0	0	0	0	0
	D	65	20	24	0	127	79	315
	E	50	172	44	230	0	53	549
	F	26	90	23	121	110	0	370
	Tot.	349	307	104	393	341	196	1690

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2015 AM Peak
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	56
J1:2/1 (short)	262
J1:2/2 (with short)	756(In) 494(Out)
J1:3/1	400
J1:4/1	315
J1:5/1	349
J1:6/1	374
J1:7/1	307
J1:8/1	104
J1:9/1	393
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	549
J2:2/1	370
J2:3/1	374
J2:4/1	341
J2:5/1	196
J2:6/1	756

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	23.2 %	1853	1853
				Arm J1:7 Ahead	25.00	44.6 %		
				Arm J1:8 Ahead	Inf	10.7 %		
				Arm J1:9 Right	11.00	21.4 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	15.4 %	1942	1942
				Arm J1:8 Left	14.00	13.6 %		
				Arm J1:9 Ahead	Inf	71.1 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	52.0 %	1769	1769
				Arm J1:6 Right	5.00	38.8 %		
				Arm J1:8 U-Turn	5.00	1.8 %		
				Arm J1:9 Left	16.00	7.5 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:5 Left	17.00	20.6 %	1843	1843
				Arm J1:6 Ahead	Inf	65.4 %		
				Arm J1:7 Right	22.00	6.3 %		
				Arm J1:8 Right	7.00	7.6 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	9.7 %	1761	1761
				Arm J2:6 Right	18.00	90.3 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	29.7 %	1966	1966
				Arm J2:6 Ahead	Inf	70.3 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	61.8 %	1851	1851
				Arm J2:5 Ahead	Inf	38.2 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2015 PM Peak' (FG2: 'January 2015 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	20	9	13	15	21	78
	B	158	0	2	20	53	77	310
	C	0	0	0	0	0	0	0
	D	84	45	41	0	99	146	415
	E	54	191	37	221	0	80	583
	F	21	74	14	86	40	0	235
	Tot.	317	330	103	340	207	324	1621

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2015 PM Peak
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	78
J1:2/1 (short)	265
J1:2/2 (with short)	698(In) 433(Out)
J1:3/1	310
J1:4/1	415
J1:5/1	317
J1:6/1	411
J1:7/1	330
J1:8/1	103
J1:9/1	340
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	583
J2:2/1	235
J2:3/1	411
J2:4/1	207
J2:5/1	324
J2:6/1	698

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	46.2 %	1830	1830
				Arm J1:7 Ahead	25.00	25.6 %		
				Arm J1:8 Ahead	Inf	11.5 %		
				Arm J1:9 Right	11.00	16.7 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	17.3 %	1940	1940
				Arm J1:8 Left	14.00	11.8 %		
				Arm J1:9 Ahead	Inf	70.9 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	51.0 %	1762	1762
				Arm J1:6 Right	5.00	41.9 %		
				Arm J1:8 U-Turn	5.00	0.6 %		
				Arm J1:9 Left	16.00	6.5 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:5 Left	17.00	20.2 %	1830	1830
				Arm J1:6 Ahead	Inf	59.0 %		
				Arm J1:7 Right	22.00	10.8 %		
				Arm J1:8 Right	7.00	9.9 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	13.7 %	1758	1758
				Arm J2:6 Right	18.00	86.3 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	17.0 %	1987	1987
				Arm J2:6 Ahead	Inf	83.0 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	40.6 %	1888	1888
				Arm J2:5 Ahead	Inf	59.4 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Base AM 2017' (FG3: 'Base AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	34	6	8	10	6	64
	B	165	0	10	23	101	62	361
	C	0	0	0	0	0	0	0
	D	54	20	27	0	149	92	342
	E	44	171	25	220	0	54	514
	F	26	100	15	129	94	0	364
	Tot.	289	325	83	380	354	214	1645

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: Base AM 2017
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	64
J1:2/1 (short)	271
J1:2/2 (with short)	730(In) 459(Out)
J1:3/1	361
J1:4/1	342
J1:5/1	289
J1:6/1	420
J1:7/1	325
J1:8/1	83
J1:9/1	380
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	514
J2:2/1	364
J2:3/1	420
J2:4/1	354
J2:5/1	214
J2:6/1	730

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	25.0 %	1861	1861
				Arm J1:7 Ahead	25.00	53.1 %		
				Arm J1:8 Ahead	Inf	9.4 %		
				Arm J1:9 Right	11.00	12.5 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	15.3 %	1952	1952
				Arm J1:8 Left	14.00	8.7 %		
				Arm J1:9 Ahead	Inf	76.0 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	45.7 %	1744	1744
				Arm J1:6 Right	5.00	45.2 %		
				Arm J1:8 U-Turn	5.00	2.8 %		
				Arm J1:9 Left	16.00	6.4 %		
				Arm J1:5 Left	17.00	15.8 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:6 Ahead	Inf	70.5 %	1851	1851
				Arm J1:7 Right	22.00	5.8 %		
				Arm J1:8 Right	7.00	7.9 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	10.5 %	1761	1761
				Arm J2:6 Right	18.00	89.5 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	25.8 %	1973	1973
				Arm J2:6 Ahead	Inf	74.2 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	61.9 %	1850	1850
				Arm J2:5 Ahead	Inf	38.1 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Base PM 2017' (FG4: 'Base PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	24	8	11	10	14	67
	B	163	0	9	40	62	84	358
	C	0	0	0	0	0	0	0
	D	91	32	46	0	111	150	430
	E	40	120	54	239	0	62	515
	F	20	58	26	116	32	0	252
	Tot.	314	234	143	406	215	310	1622

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Base PM 2017
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	67
J1:2/1 (short)	178
J1:2/2 (with short)	673(In) 495(Out)
J1:3/1	358
J1:4/1	430
J1:5/1	314
J1:6/1	431
J1:7/1	234
J1:8/1	143
J1:9/1	406
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	515
J2:2/1	252
J2:3/1	431
J2:4/1	215
J2:5/1	310
J2:6/1	673

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	35.8 %	1844	1844
				Arm J1:7 Ahead	25.00	35.8 %		
				Arm J1:8 Ahead	Inf	11.9 %		
				Arm J1:9 Right	11.00	16.4 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	12.1 %	1946	1946
				Arm J1:8 Left	14.00	16.2 %		
				Arm J1:9 Ahead	Inf	71.7 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	45.5 %	1758	1758
				Arm J1:6 Right	5.00	40.8 %		
				Arm J1:8 U-Turn	5.00	2.5 %		
				Arm J1:9 Left	16.00	11.2 %		
				Arm J1:5 Left	17.00	21.2 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:6 Ahead	Inf	60.7 %	1830	1830
				Arm J1:7 Right	22.00	7.4 %		
				Arm J1:8 Right	7.00	10.7 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	12.0 %	1760	1760
				Arm J2:6 Right	18.00	88.0 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	12.7 %	1994	1994
				Arm J2:6 Ahead	Inf	87.3 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	42.5 %	1885	1885
				Arm J2:5 Ahead	Inf	57.5 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Base Interpeak' (FG5: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	13	3	13	8	6	43
	B	158	0	3	38	61	51	311
	C	0	0	0	0	0	0	0
	D	71	36	24	0	109	92	332
	E	58	139	25	268	0	52	542
	F	20	49	9	93	34	0	205
	Tot.	307	237	64	412	212	201	1433

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Base Interpeak
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	43
J1:2/1 (short)	188
J1:2/2 (with short)	661(In) 473(Out)
J1:3/1	311
J1:4/1	332
J1:5/1	307
J1:6/1	327
J1:7/1	237
J1:8/1	64
J1:9/1	412
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	542
J2:2/1	205
J2:3/1	327
J2:4/1	212
J2:5/1	201
J2:6/1	661

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	32.6 %	1826	1826
				Arm J1:7 Ahead	25.00	30.2 %		
				Arm J1:8 Ahead	Inf	7.0 %		
				Arm J1:9 Right	11.00	30.2 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	16.5 %	1952	1952
				Arm J1:8 Left	14.00	7.2 %		
				Arm J1:9 Ahead	Inf	76.3 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	50.8 %	1779	1779
				Arm J1:6 Right	5.00	36.0 %		
				Arm J1:8 U-Turn	5.00	1.0 %		
				Arm J1:9 Left	16.00	12.2 %		
				Arm J1:5 Left	17.00	21.4 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:6 Ahead	Inf	60.5 %	1838	1838
				Arm J1:7 Right	22.00	10.8 %		
				Arm J1:8 Right	7.00	7.2 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

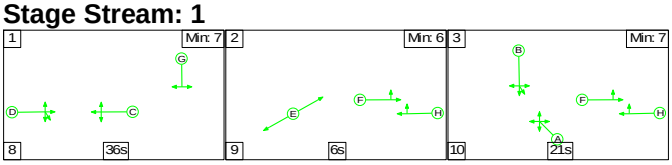
Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	9.6 %	1761	1761
				Arm J2:6 Right	18.00	90.4 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	16.6 %	1988	1988
				Arm J2:6 Ahead	Inf	83.4 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	54.4 %	1864	1864
				Arm J2:5 Ahead	Inf	45.6 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2015 AM Peak' (FG1: 'January 2015 AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



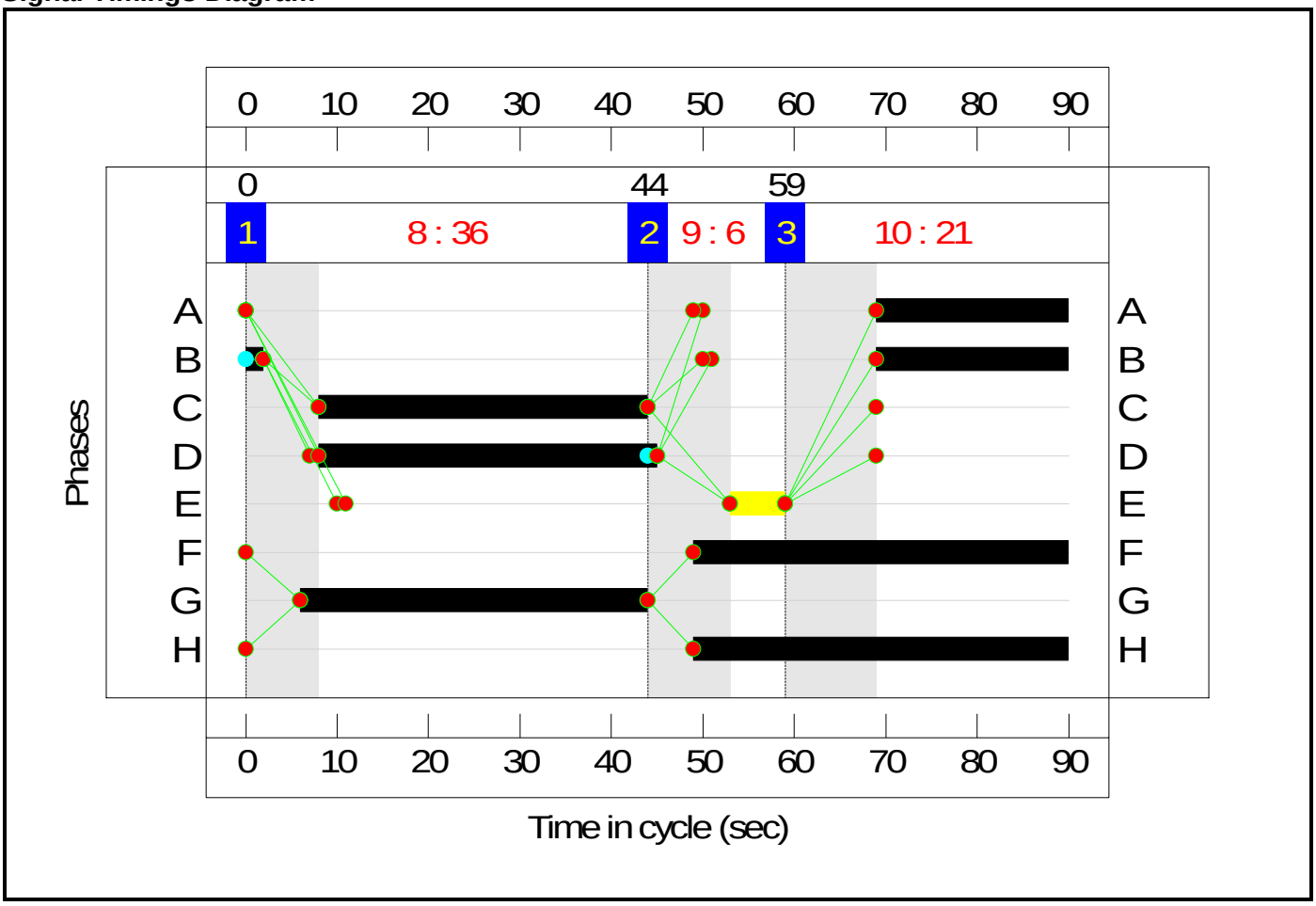
Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	36	6	21
Change Point	0	44	59

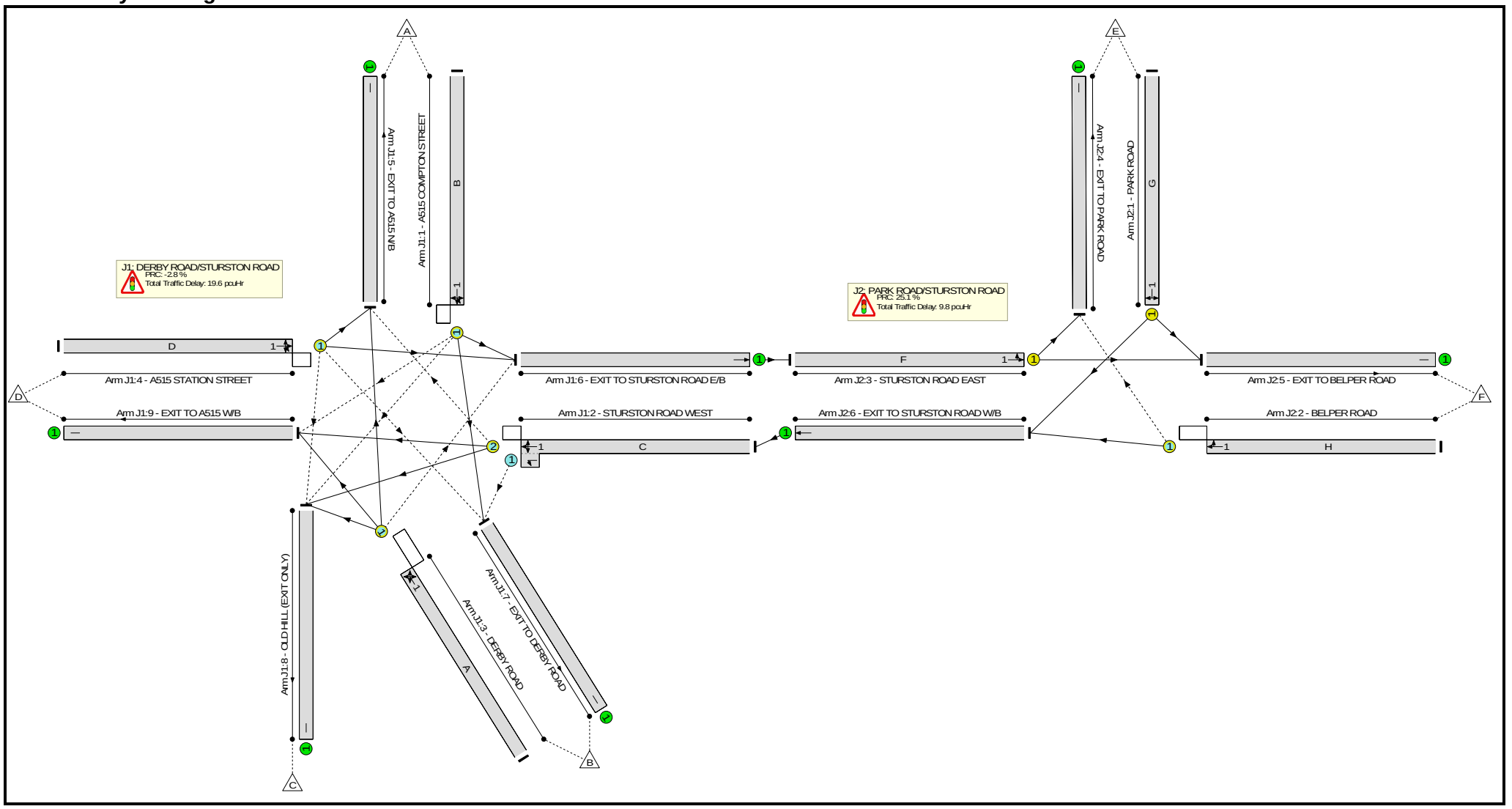
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.5%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.5%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	23	-	56	1853	494	11.3%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	36	-	756	1942:1813	534+283	92.5 : 92.5%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	21	-	400	1769	432	92.5%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	37	-	315	1843	778	40.5%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	374	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	307	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	104	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	393	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.9%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	38	-	549	1761	763	71.9%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	41	-	370	1966	850	43.5%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	41	-	374	1851	864	43.3%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	341	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	196	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	756	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**841**	**162**	**0**	**16.5**	**12.5**	**0.4**	**29.4**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**737**	**156**	**0**	**9.0**	**10.4**	**0.1**	**19.6**	**-**	**-**	**-**	**-**
1/1	56	56	3	15	0	0.4	0.1	0.0	0.5	29.1	1.1	0.1	1.1
2/2+2/1	756	756	535	141	0	3.3	5.3	0.1	8.7	41.3	17.8	5.3	23.1
3/1	400	400	155	0	0	3.7	4.8	0.0	8.5	76.4	9.7	4.8	14.4
4/1	315	315	44	0	0	1.6	0.3	0.1	2.0	22.7	5.4	0.3	5.8
5/1	349	349	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	374	374	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	307	307	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	104	104	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	393	393	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**104**	**6**	**0**	**7.5**	**2.0**	**0.2**	**9.8**	**-**	**-**	**-**	**-**
1/1	549	549	-	-	-	3.2	1.3	-	4.5	29.3	11.3	1.3	12.6
2/1	370	370	104	6	0	1.6	0.4	0.2	2.2	21.8	6.1	0.4	6.4
3/1	374	374	-	-	-	2.7	0.4	-	3.1	29.6	6.7	0.4	7.0
4/1	341	341	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	196	196	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	756	756	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

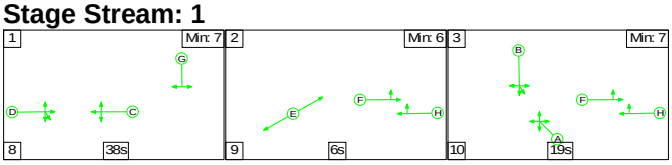
C1 Stream: 1 PRC for Signalled Lanes (%): -2.8 Total Delay for Signalled Lanes (pcuHr): 29.37 Cycle Time (s): 90
PRC Over All Lanes (%): -2.8 Total Delay Over All Lanes(pcuHr): 29.37

Full Input Data And Results

Scenario 2: '2015 PM Peak' (FG2: 'January 2015 PM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

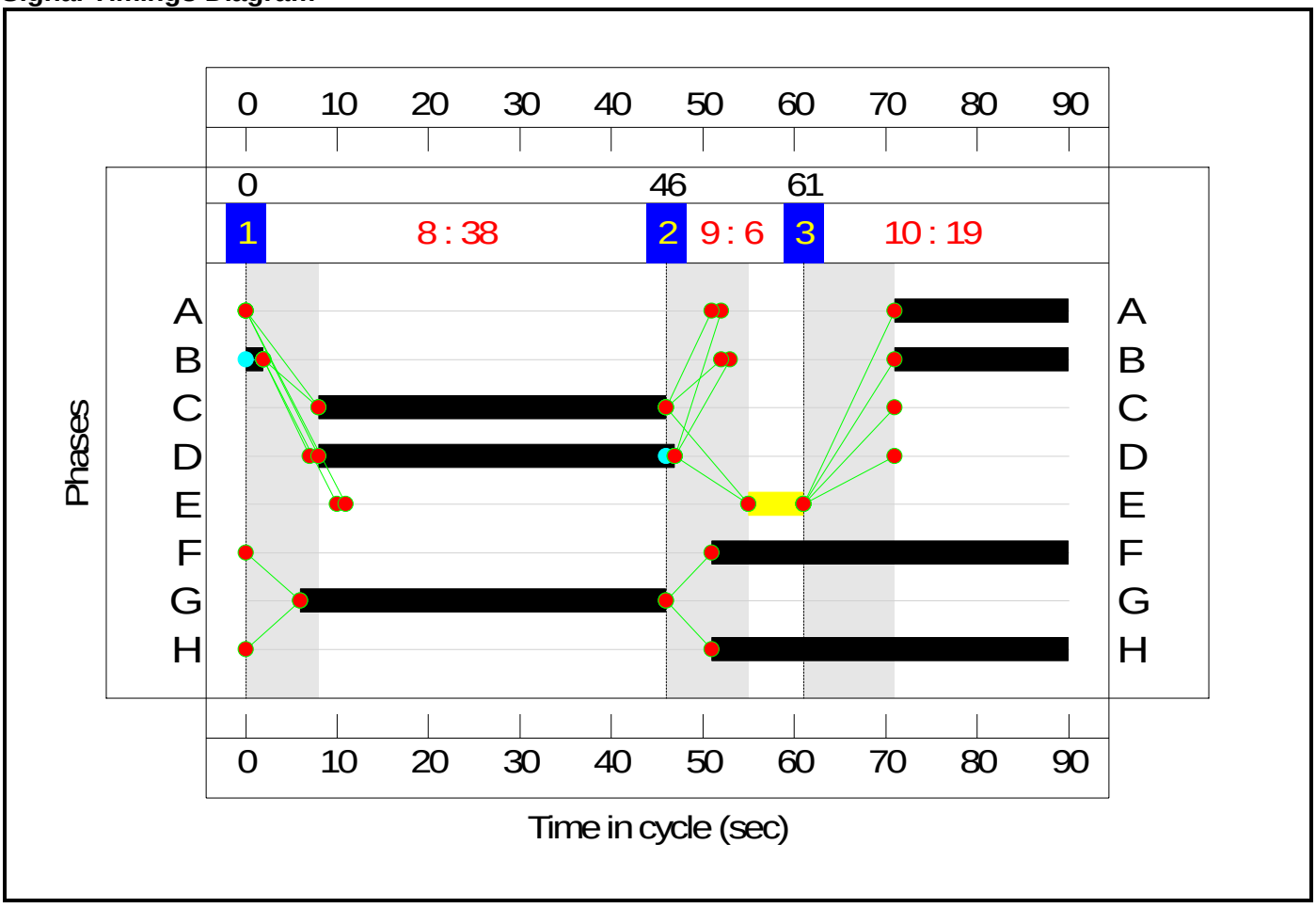


Stage Timings

Stage Stream: 1

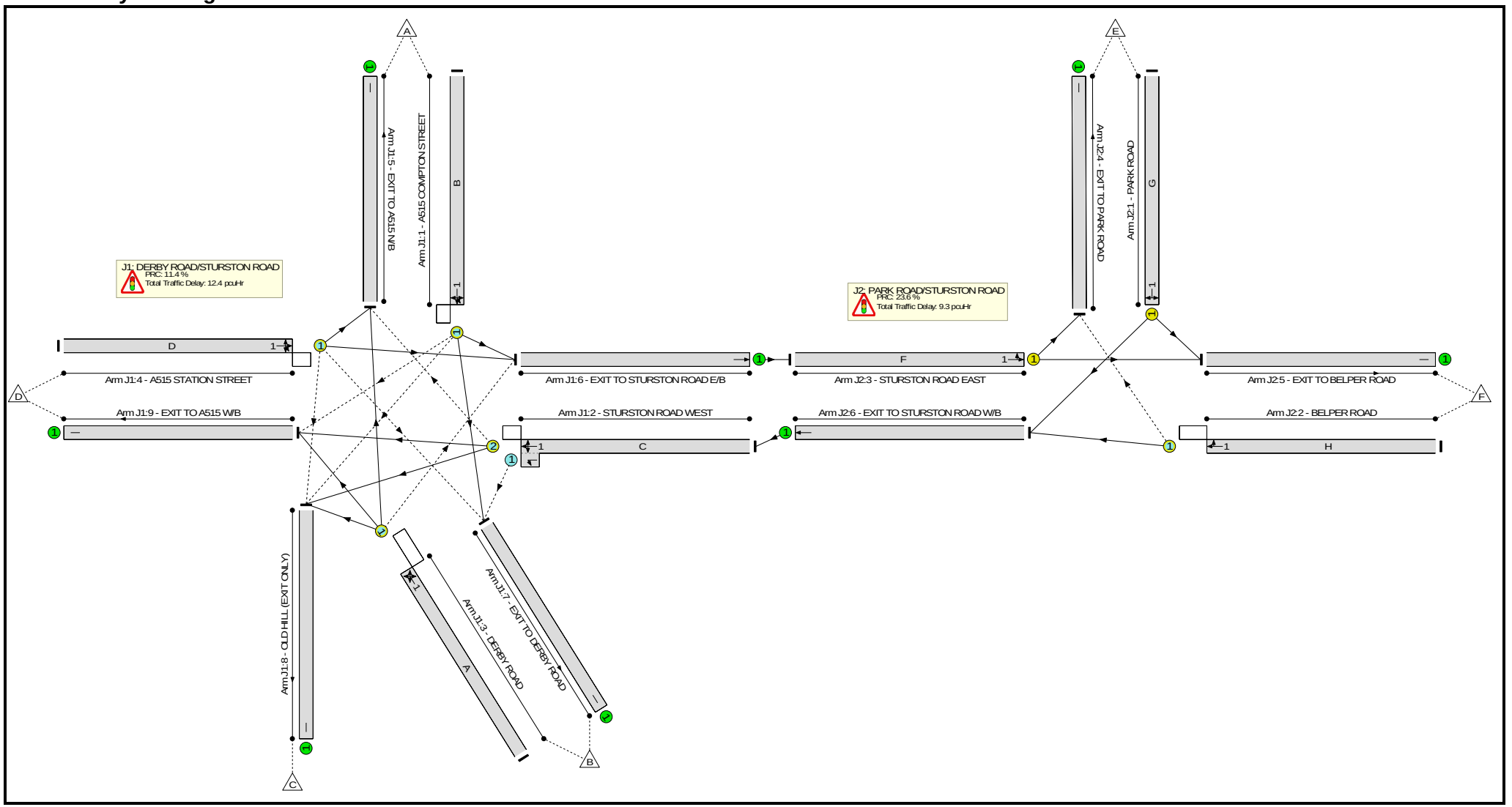
Stage	1	2	3
Duration	38	6	19
Change Point	0	46	61

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.8%**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.8%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	21	-	78	1830	447	17.4%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	38	-	698	1940:1813	536+328	80.8 : 80.8%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	19	-	310	1762	392	79.2%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	39	-	415	1830	813	51.0%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	317	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	411	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	330	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	103	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	340	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.8%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	40	-	583	1758	801	72.8%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	39	-	235	1987	868	27.1%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	39	-	411	1888	839	49.0%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	324	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	698	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**787**	**171**	**0**	**14.9**	**6.5**	**0.4**	**21.7**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**751**	**167**	**0**	**7.6**	**4.5**	**0.3**	**12.4**	**-**	**-**	**-**	**-**
1/1	78	78	3	19	0	0.6	0.1	0.0	0.7	31.7	1.5	0.1	1.6
2/2+2/1	698	698	532	148	0	2.1	2.1	0.1	4.3	22.0	14.9	2.1	17.0
3/1	310	310	130	0	0	2.8	1.8	0.1	4.7	54.9	7.2	1.8	9.1
4/1	415	415	86	0	0	2.1	0.5	0.1	2.7	23.6	7.4	0.5	7.9
5/1	317	317	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	411	411	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	330	330	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	103	103	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**36**	**4**	**0**	**7.3**	**2.0**	**0.1**	**9.3**	**-**	**-**	**-**	**-**
1/1	583	583	-	-	-	3.2	1.3	-	4.6	28.1	11.8	1.3	13.1
2/1	235	235	36	4	0	1.0	0.2	0.1	1.3	20.0	3.7	0.2	3.8
3/1	411	411	-	-	-	3.0	0.5	-	3.5	30.5	7.4	0.5	7.9
4/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	324	324	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	698	698	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

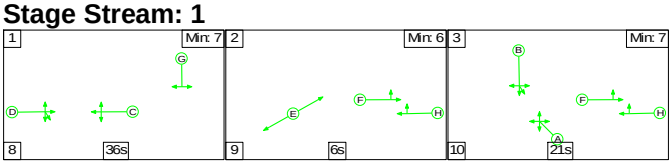
C1 Stream: 1 PRC for Signalled Lanes (%): 11.4 Total Delay for Signalled Lanes (pcuHr): 21.74 Cycle Time (s): 90
PRC Over All Lanes (%): 11.4 Total Delay Over All Lanes(pcuHr): 21.74

Full Input Data And Results

Scenario 3: 'Base AM 2017' (FG3: 'Base AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

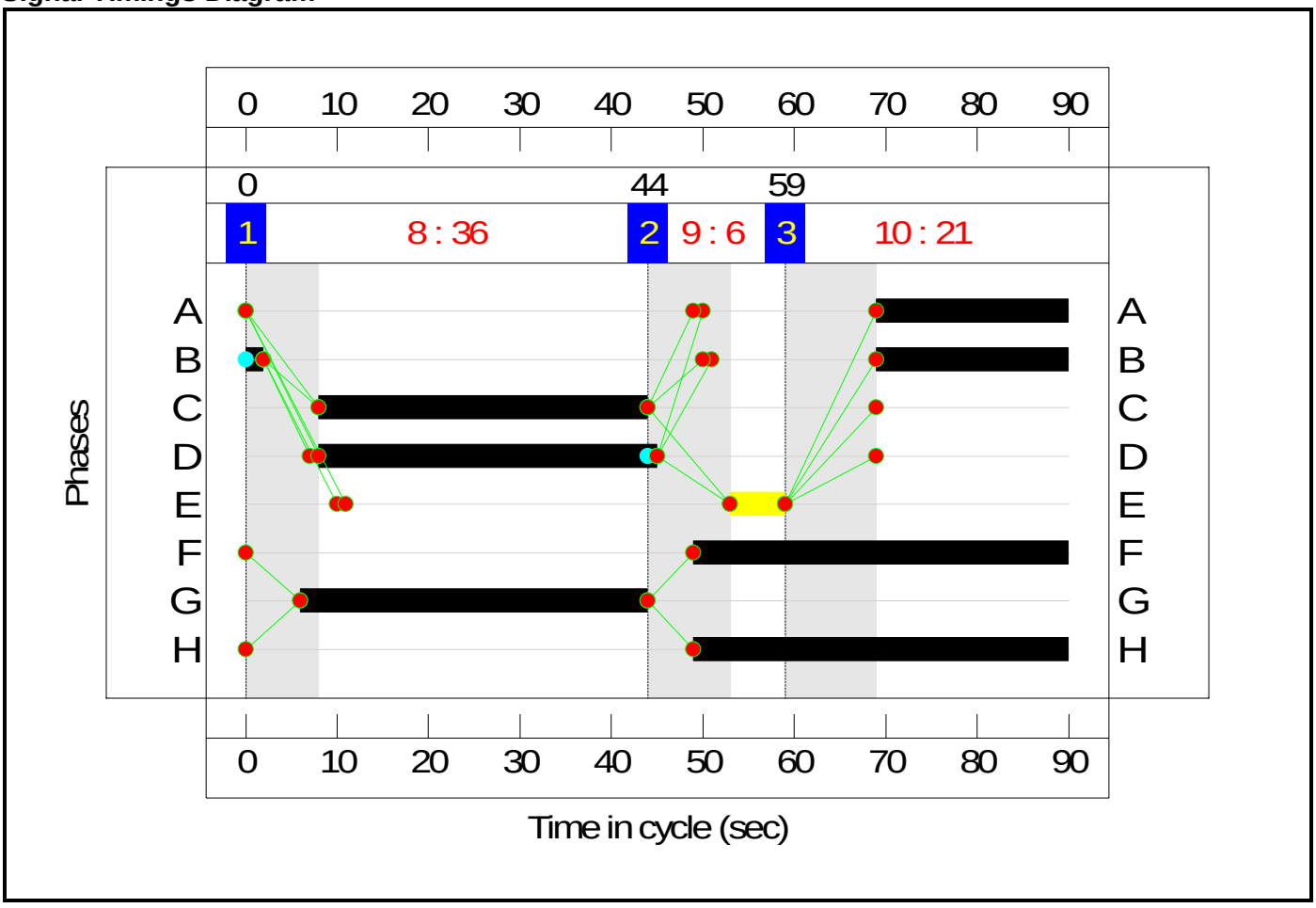


Stage Timings

Stage Stream: 1

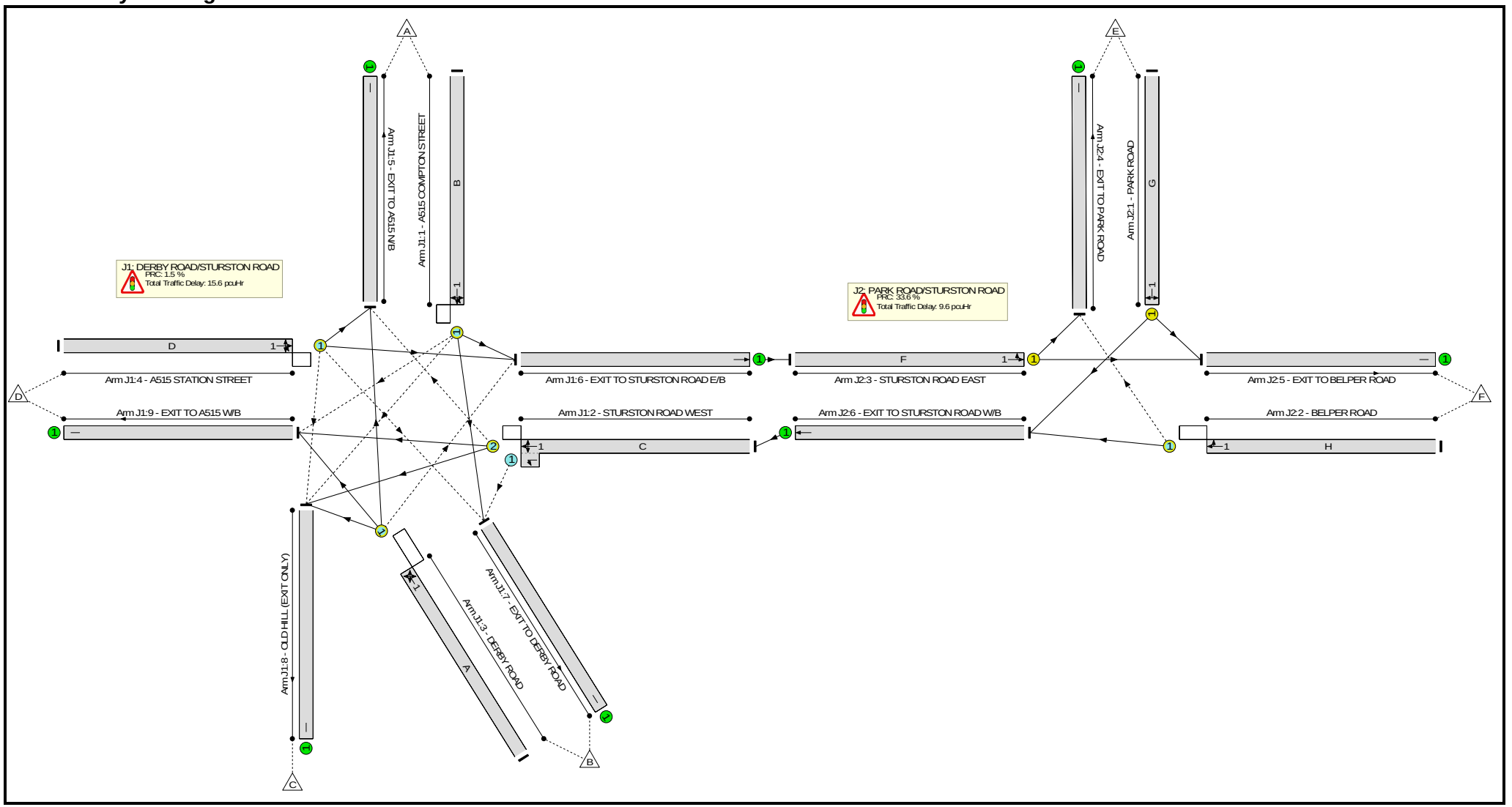
Stage	1	2	3
Duration	36	6	21
Change Point	0	44	59

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.7%**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.7%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	23	-	64	1861	496	12.9%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	36	-	730	1952:1813	518+306	88.7 : 88.7%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	21	-	361	1744	426	84.7%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	37	-	342	1851	782	43.8%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	289	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	420	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	325	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	83	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	380	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.4%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	38	-	514	1761	763	67.4%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	41	-	364	1973	867	42.0%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	41	-	420	1850	863	48.6%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	354	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	214	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	730	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**832**	**168**	**0**	**16.3**	**8.5**	**0.4**	**25.2**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**744**	**162**	**0**	**8.8**	**6.7**	**0.2**	**15.6**	**-**	**-**	**-**	**-**
1/1	64	64	2	12	0	0.4	0.1	0.0	0.5	29.3	1.2	0.1	1.3
2/2+2/1	730	730	532	150	0	3.3	3.6	0.1	7.0	34.7	16.9	3.6	20.5
3/1	361	361	163	0	0	3.2	2.6	0.1	5.9	58.5	8.5	2.6	11.1
4/1	342	342	47	0	0	1.8	0.4	0.1	2.2	23.1	6.0	0.4	6.4
5/1	289	289	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	420	420	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	325	325	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	83	83	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	380	380	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**88**	**6**	**0**	**7.5**	**1.9**	**0.2**	**9.6**	**-**	**-**	**-**	**-**
1/1	514	514	-	-	-	2.9	1.0	-	3.9	27.6	10.3	1.0	11.3
2/1	364	364	88	6	0	1.6	0.4	0.2	2.2	21.5	5.9	0.4	6.2
3/1	420	420	-	-	-	3.0	0.5	-	3.5	29.6	7.4	0.5	7.9
4/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	214	214	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	730	730	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

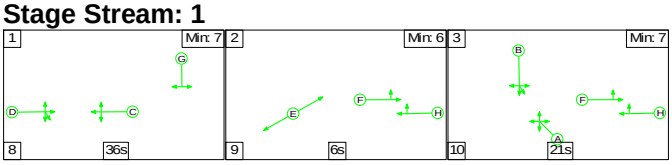
C1 Stream: 1 PRC for Signalled Lanes (%): 1.5 Total Delay for Signalled Lanes (pcuHr): 25.19 Cycle Time (s): 90
PRC Over All Lanes (%): 1.5 Total Delay Over All Lanes(pcuHr): 25.19

Full Input Data And Results

Scenario 4: 'Base PM 2017' (FG4: 'Base PM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

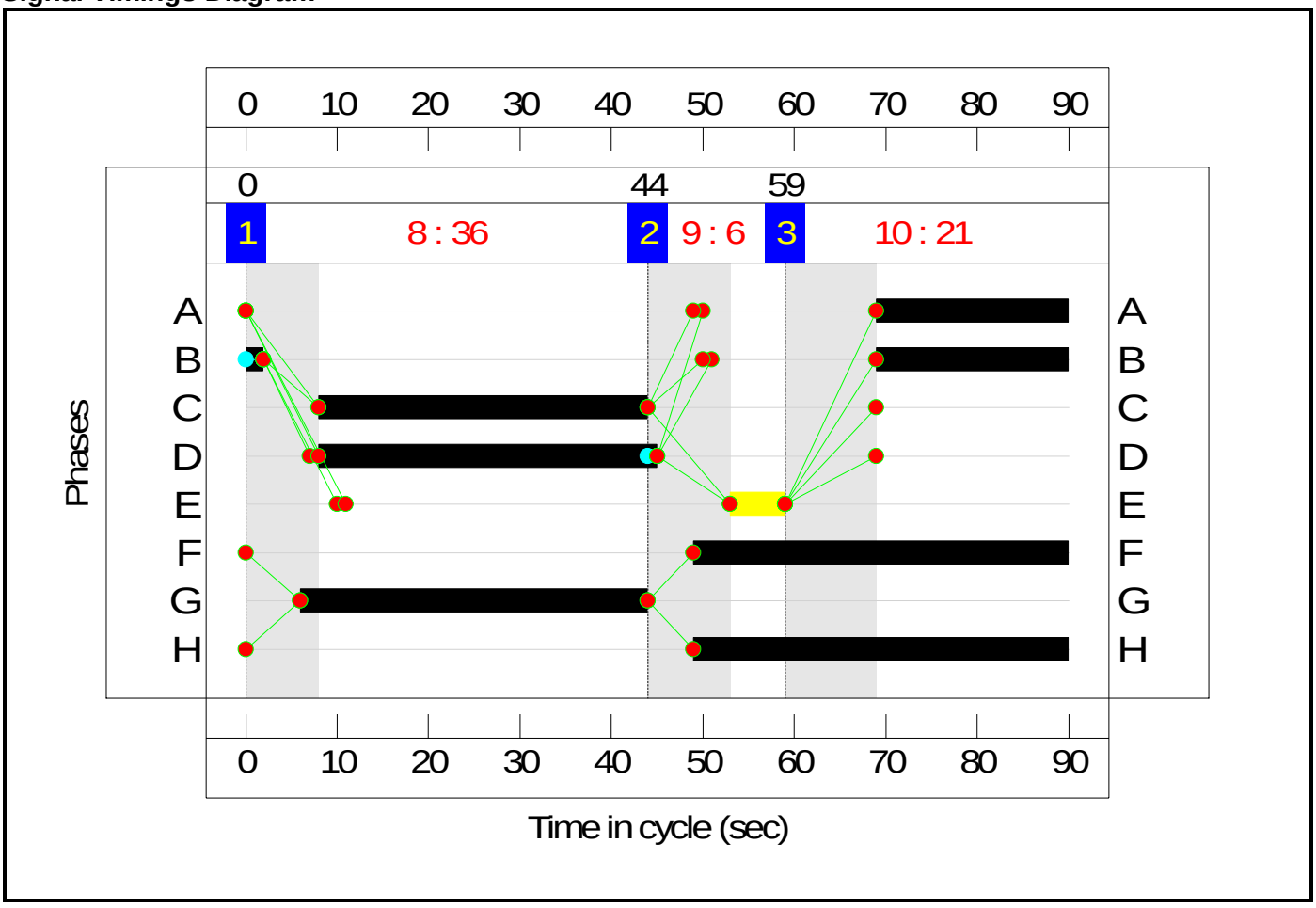


Stage Timings

Stage Stream: 1

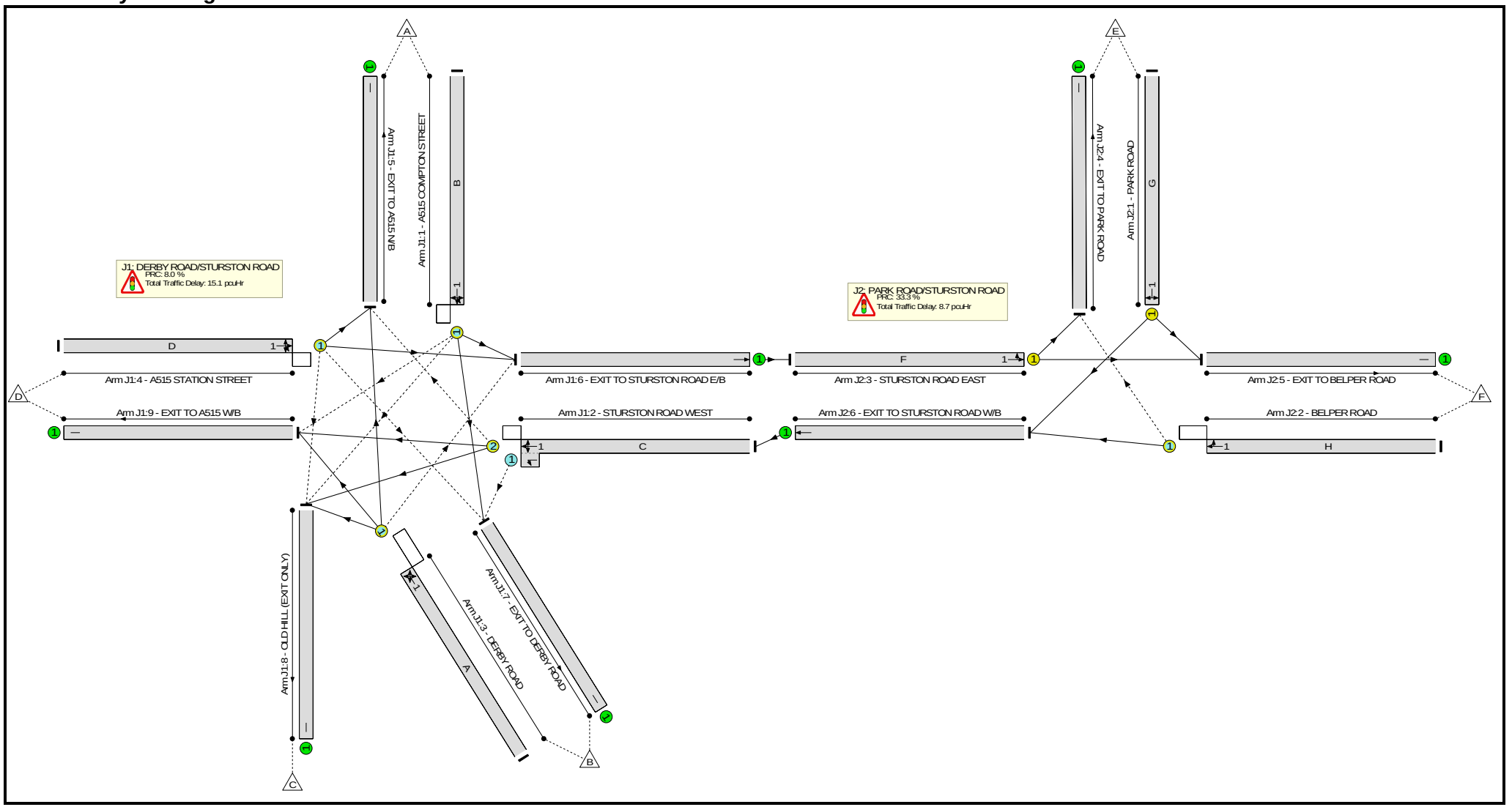
Stage	1	2	3
Duration	36	6	21
Change Point	0	44	59

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.3%**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.3%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	23	-	67	1844	492	13.6%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	36	-	673	1946:1813	595+214	83.2 : 83.2%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	21	-	358	1758	430	83.3%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	37	-	430	1830	666	64.6%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	314	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	431	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	234	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	143	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	406	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.5%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	38	-	515	1760	763	67.5%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	41	-	252	1994	931	27.1%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	41	-	431	1885	880	49.0%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	215	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	310	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	673	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**634**	**117**	**0**	**15.8**	**7.4**	**0.6**	**23.8**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**604**	**115**	**0**	**8.8**	**5.7**	**0.5**	**15.1**	**-**	**-**	**-**	**-**
1/1	67	67	3	16	0	0.5	0.1	0.0	0.5	29.4	1.3	0.1	1.3
2/2+2/1	673	673	378	98	0	2.8	2.4	0.1	5.3	28.4	15.2	2.4	17.6
3/1	358	358	146	0	0	3.2	2.3	0.0	5.6	56.3	8.5	2.3	10.8
4/1	430	430	78	0	0	2.3	0.9	0.4	3.6	30.2	8.0	0.9	8.9
5/1	314	314	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	234	234	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	143	143	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	406	406	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**29**	**3**	**0**	**6.9**	**1.7**	**0.1**	**8.7**	**-**	**-**	**-**	**-**
1/1	515	515	-	-	-	2.9	1.0	-	4.0	27.6	10.3	1.0	11.3
2/1	252	252	29	3	0	1.0	0.2	0.1	1.3	18.4	3.8	0.2	4.0
3/1	431	431	-	-	-	3.0	0.5	-	3.5	29.0	7.7	0.5	8.2
4/1	215	215	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	310	310	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	673	673	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

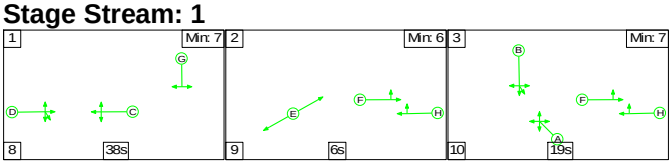
C1 Stream: 1 PRC for Signalled Lanes (%): 8.0 Total Delay for Signalled Lanes (pcuHr): 23.77 Cycle Time (s): 90
PRC Over All Lanes (%): 8.0 Total Delay Over All Lanes(pcuHr): 23.77

Full Input Data And Results

Scenario 5: 'Base Interpeak' (FG5: 'Base Interpeak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

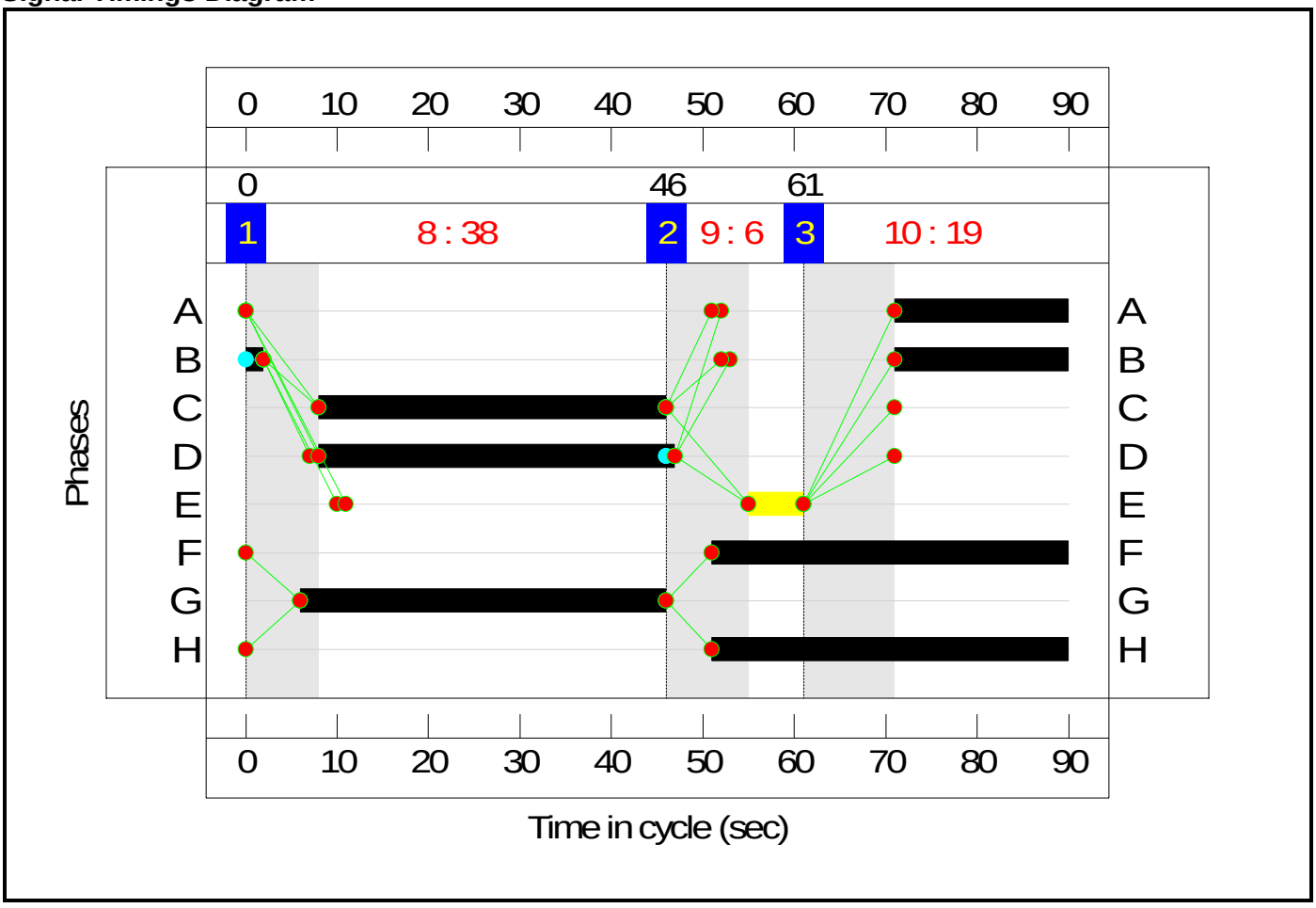


Stage Timings

Stage Stream: 1

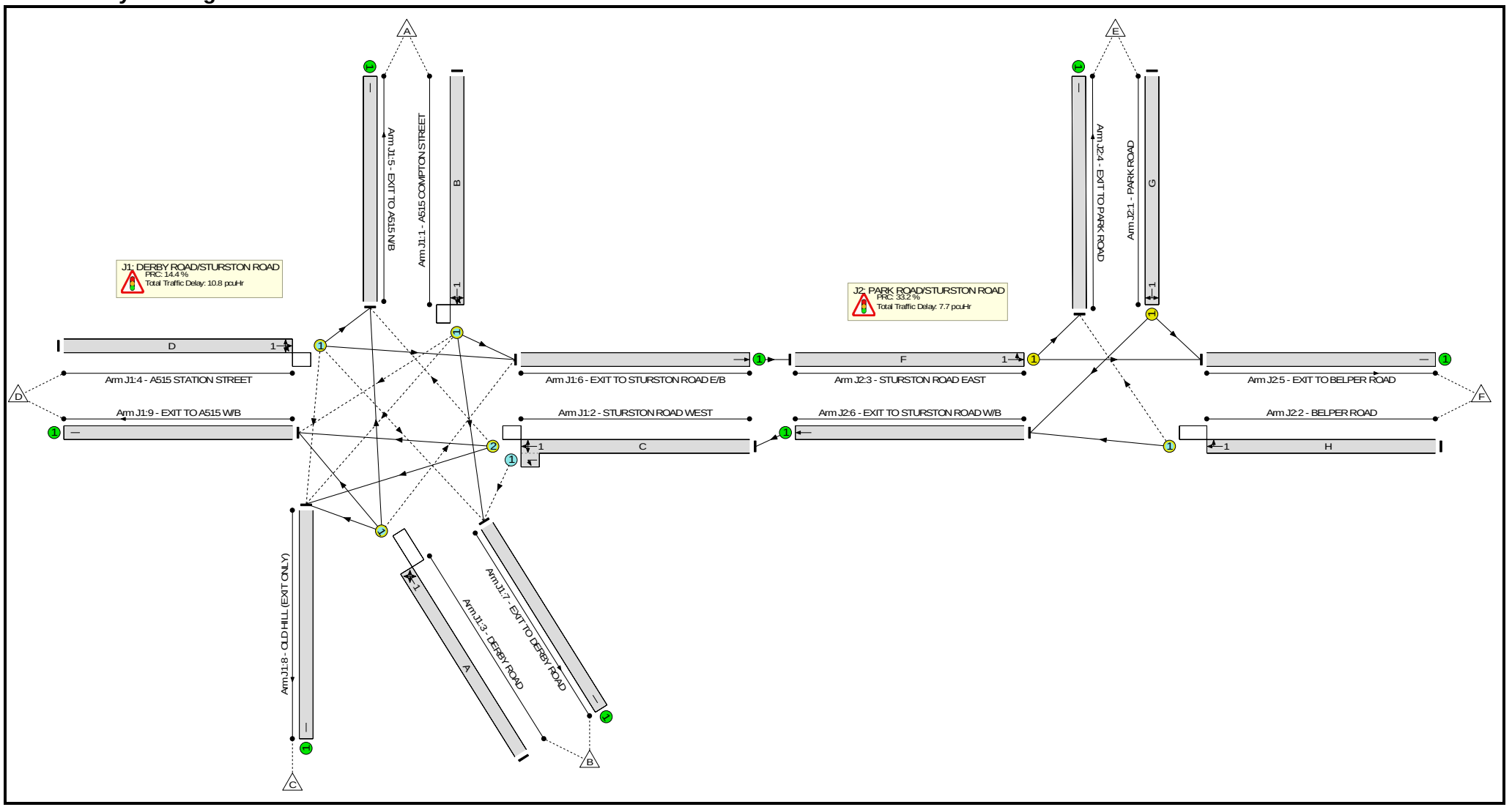
Stage	1	2	3
Duration	38	6	19
Change Point	0	46	61

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.7%**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.7%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	21	-	43	1826	441	9.7%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	38	-	661	1952:1813	612+243	77.3 : 77.3%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	19	-	311	1779	395	78.7%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	39	-	332	1838	816	40.7%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	307	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	327	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	237	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	64	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	412	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.6%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	40	-	542	1761	802	67.6%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	39	-	205	1988	884	23.2%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	39	-	327	1864	828	39.5%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	212	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	201	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	661	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**624**	**130**	**0**	**12.9**	**5.4**	**0.3**	**18.6**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**594**	**126**	**0**	**6.7**	**3.8**	**0.2**	**10.8**	**-**	**-**	**-**	**-**
1/1	43	43	2	14	0	0.3	0.1	0.0	0.4	30.9	0.8	0.1	0.9
2/2+2/1	661	661	420	112	0	2.0	1.7	0.1	3.7	20.4	14.2	1.7	15.9
3/1	311	311	112	0	0	2.9	1.8	0.0	4.6	53.7	7.3	1.8	9.0
4/1	332	332	60	0	0	1.6	0.3	0.1	2.1	22.3	5.6	0.3	6.0
5/1	307	307	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	327	327	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	237	237	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	64	64	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	412	412	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**30**	**4**	**0**	**6.2**	**1.5**	**0.1**	**7.7**	**-**	**-**	**-**	**-**
1/1	542	542	-	-	-	2.9	1.0	-	3.9	26.1	10.5	1.0	11.6
2/1	205	205	30	4	0	0.9	0.2	0.1	1.1	19.2	3.1	0.2	3.3
3/1	327	327	-	-	-	2.4	0.3	-	2.7	29.8	6.0	0.3	6.3
4/1	212	212	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	201	201	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	661	661	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

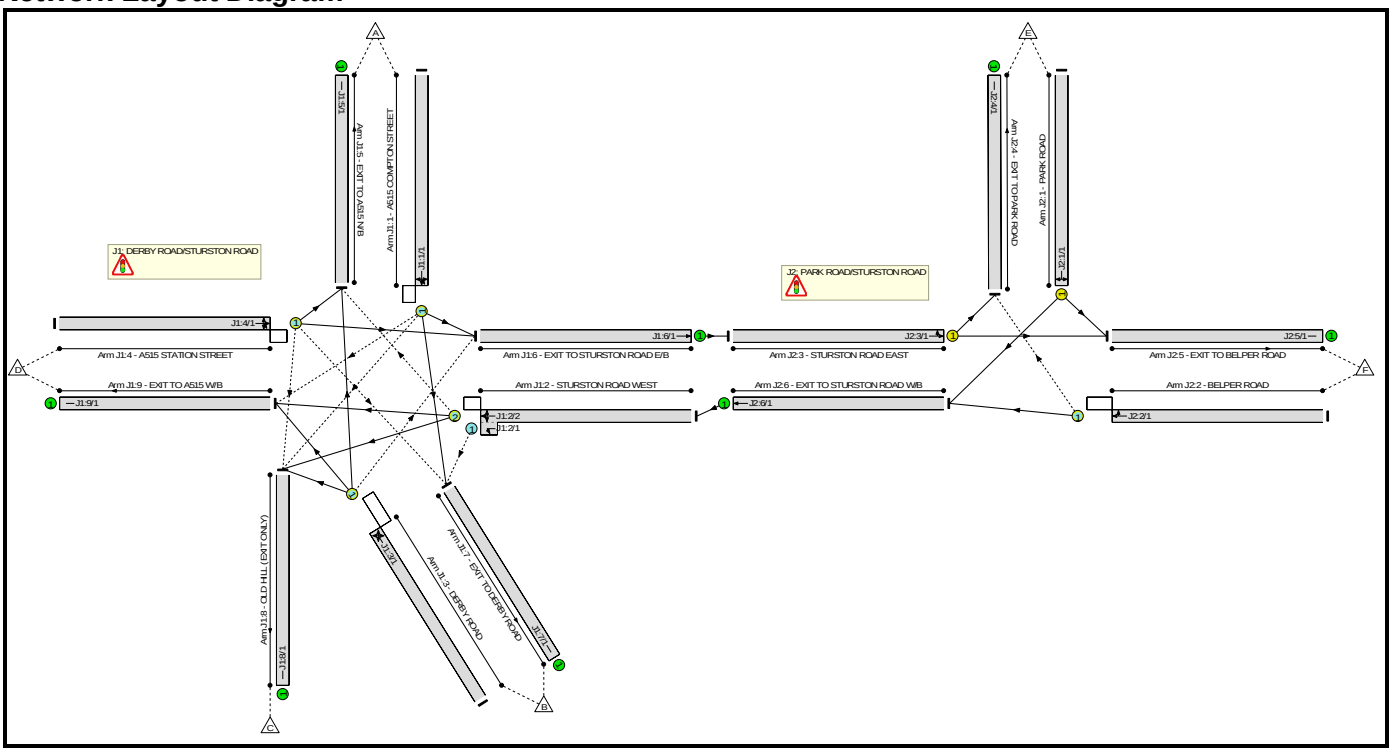
C1 Stream: 1 PRC for Signalled Lanes (%): 14.4 Total Delay for Signalled Lanes (pcuHr): 18.55 Cycle Time (s): 90
PRC Over All Lanes (%): 14.4 Total Delay Over All Lanes(pcuHr): 18.55

Full Input Data And Results

User and Project Details

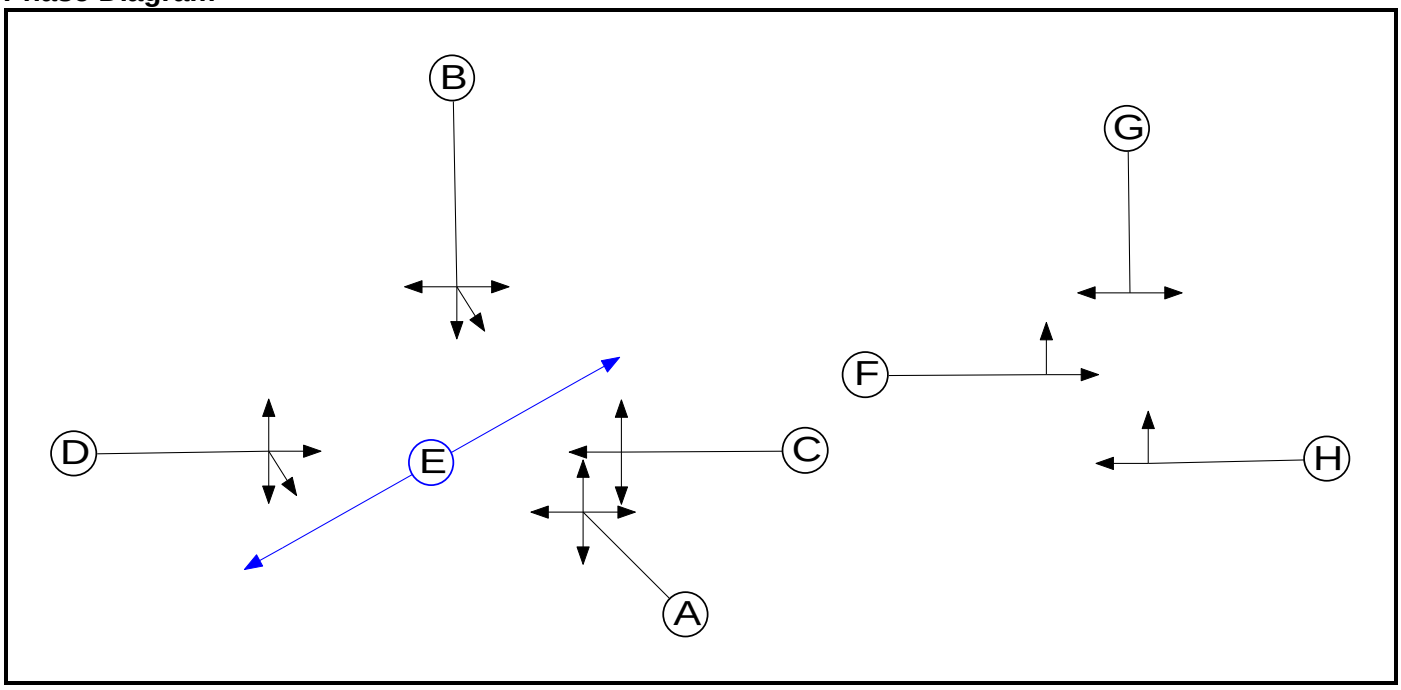
Project:	**Improving the Sturston Road-Derby Road Junction in Ashbourne**
Title:	**Current Junction Performance**
Location:	Ashbourne
File name:	Sturston Road_A515_Park Road.lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	5
C	Traffic	1		7	7
D	Traffic	1		7	7
E	Pedestrian	1		6	6
F	Traffic	1		7	7
G	Traffic	1		7	7
H	Traffic	1		7	7

Full Input Data And Results

Phase Intergreens Matrix

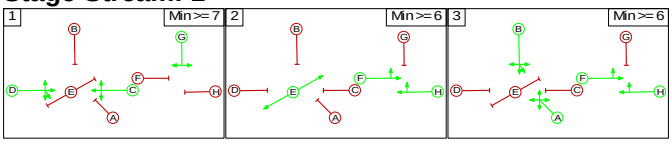
		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		-	8	8	11	-	-	-
	B	-		6	5	8	-	-	-
	C	5	6		-	9	-	-	-
	D	5	6	-		8	-	-	-
	E	10	10	10	10		-	-	-
	F	-	-	-	-	-		6	-
	G	-	-	-	-	-	5		5
	H	-	-	-	-	-	-	6	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	C D G
1	2	E F H
1	3	A B F H

Stage Diagram

Stage Stream: 1



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	D	Losing	1	1
3	1	B	Losing	2	2
3	2	B	Losing	3	3

Prohibited Stage Change

Stage Stream: 1

		To Stage		
		1	2	3
From Stage	1		9	6
	2	10		10
	3	8	11	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
J1:1/1 (A515 COMPTON STREET)	J1:8/1 (Ahead)	1440	0	J1:3/1	1.09	To J1:5/1 (Ahead) To J1:8/1 (U-Turn) To J1:9/1 (Left)	2.00	2.00	0.50	2	2.00
	J1:9/1 (Right)	1440	0	J1:3/1	1.09	To J1:5/1 (Ahead) To J1:9/1 (Left)					
J1:2/1 (STURSTON ROAD WEST)	J1:7/1 (Left)	715	0	J1:1/1	0.22	To J1:7/1 (Ahead)	-	-	-	-	-
				J1:4/1	0.22	To J1:7/1 (Right)					
J1:2/2 (STURSTON ROAD WEST)	J1:5/1 (Right)	1440	0	J1:4/1	1.09	To J1:5/1 (Left) To J1:6/1 (Ahead)	2.00	2.00	0.50	2	2.00
J1:3/1 (DERBY ROAD)	J1:6/1 (Right)	1440	0	J1:1/1	1.09	To J1:6/1 (Left) To J1:7/1 (Ahead)	4.00	4.00	0.50	4	4.00
J1:4/1 (A515 STATION STREET)	J1:7/1 (Right)	1440	0	J1:2/2	1.09	To J1:8/1 (Left) To J1:9/1 (Ahead)	2.00	2.00	0.50	2	2.00
	J1:8/1 (Right)	1440	0	J1:2/2	1.09	To J1:8/1 (Left) To J1:9/1 (Ahead)					

Junction: J2: PARK ROAD/STURSTON ROAD

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
J2:2/1 (BELPER ROAD)	J2:4/1 (Right)	1440	0	J2:3/1	1.09	To J2:4/1 (Left) To J2:5/1 (Ahead)	3.00	3.00	0.50	3	3.00

Full Input Data And Results

Lane Input Data

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J1:1/1 (A515 COMPTON STREET)	O	B	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J1:6 Left	11.00
											Arm J1:7 Ahead	25.00
											Arm J1:8 Ahead	Inf
											Arm J1:9 Right	11.00
J1:2/1 (STURSTON ROAD WEST)	O		2	3	2.0	Geom	-	5.00	0.00	Y	Arm J1:7 Left	9.00
J1:2/2 (STURSTON ROAD WEST)	O	C	2	3	10.0	Geom	-	4.00	0.00	Y	Arm J1:5 Right	10.00
											Arm J1:8 Left	14.00
											Arm J1:9 Ahead	Inf
J1:3/1 (DERBY ROAD)	O	A	2	3	60.0	Geom	-	4.50	0.00	Y	Arm J1:5 Ahead	20.00
											Arm J1:6 Right	5.00
											Arm J1:8 U-Turn	5.00
											Arm J1:9 Left	16.00
J1:4/1 (A515 STATION STREET)	O	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:5 Left	17.00
											Arm J1:6 Ahead	Inf
											Arm J1:7 Right	22.00
											Arm J1:8 Right	7.00
J1:5/1 (EXIT TO A515 N/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

J1:6/1 (EXIT TO STURSTON ROAD E/B)	U		2	3	10.0	Inf	-	-	-	-	-	-
J1:7/1 (EXIT TO DERBY ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:8/1 (OLD HILL (EXIT ONLY))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:9/1 (EXIT TO A515 W/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J2: PARK ROAD/STURSTON ROAD

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J2:1/1 (PARK ROAD)	U	G	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:5 Left	12.00
											Arm J2:6 Right	18.00
J2:2/1 (BELPER ROAD)	O	H	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J2:4 Right	18.00
											Arm J2:6 Ahead	Inf
J2:3/1 (STURSTON ROAD EAST)	U	F	2	3	10.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	15.00
											Arm J2:5 Ahead	Inf
J2:4/1 (EXIT TO PARK ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/1 (EXIT TO BELPER ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1 (EXIT TO STURSTON ROAD W/B)	U		2	3	10.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'January 2015 AM Peak'	08:00	09:00	01:00	
2: 'January 2015 PM Peak'	16:45	17:45	01:00	
3: 'Without Bypass AM'	08:00	09:00	01:00	
4: 'Without Bypass PM'	16:45	17:45	01:00	
5: 'Without Bypass IP'	12:00	13:00	01:00	

Scenario 1: '2015 AM Peak' (FG1: 'January 2015 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	25	6	12	8	5	56
	B	208	0	7	30	96	59	400
	C	0	0	0	0	0	0	0
	D	65	20	24	0	127	79	315
	E	50	172	44	230	0	53	549
	F	26	90	23	121	110	0	370
	Tot.	349	307	104	393	341	196	1690

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2015 AM Peak
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	56
J1:2/1 (short)	262
J1:2/2 (with short)	756(In) 494(Out)
J1:3/1	400
J1:4/1	315
J1:5/1	349
J1:6/1	374
J1:7/1	307
J1:8/1	104
J1:9/1	393
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	549
J2:2/1	370
J2:3/1	374
J2:4/1	341
J2:5/1	196
J2:6/1	756

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	23.2 %	1853	1853
				Arm J1:7 Ahead	25.00	44.6 %		
				Arm J1:8 Ahead	Inf	10.7 %		
				Arm J1:9 Right	11.00	21.4 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	15.4 %	1942	1942
				Arm J1:8 Left	14.00	13.6 %		
				Arm J1:9 Ahead	Inf	71.1 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	52.0 %	1769	1769
				Arm J1:6 Right	5.00	38.8 %		
				Arm J1:8 U-Turn	5.00	1.8 %		
				Arm J1:9 Left	16.00	7.5 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:5 Left	17.00	20.6 %	1843	1843
				Arm J1:6 Ahead	Inf	65.4 %		
				Arm J1:7 Right	22.00	6.3 %		
				Arm J1:8 Right	7.00	7.6 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	9.7 %	1761	1761
				Arm J2:6 Right	18.00	90.3 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	29.7 %	1966	1966
				Arm J2:6 Ahead	Inf	70.3 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	61.8 %	1851	1851
				Arm J2:5 Ahead	Inf	38.2 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2015 PM Peak' (FG2: 'January 2015 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	20	9	13	15	21	78
	B	158	0	2	20	53	77	310
	C	0	0	0	0	0	0	0
	D	84	45	41	0	99	146	415
	E	54	191	37	221	0	80	583
	F	21	74	14	86	40	0	235
	Tot.	317	330	103	340	207	324	1621

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2015 PM Peak
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	78
J1:2/1 (short)	265
J1:2/2 (with short)	698(In) 433(Out)
J1:3/1	310
J1:4/1	415
J1:5/1	317
J1:6/1	411
J1:7/1	330
J1:8/1	103
J1:9/1	340
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	583
J2:2/1	235
J2:3/1	411
J2:4/1	207
J2:5/1	324
J2:6/1	698

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	46.2 %	1830	1830
				Arm J1:7 Ahead	25.00	25.6 %		
				Arm J1:8 Ahead	Inf	11.5 %		
				Arm J1:9 Right	11.00	16.7 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	17.3 %	1940	1940
				Arm J1:8 Left	14.00	11.8 %		
				Arm J1:9 Ahead	Inf	70.9 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	51.0 %	1762	1762
				Arm J1:6 Right	5.00	41.9 %		
				Arm J1:8 U-Turn	5.00	0.6 %		
				Arm J1:9 Left	16.00	6.5 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:5 Left	17.00	20.2 %	1830	1830
				Arm J1:6 Ahead	Inf	59.0 %		
				Arm J1:7 Right	22.00	10.8 %		
				Arm J1:8 Right	7.00	9.9 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	13.7 %	1758	1758
				Arm J2:6 Right	18.00	86.3 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	17.0 %	1987	1987
				Arm J2:6 Ahead	Inf	83.0 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	40.6 %	1888	1888
				Arm J2:5 Ahead	Inf	59.4 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Without Bypass AM' (FG3: 'Without Bypass AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	34	6	8	10	7	65
	B	443	0	10	56	268	187	964
	C	0	0	0	1	0	0	1
	D	54	35	27	0	142	99	357
	E	77	387	28	279	0	73	844
	F	33	165	12	119	103	0	432
	Tot.	607	621	83	463	523	366	2663

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: Without Bypass AM
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	65
J1:2/1 (short)	552
J1:2/2 (with short)	1100(In) 548(Out)
J1:3/1	964
J1:4/1	357
J1:5/1	607
J1:6/1	713
J1:7/1	621
J1:8/1	83
J1:9/1	462
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	844
J2:2/1	432
J2:3/1	713
J2:4/1	523
J2:5/1	366
J2:6/1	1100

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	26.2 %	1859	1859
				Arm J1:7 Ahead	25.00	52.3 %		
				Arm J1:8 Ahead	Inf	9.2 %		
				Arm J1:9 Right	11.00	12.3 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	20.1 %	1941	1941
				Arm J1:8 Left	14.00	7.3 %		
				Arm J1:9 Ahead	Inf	72.6 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	46.0 %	1743	1743
				Arm J1:6 Right	5.00	47.2 %		
				Arm J1:8 U-Turn	5.00	1.0 %		
				Arm J1:9 Left	16.00	5.8 %		
				Arm J1:5 Left	17.00	15.1 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:6 Ahead	Inf	67.5 %	1848	1848
				Arm J1:7 Right	22.00	9.8 %		
				Arm J1:8 Right	7.00	7.6 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	8.6 %	1762	1762
				Arm J2:6 Right	18.00	91.4 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	23.8 %	1976	1976
				Arm J2:6 Ahead	Inf	76.2 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	58.9 %	1856	1856
				Arm J2:5 Ahead	Inf	41.1 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Without Bypass PM' (FG4: 'Without Bypass PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	24	8	11	12	13	68
	B	334	0	9	61	164	181	749
	C	0	0	0	0	0	0	0
	D	91	61	46	0	124	137	459
	E	62	499	58	280	0	74	973
	F	23	187	22	105	49	0	386
	Tot.	510	771	143	457	349	405	2635

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Without Bypass PM
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	68
J1:2/1 (short)	686
J1:2/2 (with short)	1236(In) 550(Out)
J1:3/1	749
J1:4/1	459
J1:5/1	510
J1:6/1	631
J1:7/1	771
J1:8/1	143
J1:9/1	457
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	973
J2:2/1	386
J2:3/1	631
J2:4/1	349
J2:5/1	405
J2:6/1	1236

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	36.8 %	1843	1843
				Arm J1:7 Ahead	25.00	35.3 %		
				Arm J1:8 Ahead	Inf	11.8 %		
				Arm J1:9 Right	11.00	16.2 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	15.5 %	1940	1940
				Arm J1:8 Left	14.00	14.5 %		
				Arm J1:9 Ahead	Inf	70.0 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	44.6 %	1746	1746
				Arm J1:6 Right	5.00	46.1 %		
				Arm J1:8 U-Turn	5.00	1.2 %		
				Arm J1:9 Left	16.00	8.1 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:5 Left	17.00	19.8 %	1827	1827
				Arm J1:6 Ahead	Inf	56.9 %		
				Arm J1:7 Right	22.00	13.3 %		
				Arm J1:8 Right	7.00	10.0 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	7.6 %	1763	1763
				Arm J2:6 Right	18.00	92.4 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	12.7 %	1994	1994
				Arm J2:6 Ahead	Inf	87.3 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	47.5 %	1876	1876
				Arm J2:5 Ahead	Inf	52.5 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Without Bypass IP' (FG5: 'Without Bypass IP', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	13	3	13	8	6	43
	B	334	0	3	59	167	137	700
	C	0	0	0	0	0	0	0
	D	71	53	24	0	110	91	349
	E	79	381	26	300	0	64	850
	F	24	117	8	92	44	0	285
	Tot.	508	564	64	464	329	298	2227

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Without Bypass IP
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	43
J1:2/1 (short)	498
J1:2/2 (with short)	1027(In) 529(Out)
J1:3/1	700
J1:4/1	349
J1:5/1	508
J1:6/1	519
J1:7/1	564
J1:8/1	64
J1:9/1	464
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	850
J2:2/1	285
J2:3/1	519
J2:4/1	329
J2:5/1	298
J2:6/1	1027

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	32.6 %	1826	1826
				Arm J1:7 Ahead	25.00	30.2 %		
				Arm J1:8 Ahead	Inf	7.0 %		
				Arm J1:9 Right	11.00	30.2 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	19.5 %	1945	1945
				Arm J1:8 Left	14.00	6.4 %		
				Arm J1:9 Ahead	Inf	74.1 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	47.7 %	1757	1757
				Arm J1:6 Right	5.00	43.4 %		
				Arm J1:8 U-Turn	5.00	0.4 %		
				Arm J1:9 Left	16.00	8.4 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:5 Left	17.00	20.3 %	1836	1836
				Arm J1:6 Ahead	Inf	57.6 %		
				Arm J1:7 Right	22.00	15.2 %		
				Arm J1:8 Right	7.00	6.9 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

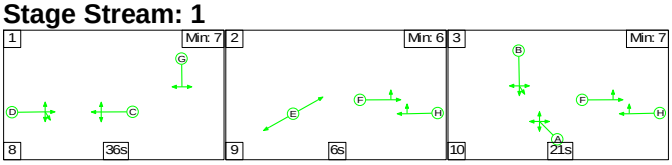
Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	7.5 %	1763	1763
				Arm J2:6 Right	18.00	92.5 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	15.4 %	1989	1989
				Arm J2:6 Ahead	Inf	84.6 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	54.9 %	1863	1863
				Arm J2:5 Ahead	Inf	45.1 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2015 AM Peak' (FG1: 'January 2015 AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



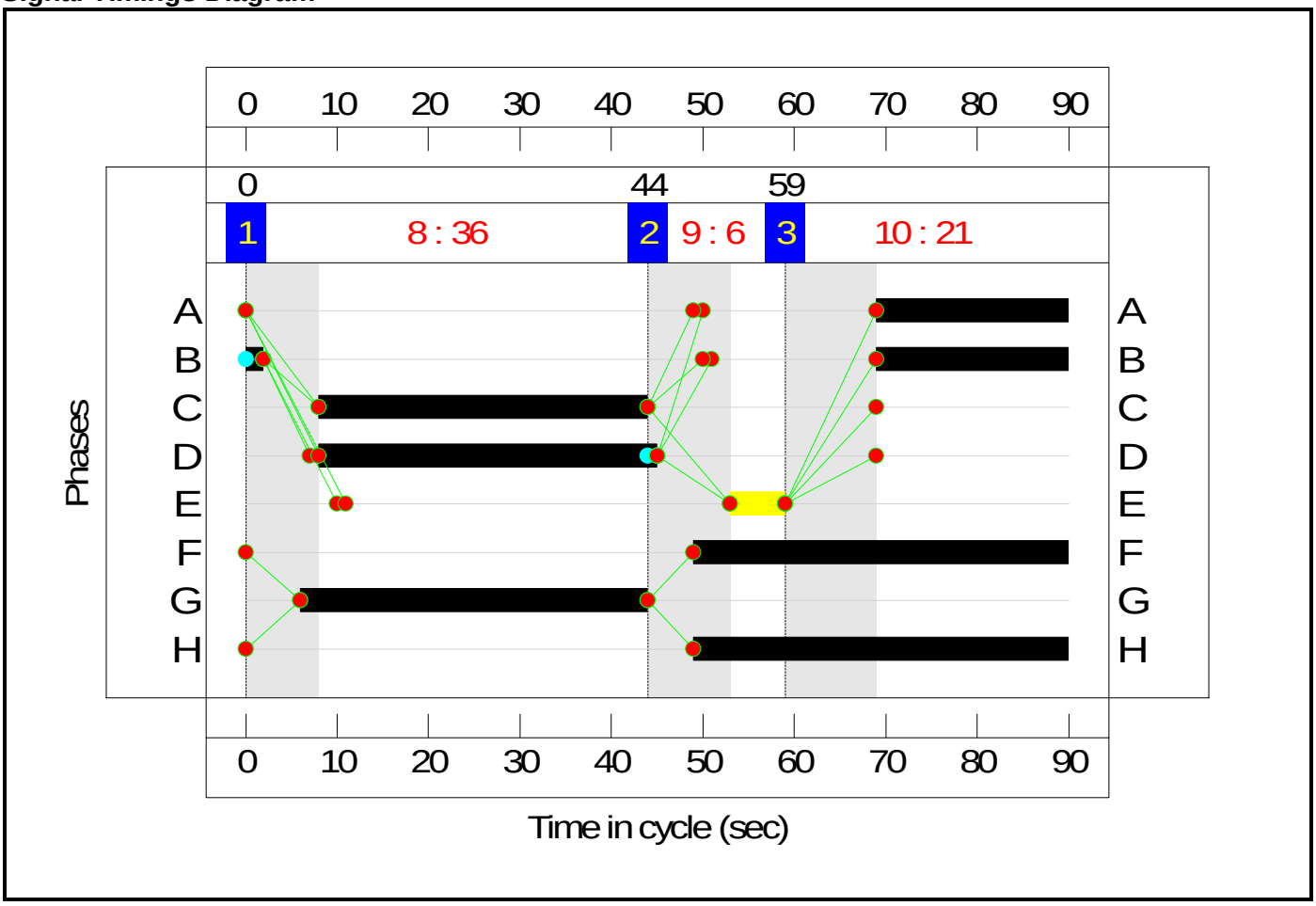
Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	36	6	21
Change Point	0	44	59

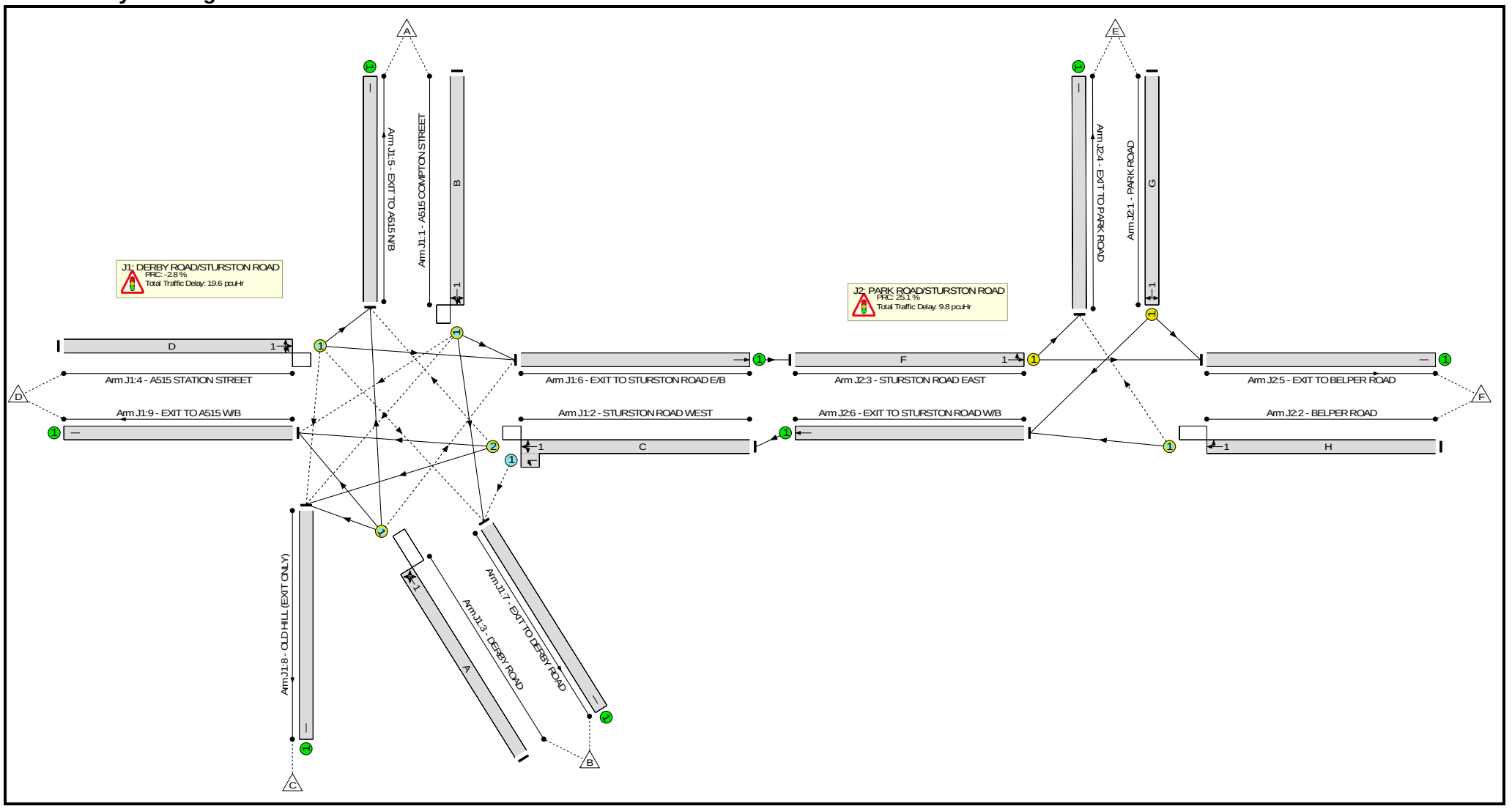
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.5%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.5%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	23	-	56	1853	494	11.3%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	36	-	756	1942:1813	534+283	92.5 : 92.5%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	21	-	400	1769	432	92.5%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	37	-	315	1843	778	40.5%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	374	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	307	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	104	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	393	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.9%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	38	-	549	1761	763	71.9%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	41	-	370	1966	850	43.5%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	41	-	374	1851	864	43.3%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	341	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	196	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	756	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**841**	**162**	**0**	**16.5**	**12.5**	**0.4**	**29.4**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**737**	**156**	**0**	**9.0**	**10.4**	**0.1**	**19.6**	**-**	**-**	**-**	**-**
1/1	56	56	3	15	0	0.4	0.1	0.0	0.5	29.1	1.1	0.1	1.1
2/2+2/1	756	756	535	141	0	3.3	5.3	0.1	8.7	41.3	17.8	5.3	23.1
3/1	400	400	155	0	0	3.7	4.8	0.0	8.5	76.4	9.7	4.8	14.4
4/1	315	315	44	0	0	1.6	0.3	0.1	2.0	22.7	5.4	0.3	5.8
5/1	349	349	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	374	374	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	307	307	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	104	104	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	393	393	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**104**	**6**	**0**	**7.5**	**2.0**	**0.2**	**9.8**	**-**	**-**	**-**	**-**
1/1	549	549	-	-	-	3.2	1.3	-	4.5	29.3	11.3	1.3	12.6
2/1	370	370	104	6	0	1.6	0.4	0.2	2.2	21.8	6.1	0.4	6.4
3/1	374	374	-	-	-	2.7	0.4	-	3.1	29.6	6.7	0.4	7.0
4/1	341	341	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	196	196	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	756	756	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

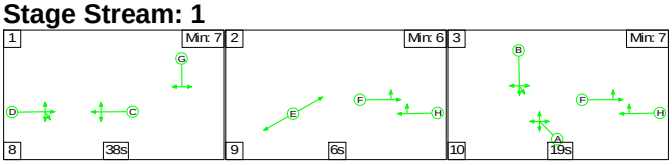
C1 Stream: 1 PRC for Signalled Lanes (%): -2.8 Total Delay for Signalled Lanes (pcuHr): 29.37 Cycle Time (s): 90
PRC Over All Lanes (%): -2.8 Total Delay Over All Lanes(pcuHr): 29.37

Full Input Data And Results

Scenario 2: '2015 PM Peak' (FG2: 'January 2015 PM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

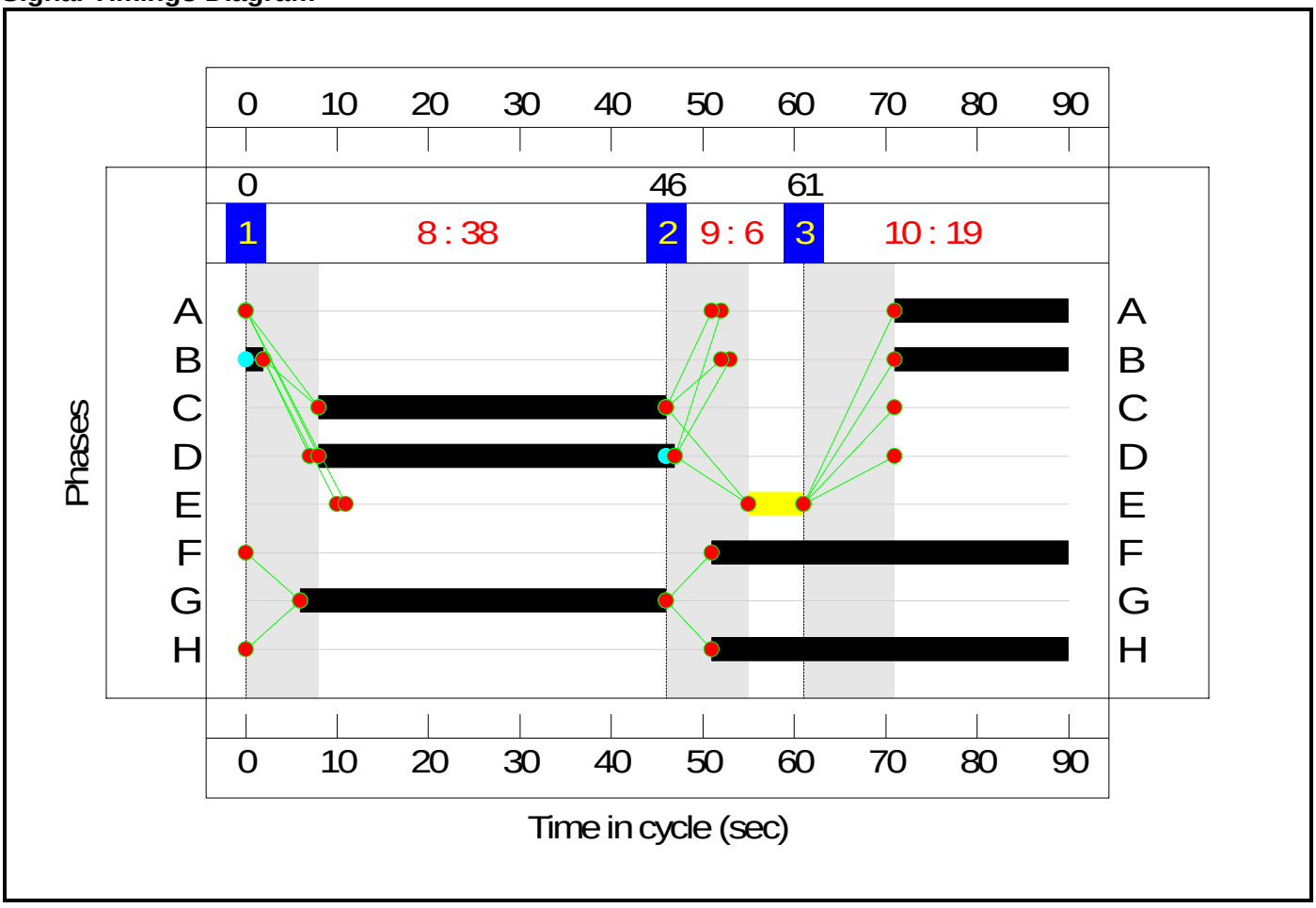


Stage Timings

Stage Stream: 1

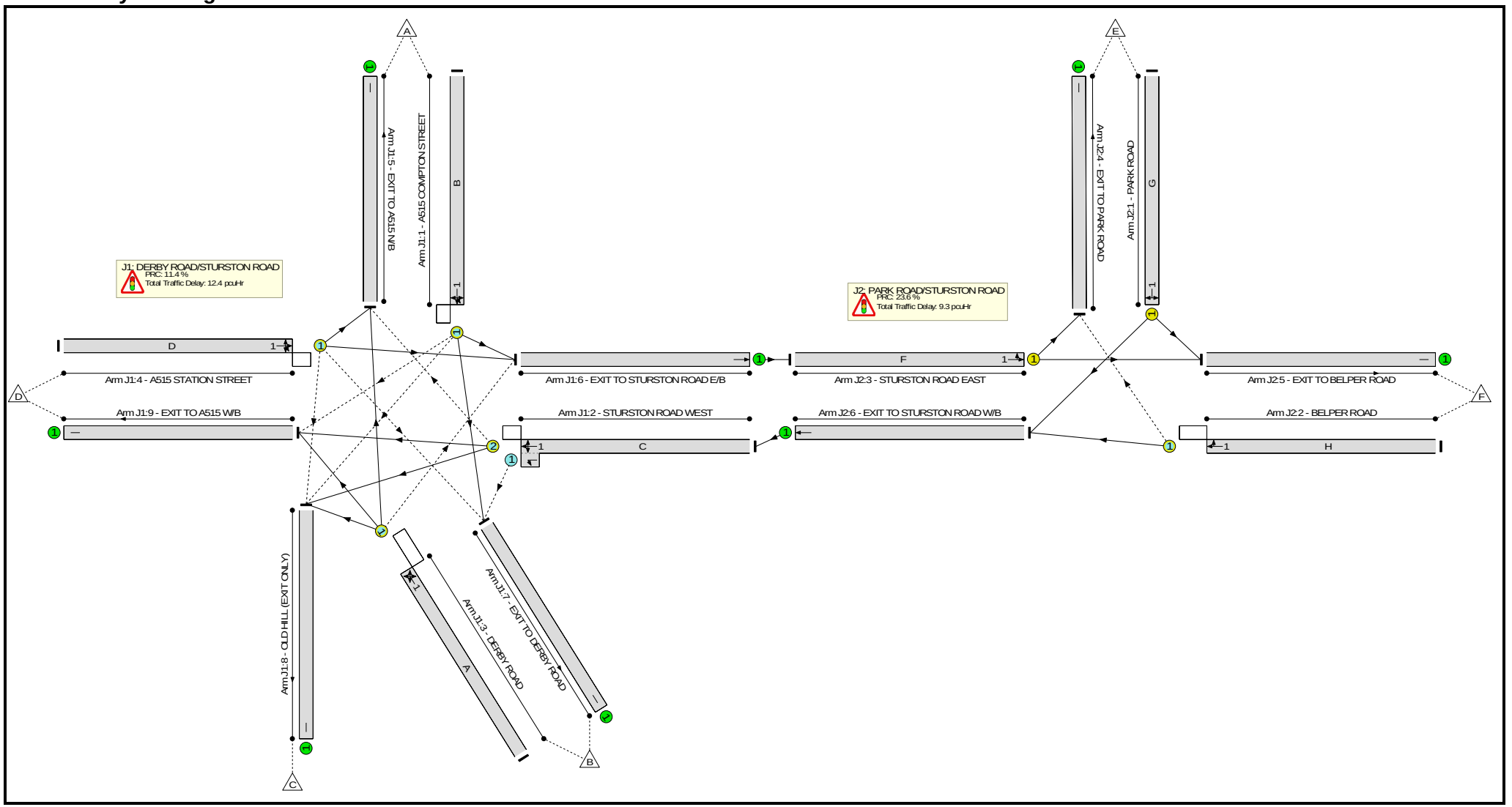
Stage	1	2	3
Duration	38	6	19
Change Point	0	46	61

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.8%**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.8%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	21	-	78	1830	447	17.4%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	38	-	698	1940:1813	536+328	80.8 : 80.8%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	19	-	310	1762	392	79.2%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	39	-	415	1830	813	51.0%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	317	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	411	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	330	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	103	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	340	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.8%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	40	-	583	1758	801	72.8%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	39	-	235	1987	868	27.1%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	39	-	411	1888	839	49.0%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	324	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	698	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**787**	**171**	**0**	**14.9**	**6.5**	**0.4**	**21.7**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**751**	**167**	**0**	**7.6**	**4.5**	**0.3**	**12.4**	**-**	**-**	**-**	**-**
1/1	78	78	3	19	0	0.6	0.1	0.0	0.7	31.7	1.5	0.1	1.6
2/2+2/1	698	698	532	148	0	2.1	2.1	0.1	4.3	22.0	14.9	2.1	17.0
3/1	310	310	130	0	0	2.8	1.8	0.1	4.7	54.9	7.2	1.8	9.1
4/1	415	415	86	0	0	2.1	0.5	0.1	2.7	23.6	7.4	0.5	7.9
5/1	317	317	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	411	411	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	330	330	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	103	103	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**36**	**4**	**0**	**7.3**	**2.0**	**0.1**	**9.3**	**-**	**-**	**-**	**-**
1/1	583	583	-	-	-	3.2	1.3	-	4.6	28.1	11.8	1.3	13.1
2/1	235	235	36	4	0	1.0	0.2	0.1	1.3	20.0	3.7	0.2	3.8
3/1	411	411	-	-	-	3.0	0.5	-	3.5	30.5	7.4	0.5	7.9
4/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	324	324	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	698	698	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

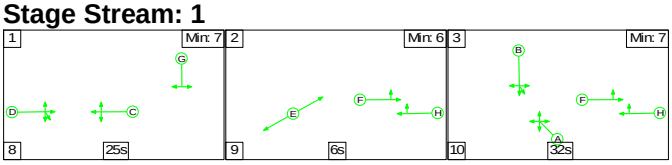
C1 Stream: 1 PRC for Signalled Lanes (%): 11.4 Total Delay for Signalled Lanes (pcuHr): 21.74 Cycle Time (s): 90
PRC Over All Lanes (%): 11.4 Total Delay Over All Lanes(pcuHr): 21.74

Full Input Data And Results

Scenario 3: 'Without Bypass AM' (FG3: 'Without Bypass AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

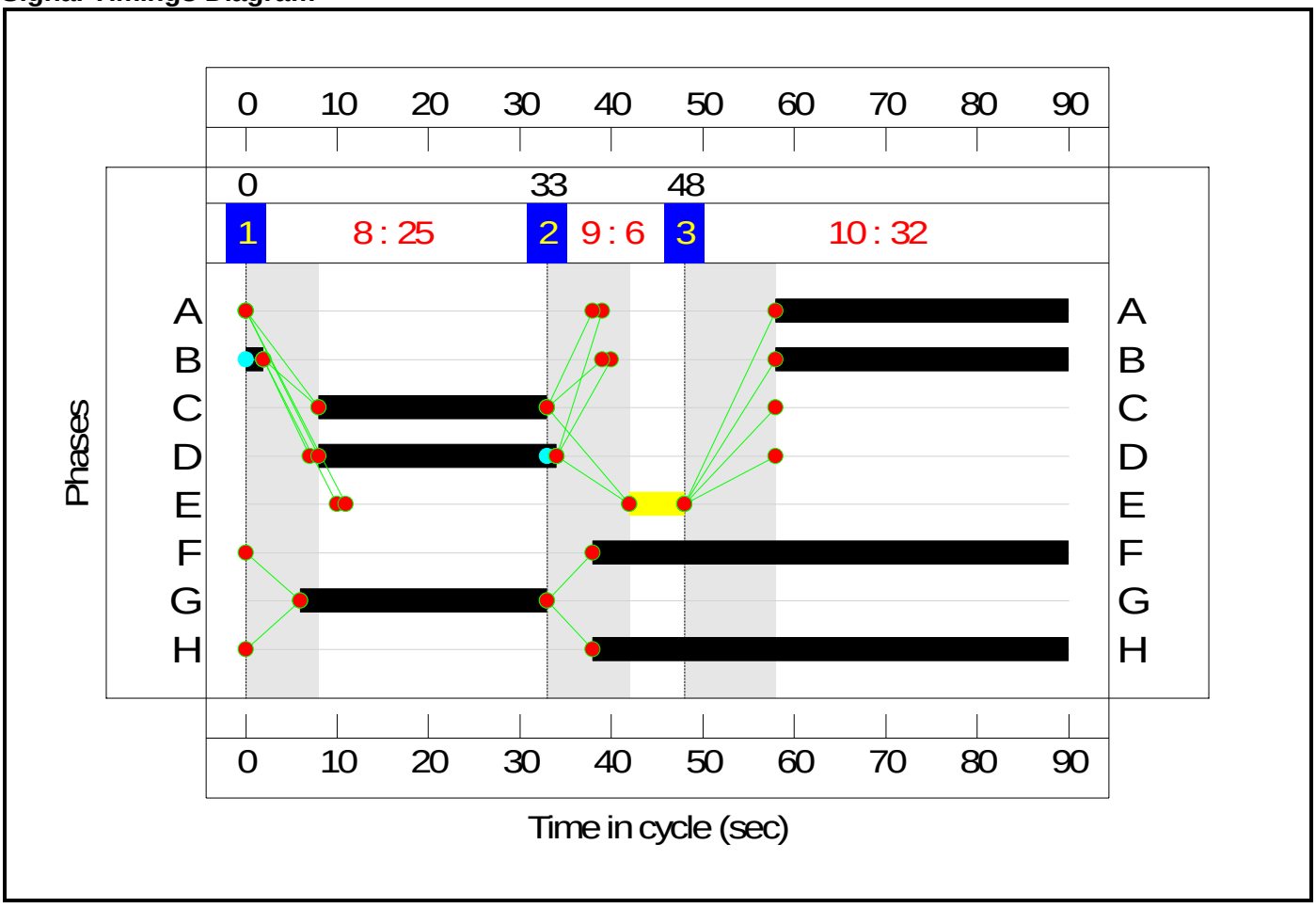


Stage Timings

Stage Stream: 1

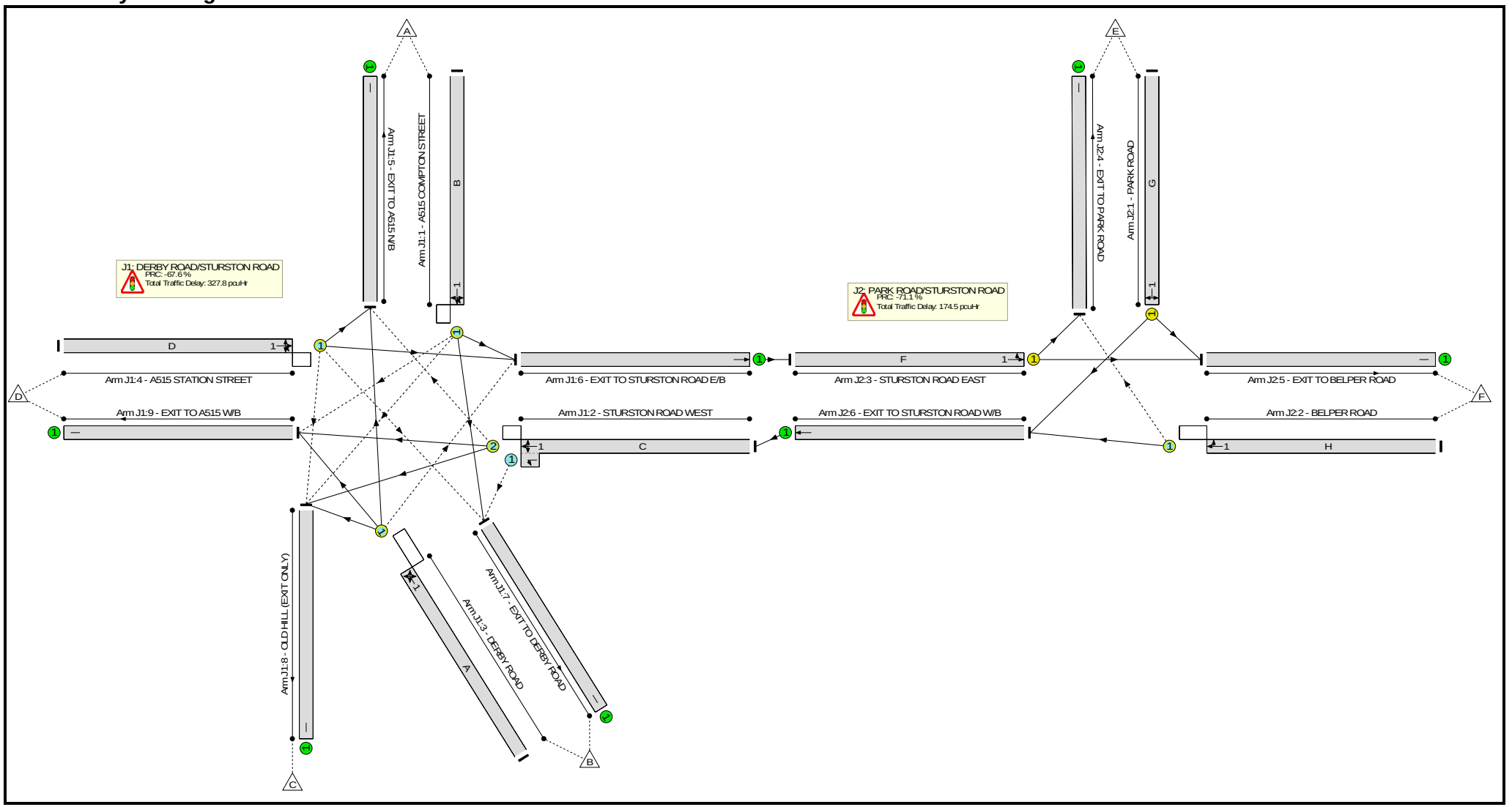
Stage	1	2	3
Duration	25	6	32
Change Point	0	33	48

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**154.0%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**150.8%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	34	-	65	1859	723	9.0%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	25	-	1100	1941:1813	296+298	139.6 : 139.6%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	32	-	964	1743	639	150.8%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	26	-	357	1848	554	64.4%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	607	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	713	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	83	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	462	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**154.0%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	27	-	844	1762	548	154.0%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	52	-	432	1976	1106	39.1%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	52	-	713	1856	1093	51.2%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	523	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	366	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	1100	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**982**	**215**	**0**	**67.4**	**434.4**	**0.4**	**502.3**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**884**	**209**	**0**	**43.3**	**284.2**	**0.2**	**327.8**	**-**	**-**	**-**	**-**
1/1	65	65	4	10	0	0.3	0.0	0.0	0.4	20.2	1.0	0.0	1.1
2/2+2/1	830	595	517	199	0	15.2	119.4	0.1	134.7	584.2	49.6	119.4	169.0
3/1	964	639	302	0	0	25.1	163.9	0.1	189.1	706.2	39.5	163.9	203.5
4/1	357	357	62	0	0	2.7	0.9	0.1	3.7	36.9	7.7	0.9	8.6
5/1	407	407	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	560	560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	367	367	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	61	61	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	260	260	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**98**	**5**	**0**	**24.1**	**150.2**	**0.2**	**174.5**	**-**	**-**	**-**	**-**
1/1	844	548	-	-	-	20.3	149.3	-	169.6	723.5	28.5	149.3	177.8
2/1	432	432	98	5	0	1.2	0.3	0.2	1.7	14.3	5.6	0.3	6.0
3/1	560	560	-	-	-	2.6	0.5	-	3.1	20.2	8.2	0.5	8.7
4/1	433	433	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	830	830	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

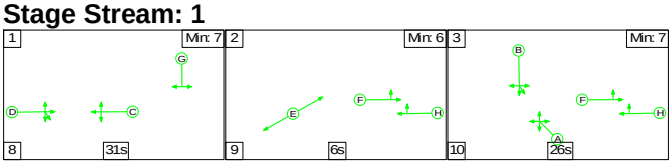
C1 Stream: 1 PRC for Signalled Lanes (%): -71.1 Total Delay for Signalled Lanes (pcuHr): 502.27 Cycle Time (s): 90
PRC Over All Lanes (%): -71.1 Total Delay Over All Lanes(pcuHr): 502.27

Full Input Data And Results

Scenario 4: 'Without Bypass PM' (FG4: 'Without Bypass PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

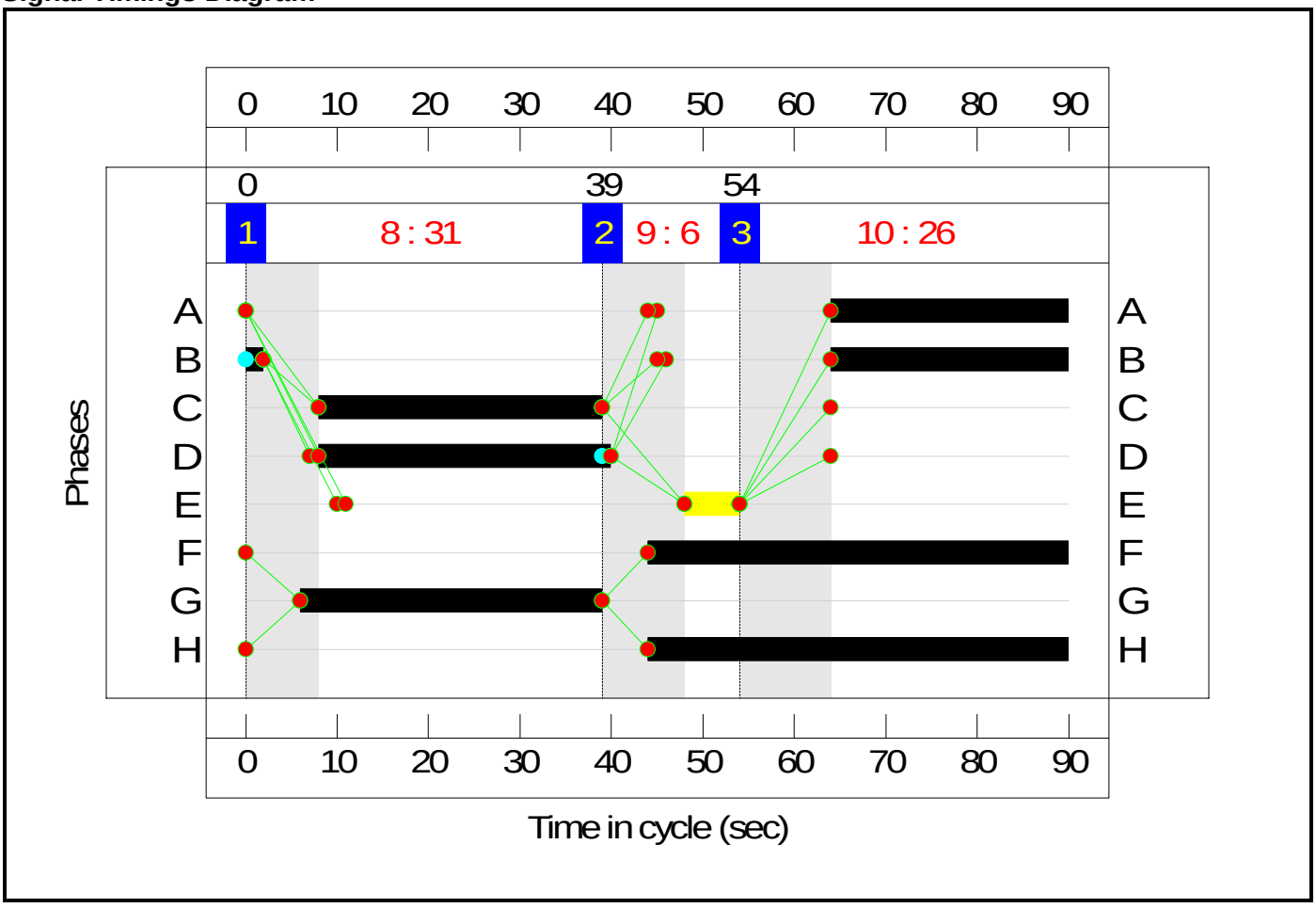


Stage Timings

Stage Stream: 1

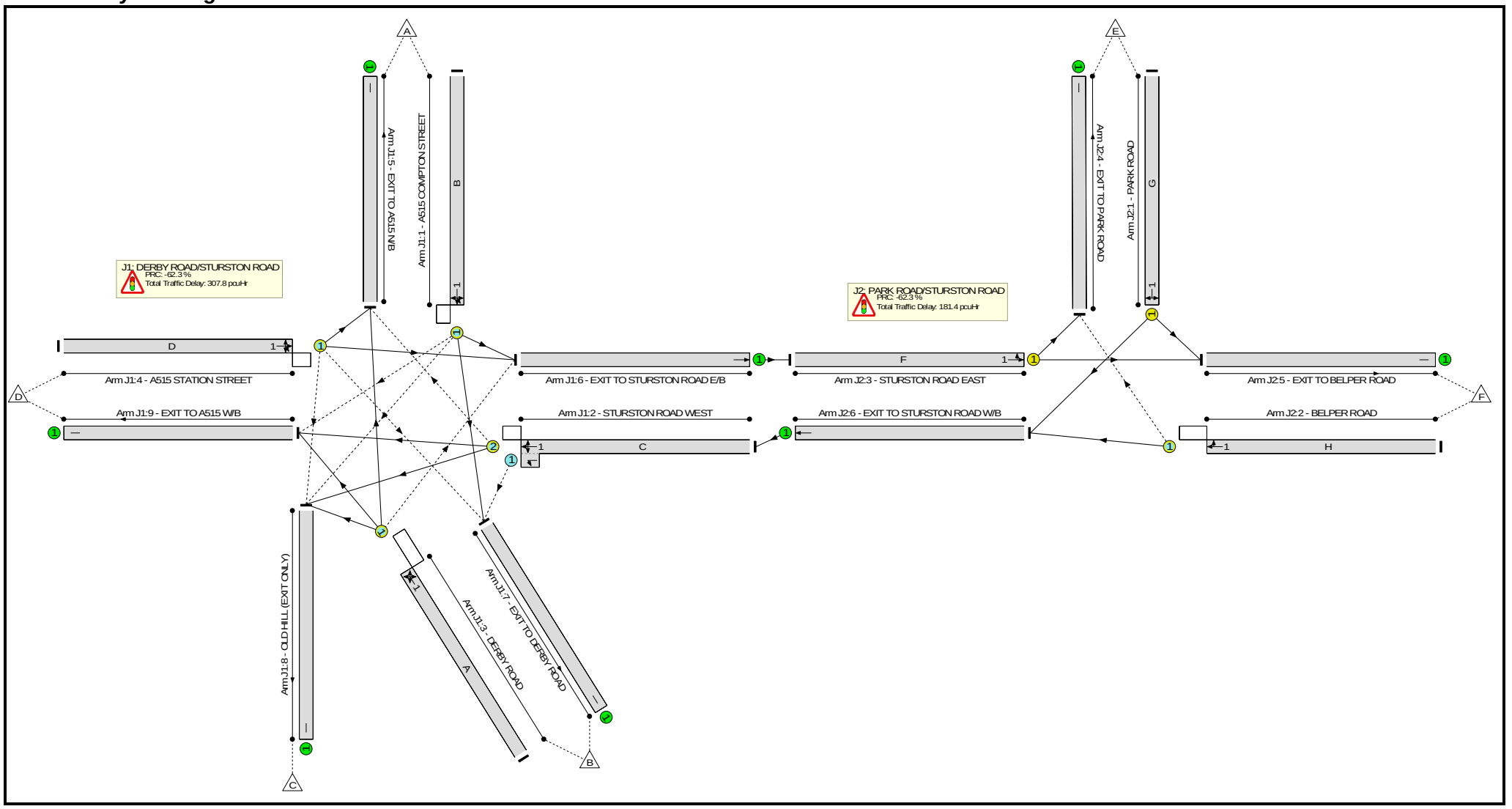
Stage	1	2	3
Duration	31	6	26
Change Point	0	39	54

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**146.1%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**146.1%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	28	-	68	1843	594	11.5%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	31	-	1236	1940:1813	290+362	146.1 : 146.1%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	26	-	749	1746	524	143.0%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	32	-	459	1827	670	68.5%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	510	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	631	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	771	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	143	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	457	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**146.1%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	33	-	973	1763	666	146.1%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	46	-	386	1994	1041	37.1%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	46	-	631	1876	980	53.8%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	405	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	1236	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**977**	**253**	**0**	**65.7**	**423.1**	**0.4**	**489.2**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**931**	**250**	**0**	**40.4**	**267.1**	**0.2**	**307.8**	**-**	**-**	**-**	**-**
1/1	68	68	4	15	0	0.4	0.1	0.0	0.5	24.9	1.2	0.1	1.3
2/2+2/1	952	652	579	235	0	18.4	151.8	0.1	170.2	643.5	56.6	151.8	208.4
3/1	749	524	241	0	0	18.5	114.2	0.1	132.8	638.3	29.4	114.2	143.6
4/1	459	459	107	0	0	3.1	1.1	0.1	4.3	33.3	9.7	1.1	10.8
5/1	369	369	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	447	447	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	103	103	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	257	257	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**46**	**3**	**0**	**25.3**	**155.9**	**0.1**	**181.4**	**-**	**-**	**-**	**-**
1/1	973	666	-	-	-	20.8	155.1	-	175.9	650.8	32.0	155.1	187.1
2/1	386	386	46	3	0	1.4	0.3	0.1	1.8	16.6	5.7	0.3	6.0
3/1	527	527	-	-	-	3.1	0.6	-	3.7	25.5	8.7	0.6	9.3
4/1	300	300	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	327	327	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	952	952	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

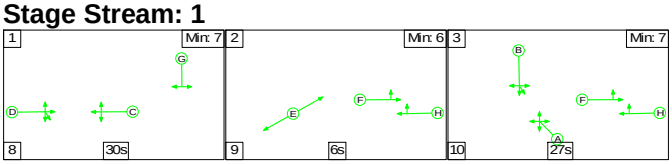
C1 Stream: 1 PRC for Signalled Lanes (%): -62.3 Total Delay for Signalled Lanes (pcuHr): 489.16 Cycle Time (s): 90
PRC Over All Lanes (%): -62.3 Total Delay Over All Lanes(pcuHr): 489.16

Full Input Data And Results

Scenario 5: 'Without Bypass IP' (FG5: 'Without Bypass IP', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

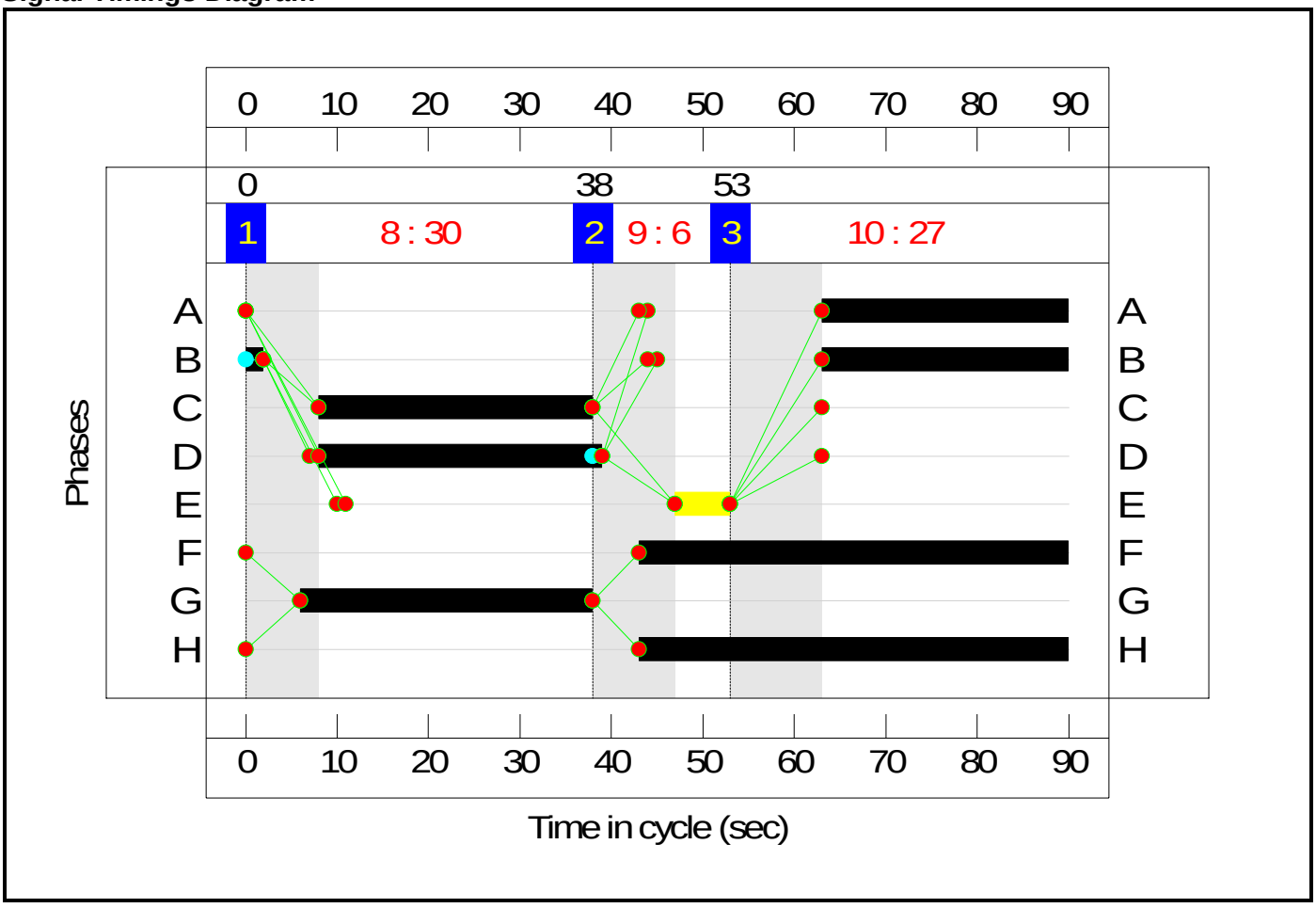


Stage Timings

Stage Stream: 1

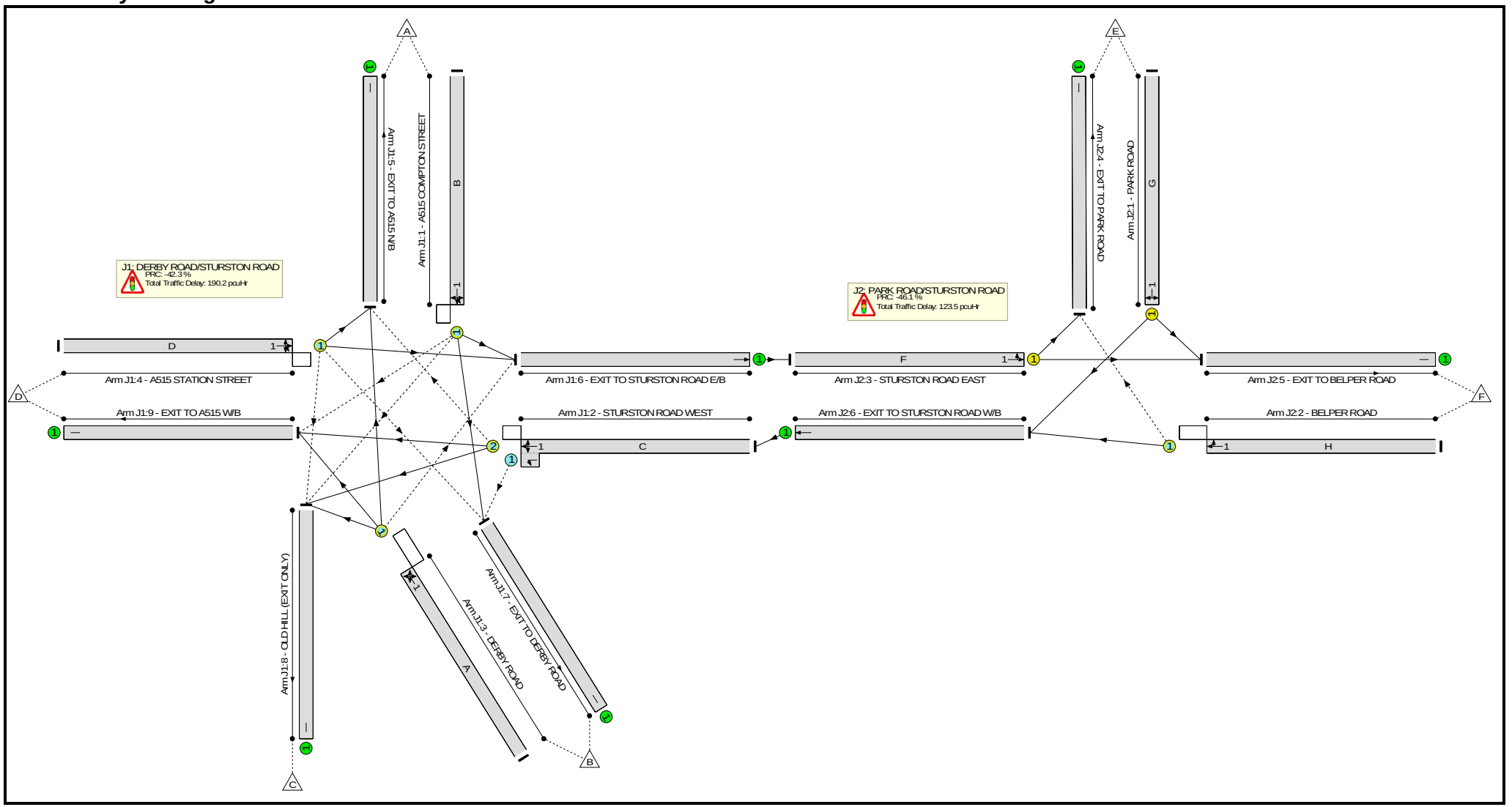
Stage	1	2	3
Duration	30	6	27
Change Point	0	38	53

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**131.5%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**128.1%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	29	-	43	1826	582	7.4%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	30	-	1027	1945:1813	349+329	123.8 : 123.8%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	27	-	700	1757	547	128.1%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	31	-	349	1836	653	53.5%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	508	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	519	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	564	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	64	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	464	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**131.5%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	32	-	850	1763	646	131.5%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	47	-	285	1989	1061	26.9%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	47	-	519	1863	994	45.5%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	329	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	298	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	1027	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**964**	**203**	**0**	**46.4**	**267.0**	**0.3**	**313.7**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**924**	**200**	**0**	**27.4**	**162.6**	**0.2**	**190.2**	**-**	**-**	**-**	**-**
1/1	43	43	3	13	0	0.2	0.0	0.0	0.3	23.9	0.7	0.0	0.8
2/2+2/1	839	677	606	187	0	10.8	83.1	0.1	93.9	403.0	47.9	83.1	131.0
3/1	700	547	237	0	0	14.2	78.9	0.0	93.1	478.9	24.6	78.9	103.5
4/1	349	349	77	0	0	2.2	0.6	0.1	2.9	29.9	6.9	0.6	7.5
5/1	400	400	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	452	452	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	395	395	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	52	52	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	318	318	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**41**	**3**	**0**	**19.0**	**104.4**	**0.1**	**123.5**	**-**	**-**	**-**	**-**
1/1	850	646	-	-	-	15.6	103.8	-	119.4	505.6	26.3	103.8	130.2
2/1	285	285	41	3	0	0.9	0.2	0.1	1.2	14.8	3.9	0.2	4.1
3/1	452	452	-	-	-	2.5	0.4	-	2.9	23.5	7.0	0.4	7.5
4/1	292	292	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	253	253	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	839	839	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

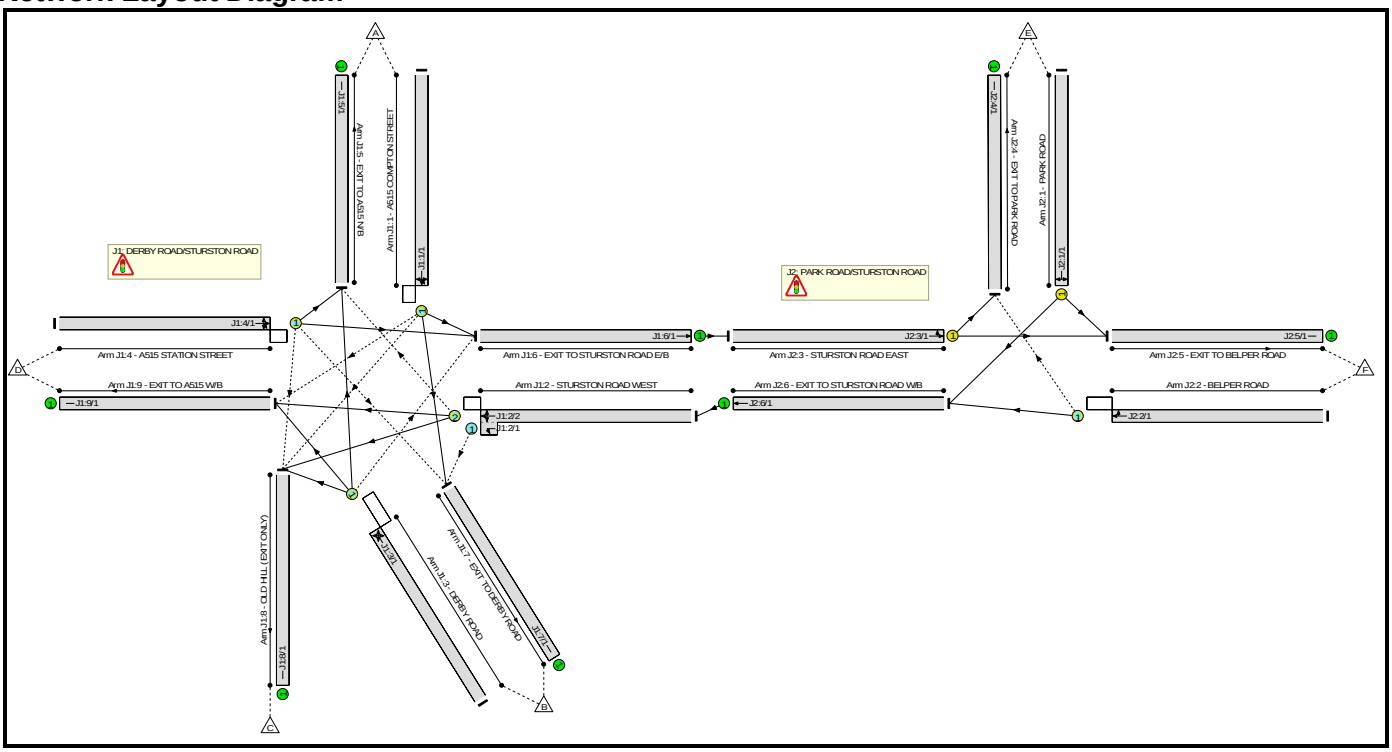
C1 Stream: 1 PRC for Signalled Lanes (%): -46.1 Total Delay for Signalled Lanes (pcuHr): 313.71 Cycle Time (s): 90
PRC Over All Lanes (%): -46.1 Total Delay Over All Lanes(pcuHr): 313.71

Full Input Data And Results

User and Project Details

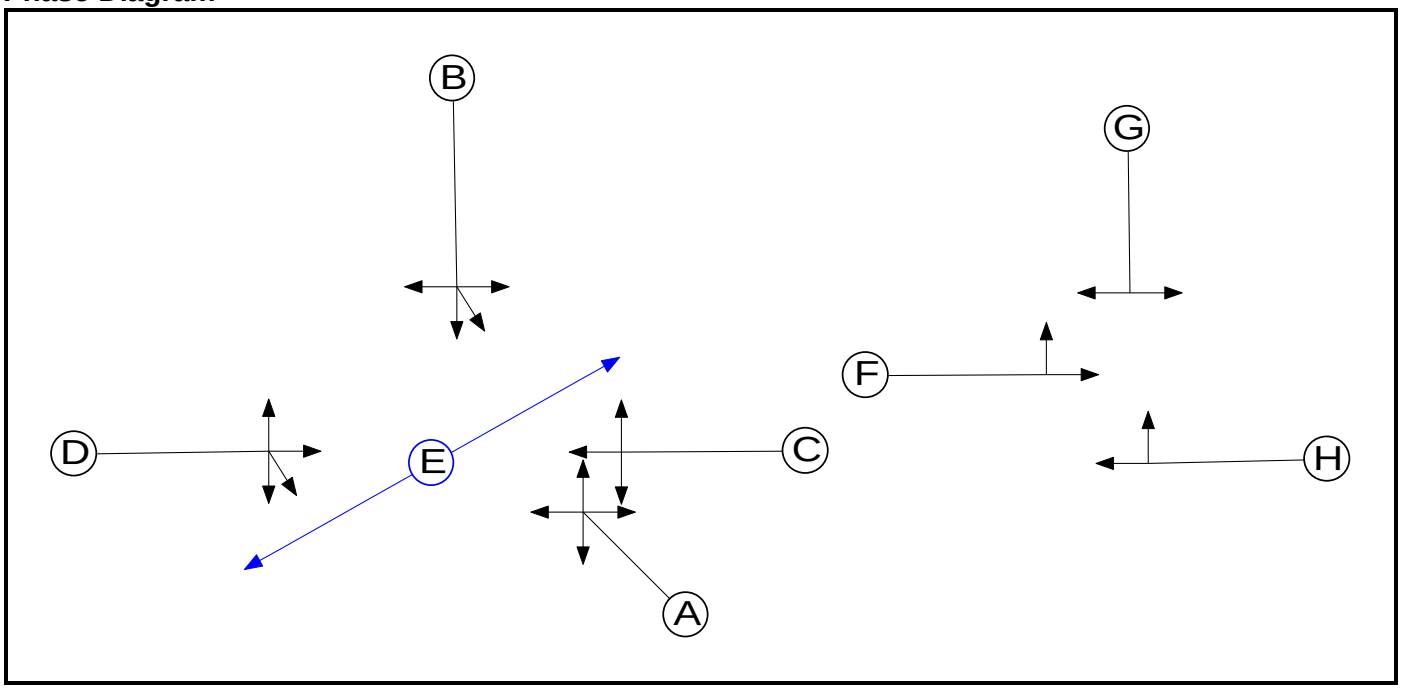
Project:	**Improving the Sturston Road-Derby Road Junction in Ashbourne**
Title:	**Current Junction Performance**
Location:	Ashbourne
File name:	Sturston Road_A515_Park Road.lsg3x
Author:	Andrew Lane
Company:	AECOM
Address:	Royal Court, Basil Close, Chesterfield, Derbyshire S41 7SL
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	5
C	Traffic	1		7	7
D	Traffic	1		7	7
E	Pedestrian	1		6	6
F	Traffic	1		7	7
G	Traffic	1		7	7
H	Traffic	1		7	7

Full Input Data And Results

Phase Intergreens Matrix

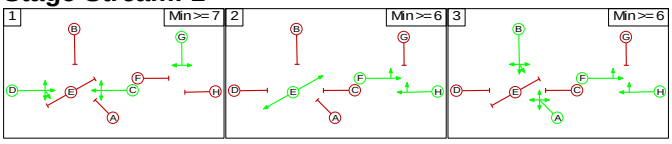
		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		-	8	8	11	-	-	-
	B	-		6	5	8	-	-	-
	C	5	6		-	9	-	-	-
	D	5	6	-		8	-	-	-
	E	10	10	10	10		-	-	-
	F	-	-	-	-	-		6	-
	G	-	-	-	-	-	5		5
	H	-	-	-	-	-	-	6	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	C D G
1	2	E F H
1	3	A B F H

Stage Diagram

Stage Stream: 1



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	D	Losing	1	1
3	1	B	Losing	2	2
3	2	B	Losing	3	3

Prohibited Stage Change

Stage Stream: 1

		To Stage		
		1	2	3
From Stage	1		9	6
	2	10		10
	3	8	11	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
J1:1/1 (A515 COMPTON STREET)	J1:8/1 (Ahead)	1440	0	J1:3/1	1.09	To J1:5/1 (Ahead) To J1:8/1 (U-Turn) To J1:9/1 (Left)	2.00	2.00	0.50	2	2.00
	J1:9/1 (Right)	1440	0	J1:3/1	1.09	To J1:5/1 (Ahead) To J1:9/1 (Left)					
J1:2/1 (STURSTON ROAD WEST)	J1:7/1 (Left)	715	0	J1:1/1	0.22	To J1:7/1 (Ahead)	-	-	-	-	-
				J1:4/1	0.22	To J1:7/1 (Right)					
J1:2/2 (STURSTON ROAD WEST)	J1:5/1 (Right)	1440	0	J1:4/1	1.09	To J1:5/1 (Left) To J1:6/1 (Ahead)	2.00	2.00	0.50	2	2.00
J1:3/1 (DERBY ROAD)	J1:6/1 (Right)	1440	0	J1:1/1	1.09	To J1:6/1 (Left) To J1:7/1 (Ahead)	4.00	4.00	0.50	4	4.00
J1:4/1 (A515 STATION STREET)	J1:7/1 (Right)	1440	0	J1:2/2	1.09	To J1:8/1 (Left) To J1:9/1 (Ahead)	2.00	2.00	0.50	2	2.00
	J1:8/1 (Right)	1440	0	J1:2/2	1.09	To J1:8/1 (Left) To J1:9/1 (Ahead)					

Junction: J2: PARK ROAD/STURSTON ROAD

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
J2:2/1 (BELPER ROAD)	J2:4/1 (Right)	1440	0	J2:3/1	1.09	To J2:4/1 (Left) To J2:5/1 (Ahead)	3.00	3.00	0.50	3	3.00

Full Input Data And Results

Lane Input Data

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J1:1/1 (A515 COMPTON STREET)	O	B	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J1:6 Left	11.00
											Arm J1:7 Ahead	25.00
											Arm J1:8 Ahead	Inf
											Arm J1:9 Right	11.00
J1:2/1 (STURSTON ROAD WEST)	O		2	3	2.0	Geom	-	5.00	0.00	Y	Arm J1:7 Left	9.00
J1:2/2 (STURSTON ROAD WEST)	O	C	2	3	10.0	Geom	-	4.00	0.00	Y	Arm J1:5 Right	10.00
											Arm J1:8 Left	14.00
											Arm J1:9 Ahead	Inf
J1:3/1 (DERBY ROAD)	O	A	2	3	60.0	Geom	-	4.50	0.00	Y	Arm J1:5 Ahead	20.00
											Arm J1:6 Right	5.00
											Arm J1:8 U-Turn	5.00
											Arm J1:9 Left	16.00
J1:4/1 (A515 STATION STREET)	O	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:5 Left	17.00
											Arm J1:6 Ahead	Inf
											Arm J1:7 Right	22.00
											Arm J1:8 Right	7.00
J1:5/1 (EXIT TO A515 N/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

J1:6/1 (EXIT TO STURSTON ROAD E/B)	U		2	3	10.0	Inf	-	-	-	-	-	-
J1:7/1 (EXIT TO DERBY ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:8/1 (OLD HILL (EXIT ONLY))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:9/1 (EXIT TO A515 W/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J2: PARK ROAD/STURSTON ROAD

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J2:1/1 (PARK ROAD)	U	G	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:5 Left	12.00
											Arm J2:6 Right	18.00
J2:2/1 (BELPER ROAD)	O	H	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J2:4 Right	18.00
											Arm J2:6 Ahead	Inf
J2:3/1 (STURSTON ROAD EAST)	U	F	2	3	10.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	15.00
											Arm J2:5 Ahead	Inf
J2:4/1 (EXIT TO PARK ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/1 (EXIT TO BELPER ROAD)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1 (EXIT TO STURSTON ROAD W/B)	U		2	3	10.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'January 2015 AM Peak'	08:00	09:00	01:00	
2: 'January 2015 PM Peak'	16:45	17:45	01:00	
3: 'With Bypass AM'	08:00	09:00	01:00	
4: 'With Bypass PM'	16:45	17:45	01:00	
5: 'With Bypass IP'	12:00	13:00	01:00	

Scenario 1: '2015 AM Peak' (FG1: 'January 2015 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	25	6	12	8	5	56
	B	208	0	7	30	96	59	400
	C	0	0	0	0	0	0	0
	D	65	20	24	0	127	79	315
	E	50	172	44	230	0	53	549
	F	26	90	23	121	110	0	370
	Tot.	349	307	104	393	341	196	1690

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2015 AM Peak
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	56
J1:2/1 (short)	262
J1:2/2 (with short)	756(In) 494(Out)
J1:3/1	400
J1:4/1	315
J1:5/1	349
J1:6/1	374
J1:7/1	307
J1:8/1	104
J1:9/1	393
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	549
J2:2/1	370
J2:3/1	374
J2:4/1	341
J2:5/1	196
J2:6/1	756

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	23.2 %	1853	1853
				Arm J1:7 Ahead	25.00	44.6 %		
				Arm J1:8 Ahead	Inf	10.7 %		
				Arm J1:9 Right	11.00	21.4 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	15.4 %	1942	1942
				Arm J1:8 Left	14.00	13.6 %		
				Arm J1:9 Ahead	Inf	71.1 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	52.0 %	1769	1769
				Arm J1:6 Right	5.00	38.8 %		
				Arm J1:8 U-Turn	5.00	1.8 %		
				Arm J1:9 Left	16.00	7.5 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:5 Left	17.00	20.6 %	1843	1843
				Arm J1:6 Ahead	Inf	65.4 %		
				Arm J1:7 Right	22.00	6.3 %		
				Arm J1:8 Right	7.00	7.6 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	9.7 %	1761	1761
				Arm J2:6 Right	18.00	90.3 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	29.7 %	1966	1966
				Arm J2:6 Ahead	Inf	70.3 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	61.8 %	1851	1851
				Arm J2:5 Ahead	Inf	38.2 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2015 PM Peak' (FG2: 'January 2015 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	20	9	13	15	21	78
	B	158	0	2	20	53	77	310
	C	0	0	0	0	0	0	0
	D	84	45	41	0	99	146	415
	E	54	191	37	221	0	80	583
	F	21	74	14	86	40	0	235
	Tot.	317	330	103	340	207	324	1621

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2015 PM Peak
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	78
J1:2/1 (short)	265
J1:2/2 (with short)	698(In) 433(Out)
J1:3/1	310
J1:4/1	415
J1:5/1	317
J1:6/1	411
J1:7/1	330
J1:8/1	103
J1:9/1	340
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	583
J2:2/1	235
J2:3/1	411
J2:4/1	207
J2:5/1	324
J2:6/1	698

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	46.2 %	1830	1830
				Arm J1:7 Ahead	25.00	25.6 %		
				Arm J1:8 Ahead	Inf	11.5 %		
				Arm J1:9 Right	11.00	16.7 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	17.3 %	1940	1940
				Arm J1:8 Left	14.00	11.8 %		
				Arm J1:9 Ahead	Inf	70.9 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	51.0 %	1762	1762
				Arm J1:6 Right	5.00	41.9 %		
				Arm J1:8 U-Turn	5.00	0.6 %		
				Arm J1:9 Left	16.00	6.5 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:5 Left	17.00	20.2 %	1830	1830
				Arm J1:6 Ahead	Inf	59.0 %		
				Arm J1:7 Right	22.00	10.8 %		
				Arm J1:8 Right	7.00	9.9 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	13.7 %	1758	1758
				Arm J2:6 Right	18.00	86.3 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	17.0 %	1987	1987
				Arm J2:6 Ahead	Inf	83.0 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	40.6 %	1888	1888
				Arm J2:5 Ahead	Inf	59.4 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'Base AM 2017' (FG3: 'With Bypass AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	34	6	8	10	7	65
	B	105	0	10	23	268	187	593
	C	0	0	0	0	0	0	0
	D	8	35	27	0	142	99	311
	E	61	190	22	149	0	73	495
	F	48	148	17	116	103	0	432
	Tot.	222	407	82	296	523	366	1896

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: Base AM 2017
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	65
J1:2/1 (short)	338
J1:2/2 (with short)	751(In) 413(Out)
J1:3/1	593
J1:4/1	311
J1:5/1	222
J1:6/1	713
J1:7/1	407
J1:8/1	82
J1:9/1	296
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	495
J2:2/1	432
J2:3/1	713
J2:4/1	523
J2:5/1	366
J2:6/1	751

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	26.2 %	1859	1859
				Arm J1:7 Ahead	25.00	52.3 %		
				Arm J1:8 Ahead	Inf	9.2 %		
				Arm J1:9 Right	11.00	12.3 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	26.4 %	1920	1920
				Arm J1:8 Left	14.00	9.4 %		
				Arm J1:9 Ahead	Inf	64.2 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	17.7 %	1649	1649
				Arm J1:6 Right	5.00	76.7 %		
				Arm J1:8 U-Turn	5.00	1.7 %		
				Arm J1:9 Left	16.00	3.9 %		
				Arm J1:5 Left	17.00	2.6 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:6 Ahead	Inf	77.5 %	1862	1862
				Arm J1:7 Right	22.00	11.3 %		
				Arm J1:8 Right	7.00	8.7 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	14.7 %	1758	1758
				Arm J2:6 Right	18.00	85.3 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	23.8 %	1976	1976
				Arm J2:6 Ahead	Inf	76.2 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	58.9 %	1856	1856
				Arm J2:5 Ahead	Inf	41.1 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'Base PM 2017' (FG4: 'With Bypass PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	24	8	11	12	13	68
	B	107	0	9	61	164	181	522
	C	0	0	0	0	0	0	0
	D	37	61	46	0	124	137	405
	E	49	224	46	147	0	74	540
	F	36	162	33	106	49	0	386
	Tot.	229	471	142	325	349	405	1921

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: Base PM 2017
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	68
J1:2/1 (short)	386
J1:2/2 (with short)	803(In) 417(Out)
J1:3/1	522
J1:4/1	405
J1:5/1	229
J1:6/1	631
J1:7/1	471
J1:8/1	142
J1:9/1	325
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	540
J2:2/1	386
J2:3/1	631
J2:4/1	349
J2:5/1	405
J2:6/1	803

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	36.8 %	1843	1843
				Arm J1:7 Ahead	25.00	35.3 %		
				Arm J1:8 Ahead	Inf	11.8 %		
				Arm J1:9 Right	11.00	16.2 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	20.4 %	1917	1917
				Arm J1:8 Left	14.00	18.9 %		
				Arm J1:9 Ahead	Inf	60.7 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	20.5 %	1679	1679
				Arm J1:6 Right	5.00	66.1 %		
				Arm J1:8 U-Turn	5.00	1.7 %		
				Arm J1:9 Left	16.00	11.7 %		
				Arm J1:5 Left	17.00	9.1 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:6 Ahead	Inf	64.4 %	1837	1837
				Arm J1:7 Right	22.00	15.1 %		
				Arm J1:8 Right	7.00	11.4 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	13.7 %	1758	1758
				Arm J2:6 Right	18.00	86.3 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	12.7 %	1994	1994
				Arm J2:6 Ahead	Inf	87.3 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	47.5 %	1876	1876
				Arm J2:5 Ahead	Inf	52.5 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Base Interpeak' (FG5: 'With Bypass IP', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	13	3	13	8	6	43
	B	101	0	3	46	167	137	454
	C	0	0	0	0	0	0	0
	D	26	53	24	0	110	91	304
	E	67	180	22	178	0	64	511
	F	36	97	12	95	44	0	284
	Tot.	230	343	64	332	329	298	1596

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Base Interpeak
Junction: J1: DERBY ROAD/STURSTON ROAD	
J1:1/1	43
J1:2/1 (short)	277
J1:2/2 (with short)	687(In) 410(Out)
J1:3/1	454
J1:4/1	304
J1:5/1	230
J1:6/1	519
J1:7/1	343
J1:8/1	64
J1:9/1	332
Junction: J2: PARK ROAD/STURSTON ROAD	
J2:1/1	511
J2:2/1	284
J2:3/1	519
J2:4/1	329
J2:5/1	298
J2:6/1	687

Full Input Data And Results

Lane Saturation Flows

Junction: J1: DERBY ROAD/STURSTON ROAD

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A515 COMPTON STREET)	4.00	0.00	Y	Arm J1:6 Left	11.00	32.6 %	1826	1826
				Arm J1:7 Ahead	25.00	30.2 %		
				Arm J1:8 Ahead	Inf	7.0 %		
				Arm J1:9 Right	11.00	30.2 %		
J1:2/1 (STURSTON ROAD WEST)	5.00	0.00	Y	Arm J1:7 Left	9.00	100.0 %	1813	1813
J1:2/2 (STURSTON ROAD WEST)	4.00	0.00	Y	Arm J1:5 Right	10.00	25.1 %	1925	1925
				Arm J1:8 Left	14.00	8.3 %		
				Arm J1:9 Ahead	Inf	66.6 %		
J1:3/1 (DERBY ROAD)	4.50	0.00	Y	Arm J1:5 Ahead	20.00	22.2 %	1680	1680
				Arm J1:6 Right	5.00	67.0 %		
				Arm J1:8 U-Turn	5.00	0.7 %		
				Arm J1:9 Left	16.00	10.1 %		
				Arm J1:5 Left	17.00	8.6 %		
J1:4/1 (A515 STATION STREET)	3.00	0.00	Y	Arm J1:6 Ahead	Inf	66.1 %	1848	1848
				Arm J1:7 Right	22.00	17.4 %		
				Arm J1:8 Right	7.00	7.9 %		
J1:5/1 (EXIT TO A515 N/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/1 (EXIT TO STURSTON ROAD E/B Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (EXIT TO DERBY ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (OLD HILL (EXIT ONLY) Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (EXIT TO A515 W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

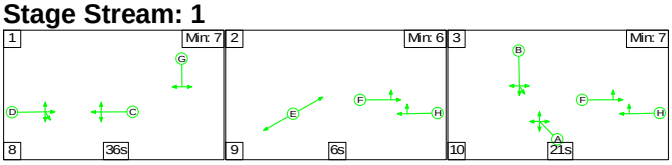
Full Input Data And Results

Junction: J2: PARK ROAD/STURSTON ROAD								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (PARK ROAD)	3.00	0.00	Y	Arm J2:5 Left	12.00	12.5 %	1759	1759
				Arm J2:6 Right	18.00	87.5 %		
J2:2/1 (BELPER ROAD)	4.00	0.00	Y	Arm J2:4 Right	18.00	15.5 %	1989	1989
				Arm J2:6 Ahead	Inf	84.5 %		
J2:3/1 (STURSTON ROAD EAST)	3.50	0.00	Y	Arm J2:4 Left	15.00	54.9 %	1863	1863
				Arm J2:5 Ahead	Inf	45.1 %		
J2:4/1 (EXIT TO PARK ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (EXIT TO BELPER ROAD Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (EXIT TO STURSTON ROAD W/B Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2015 AM Peak' (FG1: 'January 2015 AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



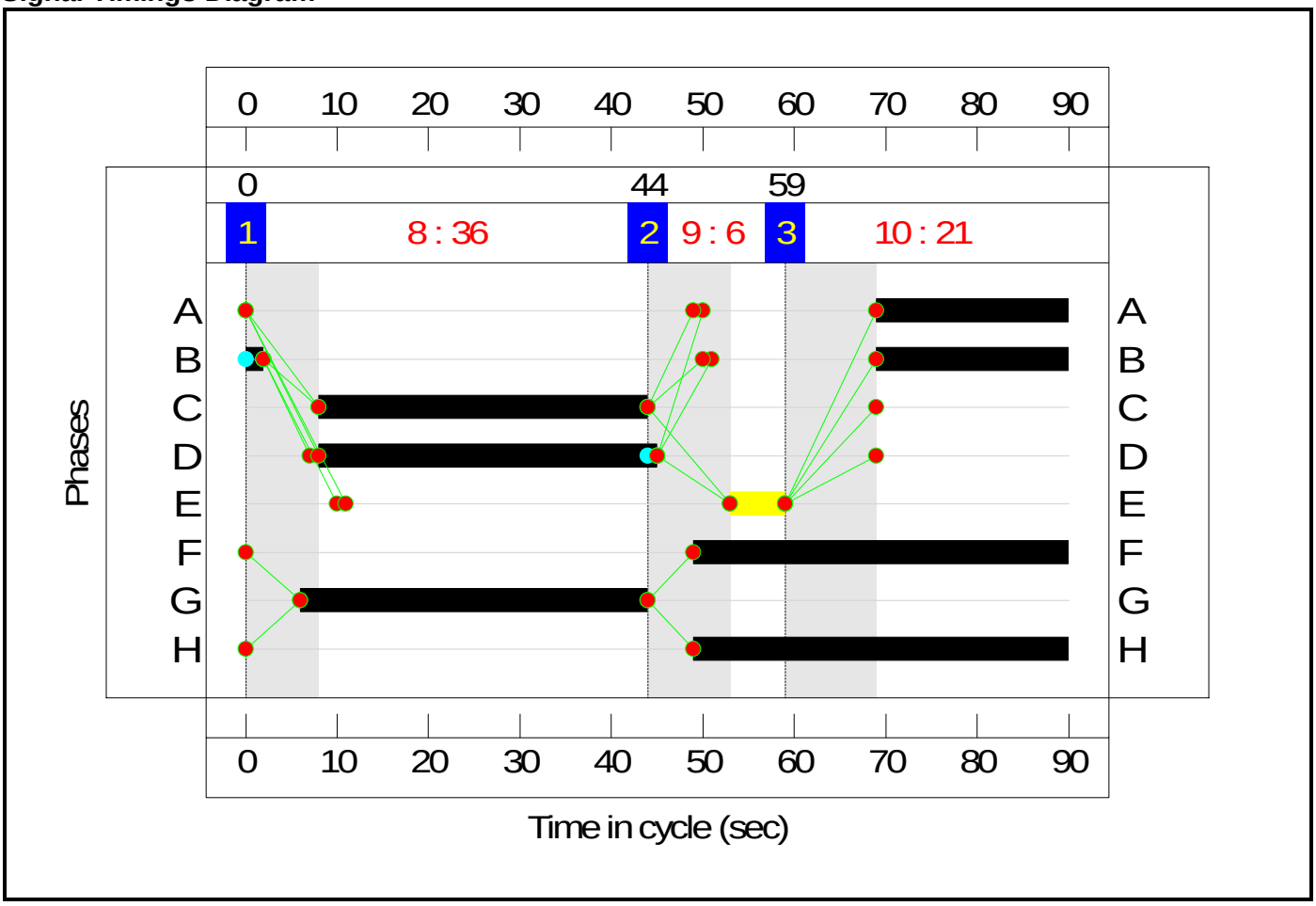
Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	36	6	21
Change Point	0	44	59

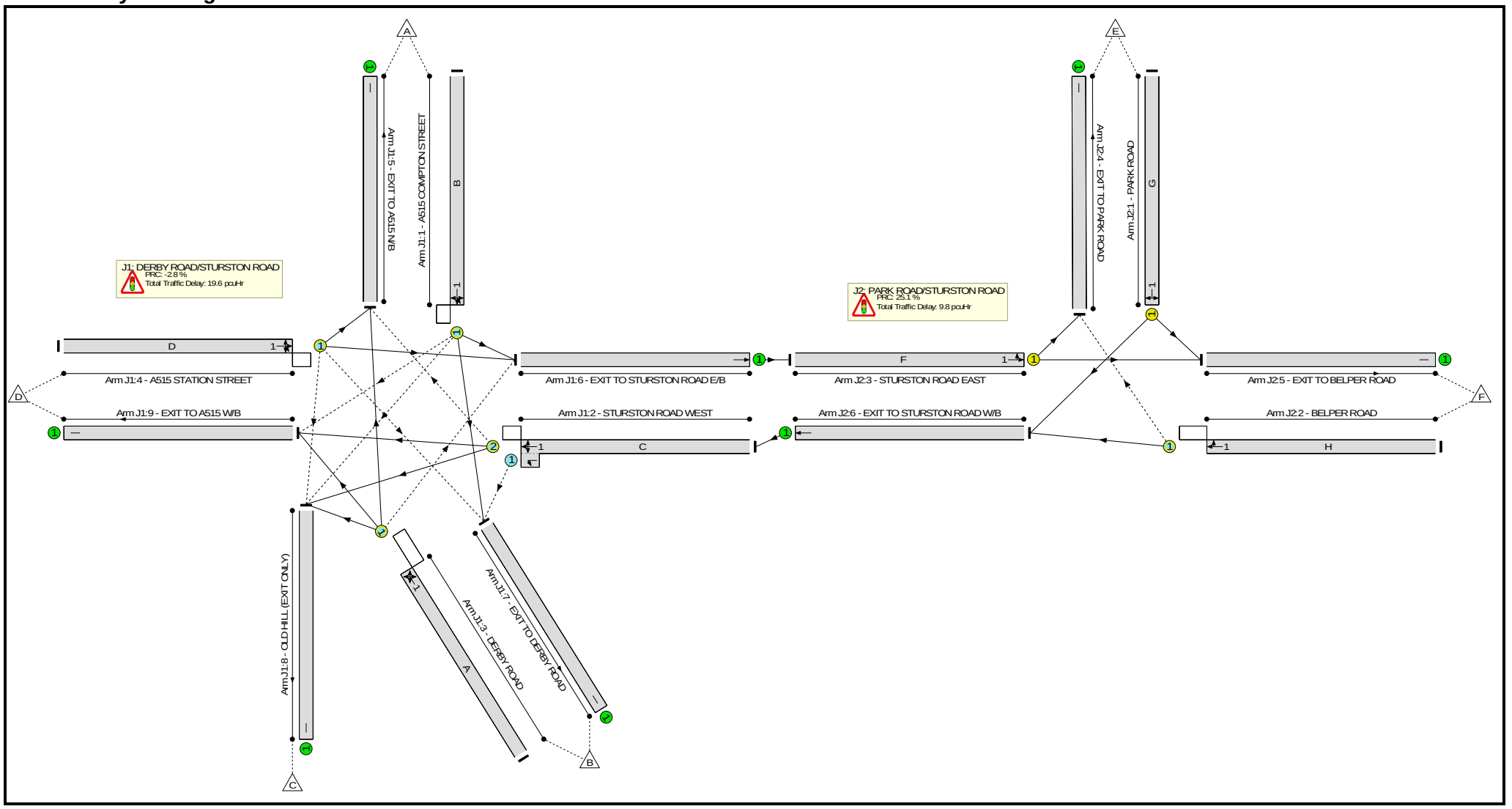
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.5%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**92.5%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	23	-	56	1853	494	11.3%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	36	-	756	1942:1813	534+283	92.5 : 92.5%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	21	-	400	1769	432	92.5%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	37	-	315	1843	778	40.5%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	374	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	307	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	104	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	393	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.9%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	38	-	549	1761	763	71.9%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	41	-	370	1966	850	43.5%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	41	-	374	1851	864	43.3%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	341	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	196	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	756	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**841**	**162**	**0**	**16.5**	**12.5**	**0.4**	**29.4**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**737**	**156**	**0**	**9.0**	**10.4**	**0.1**	**19.6**	**-**	**-**	**-**	**-**
1/1	56	56	3	15	0	0.4	0.1	0.0	0.5	29.1	1.1	0.1	1.1
2/2+2/1	756	756	535	141	0	3.3	5.3	0.1	8.7	41.3	17.8	5.3	23.1
3/1	400	400	155	0	0	3.7	4.8	0.0	8.5	76.4	9.7	4.8	14.4
4/1	315	315	44	0	0	1.6	0.3	0.1	2.0	22.7	5.4	0.3	5.8
5/1	349	349	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	374	374	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	307	307	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	104	104	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	393	393	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**104**	**6**	**0**	**7.5**	**2.0**	**0.2**	**9.8**	**-**	**-**	**-**	**-**
1/1	549	549	-	-	-	3.2	1.3	-	4.5	29.3	11.3	1.3	12.6
2/1	370	370	104	6	0	1.6	0.4	0.2	2.2	21.8	6.1	0.4	6.4
3/1	374	374	-	-	-	2.7	0.4	-	3.1	29.6	6.7	0.4	7.0
4/1	341	341	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	196	196	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	756	756	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

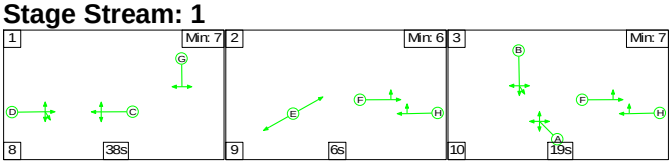
C1 Stream: 1 PRC for Signalled Lanes (%): -2.8 Total Delay for Signalled Lanes (pcuHr): 29.37 Cycle Time (s): 90
PRC Over All Lanes (%): -2.8 Total Delay Over All Lanes(pcuHr): 29.37

Full Input Data And Results

Scenario 2: '2015 PM Peak' (FG2: 'January 2015 PM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

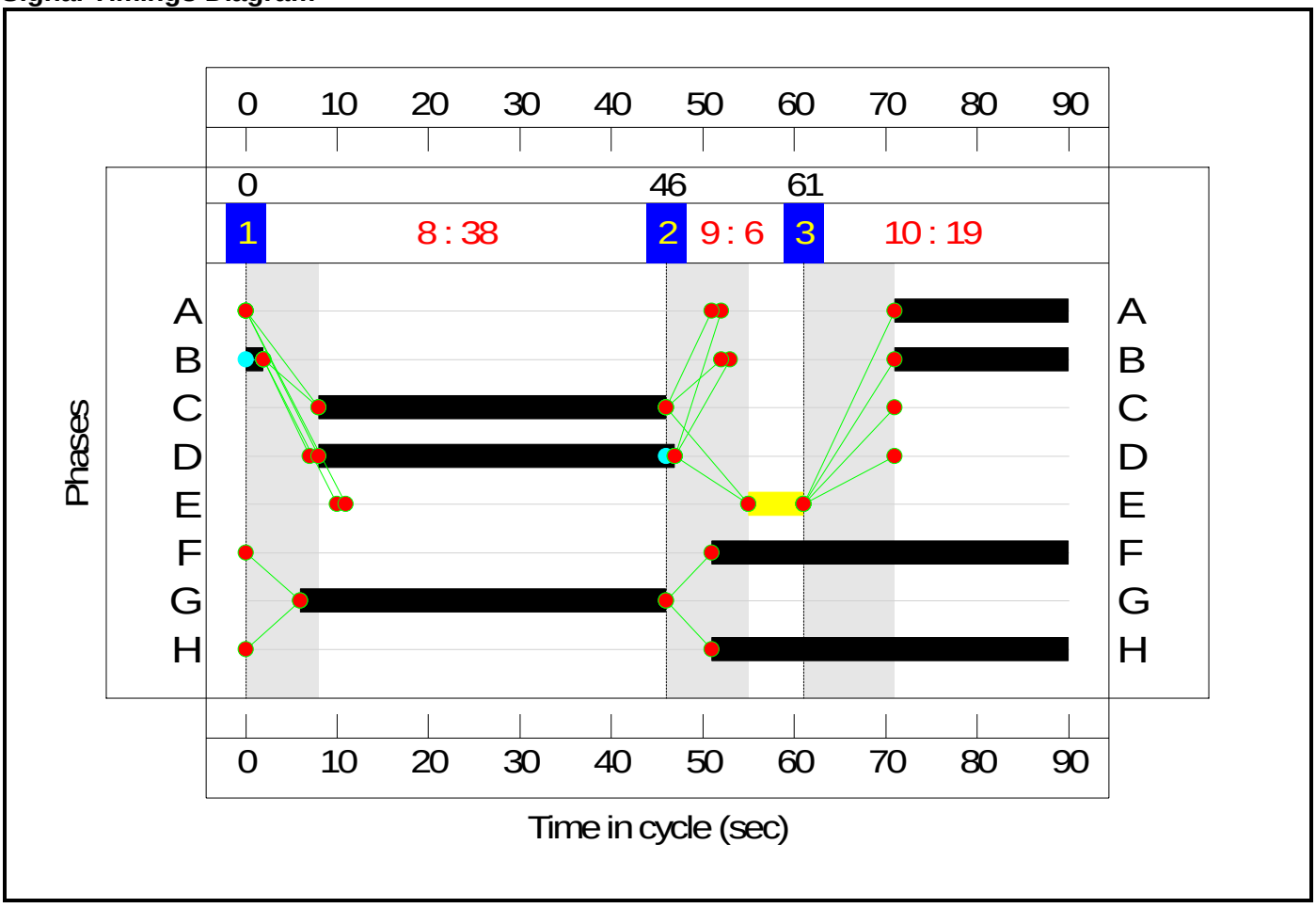


Stage Timings

Stage Stream: 1

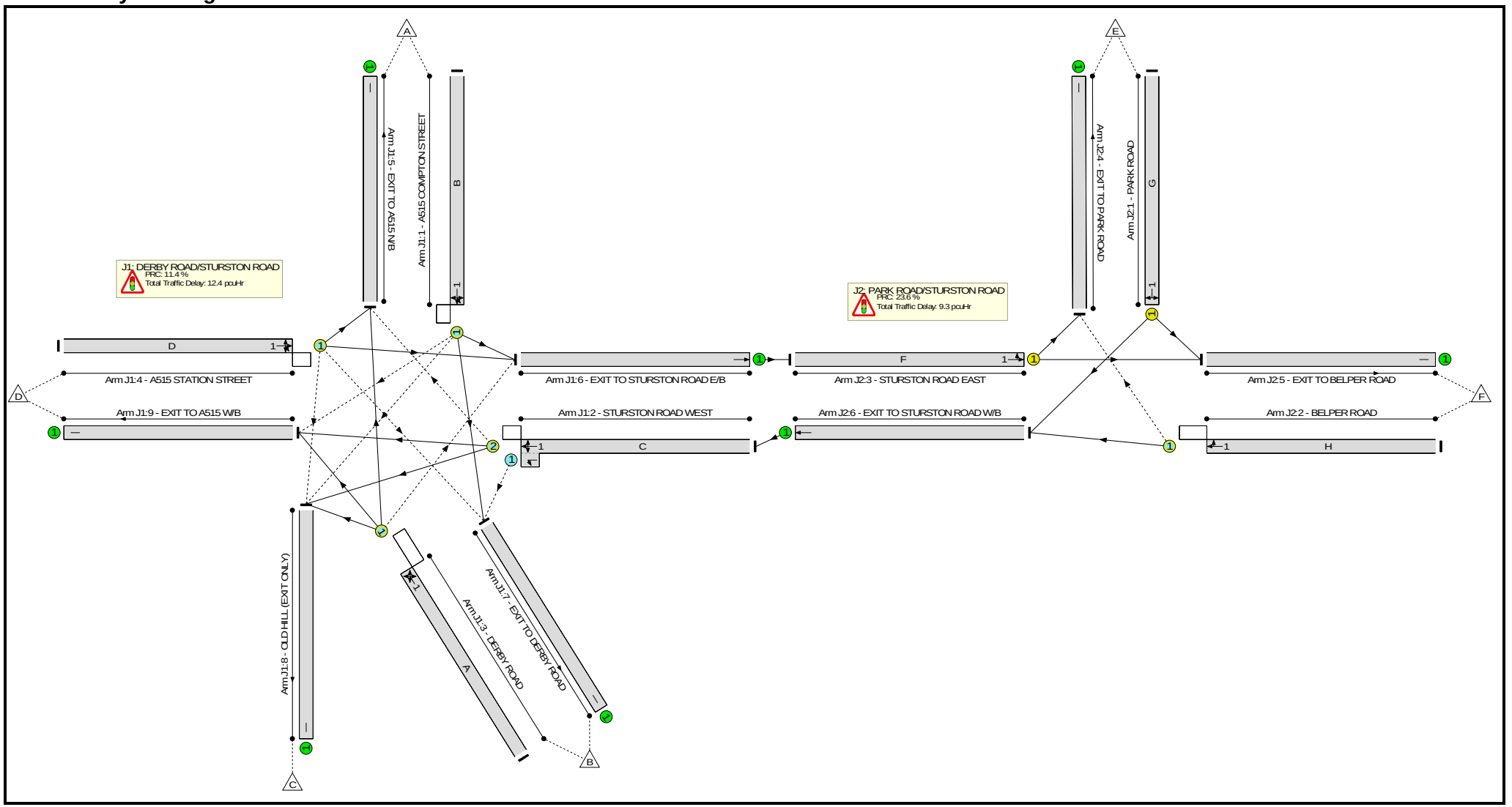
Stage	1	2	3
Duration	38	6	19
Change Point	0	46	61

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.8%**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.8%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	21	-	78	1830	447	17.4%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	38	-	698	1940:1813	536+328	80.8 : 80.8%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	19	-	310	1762	392	79.2%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	39	-	415	1830	813	51.0%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	317	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	411	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	330	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	103	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	340	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.8%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	40	-	583	1758	801	72.8%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	39	-	235	1987	868	27.1%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	39	-	411	1888	839	49.0%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	324	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	698	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**787**	**171**	**0**	**14.9**	**6.5**	**0.4**	**21.7**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**751**	**167**	**0**	**7.6**	**4.5**	**0.3**	**12.4**	**-**	**-**	**-**	**-**
1/1	78	78	3	19	0	0.6	0.1	0.0	0.7	31.7	1.5	0.1	1.6
2/2+2/1	698	698	532	148	0	2.1	2.1	0.1	4.3	22.0	14.9	2.1	17.0
3/1	310	310	130	0	0	2.8	1.8	0.1	4.7	54.9	7.2	1.8	9.1
4/1	415	415	86	0	0	2.1	0.5	0.1	2.7	23.6	7.4	0.5	7.9
5/1	317	317	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	411	411	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	330	330	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	103	103	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**36**	**4**	**0**	**7.3**	**2.0**	**0.1**	**9.3**	**-**	**-**	**-**	**-**
1/1	583	583	-	-	-	3.2	1.3	-	4.6	28.1	11.8	1.3	13.1
2/1	235	235	36	4	0	1.0	0.2	0.1	1.3	20.0	3.7	0.2	3.8
3/1	411	411	-	-	-	3.0	0.5	-	3.5	30.5	7.4	0.5	7.9
4/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	324	324	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	698	698	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

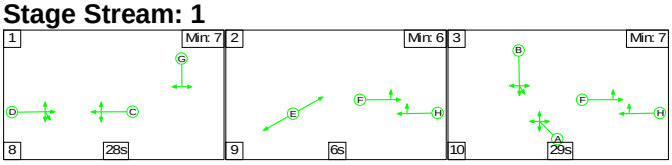
C1 Stream: 1 PRC for Signalled Lanes (%): 11.4 Total Delay for Signalled Lanes (pcuHr): 21.74 Cycle Time (s): 90
PRC Over All Lanes (%): 11.4 Total Delay Over All Lanes(pcuHr): 21.74

Full Input Data And Results

Scenario 3: 'Base AM 2017' (FG3: 'With Bypass AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

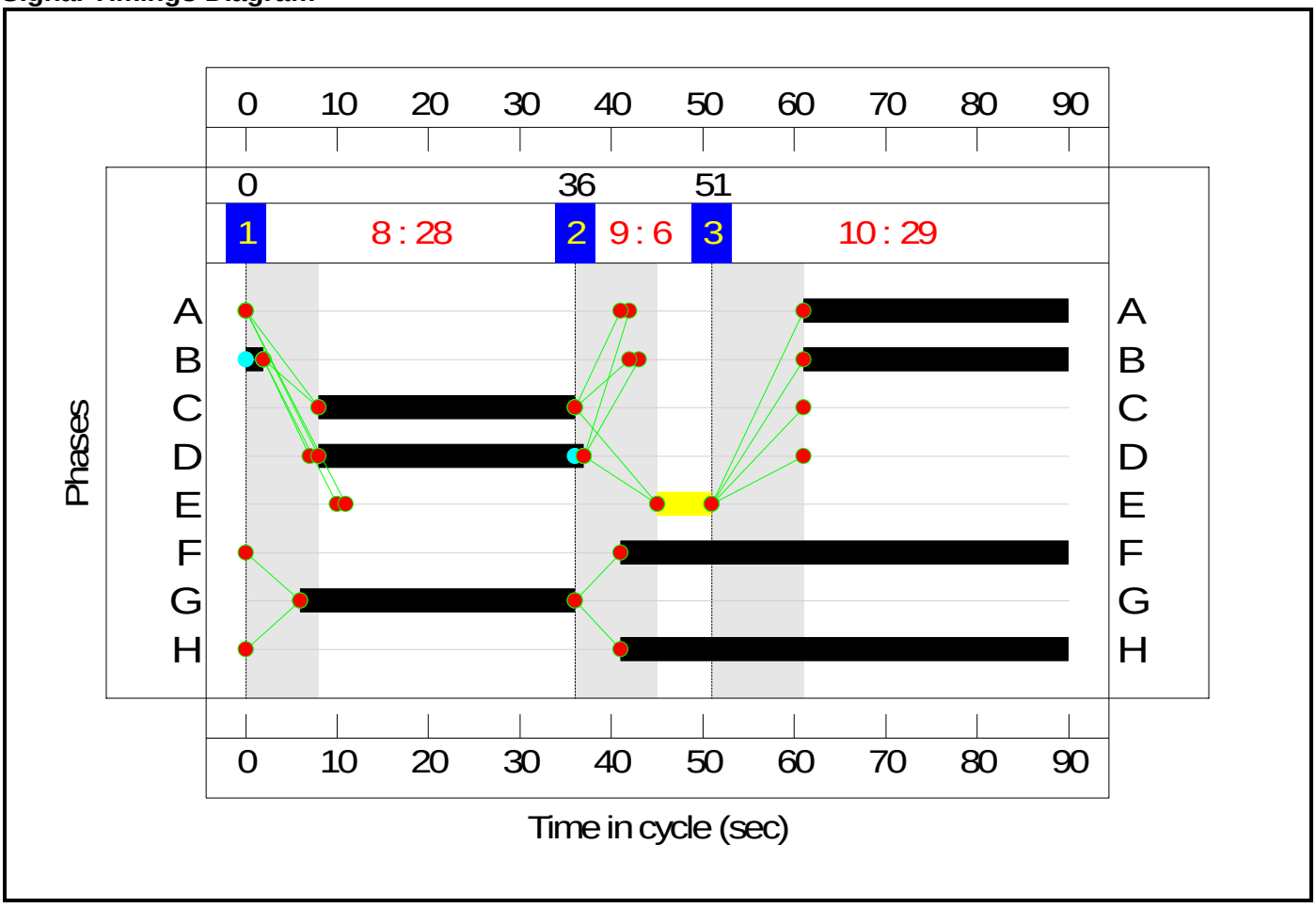


Stage Timings

Stage Stream: 1

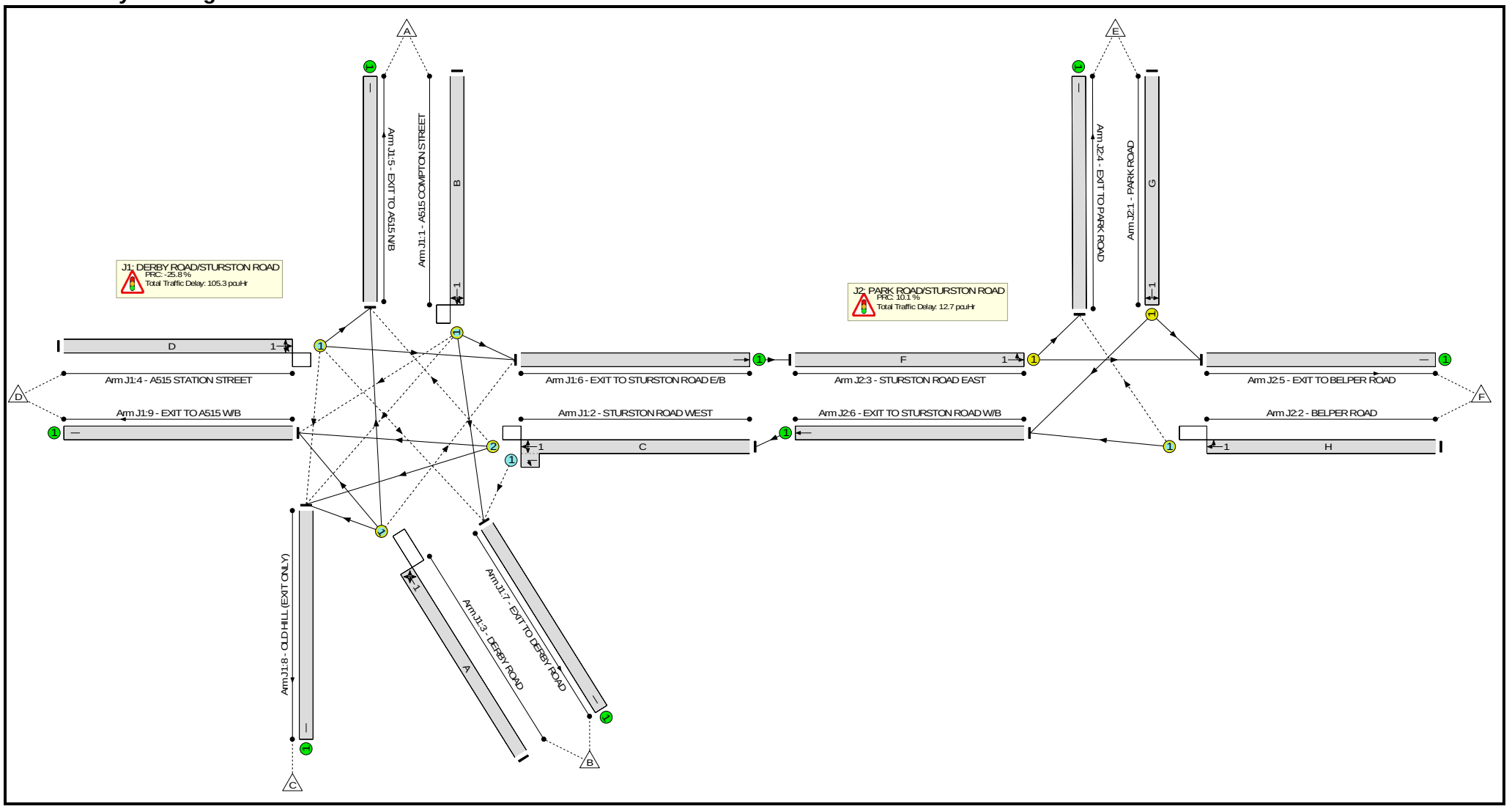
Stage	1	2	3
Duration	28	6	29
Change Point	0	36	51

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.2%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.2%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	31	-	65	1859	661	9.8%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	28	-	751	1920:1813	365+299	113.0 : 113.0%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	29	-	593	1649	524	113.2%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	29	-	311	1862	621	50.1%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	222	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	713	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	407	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	82	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	296	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.7%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	30	-	495	1758	606	81.7%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	49	-	432	1976	1005	43.0%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	49	-	713	1856	1031	64.2%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	523	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	366	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	751	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**1183**	**179**	**12**	**27.6**	**89.6**	**0.7**	**118.0**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**1097**	**174**	**0**	**18.7**	**86.2**	**0.4**	**105.3**	**-**	**-**	**-**	**-**
1/1	65	65	3	11	0	0.3	0.1	0.0	0.4	22.4	1.1	0.1	1.1
2/2+2/1	751	665	628	163	0	7.8	47.2	0.1	55.1	264.0	27.7	47.2	74.9
3/1	593	526	404	0	0	8.6	38.4	0.2	47.2	286.5	17.7	38.4	56.1
4/1	311	311	62	0	0	2.1	0.5	0.1	2.6	30.6	6.2	0.5	6.7
5/1	198	198	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	662	662	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	368	368	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	76	76	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	263	263	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**85**	**5**	**12**	**8.9**	**3.4**	**0.3**	**12.7**	**-**	**-**	**-**	**-**
1/1	495	495	-	-	-	3.7	2.2	-	5.9	42.6	11.3	2.2	13.4
2/1	432	432	85	5	12	1.4	0.4	0.3	2.1	17.2	6.1	0.4	6.5
3/1	662	662	-	-	-	3.8	0.9	-	4.7	25.7	9.8	0.9	10.7
4/1	493	493	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	345	345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	751	751	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

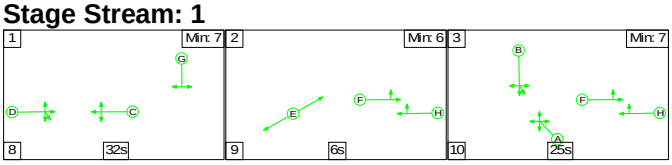
C1 Stream: 1 PRC for Signalled Lanes (%): -25.8 Total Delay for Signalled Lanes (pcuHr): 117.97 Cycle Time (s): 90
PRC Over All Lanes (%): -25.8 Total Delay Over All Lanes(pcuHr): 117.97

Full Input Data And Results

Scenario 4: 'Base PM 2017' (FG4: 'With Bypass PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

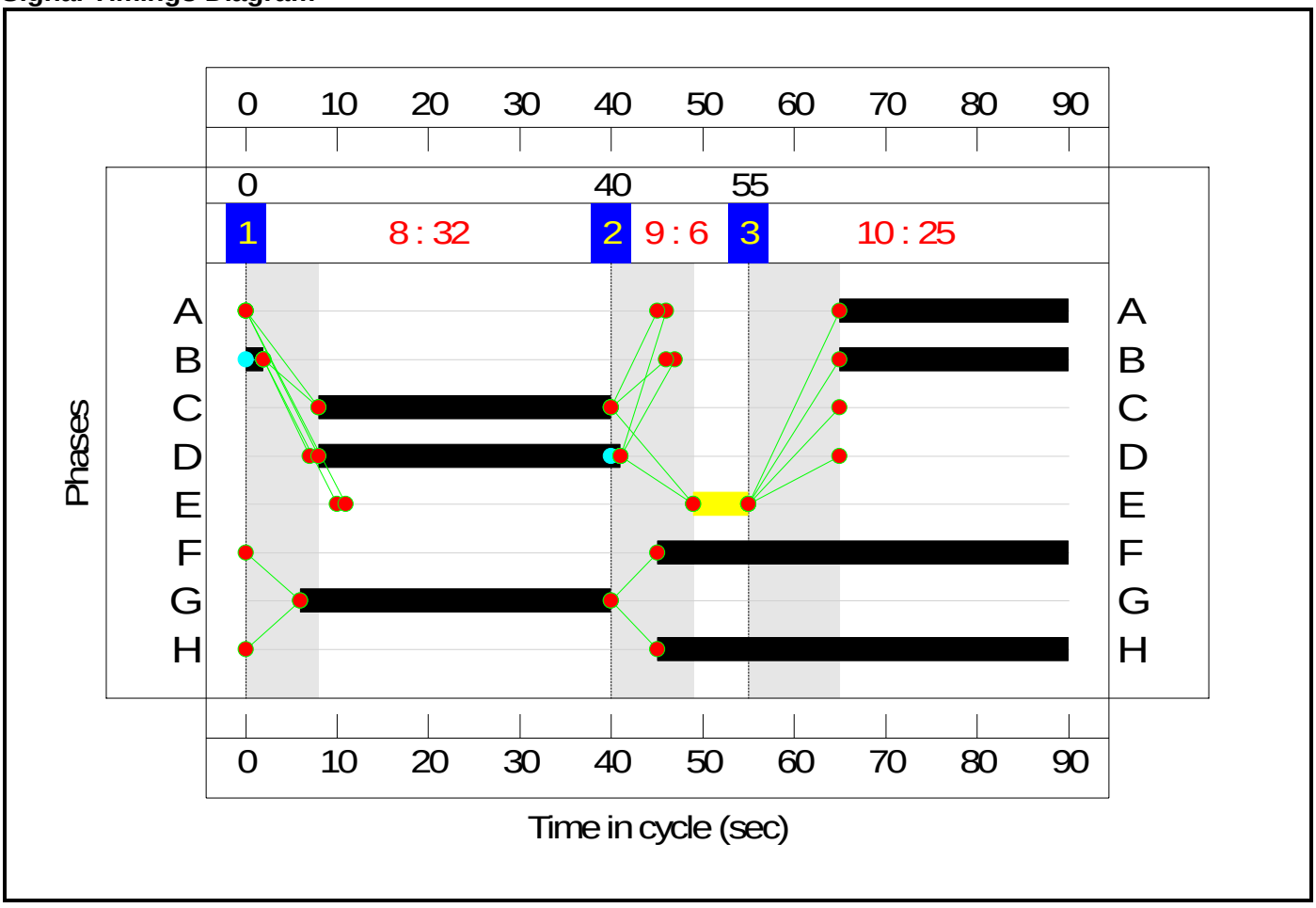


Stage Timings

Stage Stream: 1

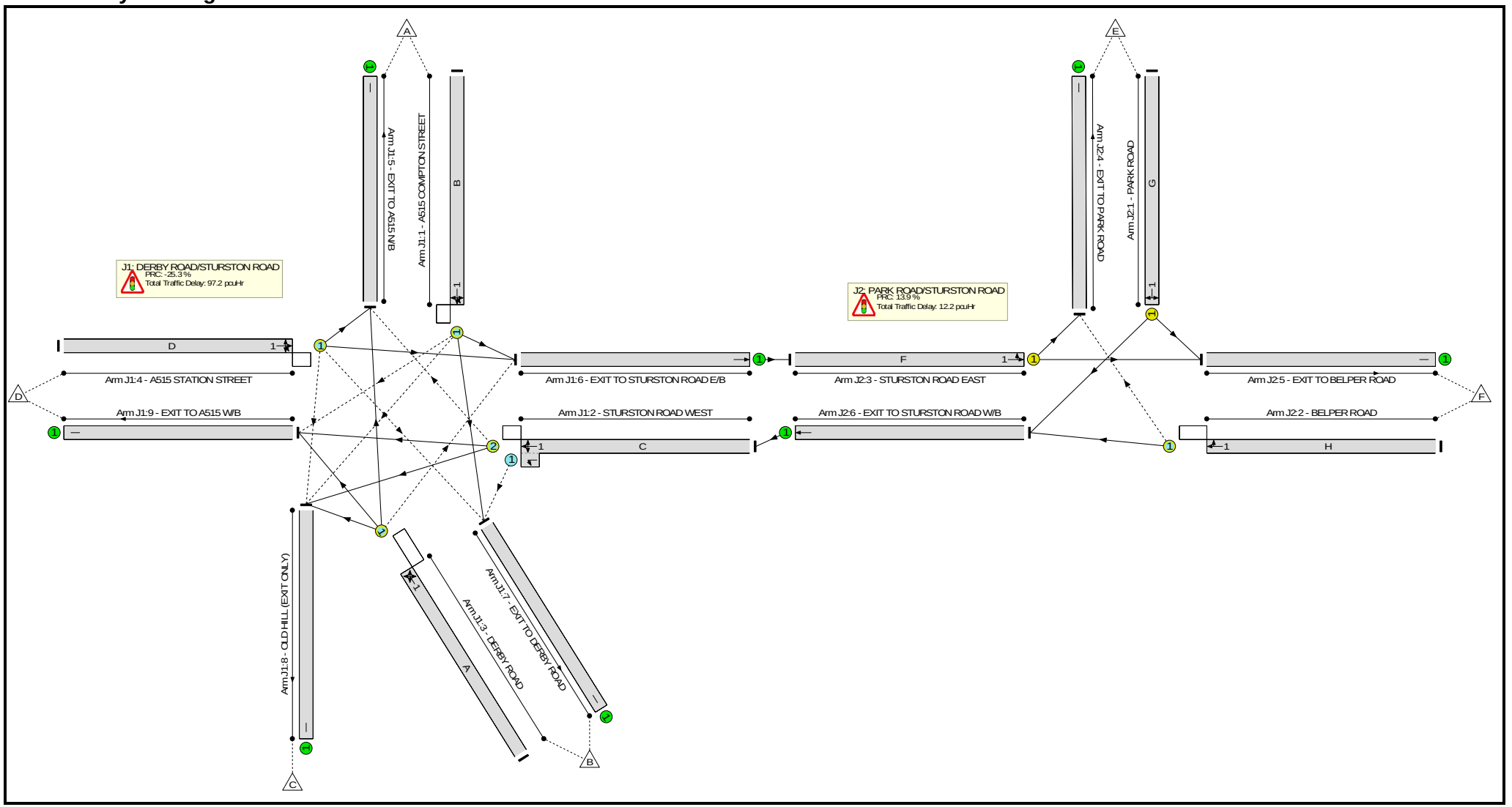
Stage	1	2	3
Duration	32	6	25
Change Point	0	40	55

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**112.8%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**112.8%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	27	-	68	1843	573	11.9%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	32	-	803	1917:1813	370+342	112.8 : 112.8%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	25	-	522	1679	474	110.1%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	33	-	405	1837	691	58.6%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	229	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	631	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	471	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	142	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	325	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**79.0%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	34	-	540	1758	684	79.0%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	45	-	386	1994	1014	38.1%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	45	-	631	1876	959	62.7%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	405	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	803	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**1117**	**205**	**3**	**27.0**	**81.8**	**0.6**	**109.4**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**1074**	**203**	**0**	**18.0**	**78.8**	**0.4**	**97.2**	**-**	**-**	**-**	**-**
1/1	68	68	4	15	0	0.4	0.1	0.0	0.5	25.8	1.2	0.1	1.3
2/2+2/1	803	712	648	187	0	8.0	49.6	0.1	57.7	258.9	29.1	49.6	78.6
3/1	522	477	315	0	0	7.0	28.4	0.1	35.6	245.6	14.9	28.4	43.3
4/1	405	405	107	0	0	2.5	0.7	0.1	3.4	29.9	8.0	0.7	8.7
5/1	210	210	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	601	601	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	427	427	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	132	132	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	291	291	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**43**	**3**	**3**	**9.1**	**3.0**	**0.1**	**12.2**	**-**	**-**	**-**	**-**
1/1	540	540	-	-	-	3.6	1.8	-	5.5	36.5	11.8	1.8	13.7
2/1	386	386	43	3	3	1.4	0.3	0.1	1.9	17.6	5.8	0.3	6.1
3/1	601	601	-	-	-	4.0	0.8	-	4.8	28.9	9.7	0.8	10.6
4/1	335	335	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	389	389	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	803	803	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

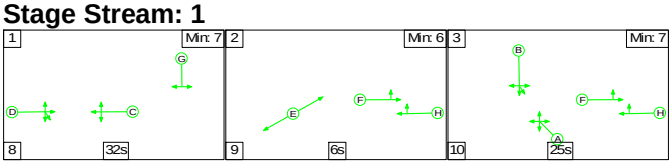
C1 Stream: 1 PRC for Signalled Lanes (%): -25.3 Total Delay for Signalled Lanes (pcuHr): 109.38 Cycle Time (s): 90
PRC Over All Lanes (%): -25.3 Total Delay Over All Lanes(pcuHr): 109.38

Full Input Data And Results

Scenario 5: 'Base Interpeak' (FG5: 'With Bypass IP', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1

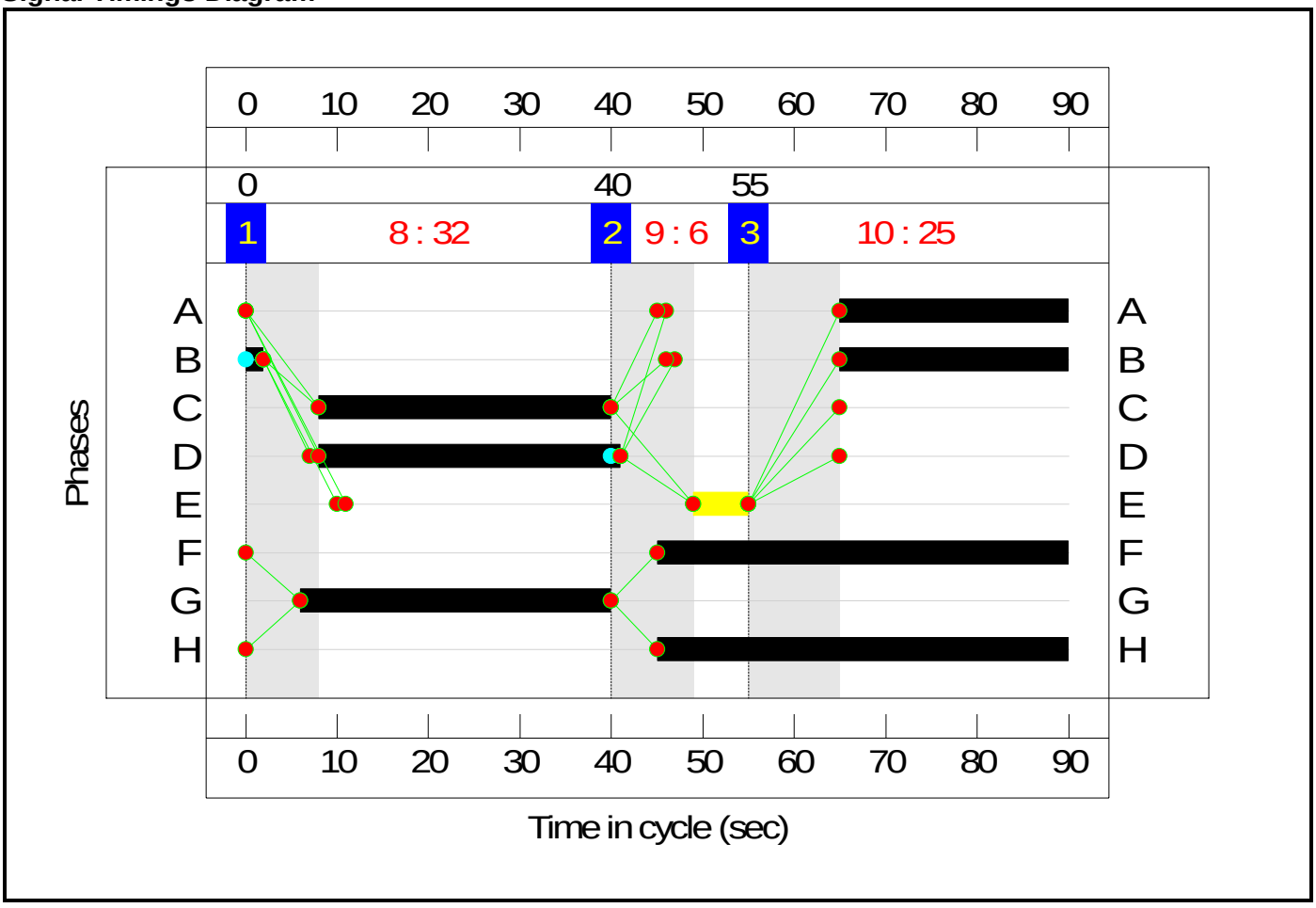


Stage Timings

Stage Stream: 1

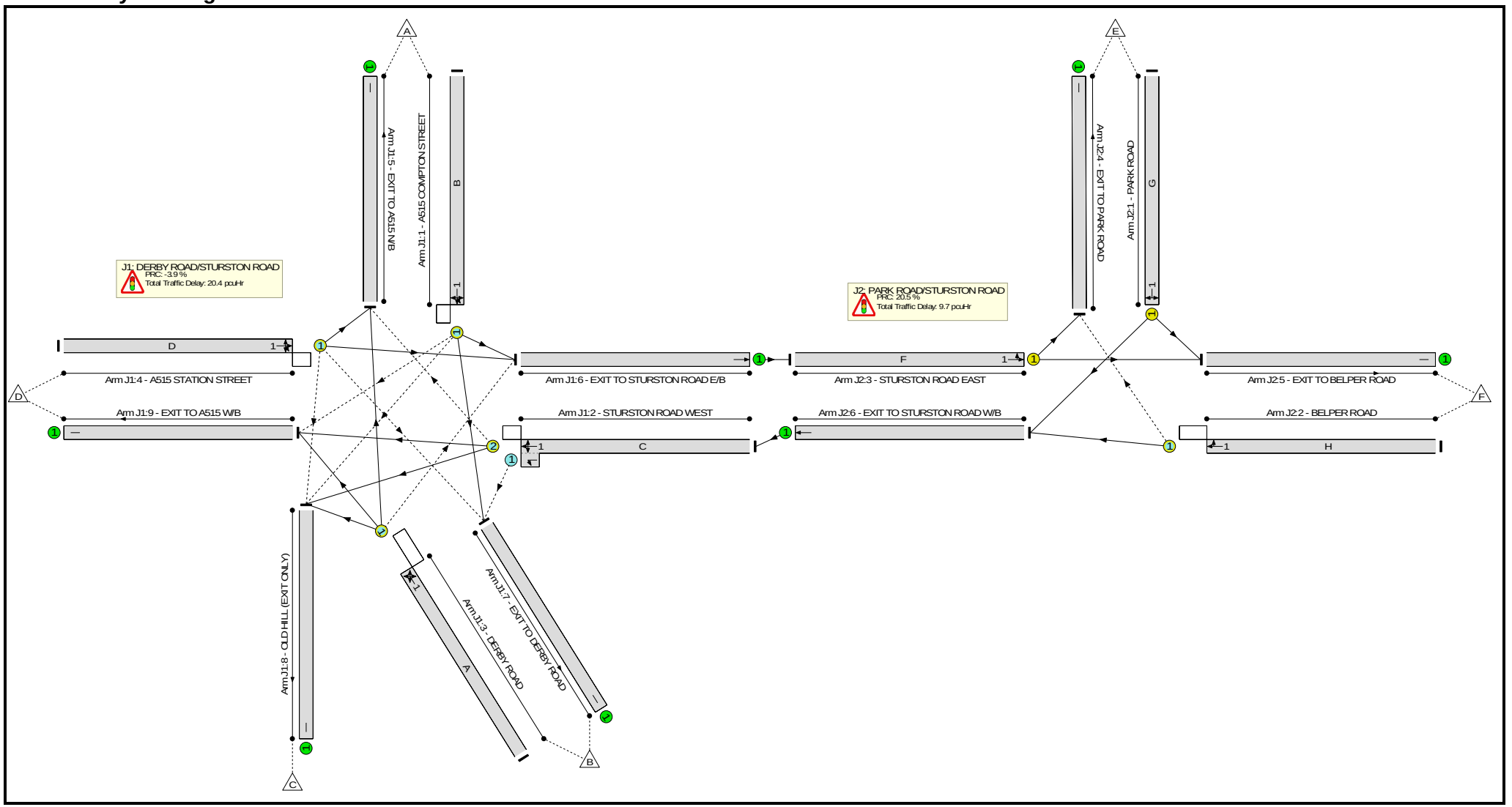
Stage	1	2	3
Duration	32	6	25
Change Point	0	40	55

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Current Junction Performance	-	-	**N/A**	-	-		-	-	-	-	-	-	**93.5%**
J1: DERBY ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**93.5%**
1/1	A515 COMPTON STREET Left Ahead Ahead2 Right	O	1	N/A	B		1	27	-	43	1826	568	7.6%
2/2+2/1	STURSTON ROAD WEST Right Left Left2 Ahead	O	1	N/A	C -		1	32	-	687	1925:1813	441+298	92.9 : 92.9%
3/1	DERBY ROAD Ahead Right U-Turn Left	O	1	N/A	A		1	25	-	454	1680	485	93.5%
4/1	A515 STATION STREET Left Ahead Right Right2	O	1	N/A	D		1	33	-	304	1848	698	43.6%
5/1	EXIT TO A515 N/B	U	N/A	N/A	-		-	-	-	230	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD E/B Ahead	U	N/A	N/A	-		-	-	-	519	Inf	Inf	0.0%
7/1	EXIT TO DERBY ROAD	U	N/A	N/A	-		-	-	-	343	Inf	Inf	0.0%
8/1	OLD HILL (EXIT ONLY)	U	N/A	N/A	-		-	-	-	64	Inf	Inf	0.0%
9/1	EXIT TO A515 W/B	U	N/A	N/A	-		-	-	-	332	Inf	Inf	0.0%
J2: PARK ROAD/STURSTON ROAD	-	-	**N/A**	-	-		-	-	-	-	-	-	**74.7%**
1/1	PARK ROAD Left Right	U	1	N/A	G		1	34	-	511	1759	684	74.7%

Full Input Data And Results

2/1	BELPER ROAD Right Ahead	O	1	N/A	H		1	45	-	284	1989	1011	28.1%
3/1	STURSTON ROAD EAST Left Ahead	U	1	N/A	F		1	45	-	519	1863	952	54.5%
4/1	EXIT TO PARK ROAD	U	N/A	N/A	-		-	-	-	329	Inf	Inf	0.0%
5/1	EXIT TO BELPER ROAD	U	N/A	N/A	-		-	-	-	298	Inf	Inf	0.0%
6/1	EXIT TO STURSTON ROAD W/B Ahead	U	N/A	N/A	-		-	-	-	687	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Current Junction Performance	**-**	**-**	**1016**	**183**	**3**	**16.2**	**13.5**	**0.4**	**30.1**	**-**	**-**	**-**	**-**
J1: DERBY ROAD/STURSTON ROAD	**-**	**-**	**978**	**179**	**0**	**8.9**	**11.3**	**0.3**	**20.4**	**-**	**-**	**-**	**-**
1/1	43	43	3	13	0	0.3	0.0	0.0	0.3	25.4	0.8	0.0	0.8
2/2+2/1	687	687	594	166	0	2.9	5.4	0.1	8.5	44.4	15.8	5.4	21.2
3/1	454	454	304	0	0	3.9	5.4	0.1	9.4	74.7	11.0	5.4	16.4
4/1	304	304	77	0	0	1.8	0.4	0.1	2.3	26.7	5.7	0.4	6.0
5/1	230	230	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	519	519	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	343	343	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	64	64	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	332	332	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: PARK ROAD/STURSTON ROAD	**-**	**-**	**38**	**3**	**3**	**7.3**	**2.2**	**0.1**	**9.7**	**-**	**-**	**-**	**-**
1/1	511	511	-	-	-	3.4	1.5	-	4.8	33.9	10.9	1.5	12.4
2/1	284	284	38	3	3	1.0	0.2	0.1	1.3	16.3	4.0	0.2	4.2
3/1	519	519	-	-	-	3.0	0.6	-	3.6	24.9	7.5	0.6	8.1
4/1	329	329	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	298	298	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	687	687	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 Stream: 1 PRC for Signalled Lanes (%): -3.9 Total Delay for Signalled Lanes (pcuHr): 30.14 Cycle Time (s): 90
PRC Over All Lanes (%): -3.9 Total Delay Over All Lanes(pcuHr): 30.14

Appendix J

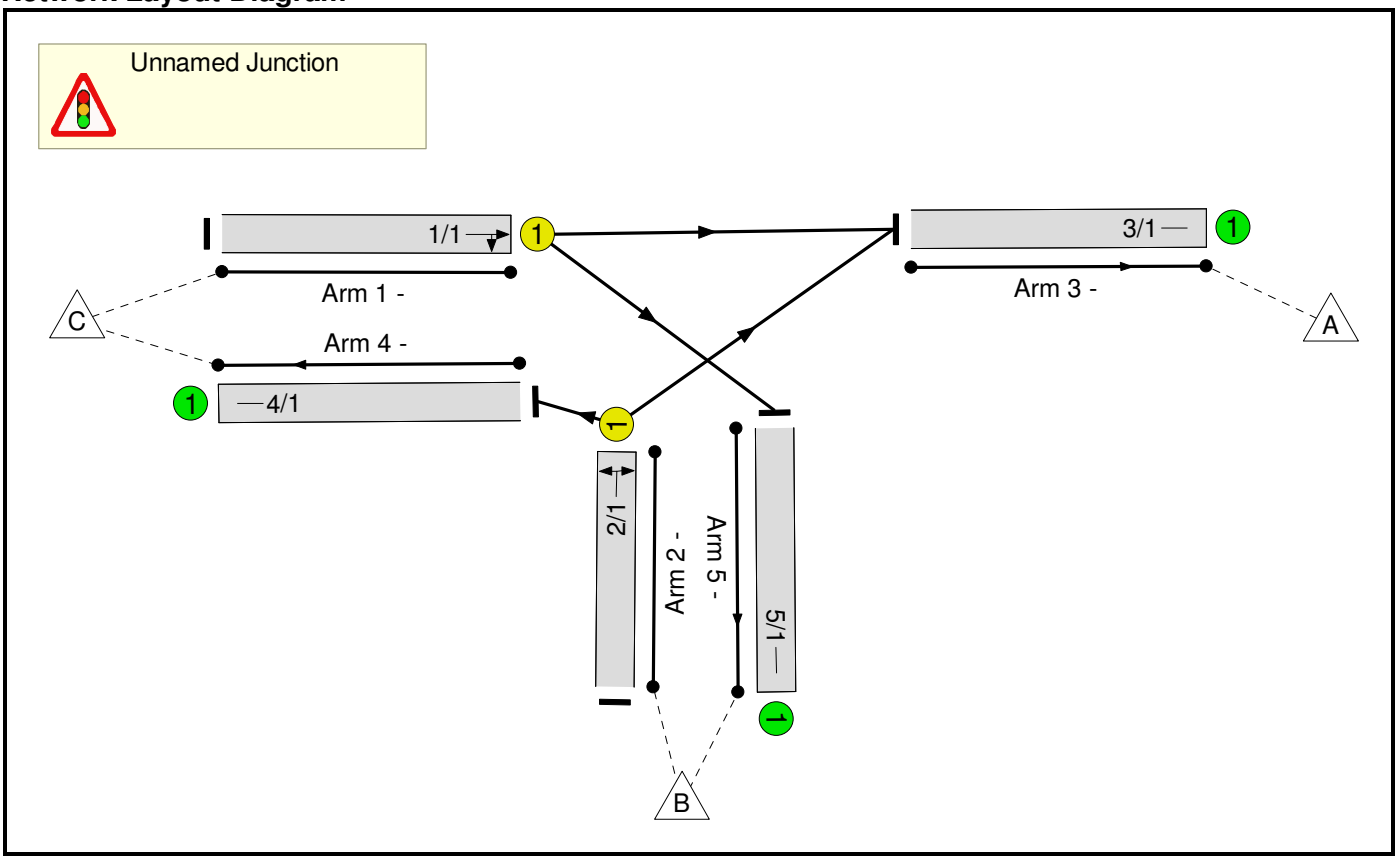
A515 (Dig Street) / Church Street / St John Street Junction Capacity Results

Full Input Data And Results

User and Project Details

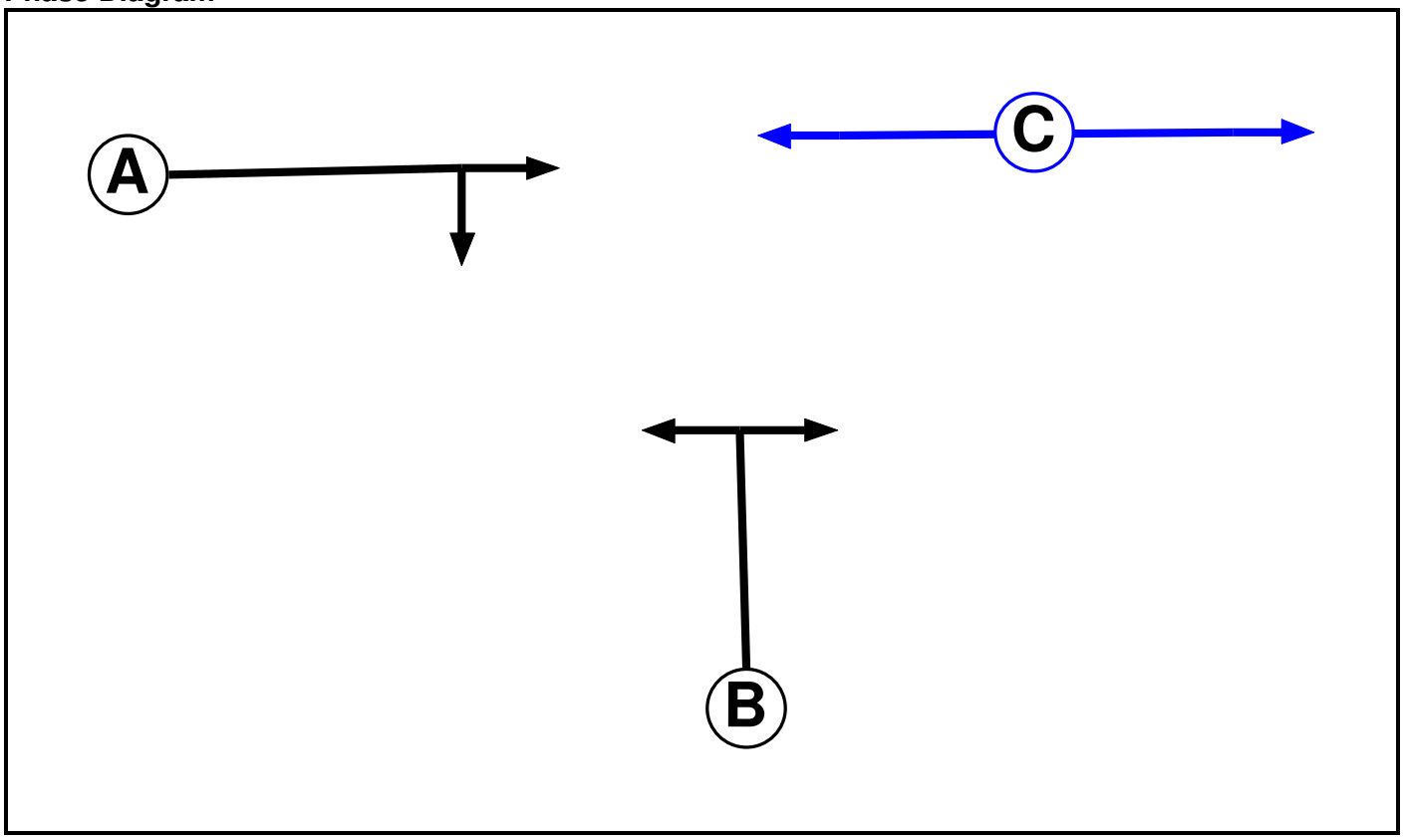
Project:	
Title:	
Location:	
File name:	A515 Church Street.lsg3x
Author:	
Company:	
Address:	
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

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

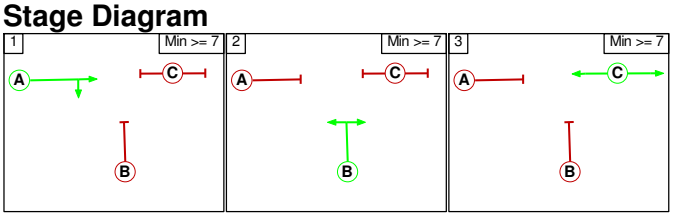
Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A		5	5
	B	5		5
	C	10	10	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B
3	C

Stage Diagram



Full Input Data And Results

Phase Delays

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

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		5	5
	2	5		5
	3	10	10	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Unnamed Junction												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1	U	A	2	3	60.0	User	1800	-	-	-	-	-
2/1	U	B	2	3	60.0	User	1800	-	-	-	-	-
3/1	U		2	3	60.0	Inf	-	-	-	-	-	-
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Baseline AM'	08:00	09:00	01:00	
2: 'Baseline PM'	17:00	18:00	01:00	
3: 'Baseline Interpeak '	12:00	13:00	01:00	

Scenario 1: 'AM Peak' (FG1: 'Baseline AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	167	0	27	194
	C	413	42	0	455
	Tot.	580	42	27	649

Traffic Lane Flows

Lane	Scenario 1: AM Peak
Junction: Unnamed Junction	
1/1	455
2/1	194
3/1	580
4/1	27
5/1	42

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Peak' (FG2: 'Baseline PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	167	0	27	194
	C	503	42	0	545
	Tot.	670	42	27	739

Traffic Lane Flows

Lane	Scenario 2: PM Peak
Junction: Unnamed Junction	
1/1	545
2/1	194
3/1	670
4/1	27
5/1	42

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'Interpeak' (FG3: 'Baseline Interpeak ', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	167	0	27	194
	C	364	42	0	406
	Tot.	531	42	27	600

Traffic Lane Flows

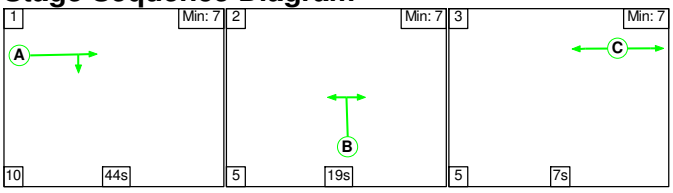
Lane	Scenario 3: Interpeak
Junction: Unnamed Junction	
1/1	406
2/1	194
3/1	531
4/1	27
5/1	42

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Peak' (FG1: 'Baseline AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

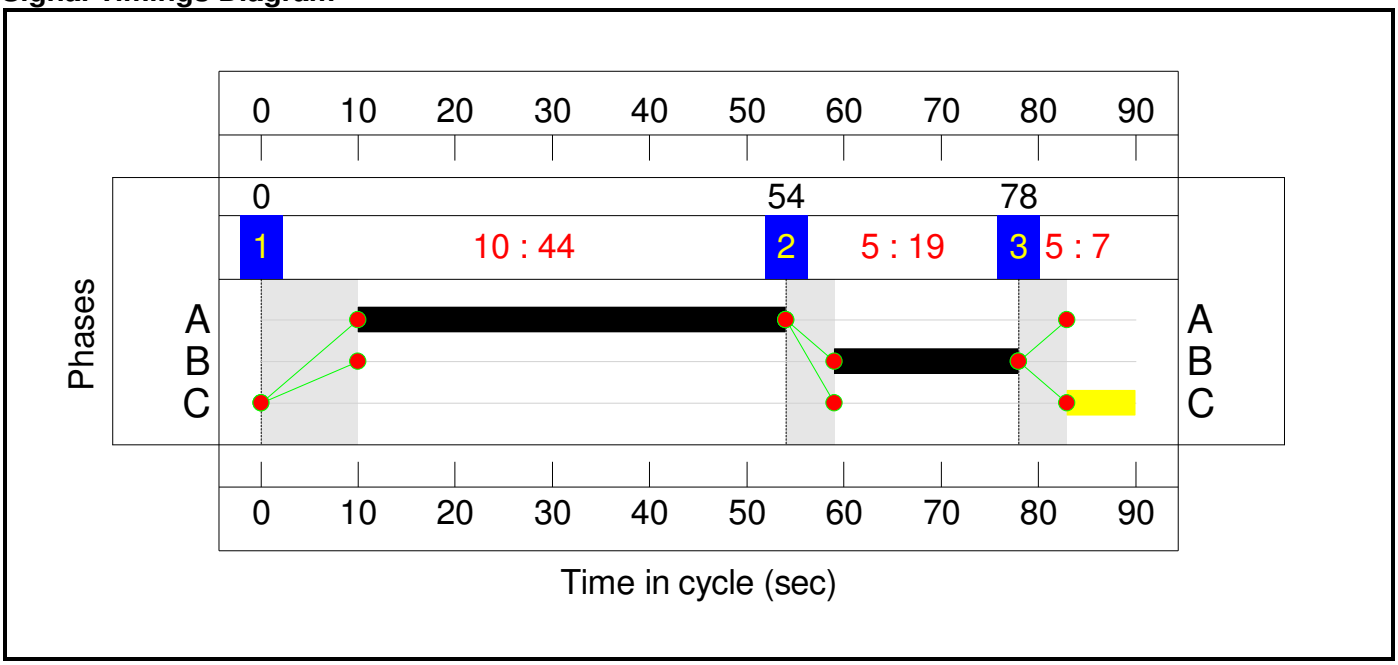


Stage Timings

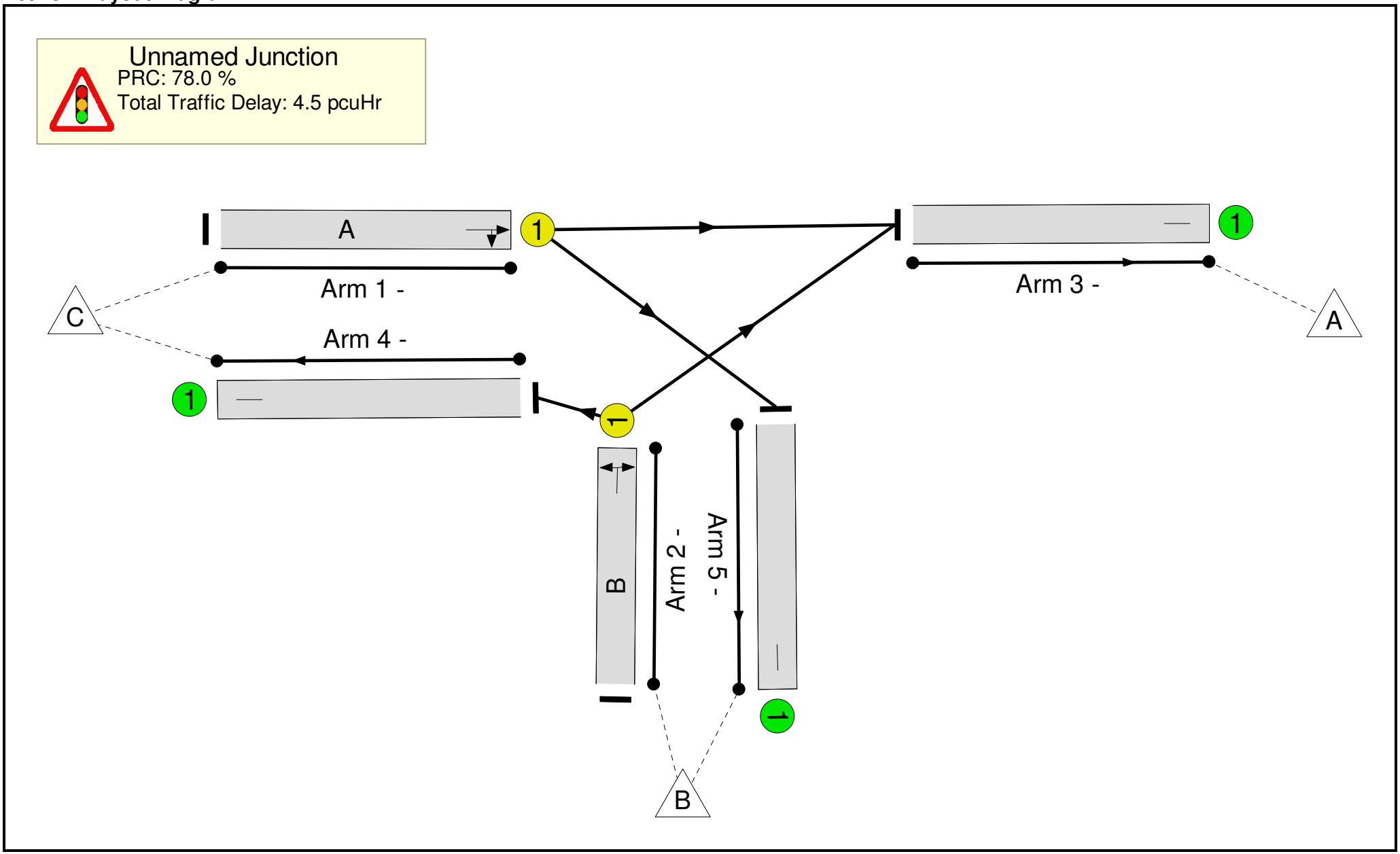
Stage	1	2	3
Duration	44	19	7
Change Point	0	54	78

Full Input Data And Results

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**50.6%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**50.6%**
1/1	Ahead Right	U	N/A	N/A	A		1	44	-	455	1800	900	50.6%
2/1	Right Left	U	N/A	N/A	B		1	19	-	194	1800	400	48.5%
3/1		U	N/A	N/A	-		-	-	-	580	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	27	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%

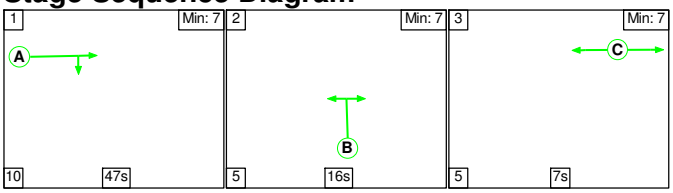
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**3.5**	**1.0**	**0.0**	**4.5**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**3.5**	**1.0**	**0.0**	**4.5**	**-**	**-**	**-**	**-**
1/1	455	455	-	-	-	1.9	0.5	-	2.4	19.1	7.6	0.5	8.1
2/1	194	194	-	-	-	1.6	0.5	-	2.1	39.2	4.2	0.5	4.7
3/1	580	580	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	27	27	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 78.0 Total Delay for Signalled Lanes (pcuHr): 4.53 Cycle Time (s): 90
PRC Over All Lanes (%): 78.0 Total Delay Over All Lanes(pcuHr): 4.53

Full Input Data And Results

Scenario 2: 'PM Peak' (FG2: 'Baseline PM', Plan 1: 'Network Control Plan 1')

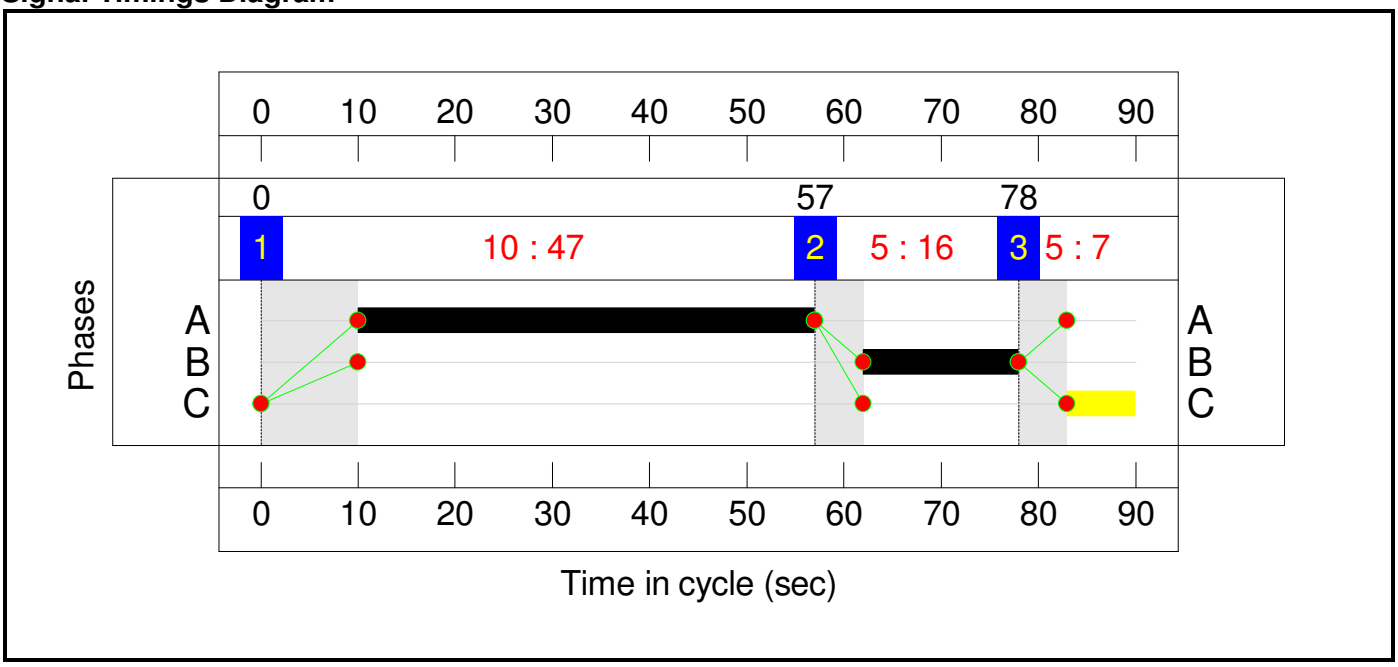
Stage Sequence Diagram



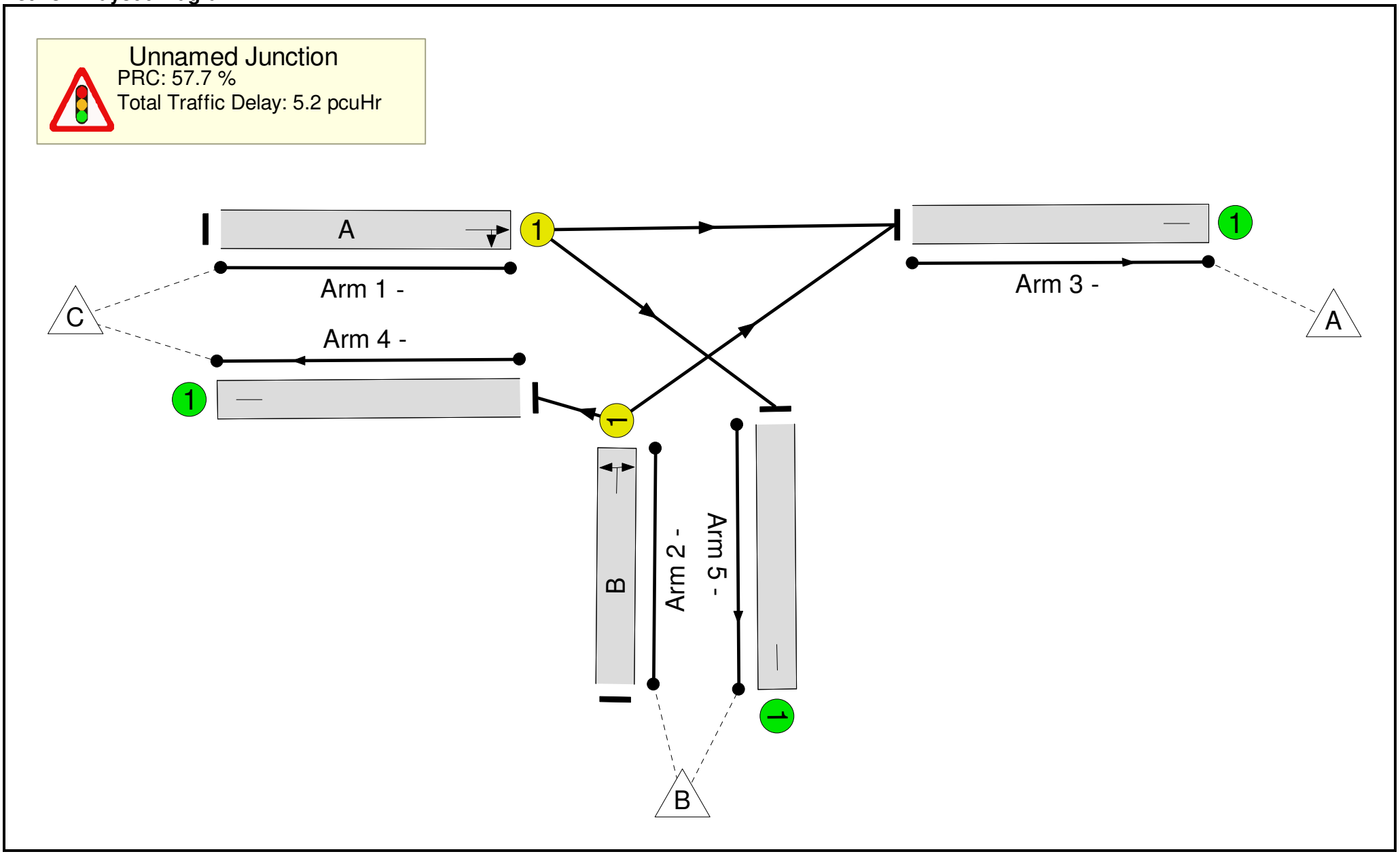
Stage Timings

Stage	1	2	3
Duration	47	16	7
Change Point	0	57	78

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.1%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.1%**
1/1	Ahead Right	U	N/A	N/A	A		1	47	-	545	1800	960	56.8%
2/1	Right Left	U	N/A	N/A	B		1	16	-	194	1800	340	57.1%
3/1		U	N/A	N/A	-		-	-	-	670	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	27	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%

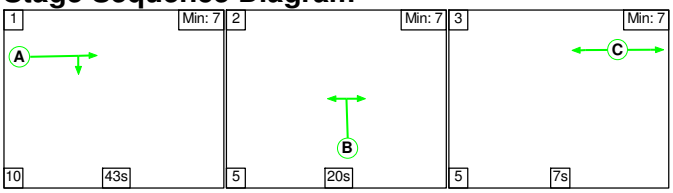
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**3.9**	**1.3**	**0.0**	**5.2**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**3.9**	**1.3**	**0.0**	**5.2**	**-**	**-**	**-**	**-**
1/1	545	545	-	-	-	2.1	0.7	-	2.8	18.4	9.1	0.7	9.7
2/1	194	194	-	-	-	1.8	0.7	-	2.4	45.4	4.4	0.7	5.0
3/1	670	670	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	27	27	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 57.7 Total Delay for Signalled Lanes (pcuHr): 5.23 Cycle Time (s): 90
PRC Over All Lanes (%): 57.7 Total Delay Over All Lanes(pcuHr): 5.23

Full Input Data And Results

Scenario 3: 'Interpeak' (FG3: 'Baseline Interpeak ', Plan 1: 'Network Control Plan 1')

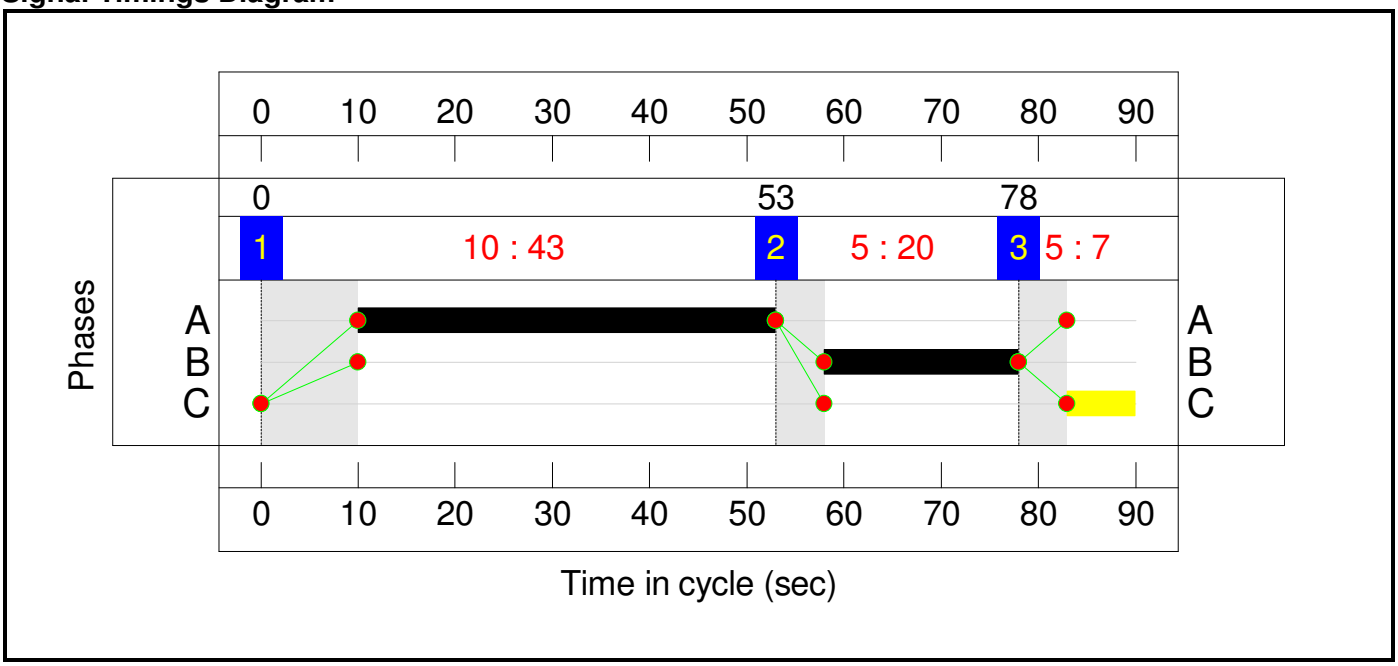
Stage Sequence Diagram



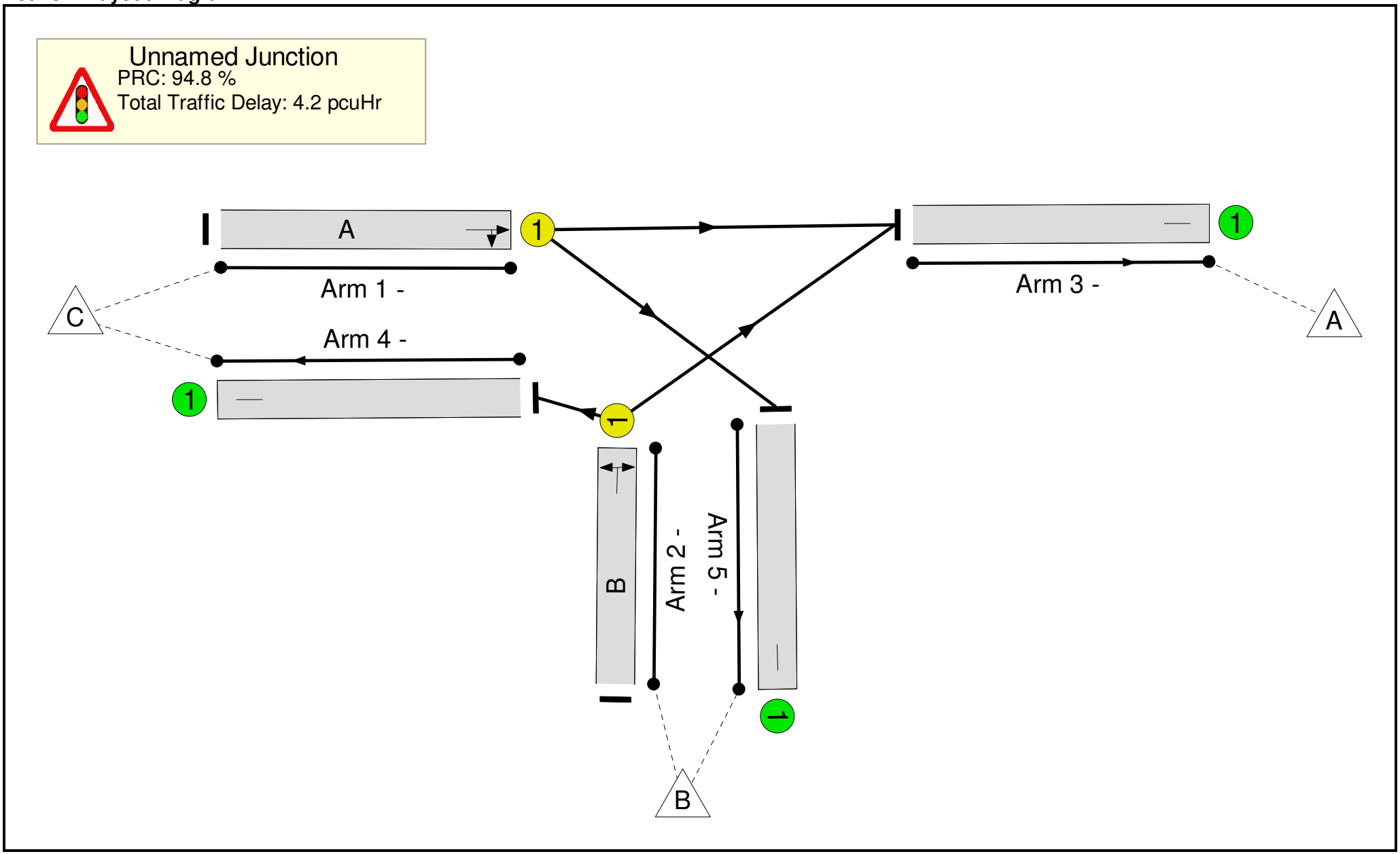
Stage Timings

Stage	1	2	3
Duration	43	20	7
Change Point	0	53	78

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**46.2%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**46.2%**
1/1	Ahead Right	U	N/A	N/A	A		1	43	-	406	1800	880	46.1%
2/1	Right Left	U	N/A	N/A	B		1	20	-	194	1800	420	46.2%
3/1		U	N/A	N/A	-		-	-	-	531	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	27	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**3.3**	**0.9**	**0.0**	**4.2**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**3.3**	**0.9**	**0.0**	**4.2**	**-**	**-**	**-**	**-**
1/1	406	406	-	-	-	1.7	0.4	-	2.1	19.0	6.7	0.4	7.1
2/1	194	194	-	-	-	1.6	0.4	-	2.0	37.6	4.1	0.4	4.6
3/1	531	531	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	27	27	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

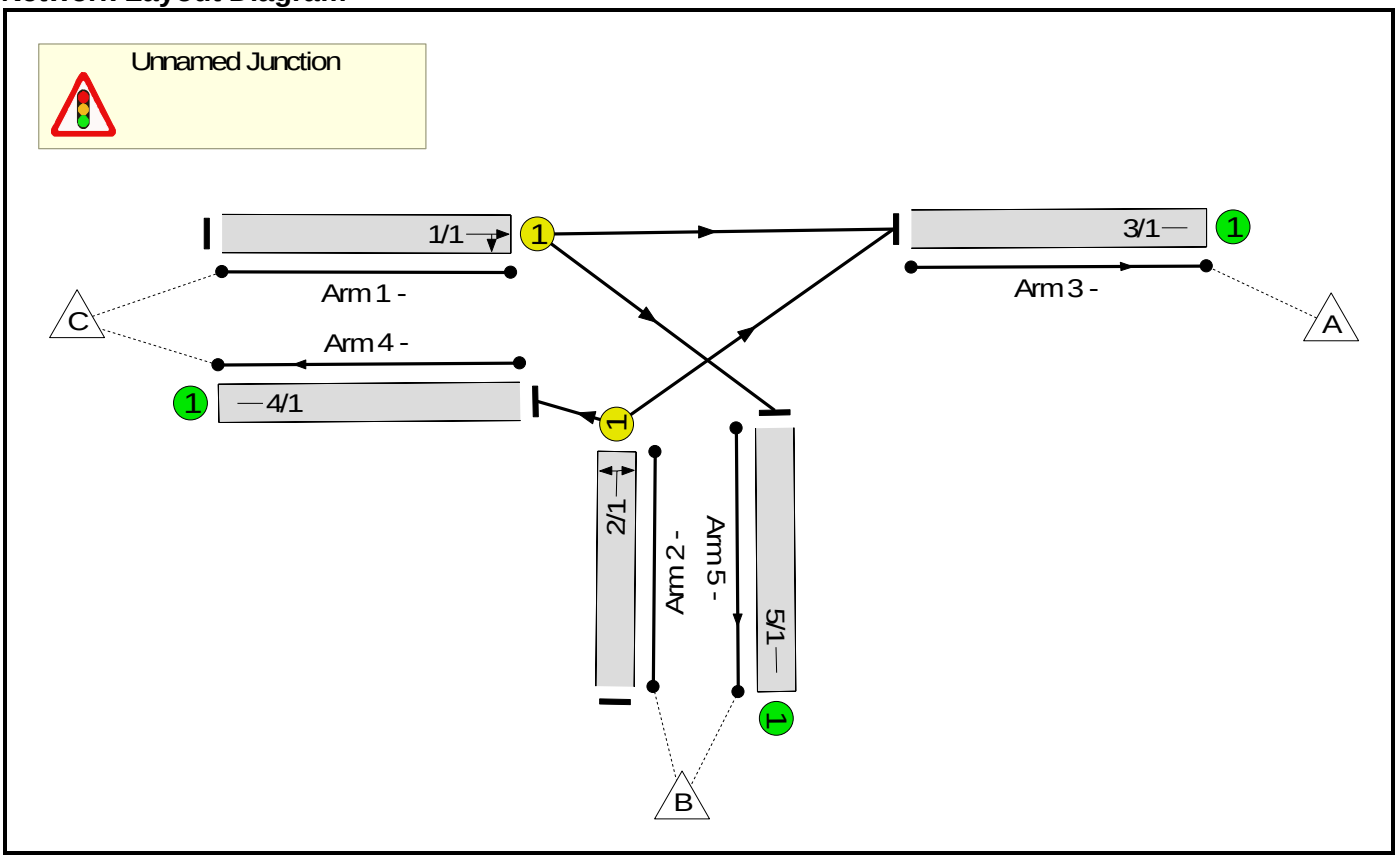
C1 PRC for Signalled Lanes (%): 94.8 Total Delay for Signalled Lanes (pcuHr): 4.17 Cycle Time (s): 90
PRC Over All Lanes (%): 94.8 Total Delay Over All Lanes(pcuHr): 4.17

Full Input Data And Results

User and Project Details

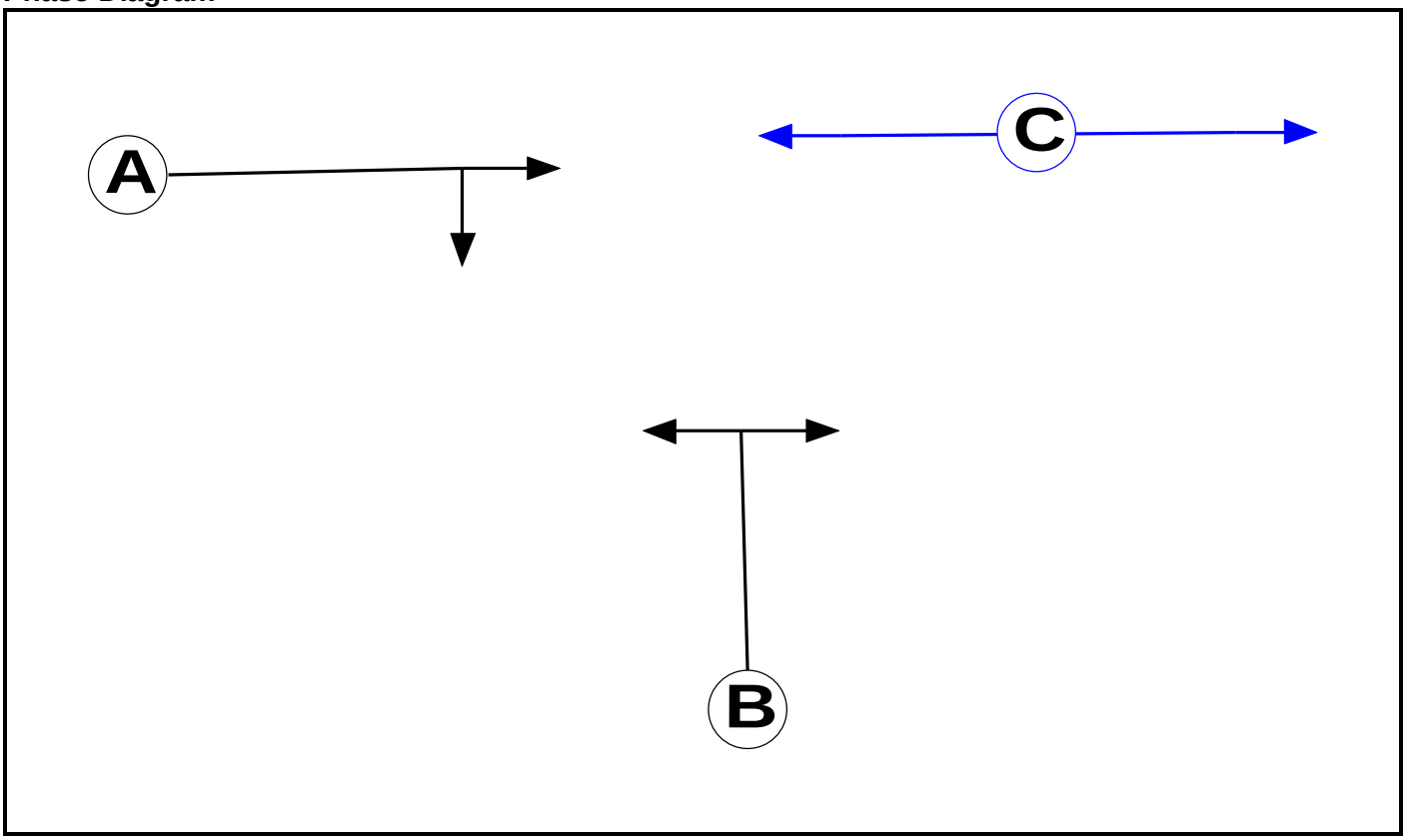
Project:	
Title:	
Location:	
File name:	A515 Church Street.lsg3x
Author:	
Company:	
Address:	
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

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

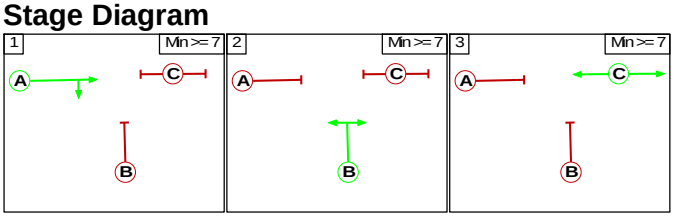
Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A		5	5
	B	5		5
	C	10	10	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B
3	C

Stage Diagram



Full Input Data And Results

Phase Delays

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

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		5	5
	2	5		5
	3	10	10	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Unnamed Junction												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1	U	A	2	3	60.0	User	1800	-	-	-	-	-
2/1	U	B	2	3	60.0	User	1800	-	-	-	-	-
3/1	U		2	3	60.0	Inf	-	-	-	-	-	-
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Without Bypass AM'	08:00	09:00	01:00	
2: 'Without Bypass PM'	17:00	18:00	01:00	
3: 'Without Bypass IP'	12:00	13:00	01:00	

Scenario 1: 'AM Peak' (FG1: 'Without Bypass AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	334	0	345	679
	C	435	84	0	519
	Tot.	769	84	345	1198

Traffic Lane Flows

Lane	Scenario 1: AM Peak
Junction: Unnamed Junction	
1/1	519
2/1	679
3/1	769
4/1	345
5/1	84

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Peak' (FG2: 'Without Bypass PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	363	0	54	417
	C	545	84	0	629
	Tot.	908	84	54	1046

Traffic Lane Flows

Lane	Scenario 2: PM Peak
Junction: Unnamed Junction	
1/1	629
2/1	417
3/1	908
4/1	54
5/1	84

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'Interpeak' (FG3: 'Without Bypass IP', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	310	0	163	473
	C	389	75	0	464
	Tot.	699	75	163	937

Traffic Lane Flows

Lane	Scenario 3: Interpeak
Junction: Unnamed Junction	
1/1	464
2/1	473
3/1	699
4/1	163
5/1	75

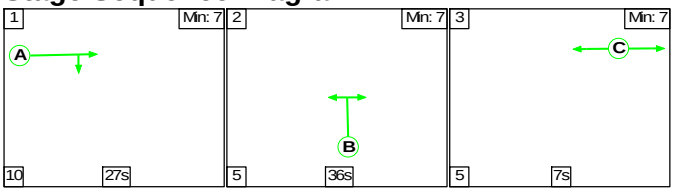
Lane Saturation Flows

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Peak' (FG1: 'Without Bypass AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

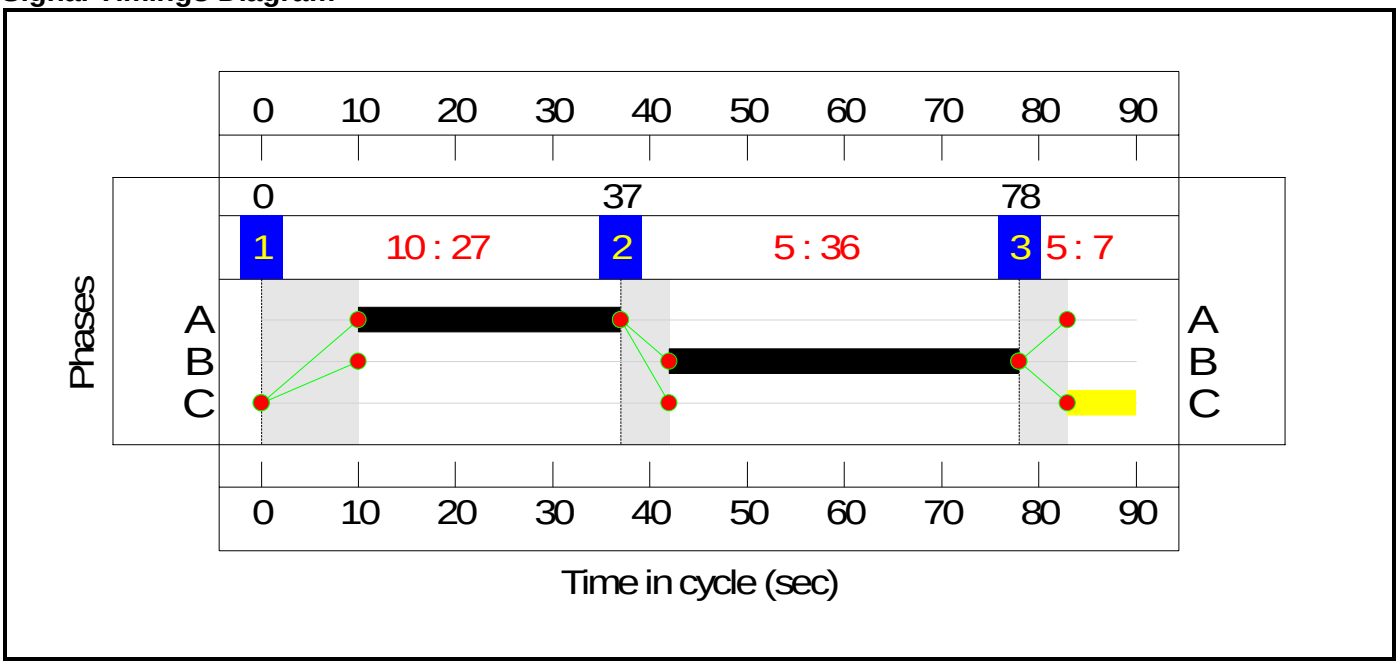


Stage Timings

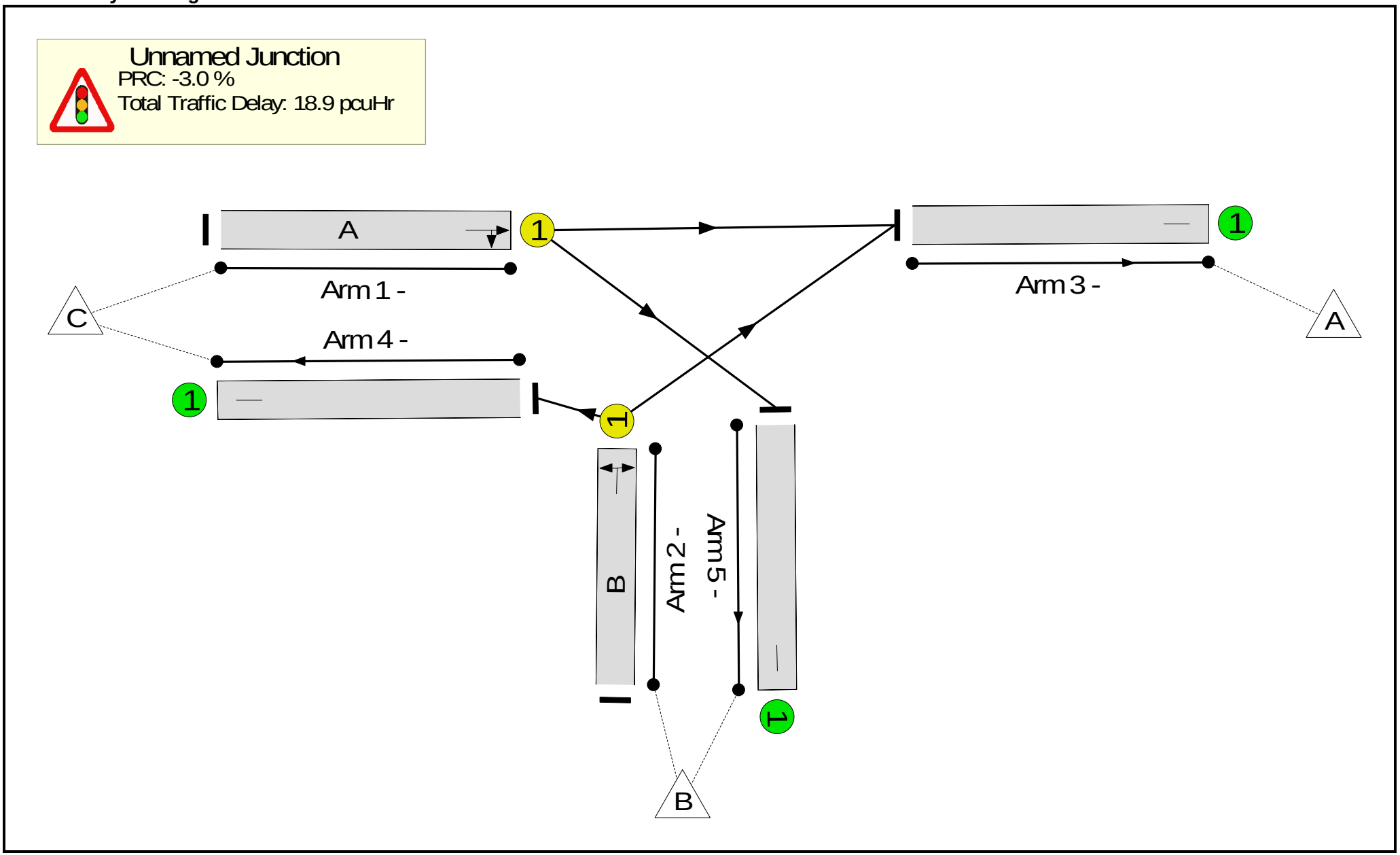
Stage	1	2	3
Duration	27	36	7
Change Point	0	37	78

Full Input Data And Results

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.7%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.7%**
1/1	Ahead Right	U	N/A	N/A	A		1	27	-	519	1800	560	92.7%
2/1	Right Left	U	N/A	N/A	B		1	36	-	679	1800	740	91.8%
3/1		U	N/A	N/A	-		-	-	-	769	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	345	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	84	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**9.1**	**9.9**	**0.0**	**18.9**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**9.1**	**9.9**	**0.0**	**18.9**	**-**	**-**	**-**	**-**
1/1	519	519	-	-	-	4.3	5.1	-	9.4	65.2	12.5	5.1	17.6
2/1	679	679	-	-	-	4.7	4.8	-	9.5	50.5	16.0	4.8	20.8
3/1	769	769	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	345	345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	84	84	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): -3.0
PRC Over All Lanes (%): -3.0

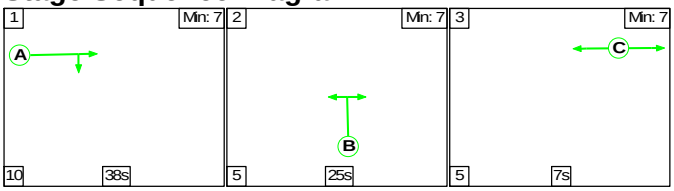
Total Delay for Signalled Lanes (pcuHr): 18.93
Total Delay Over All Lanes(pcuHr): 18.93

Cycle Time (s): 90

Full Input Data And Results

Scenario 2: 'PM Peak' (FG2: 'Without Bypass PM', Plan 1: 'Network Control Plan 1')

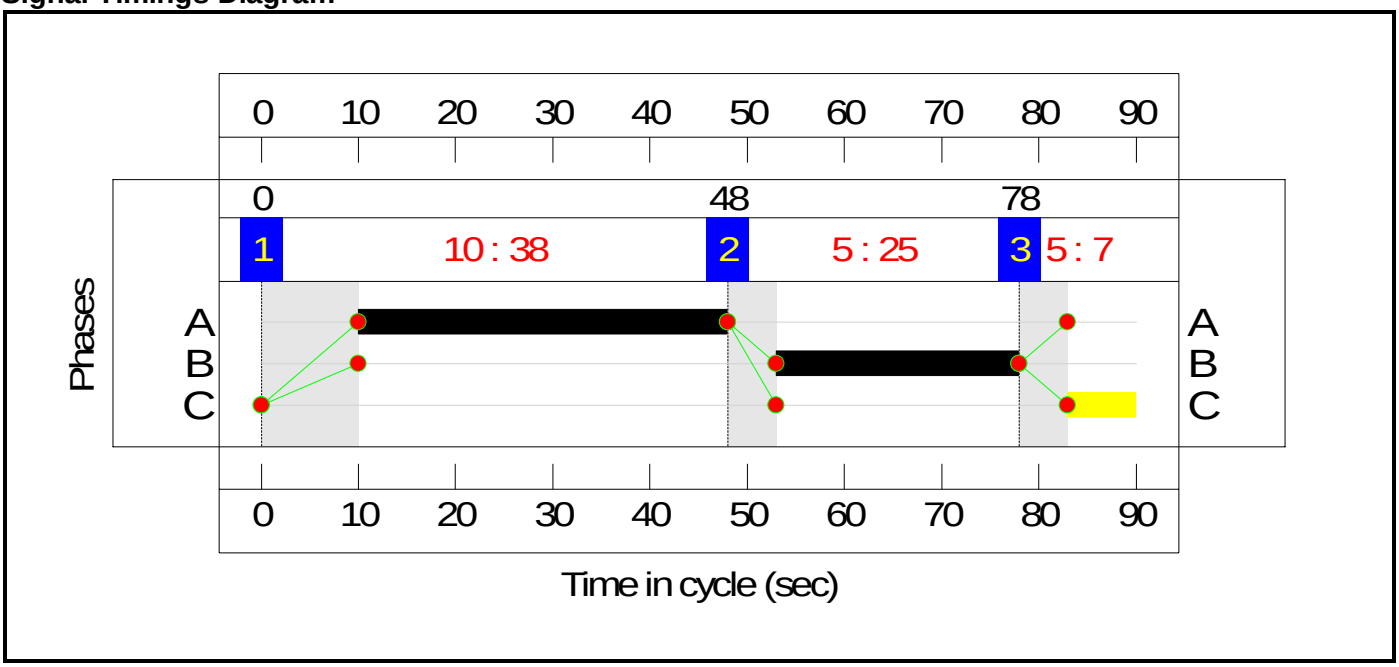
Stage Sequence Diagram



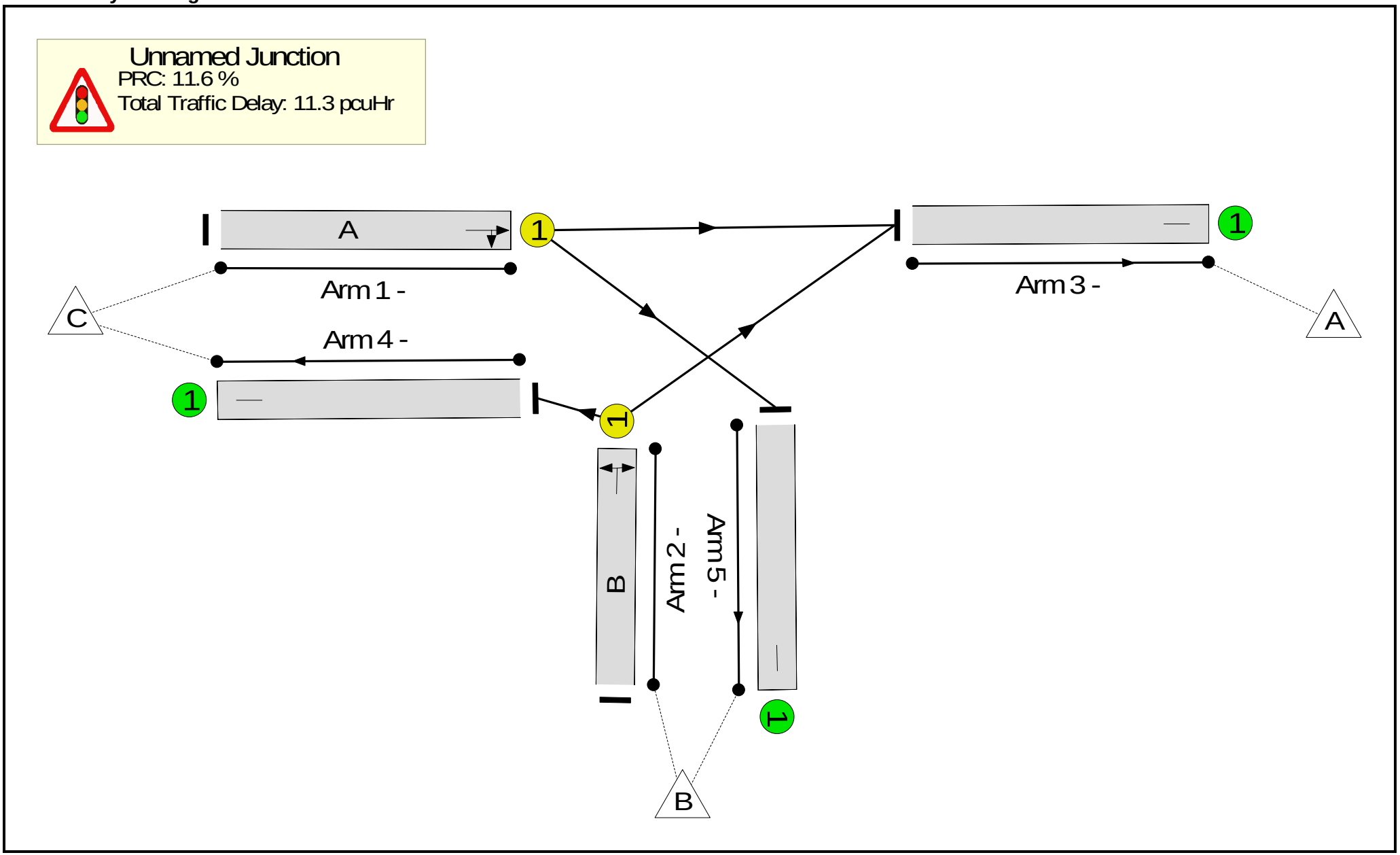
Stage Timings

Stage	1	2	3
Duration	38	25	7
Change Point	0	48	78

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.6%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**80.6%**
1/1	Ahead Right	U	N/A	N/A	A		1	38	-	629	1800	780	80.6%
2/1	Right Left	U	N/A	N/A	B		1	25	-	417	1800	520	80.2%
3/1		U	N/A	N/A	-		-	-	-	908	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	54	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	84	Inf	Inf	0.0%

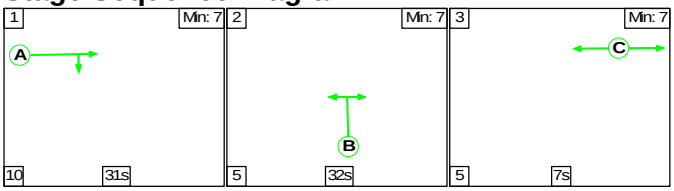
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**7.3**	**4.0**	**0.0**	**11.3**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**7.3**	**4.0**	**0.0**	**11.3**	**-**	**-**	**-**	**-**
1/1	629	629	-	-	-	3.9	2.0	-	5.9	33.8	13.6	2.0	15.7
2/1	417	417	-	-	-	3.4	2.0	-	5.4	46.5	9.6	2.0	11.6
3/1	908	908	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	54	54	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	84	84	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 11.6 Total Delay for Signalled Lanes (pcuHr): 11.29 Cycle Time (s): 90
PRC Over All Lanes (%): 11.6 Total Delay Over All Lanes(pcuHr): 11.29

Full Input Data And Results

Scenario 3: 'Interpeak' (FG3: 'Without Bypass IP', Plan 1: 'Network Control Plan 1')

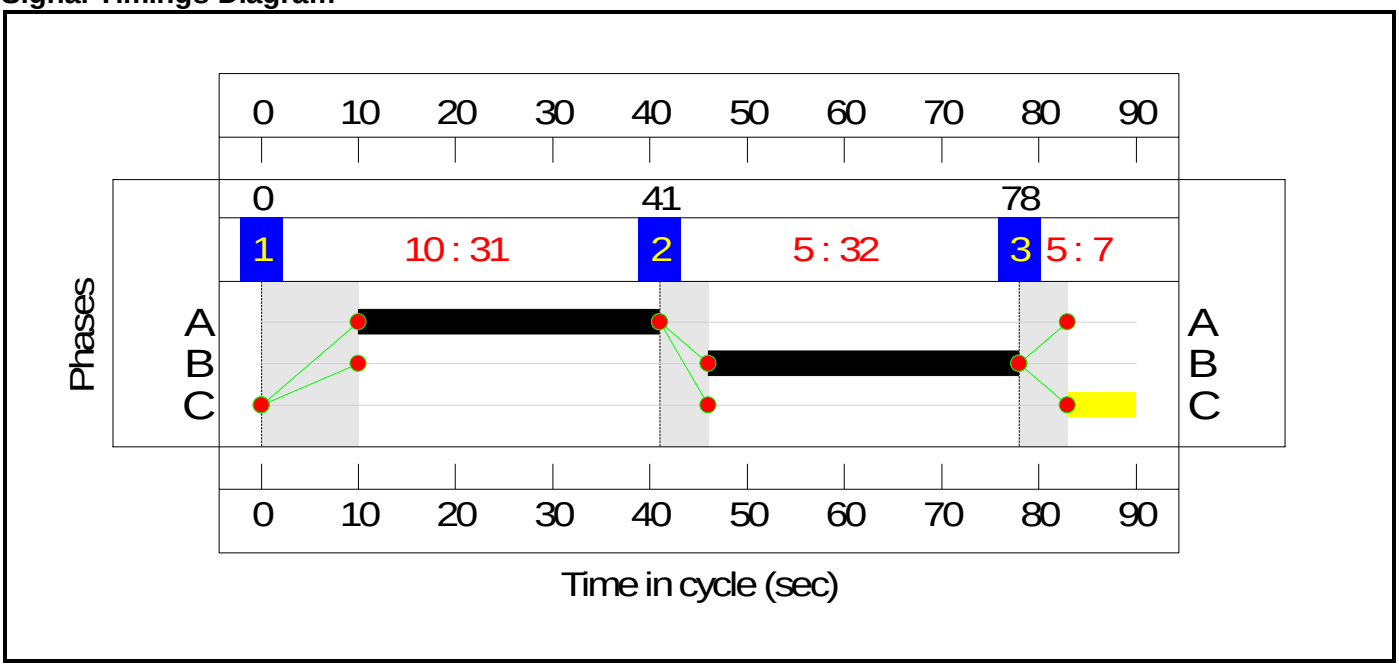
Stage Sequence Diagram



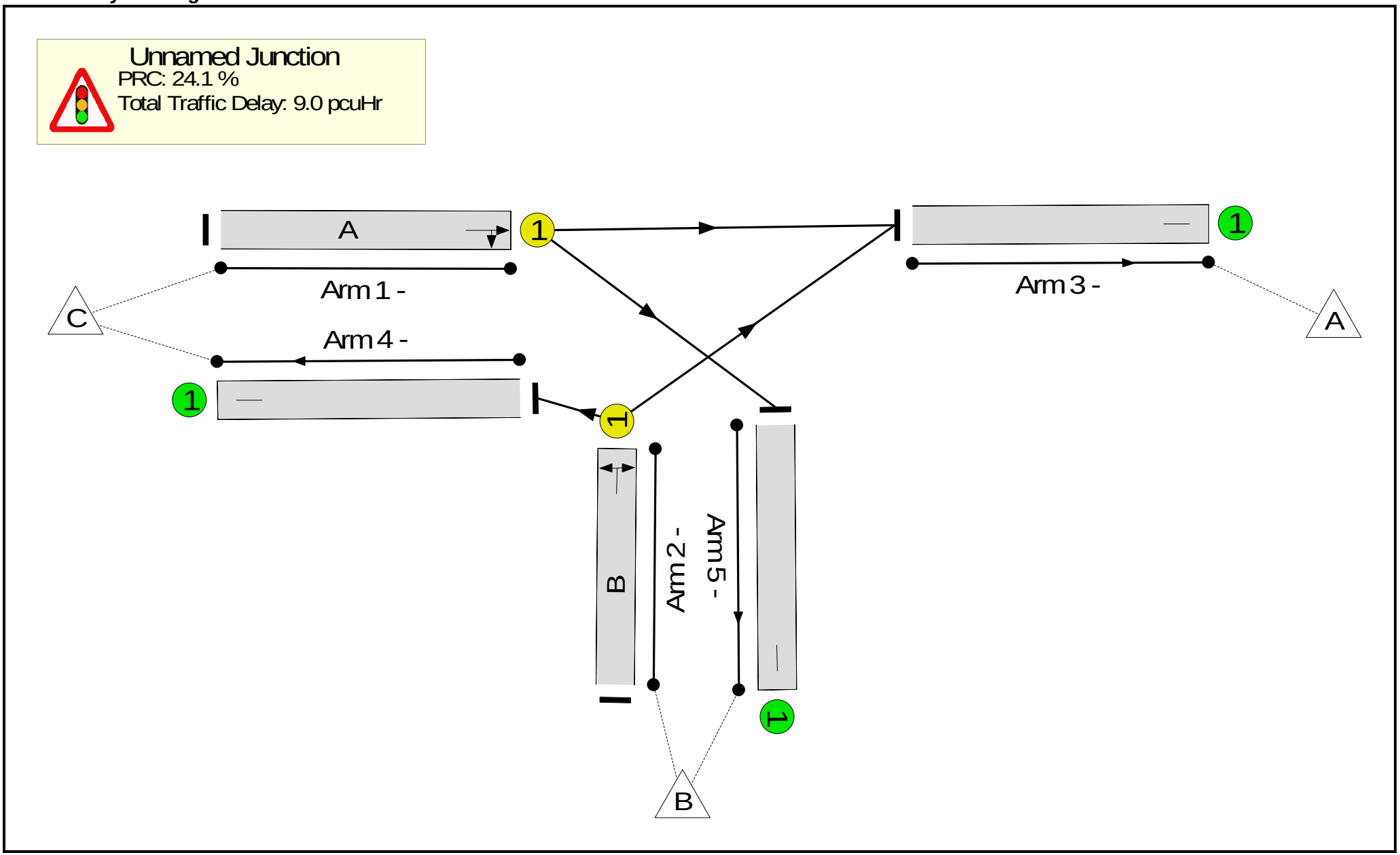
Stage Timings

Stage	1	2	3
Duration	31	32	7
Change Point	0	41	78

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.5%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.5%**
1/1	Ahead Right	U	N/A	N/A	A		1	31	-	464	1800	640	72.5%
2/1	Right Left	U	N/A	N/A	B		1	32	-	473	1800	660	71.7%
3/1		U	N/A	N/A	-		-	-	-	699	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	163	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**6.5**	**2.5**	**0.0**	**9.0**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**6.5**	**2.5**	**0.0**	**9.0**	**-**	**-**	**-**	**-**
1/1	464	464	-	-	-	3.2	1.3	-	4.5	35.3	10.1	1.3	11.4
2/1	473	473	-	-	-	3.2	1.2	-	4.5	34.0	10.1	1.2	11.4
3/1	699	699	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	163	163	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

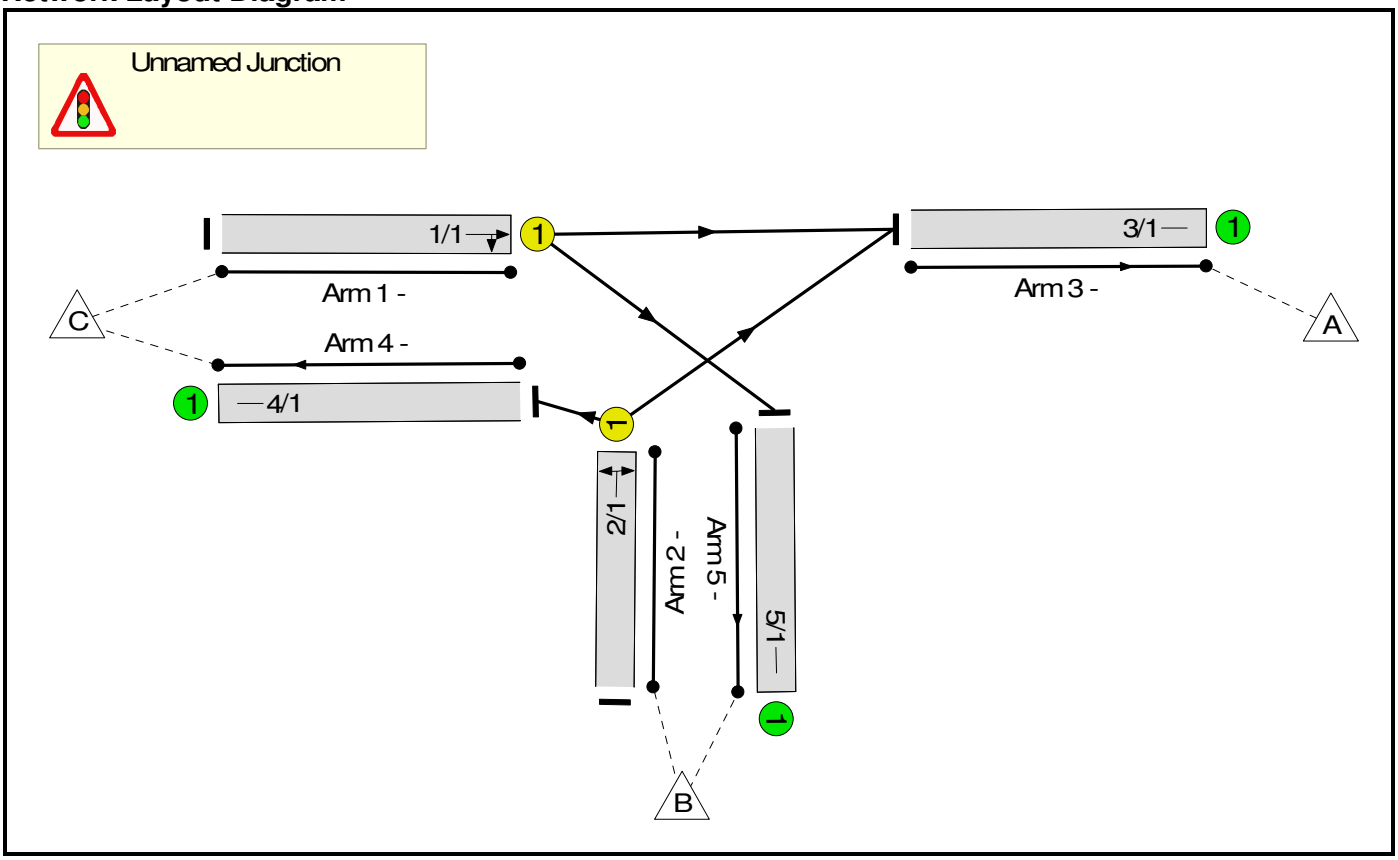
C1 PRC for Signalled Lanes (%): 24.1 Total Delay for Signalled Lanes (pcuHr): 9.01 Cycle Time (s): 90
PRC Over All Lanes (%): 24.1 Total Delay Over All Lanes(pcuHr): 9.01

Full Input Data And Results

User and Project Details

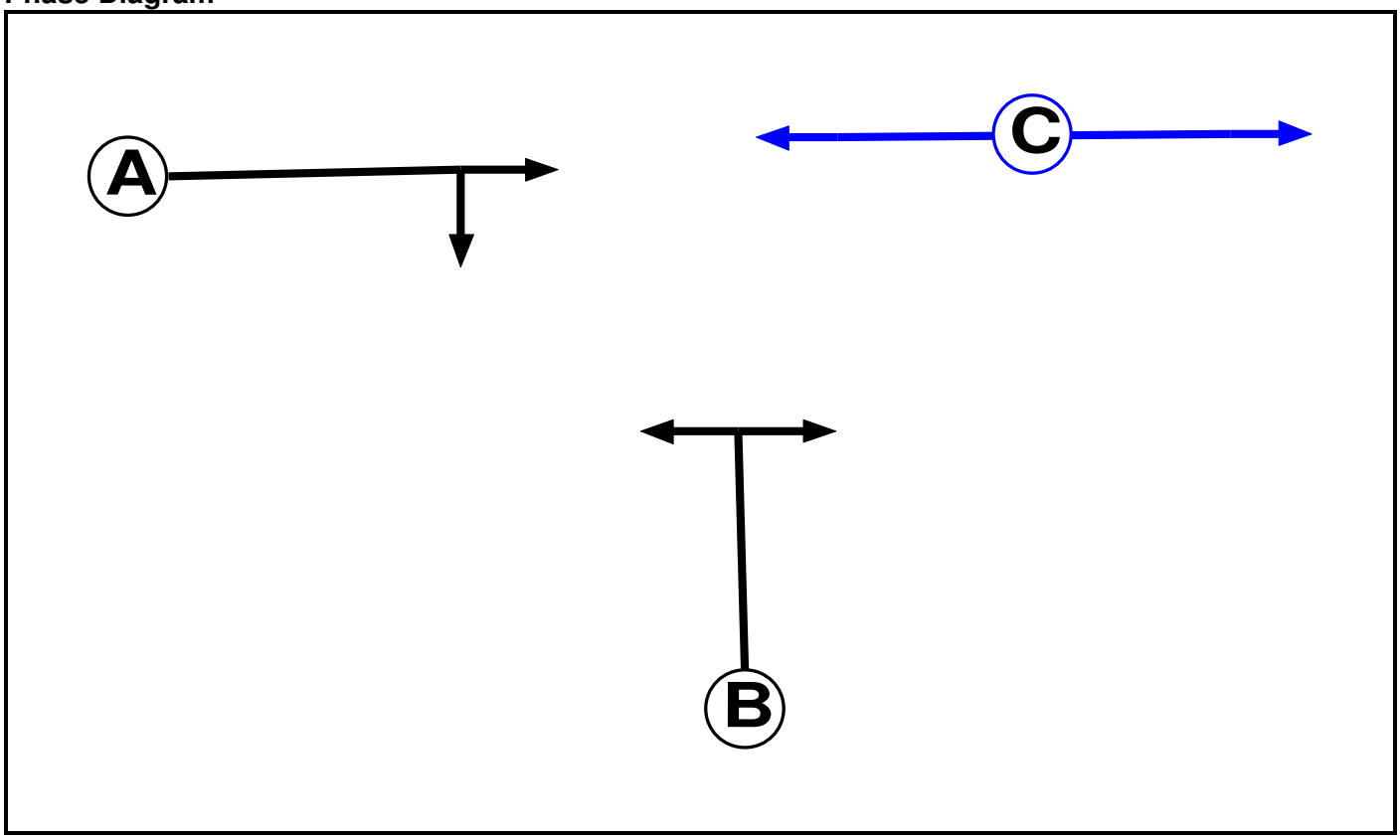
Project:	
Title:	
Location:	
File name:	A515 Church Street.lsg3x
Author:	
Company:	
Address:	
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

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

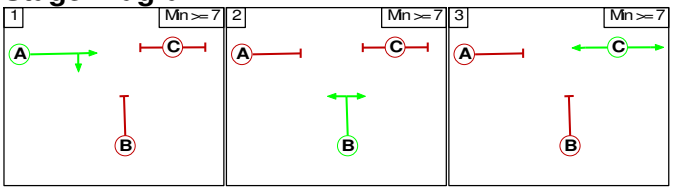
Phase Intergreens Matrix

		Starting Phase		
		A	B	C
Terminating Phase	A		5	5
	B	5		5
	C	10	10	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B
3	C

Stage Diagram



Full Input Data And Results

Phase Delays

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

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		5	5
	2	5		5
	3	10	10	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Unnamed Junction												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1	U	A	2	3	60.0	User	1800	-	-	-	-	-
2/1	U	B	2	3	60.0	User	1800	-	-	-	-	-
3/1	U		2	3	60.0	Inf	-	-	-	-	-	-
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Design Bypass AM'	08:00	09:00	01:00	
2: 'Design Bypass PM'	17:00	18:00	01:00	
3: 'Design Bypass Interpeak'	12:00	13:00	01:00	

Scenario 1: 'AM Peak' (FG1: 'Design Bypass AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	102	0	27	129
	C	274	42	0	316
	Tot.	376	42	27	445

Traffic Lane Flows

Lane	Scenario 1: AM Peak
Junction: Unnamed Junction	
1/1	316
2/1	129
3/1	376
4/1	27
5/1	42

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Peak' (FG2: 'Design Bypass PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	82	0	27	109
	C	296	42	0	338
	Tot.	378	42	27	447

Traffic Lane Flows

Lane	Scenario 2: PM Peak
Junction: Unnamed Junction	
1/1	338
2/1	109
3/1	378
4/1	27
5/1	42

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'Interpeak' (FG3: 'Design Bypass Interpeak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	92	0	27	119
	C	221	42	0	263
	Tot.	313	42	27	382

Traffic Lane Flows

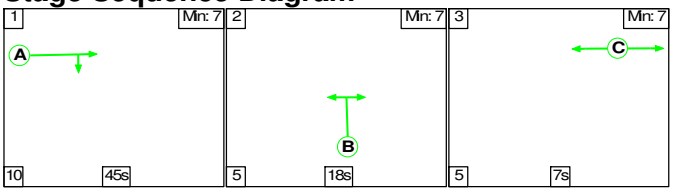
Lane	Scenario 3: Interpeak
Junction: Unnamed Junction	
1/1	263
2/1	119
3/1	313
4/1	27
5/1	42

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1	This lane uses a directly entered Saturation Flow						1800	1800
2/1	This lane uses a directly entered Saturation Flow						1800	1800
3/1	Infinite Saturation Flow						Inf	Inf
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Peak' (FG1: 'Design Bypass AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

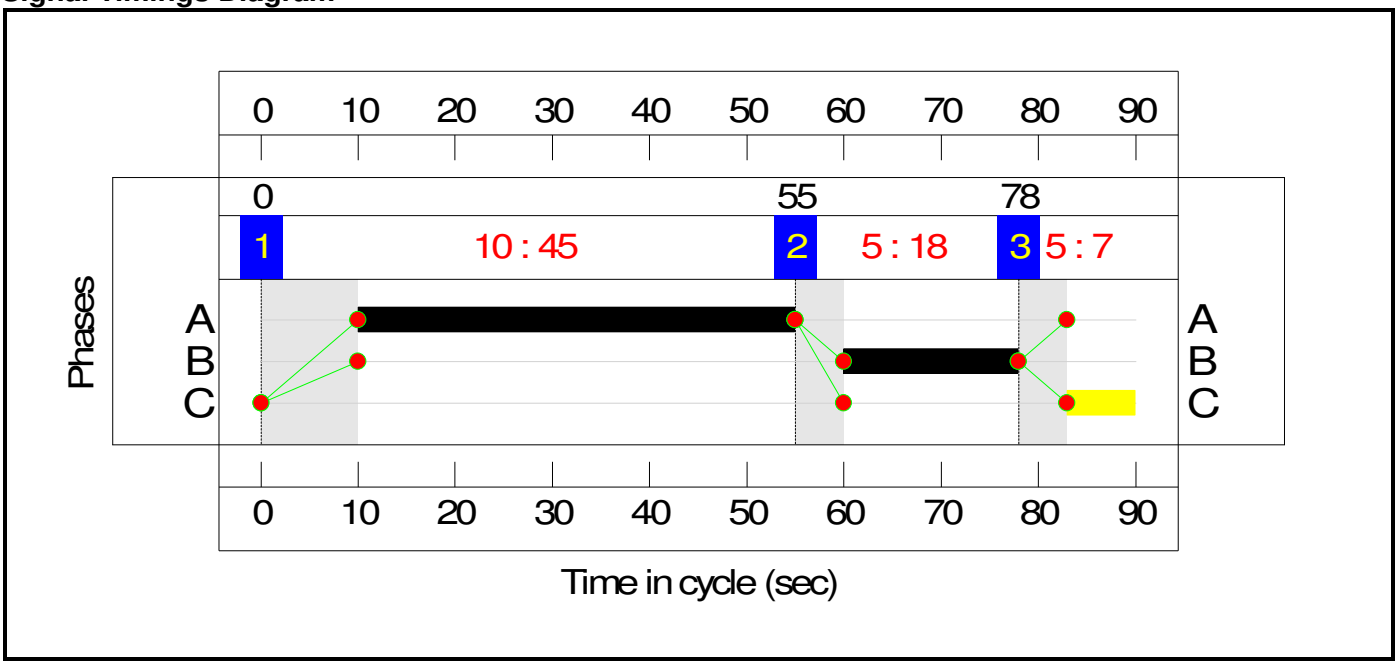


Stage Timings

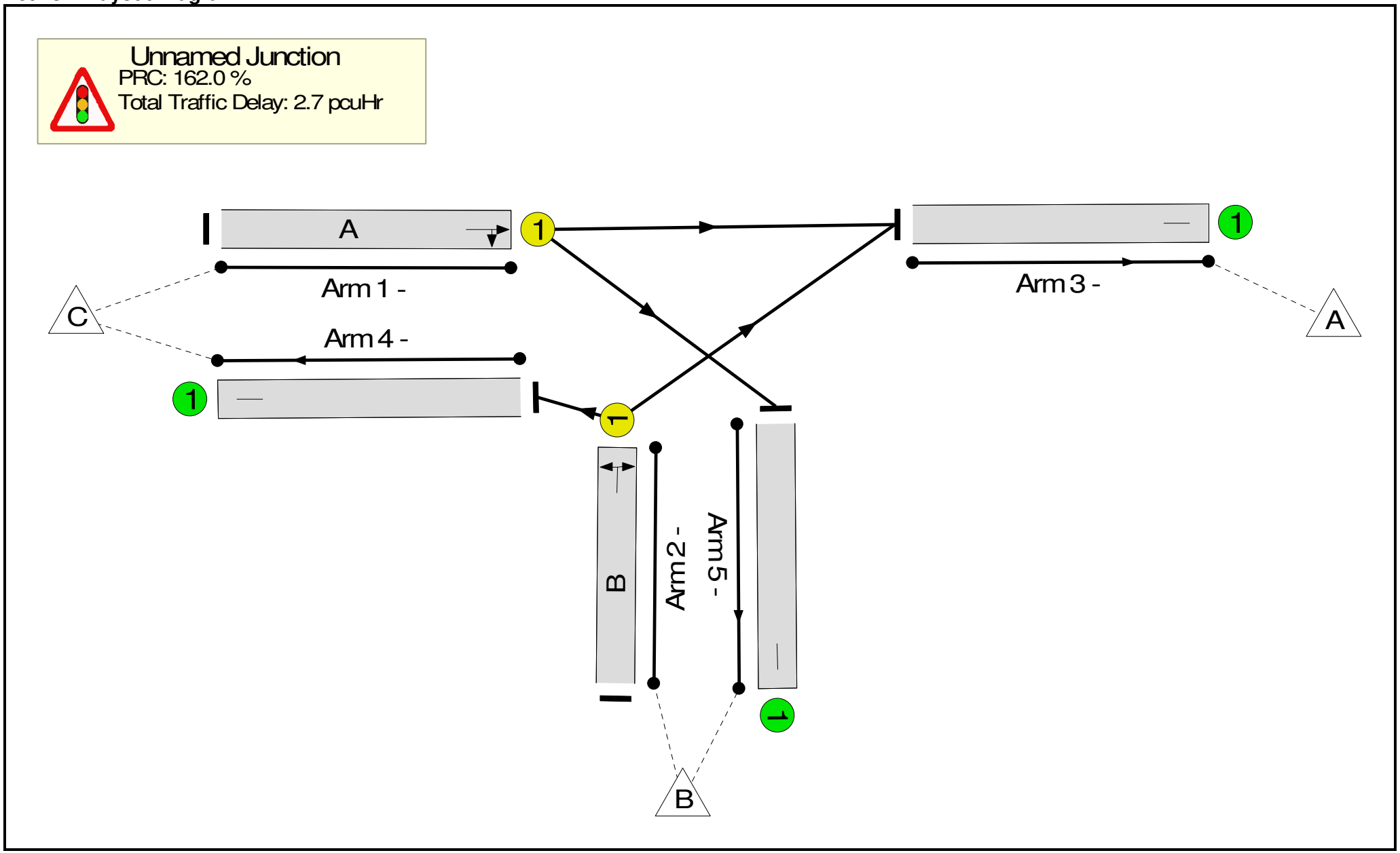
Stage	1	2	3
Duration	45	18	7
Change Point	0	55	78

Full Input Data And Results

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**34.3%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**34.3%**
1/1	Ahead Right	U	N/A	N/A	A		1	45	-	316	1800	920	34.3%
2/1	Right Left	U	N/A	N/A	B		1	18	-	129	1800	380	33.9%
3/1		U	N/A	N/A	-		-	-	-	376	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	27	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%

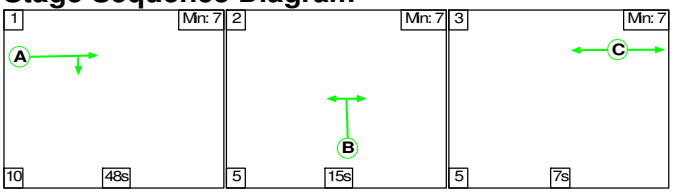
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**2.2**	**0.5**	**0.0**	**2.7**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**2.2**	**0.5**	**0.0**	**2.7**	**-**	**-**	**-**	**-**
1/1	316	316	-	-	-	1.1	0.3	-	1.4	16.0	4.7	0.3	4.9
2/1	129	129	-	-	-	1.1	0.3	-	1.3	37.3	2.7	0.3	3.0
3/1	376	376	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	27	27	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 162.0 Total Delay for Signalled Lanes (pcuHr): 2.75 Cycle Time (s): 90
PRC Over All Lanes (%): 162.0 Total Delay Over All Lanes(pcuHr): 2.75

Full Input Data And Results

Scenario 2: 'PM Peak' (FG2: 'Design Bypass PM', Plan 1: 'Network Control Plan 1')

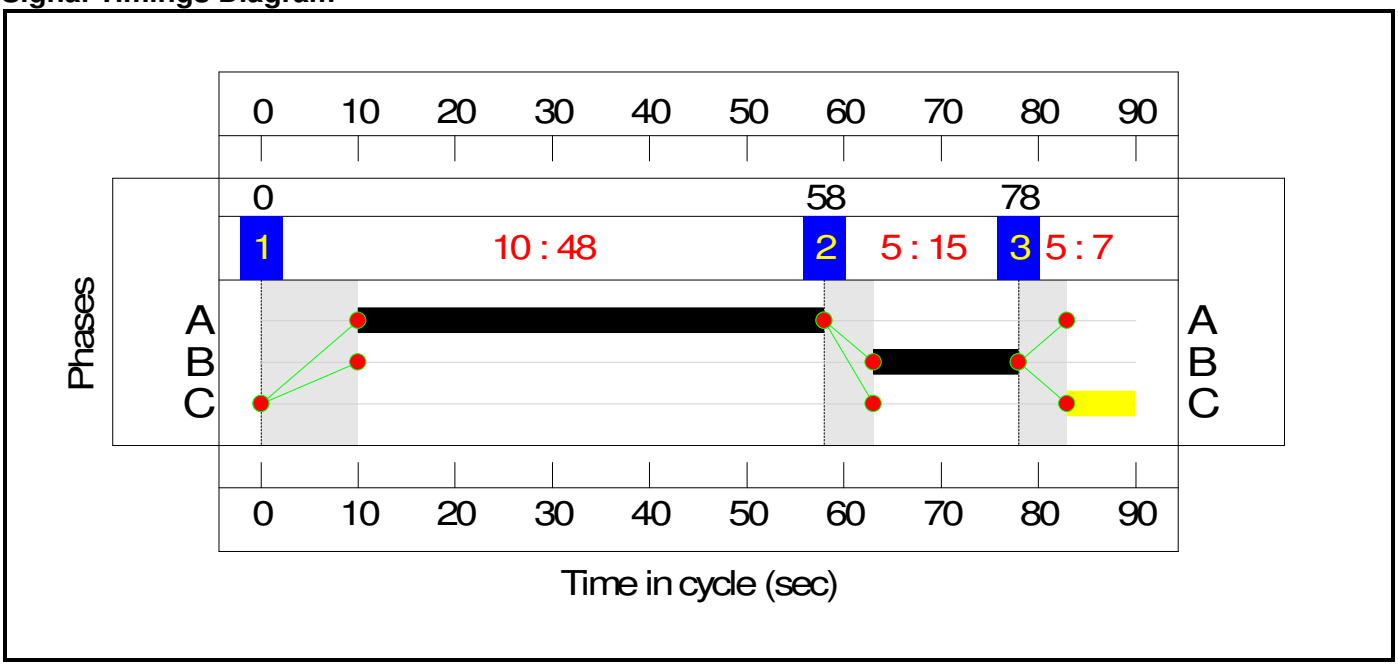
Stage Sequence Diagram



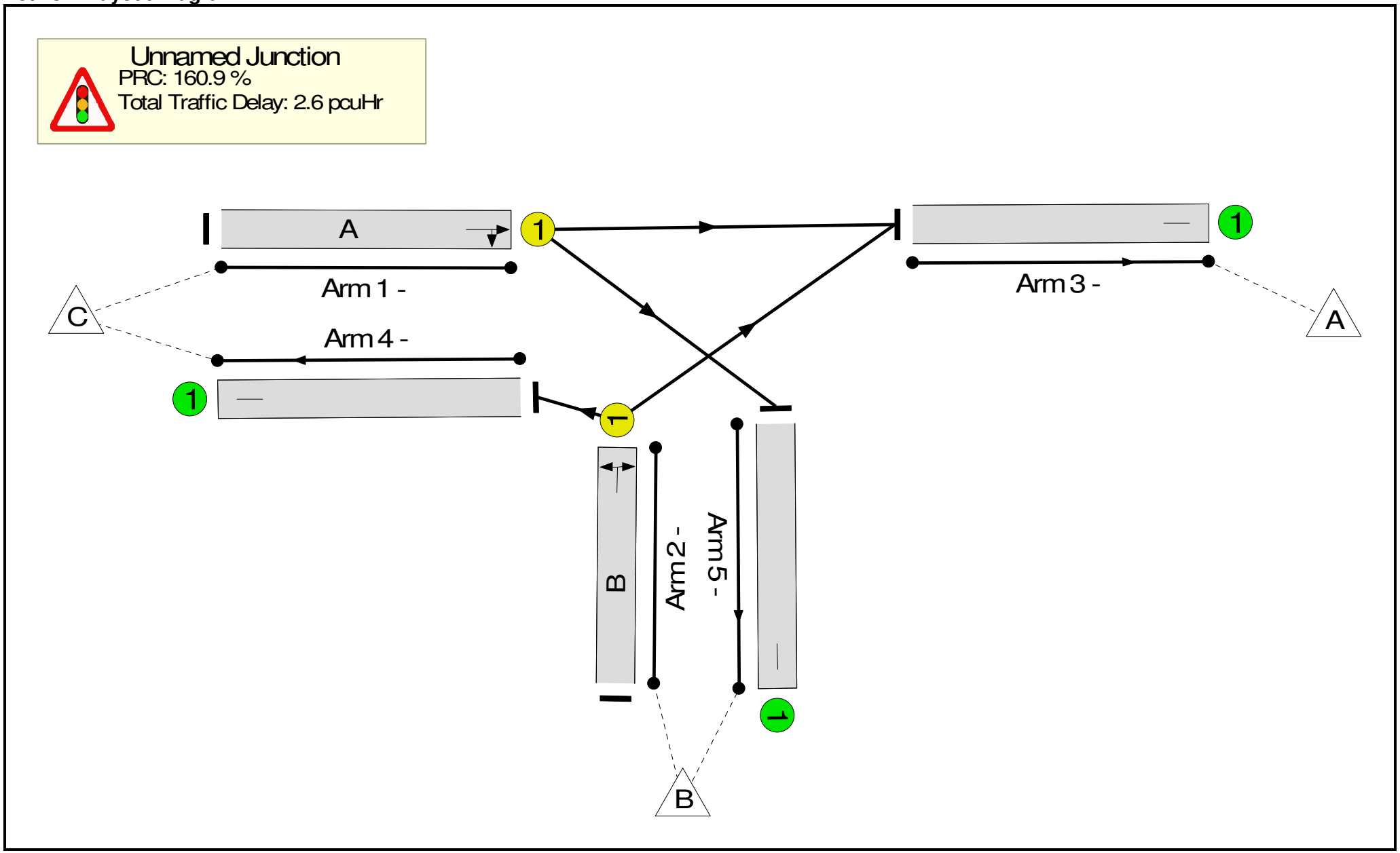
Stage Timings

Stage	1	2	3
Duration	48	15	7
Change Point	0	58	78

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**34.5%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**34.5%**
1/1	Ahead Right	U	N/A	N/A	A		1	48	-	338	1800	980	34.5%
2/1	Right Left	U	N/A	N/A	B		1	15	-	109	1800	320	34.1%
3/1		U	N/A	N/A	-		-	-	-	378	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	27	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%

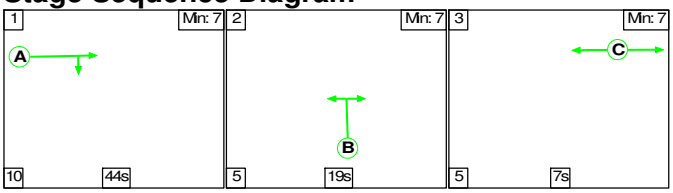
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**2.1**	**0.5**	**0.0**	**2.6**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**2.1**	**0.5**	**0.0**	**2.6**	**-**	**-**	**-**	**-**
1/1	338	338	-	-	-	1.1	0.3	-	1.3	14.3	4.7	0.3	5.0
2/1	109	109	-	-	-	1.0	0.3	-	1.2	40.9	2.4	0.3	2.6
3/1	378	378	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	27	27	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 160.9 Total Delay for Signalled Lanes (pcuHr): 2.58 Cycle Time (s): 90
PRC Over All Lanes (%): 160.9 Total Delay Over All Lanes(pcuHr): 2.58

Full Input Data And Results

Scenario 3: 'Interpeak' (FG3: 'Design Bypass Interpeak', Plan 1: 'Network Control Plan 1')

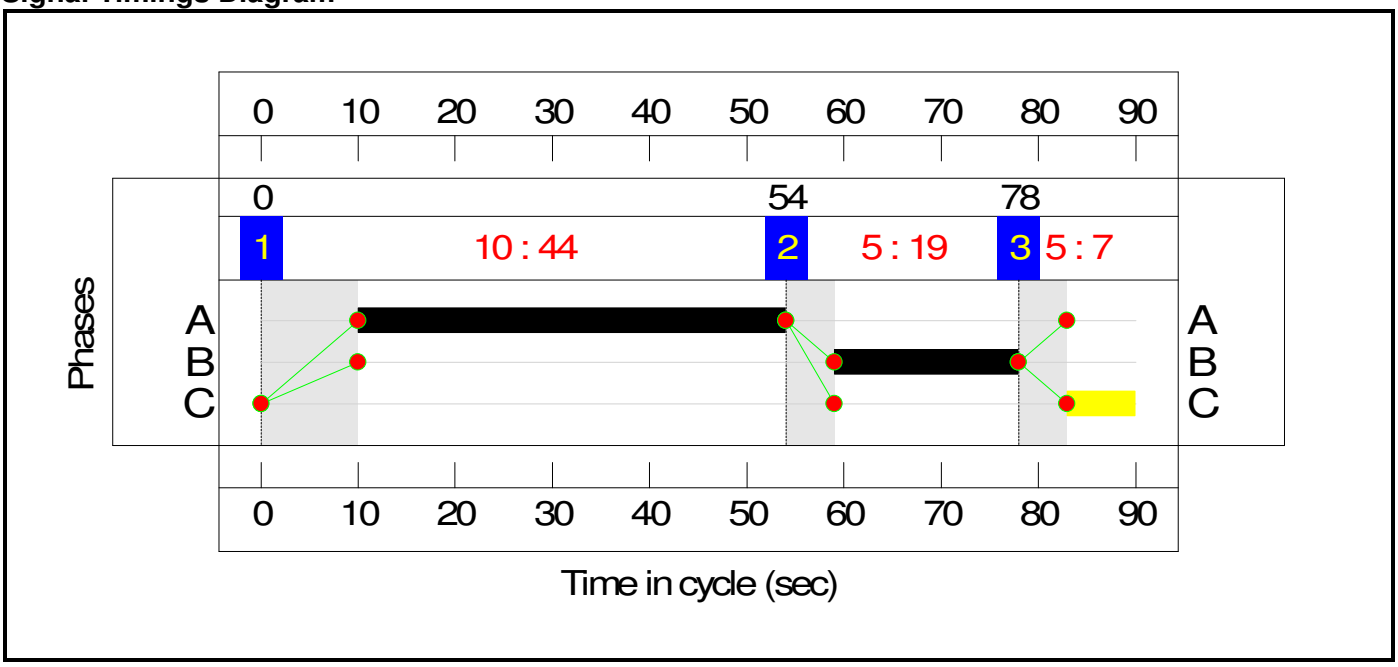
Stage Sequence Diagram



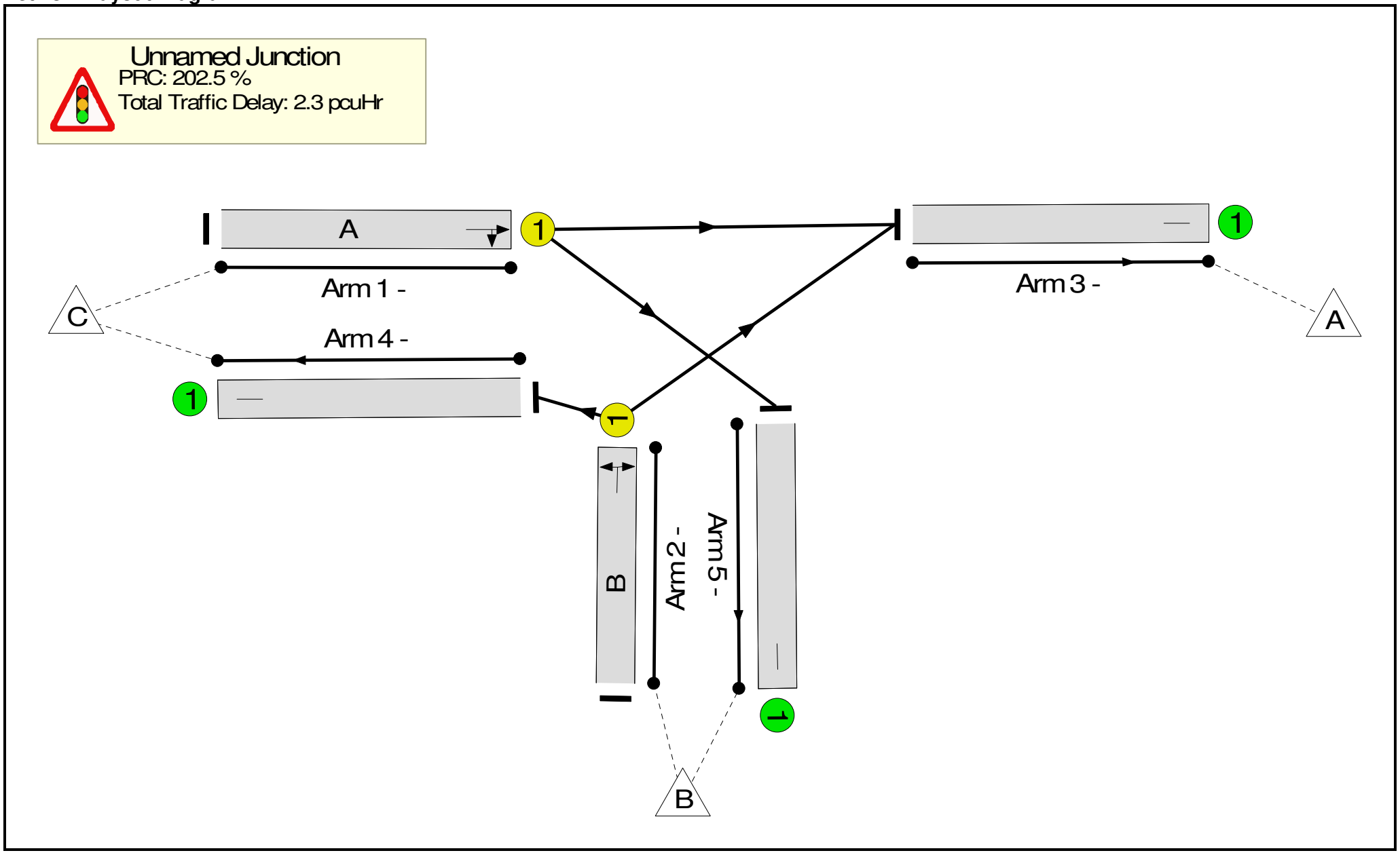
Stage Timings

Stage	1	2	3
Duration	44	19	7
Change Point	0	54	78

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**29.8%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**29.8%**
1/1	Ahead Right	U	N/A	N/A	A		1	44	-	263	1800	900	29.2%
2/1	Right Left	U	N/A	N/A	B		1	19	-	119	1800	400	29.8%
3/1		U	N/A	N/A	-		-	-	-	313	Inf	Inf	0.0%
4/1		U	N/A	N/A	-		-	-	-	27	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**1.9**	**0.4**	**0.0**	**2.3**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**1.9**	**0.4**	**0.0**	**2.3**	**-**	**-**	**-**	**-**
1/1	263	263	-	-	-	1.0	0.2	-	1.2	16.0	3.8	0.2	4.0
2/1	119	119	-	-	-	1.0	0.2	-	1.2	35.5	2.4	0.2	2.7
3/1	313	313	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	27	27	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 202.5 Total Delay for Signalled Lanes (pcuHr): 2.34 Cycle Time (s): 90
PRC Over All Lanes (%): 202.5 Total Delay Over All Lanes(pcuHr): 2.34

Appendix K

A515 / St Johns Street Junction Capacity Results

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Import of Junction 8 St John Street_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 14:53:14

»(Default Analysis Set) - Base, AM
»(Default Analysis Set) - Base, PM
»(Default Analysis Set) - Base, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Stream B-AC	0.5	7.71	0.33	A	2.05	0.6	8.19	0.37	A	2.10	0.7	8.84	0.43	A	3.01
Stream C-B	0.0	0.00	0.00	A		0.0	0.00	0.00	A		0.0	0.00	0.00	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15
D2	Base	PM	ONE HOUR	16:00	17:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	2.05	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.10			100.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	5.00	100	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	661	0.120	0.303	0.191	0.433
1	B-C	809	0.124	0.312	-	-
1	C-B	632	0.244	0.244	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	580	100.000
B		✓	210	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	423	157
	B	0	0	210
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.33	7.71	0.5	A
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	158	733	0.216	157	0.3	6.238	A
C-A	0			0			
C-B	0	525	0.000	0	0.0	0.000	A
A-B	318			318			
A-C	118			118			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	189	718	0.263	188	0.4	6.790	A
C-A	0			0			
C-B	0	505	0.000	0	0.0	0.000	A
A-B	380			380			
A-C	141			141			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	231	698	0.331	231	0.5	7.696	A
C-A	0			0			
C-B	0	476	0.000	0	0.0	0.000	A
A-B	466			466			
A-C	173			173			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	231	698	0.331	231	0.5	7.714	A
C-A	0			0			
C-B	0	476	0.000	0	0.0	0.000	A
A-B	466			466			
A-C	173			173			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	189	718	0.263	189	0.4	6.814	A
C-A	0			0			
C-B	0	505	0.000	0	0.0	0.000	A
A-B	380			380			
A-C	141			141			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	158	733	0.216	158	0.3	6.270	A
C-A	0			0			
C-B	0	525	0.000	0	0.0	0.000	A
A-B	318			318			
A-C	118			118			

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	2.10	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	671	100.000
B		✓	231	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	555	116
	B	0	0	231
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.37	8.19	0.6	A
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	174	730	0.238	173	0.3	6.440	A
C-A	0			0			
C-B	0	509	0.000	0	0.0	0.000	A
A-B	418			418			
A-C	87			87			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	208	715	0.290	207	0.4	7.084	A
C-A	0			0			
C-B	0	485	0.000	0	0.0	0.000	A
A-B	499			499			
A-C	104			104			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	254	694	0.366	254	0.6	8.164	A
C-A	0			0			
C-B	0	452	0.000	0	0.0	0.000	A
A-B	611			611			
A-C	128			128			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	254	694	0.366	254	0.6	8.188	A
C-A	0			0			
C-B	0	452	0.000	0	0.0	0.000	A
A-B	611			611			
A-C	128			128			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	208	715	0.290	208	0.4	7.114	A
C-A	0			0			
C-B	0	485	0.000	0	0.0	0.000	A
A-B	499			499			
A-C	104			104			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	174	730	0.238	174	0.3	6.477	A
C-A	0			0			
C-B	0	509	0.000	0	0.0	0.000	A
A-B	418			418			
A-C	87			87			

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	3.01	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	531	100.000
B		✓	274	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	395	136
	B	0	0	274
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.43	8.84	0.7	A
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	206	741	0.279	205	0.4	6.699	A
C-A	0			0			
C-B	0	534	0.000	0	0.0	0.000	A
A-B	297			297			
A-C	102			102			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	246	727	0.339	246	0.5	7.469	A
C-A	0			0			
C-B	0	516	0.000	0	0.0	0.000	A
A-B	355			355			
A-C	122			122			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	302	709	0.426	301	0.7	8.803	A
C-A	0			0			
C-B	0	489	0.000	0	0.0	0.000	A
A-B	435			435			
A-C	150			150			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	302	709	0.426	302	0.7	8.839	A
C-A	0			0			
C-B	0	489	0.000	0	0.0	0.000	A
A-B	435			435			
A-C	150			150			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	246	727	0.339	247	0.5	7.511	A
C-A	0			0			
C-B	0	516	0.000	0	0.0	0.000	A
A-B	355			355			
A-C	122			122			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	206	741	0.279	207	0.4	6.752	A
C-A	0			0			
C-B	0	534	0.000	0	0.0	0.000	A
A-B	297			297			
A-C	102			102			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 8 St John Street_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 04/06/2018 16:18:32

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Stream B-AC	1.5	13.91	0.60	B	3.86	5.4	36.94	0.86	E	13.28	2.5	18.89	0.72	C	6.93
Stream C-B	0.0	0.00	0.00	A		0.0	0.00	0.00	A		0.0	0.00	0.00	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D2	Without Bypass	PM	ONE HOUR	16:00	17:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	3.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.10			100.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	5.00	100	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	661	0.120	0.303	0.191	0.433
1	B-C	809	0.124	0.312	-	-
1	C-B	632	0.244	0.244	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	920	100.000
B		✓	353	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	741	179
	B	0	0	353
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.60	13.91	1.5	B
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	266	698	0.381	263	0.6	8.232	A
C-A	0			0			
C-B	0	463	0.000	0	0.0	0.000	A
A-B	558			558			
A-C	135			135			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	317	677	0.469	316	0.9	9.955	A
C-A	0			0			
C-B	0	430	0.000	0	0.0	0.000	A
A-B	666			666			
A-C	161			161			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	389	647	0.601	386	1.5	13.682	B
C-A	0			0			
C-B	0	385	0.000	0	0.0	0.000	A
A-B	816			816			
A-C	197			197			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	389	647	0.601	389	1.5	13.914	B
C-A	0			0			
C-B	0	385	0.000	0	0.0	0.000	A
A-B	816			816			
A-C	197			197			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	317	677	0.469	320	0.9	10.143	B
C-A	0			0			
C-B	0	430	0.000	0	0.0	0.000	A
A-B	666			666			
A-C	161			161			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	266	698	0.381	267	0.6	8.364	A
C-A	0			0			
C-B	0	463	0.000	0	0.0	0.000	A
A-B	558			558			
A-C	135			135			

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	13.28	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	909	100.000
B		✓	510	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	751	158
	B	0	0	510
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.86	36.94	5.4	E
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	384	702	0.547	379	1.2	10.990	B
C-A	0			0			
C-B	0	465	0.000	0	0.0	0.000	A
A-B	565			565			
A-C	119			119			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	458	682	0.673	455	2.0	15.688	C
C-A	0			0			
C-B	0	433	0.000	0	0.0	0.000	A
A-B	675			675			
A-C	142			142			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	562	653	0.860	550	4.9	31.674	D
C-A	0			0			
C-B	0	388	0.000	0	0.0	0.000	A
A-B	827			827			
A-C	174			174			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	562	653	0.860	560	5.4	36.937	E
C-A	0			0			
C-B	0	388	0.000	0	0.0	0.000	A
A-B	827			827			
A-C	174			174			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	458	682	0.673	471	2.2	18.073	C
C-A	0			0			
C-B	0	433	0.000	0	0.0	0.000	A
A-B	675			675			
A-C	142			142			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	384	702	0.547	388	1.2	11.569	B
C-A	0			0			
C-B	0	465	0.000	0	0.0	0.000	A
A-B	565			565			
A-C	119			119			

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	6.93	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	758	100.000
B		✓	439	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	597	161
	B	0	0	439
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.72	18.89	2.5	C
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	331	716	0.462	327	0.8	9.182	A
C-A	0			0			
C-B	0	493	0.000	0	0.0	0.000	A
A-B	449			449			
A-C	121			121			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	395	698	0.566	393	1.3	11.737	B
C-A	0			0			
C-B	0	466	0.000	0	0.0	0.000	A
A-B	537			537			
A-C	145			145			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	483	673	0.718	479	2.4	18.141	C
C-A	0			0			
C-B	0	428	0.000	0	0.0	0.000	A
A-B	657			657			
A-C	177			177			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	483	673	0.718	483	2.5	18.889	C
C-A	0			0			
C-B	0	428	0.000	0	0.0	0.000	A
A-B	657			657			
A-C	177			177			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	395	698	0.566	399	1.3	12.228	B
C-A	0			0			
C-B	0	466	0.000	0	0.0	0.000	A
A-B	537			537			
A-C	145			145			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	331	716	0.462	332	0.9	9.431	A
C-A	0			0			
C-B	0	493	0.000	0	0.0	0.000	A
A-B	449			449			
A-C	121			121			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 8 St John Street_A515.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:41:56

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Stream B-AC	0.0	0.00	0.00	A	0.00	0.1	5.64	0.12	A	0.98	0.2	5.78	0.15	A	1.41
Stream C-B	0.0	0.00	0.00	A		0.0	0.00	0.00	A		0.0	0.00	0.00	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15
D2	With Bypass	PM	ONE HOUR	16:00	17:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	0.00	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.10			100.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	5.00	100	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	661	0.120	0.303	0.191	0.433
1	B-C	809	0.124	0.312	-	-
1	C-B	632	0.244	0.244	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	376	100.000
B		✓	4	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	197	179
	B	0	0	4
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	668	0.000	0	0.0	0.000	A
C-A	0			0			
C-B	0	563	0.000	0	0.0	0.000	A
A-B	148			148			
A-C	135			135			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	656	0.000	0	0.0	0.000	A
C-A	0			0			
C-B	0	549	0.000	0	0.0	0.000	A
A-B	177			177			
A-C	161			161			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	640	0.000	0	0.0	0.000	A
C-A	0			0			
C-B	0	531	0.000	0	0.0	0.000	A
A-B	217			217			
A-C	197			197			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	640	0.000	0	0.0	0.000	A
C-A	0			0			
C-B	0	531	0.000	0	0.0	0.000	A
A-B	217			217			
A-C	197			197			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	656	0.000	0	0.0	0.000	A
C-A	0			0			
C-B	0	549	0.000	0	0.0	0.000	A
A-B	177			177			
A-C	161			161			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	0	668	0.000	0	0.0	0.000	A
C-A	0			0			
C-B	0	563	0.000	0	0.0	0.000	A
A-B	148			148			
A-C	135			135			

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	0.98	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	378	100.000
B		✓	79	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	220	158
	B	0	0	79
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.12	5.64	0.1	A
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	59	752	0.079	59	0.1	5.195	A
C-A	0			0			
C-B	0	563	0.000	0	0.0	0.000	A
A-B	166			166			
A-C	119			119			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	71	741	0.096	71	0.1	5.376	A
C-A	0			0			
C-B	0	549	0.000	0	0.0	0.000	A
A-B	198			198			
A-C	142			142			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	87	725	0.120	87	0.1	5.641	A
C-A	0			0			
C-B	0	530	0.000	0	0.0	0.000	A
A-B	242			242			
A-C	174			174			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	87	725	0.120	87	0.1	5.641	A
C-A	0			0			
C-B	0	530	0.000	0	0.0	0.000	A
A-B	242			242			
A-C	174			174			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	71	741	0.096	71	0.1	5.380	A
C-A	0			0			
C-B	0	549	0.000	0	0.0	0.000	A
A-B	198			198			
A-C	142			142			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	59	752	0.079	60	0.1	5.203	A
C-A	0			0			
C-B	0	563	0.000	0	0.0	0.000	A
A-B	166			166			
A-C	119			119			

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	1.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	312	100.000
B		✓	101	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	151	161
	B	0	0	101
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.15	5.78	0.2	A
C-A				
C-B	0.00	0.00	0.0	A
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	76	757	0.100	76	0.1	5.276	A
C-A	0			0			
C-B	0	575	0.000	0	0.0	0.000	A
A-B	114			114			
A-C	121			121			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	91	747	0.121	91	0.1	5.482	A
C-A	0			0			
C-B	0	564	0.000	0	0.0	0.000	A
A-B	136			136			
A-C	145			145			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	111	733	0.152	111	0.2	5.782	A
C-A	0			0			
C-B	0	548	0.000	0	0.0	0.000	A
A-B	166			166			
A-C	177			177			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	111	733	0.152	111	0.2	5.784	A
C-A	0			0			
C-B	0	548	0.000	0	0.0	0.000	A
A-B	166			166			
A-C	177			177			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	91	747	0.121	91	0.1	5.487	A
C-A	0			0			
C-B	0	564	0.000	0	0.0	0.000	A
A-B	136			136			
A-C	145			145			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	76	757	0.100	76	0.1	5.286	A
C-A	0			0			
C-B	0	575	0.000	0	0.0	0.000	A
A-B	114			114			
A-C	121			121			

Appendix L

Cokayne Avenue / Park Road / St John Street

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Import of Junction 9 St John Street_Park Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 15:00:12

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Stream B-C	0.4	10.37	0.29	B	5.53	0.3	9.25	0.22	A	5.92	0.3	9.98	0.24	A	8.02
Stream B-A	1.2	16.21	0.54	C		1.1	14.70	0.54	B		1.6	16.90	0.61	C	
Stream C-AB	0.0	0.00	0.00	A		0.0	0.00	0.00	A		0.0	0.00	0.00	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15
D2	Base	PM	ONE HOUR	16:00	17:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	5.53	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			80.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	8.00	5.30	5.00	5.00	✓	3.00	120	100

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	623	0.107	0.269	0.169	0.385
1	B-C	665	0.096	0.242	-	-
1	C-B	620	0.226	0.226	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	298	100.000
B		✓	367	100.000
C		✓	274	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	298
	B	237	0	130
	C	274	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.29	10.37	0.4	B
B-A	0.54	16.21	1.2	C
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	98	558	0.175	97	0.2	7.800	A
B-A	178	528	0.338	176	0.5	10.193	B
C-AB	0	570	0.000	0	0.0	0.000	A
C-A	206			206			
A-B	0			0			
A-C	224			224			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	117	533	0.219	117	0.3	8.650	A
B-A	213	509	0.419	212	0.7	12.096	B
C-AB	0	560	0.000	0	0.0	0.000	A
C-A	246			246			
A-B	0			0			
A-C	268			268			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	143	491	0.291	143	0.4	10.313	B
B-A	261	483	0.541	259	1.1	15.982	C
C-AB	0	546	0.000	0	0.0	0.000	A
C-A	302			302			
A-B	0			0			
A-C	328			328			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	143	490	0.292	143	0.4	10.375	B
B-A	261	483	0.541	261	1.2	16.207	C
C-AB	0	546	0.000	0	0.0	0.000	A
C-A	302			302			
A-B	0			0			
A-C	328			328			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	117	531	0.220	117	0.3	8.708	A
B-A	213	509	0.418	215	0.7	12.294	B
C-AB	0	560	0.000	0	0.0	0.000	A
C-A	246			246			
A-B	0			0			
A-C	268			268			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	98	557	0.176	98	0.2	7.857	A
B-A	178	528	0.338	179	0.5	10.354	B
C-AB	0	570	0.000	0	0.0	0.000	A
C-A	206			206			
A-B	0			0			
A-C	224			224			

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	5.92	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	196	100.000
B		✓	360	100.000
C		✓	245	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	196
	B	259	0	101
	C	245	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.22	9.25	0.3	A
B-A	0.54	14.70	1.1	B
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	76	560	0.136	75	0.2	7.424	A
B-A	195	563	0.346	193	0.5	9.662	A
C-AB	0	587	0.000	0	0.0	0.000	A
C-A	184			184			
A-B	0			0			
A-C	148			148			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	91	538	0.169	91	0.2	8.046	A
B-A	233	549	0.424	232	0.7	11.314	B
C-AB	0	581	0.000	0	0.0	0.000	A
C-A	220			220			
A-B	0			0			
A-C	176			176			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	111	501	0.222	111	0.3	9.217	A
B-A	285	530	0.538	284	1.1	14.528	B
C-AB	0	572	0.000	0	0.0	0.000	A
C-A	270			270			
A-B	0			0			
A-C	216			216			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	111	500	0.222	111	0.3	9.255	A
B-A	285	530	0.538	285	1.1	14.705	B
C-AB	0	572	0.000	0	0.0	0.000	A
C-A	270			270			
A-B	0			0			
A-C	216			216			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	91	537	0.169	91	0.2	8.085	A
B-A	233	550	0.424	234	0.8	11.483	B
C-AB	0	581	0.000	0	0.0	0.000	A
C-A	220			220			
A-B	0			0			
A-C	176			176			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	76	559	0.136	76	0.2	7.467	A
B-A	195	564	0.346	196	0.5	9.811	A
C-AB	0	587	0.000	0	0.0	0.000	A
C-A	184			184			
A-B	0			0			
A-C	148			148			

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	8.02	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	168	100.000
B		✓	410	100.000
C		✓	198	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	168
	B	308	0	102
	C	198	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.24	9.98	0.3	A
B-A	0.61	16.90	1.6	C
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	77	548	0.140	76	0.2	7.616	A
B-A	232	580	0.400	229	0.7	10.180	B
C-AB	0	592	0.000	0	0.0	0.000	A
C-A	149			149			
A-B	0			0			
A-C	126			126			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	92	522	0.176	91	0.2	8.351	A
B-A	277	568	0.487	276	0.9	12.252	B
C-AB	0	586	0.000	0	0.0	0.000	A
C-A	178			178			
A-B	0			0			
A-C	151			151			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	112	475	0.237	112	0.3	9.911	A
B-A	339	552	0.615	337	1.5	16.554	C
C-AB	0	579	0.000	0	0.0	0.000	A
C-A	218			218			
A-B	0			0			
A-C	185			185			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	112	473	0.237	112	0.3	9.981	A
B-A	339	552	0.615	339	1.6	16.896	C
C-AB	0	579	0.000	0	0.0	0.000	A
C-A	218			218			
A-B	0			0			
A-C	185			185			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	92	521	0.176	92	0.2	8.409	A
B-A	277	569	0.487	279	1.0	12.539	B
C-AB	0	586	0.000	0	0.0	0.000	A
C-A	178			178			
A-B	0			0			
A-C	151			151			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	77	547	0.140	77	0.2	7.669	A
B-A	232	581	0.399	233	0.7	10.398	B
C-AB	0	592	0.000	0	0.0	0.000	A
C-A	149			149			
A-B	0			0			
A-C	126			126			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 9 St John Street_Park Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 04/06/2018 16:20:09

»(Default Analysis Set) - Without Bypass, AM
»(Default Analysis Set) - Without Bypass, PM
»(Default Analysis Set) - Without Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Stream B-C	1.2	23.12	0.55	C	13.14	13.7	262.53	1.11	F	104.83	4.7	107.62	0.91	F	38.89
Stream B-A	4.4	42.73	0.83	E		34.3	213.24	1.10	F		9.4	72.30	0.94	F	
Stream C-AB	0.0	0.00	0.00	A		0.0	0.00	0.00	A		0.0	0.00	0.00	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D2	Without Bypass	PM	ONE HOUR	16:00	17:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	13.14	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			80.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	8.00	5.30	5.00	5.00	✓	3.00	120	100

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	629	0.108	0.272	0.171	0.389
1	B-C	658	0.095	0.239	-	-
1	C-B	620	0.226	0.226	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	466	100.000
B		✓	532	100.000
C		✓	478	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	466	0
	B	362	0	170
	C	478	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.55	23.12	1.2	C
B-A	0.83	42.73	4.4	E
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	128	532	0.241	127	0.3	8.855	A
B-A	273	529	0.515	268	1.0	13.596	B
C-AB	0	541	0.000	0	0.0	0.000	A
C-A	360			360			
A-B	351			351			
A-C	0			0			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	482	0.317	152	0.5	10.894	B
B-A	325	509	0.639	323	1.7	19.048	C
C-AB	0	526	0.000	0	0.0	0.000	A
C-A	430			430			
A-B	419			419			
A-C	0			0			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	187	359	0.522	185	1.0	20.444	C
B-A	399	478	0.834	389	4.0	36.956	E
C-AB	0	504	0.000	0	0.0	0.000	A
C-A	526			526			
A-B	513			513			
A-C	0			0			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	187	342	0.548	187	1.2	23.123	C
B-A	399	478	0.834	397	4.4	42.728	E
C-AB	0	504	0.000	0	0.0	0.000	A
C-A	526			526			
A-B	513			513			
A-C	0			0			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	470	0.325	156	0.5	11.549	B
B-A	325	509	0.639	336	1.9	21.798	C
C-AB	0	526	0.000	0	0.0	0.000	A
C-A	430			430			
A-B	419			419			
A-C	0			0			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	128	528	0.243	129	0.3	9.036	A
B-A	273	530	0.515	276	1.1	14.342	B
C-AB	0	541	0.000	0	0.0	0.000	A
C-A	360			360			
A-B	351			351			
A-C	0			0			

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	104.83	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	330	100.000
B		✓	681	100.000
C		✓	458	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	330	0
	B	503	0	178
	C	458	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	1.11	262.53	13.7	F
B-A	1.10	213.24	34.3	F
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	134	464	0.289	132	0.4	10.821	B
B-A	379	551	0.687	370	2.1	19.167	C
C-AB	0	564	0.000	0	0.0	0.000	A
C-A	345			345			
A-B	248			248			
A-C	0			0			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	160	334	0.479	158	0.9	20.246	C
B-A	452	532	0.850	442	4.5	36.594	E
C-AB	0	553	0.000	0	0.0	0.000	A
C-A	412			412			
A-B	297			297			
A-C	0			0			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	196	176	1.112	162	9.5	149.258	F
B-A	554	505	1.097	490	20.4	111.700	F
C-AB	0	538	0.000	0	0.0	0.000	A
C-A	504			504			
A-B	363			363			
A-C	0			0			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	196	185	1.061	179	13.7	262.530	F
B-A	554	502	1.102	498	34.3	213.237	F
C-AB	0	538	0.000	0	0.0	0.000	A
C-A	504			504			
A-B	363			363			
A-C	0			0			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	160	191	0.837	182	8.3	228.525	F
B-A	452	525	0.862	510	19.9	195.474	F
C-AB	0	553	0.000	0	0.0	0.000	A
C-A	412			412			
A-B	297			297			
A-C	0			0			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	134	366	0.366	165	0.6	20.601	C
B-A	379	547	0.692	448	2.5	53.839	F
C-AB	0	564	0.000	0	0.0	0.000	A
C-A	345			345			
A-B	248			248			
A-C	0			0			

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	38.89	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	287	100.000
B		✓	600	100.000
C		✓	362	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	287	0
	B	453	0	147
	C	362	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.91	107.62	4.7	F
B-A	0.94	72.30	9.4	F
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	111	502	0.221	110	0.3	9.157	A
B-A	341	570	0.598	335	1.4	14.979	B
C-AB	0	572	0.000	0	0.0	0.000	A
C-A	273			273			
A-B	216			216			
A-C	0			0			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	132	427	0.310	132	0.4	12.165	B
B-A	407	556	0.733	403	2.5	22.877	C
C-AB	0	562	0.000	0	0.0	0.000	A
C-A	325			325			
A-B	258			258			
A-C	0			0			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	162	230	0.705	155	2.0	45.399	E
B-A	499	533	0.936	479	7.6	52.642	F
C-AB	0	549	0.000	0	0.0	0.000	A
C-A	399			399			
A-B	316			316			
A-C	0			0			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	162	177	0.913	151	4.7	107.618	F
B-A	499	532	0.938	492	9.4	72.296	F
C-AB	0	549	0.000	0	0.0	0.000	A
C-A	399			399			
A-B	316			316			
A-C	0			0			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	132	387	0.341	149	0.5	16.107	C
B-A	407	553	0.736	432	3.1	34.273	D
C-AB	0	562	0.000	0	0.0	0.000	A
C-A	325			325			
A-B	258			258			
A-C	0			0			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	111	493	0.225	112	0.3	9.468	A
B-A	341	571	0.598	347	1.5	16.510	C
C-AB	0	572	0.000	0	0.0	0.000	A
C-A	273			273			
A-B	216			216			
A-C	0			0			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 9 St John Street_Park Road.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:47:16

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Stream B-C	0.3	6.45	0.25	A	1.09	0.4	7.22	0.28	A	1.94	0.3	7.38	0.25	A	2.47
Stream B-A	0.0	9.73	0.04	A		0.2	10.23	0.18	B		0.4	10.24	0.26	B	
Stream C-AB	0.0	0.00	0.00	A		0.0	0.00	0.00	A		0.0	0.00	0.00	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15
D2	With Bypass	PM	ONE HOUR	16:00	17:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	1.09	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			80.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	8.00	5.30	5.00	5.00	✓	3.00	120	100

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	501	0.086	0.217	0.136	0.310
1	B-C	813	0.117	0.296	-	-
1	C-B	620	0.226	0.226	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	466	100.000
B		✓	184	100.000
C		✓	478	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	466	0
	B	14	0	170
	C	478	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.25	6.45	0.3	A
B-A	0.04	9.73	0.0	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	128	767	0.167	127	0.2	5.622	A
B-A	11	422	0.025	10	0.0	8.742	A
C-AB	0	541	0.000	0	0.0	0.000	A
C-A	360			360			
A-B	351			351			
A-C	0			0			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	758	0.202	153	0.3	5.950	A
B-A	13	407	0.031	13	0.0	9.133	A
C-AB	0	526	0.000	0	0.0	0.000	A
C-A	430			430			
A-B	419			419			
A-C	0			0			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	187	745	0.251	187	0.3	6.446	A
B-A	15	385	0.040	15	0.0	9.730	A
C-AB	0	504	0.000	0	0.0	0.000	A
C-A	526			526			
A-B	513			513			
A-C	0			0			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	187	745	0.251	187	0.3	6.454	A
B-A	15	385	0.040	15	0.0	9.732	A
C-AB	0	504	0.000	0	0.0	0.000	A
C-A	526			526			
A-B	513			513			
A-C	0			0			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	758	0.202	153	0.3	5.961	A
B-A	13	407	0.031	13	0.0	9.134	A
C-AB	0	526	0.000	0	0.0	0.000	A
C-A	430			430			
A-B	419			419			
A-C	0			0			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	128	767	0.167	128	0.2	5.642	A
B-A	11	422	0.025	11	0.0	8.745	A
C-AB	0	541	0.000	0	0.0	0.000	A
C-A	360			360			
A-B	351			351			
A-C	0			0			

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	1.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	330	100.000
B		✓	249	100.000
C		✓	458	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	330	0
	B	71	0	178
	C	458	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.28	7.22	0.4	A
B-A	0.18	10.23	0.2	B
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	134	720	0.186	133	0.2	6.128	A
B-A	53	464	0.115	53	0.1	8.739	A
C-AB	0	564	0.000	0	0.0	0.000	A
C-A	345			345			
A-B	248			248			
A-C	0			0			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	160	709	0.226	160	0.3	6.547	A
B-A	64	450	0.142	64	0.2	9.313	A
C-AB	0	553	0.000	0	0.0	0.000	A
C-A	412			412			
A-B	297			297			
A-C	0			0			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	196	695	0.282	196	0.4	7.204	A
B-A	78	430	0.182	78	0.2	10.215	B
C-AB	0	538	0.000	0	0.0	0.000	A
C-A	504			504			
A-B	363			363			
A-C	0			0			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	196	695	0.282	196	0.4	7.217	A
B-A	78	430	0.182	78	0.2	10.226	B
C-AB	0	538	0.000	0	0.0	0.000	A
C-A	504			504			
A-B	363			363			
A-C	0			0			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	160	709	0.226	160	0.3	6.567	A
B-A	64	450	0.142	64	0.2	9.328	A
C-AB	0	553	0.000	0	0.0	0.000	A
C-A	412			412			
A-B	297			297			
A-C	0			0			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	134	719	0.186	134	0.2	6.157	A
B-A	53	464	0.115	54	0.1	8.764	A
C-AB	0	564	0.000	0	0.0	0.000	A
C-A	345			345			
A-B	248			248			
A-C	0			0			

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	2.47	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	287	100.000
B		✓	261	100.000
C		✓	362	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	287	0
	B	114	0	147
	C	362	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.25	7.38	0.3	A
B-A	0.26	10.24	0.4	B
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	111	677	0.163	110	0.2	6.339	A
B-A	86	506	0.169	85	0.2	8.527	A
C-AB	0	572	0.000	0	0.0	0.000	A
C-A	273			273			
A-B	216			216			
A-C	0			0			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	132	666	0.199	132	0.2	6.739	A
B-A	102	494	0.207	102	0.3	9.180	A
C-AB	0	562	0.000	0	0.0	0.000	A
C-A	325			325			
A-B	258			258			
A-C	0			0			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	162	650	0.249	162	0.3	7.368	A
B-A	126	477	0.263	125	0.4	10.220	B
C-AB	0	549	0.000	0	0.0	0.000	A
C-A	399			399			
A-B	316			316			
A-C	0			0			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	162	650	0.249	162	0.3	7.379	A
B-A	126	477	0.263	126	0.4	10.241	B
C-AB	0	549	0.000	0	0.0	0.000	A
C-A	399			399			
A-B	316			316			
A-C	0			0			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	132	665	0.199	132	0.3	6.761	A
B-A	102	494	0.207	103	0.3	9.205	A
C-AB	0	562	0.000	0	0.0	0.000	A
C-A	325			325			
A-B	258			258			
A-C	0			0			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	111	677	0.164	111	0.2	6.368	A
B-A	86	507	0.169	86	0.2	8.567	A
C-AB	0	572	0.000	0	0.0	0.000	A
C-A	273			273			
A-B	216			216			
A-C	0			0			

Appendix M

A515 / B5035 (Kings Street) Junction Capacity Results

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Import of Junction 11 A515_King Street.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 15:13:05

»(Default Analysis Set) - Base, AM
»(Default Analysis Set) - Base, PM
»(Default Analysis Set) - Base, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Stream B-C	0.3	7.15	0.23	A	3.33	0.3	7.34	0.24	A	2.86	0.2	6.46	0.14	A	1.82
Stream B-A	0.2	12.07	0.16	B		0.2	12.64	0.18	B		0.1	10.79	0.11	B	
Stream C-AB	0.6	6.56	0.28	A		0.5	5.51	0.23	A		0.2	5.28	0.11	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15
D2	Base	PM	ONE HOUR	16:00	17:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	3.33	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			80.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	8.40	4.40	3.90	3.70	3.30	✓	1.00	31	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	490	0.084	0.212	0.133	0.303
1	B-C	748	0.108	0.272	-	-
1	C-B	620	0.226	0.226	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	252	100.000
B		✓	183	100.000
C		✓	389	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	213
	B	50	0	133
	C	271	118	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.23	7.15	0.3	A
B-A	0.16	12.07	0.2	B
C-AB	0.28	6.56	0.6	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	100	684	0.146	99	0.2	6.150	A
B-A	38	398	0.094	37	0.1	9.957	A
C-AB	124	716	0.174	123	0.3	6.065	A
C-A	169			169			
A-B	29			29			
A-C	160			160			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	120	670	0.178	119	0.2	6.533	A
B-A	45	380	0.118	45	0.1	10.748	B
C-AB	159	736	0.216	159	0.4	6.239	A
C-A	191			191			
A-B	35			35			
A-C	191			191			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	146	650	0.225	146	0.3	7.139	A
B-A	55	353	0.156	55	0.2	12.050	B
C-AB	214	764	0.280	213	0.6	6.544	A
C-A	214			214			
A-B	43			43			
A-C	235			235			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	146	650	0.225	146	0.3	7.150	A
B-A	55	353	0.156	55	0.2	12.071	B
C-AB	214	764	0.280	214	0.6	6.559	A
C-A	214			214			
A-B	43			43			
A-C	235			235			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	120	670	0.178	120	0.2	6.548	A
B-A	45	379	0.118	45	0.1	10.775	B
C-AB	159	736	0.216	160	0.4	6.262	A
C-A	190			190			
A-B	35			35			
A-C	191			191			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	100	684	0.146	100	0.2	6.173	A
B-A	38	398	0.095	38	0.1	9.994	A
C-AB	125	716	0.174	125	0.3	6.100	A
C-A	168			168			
A-B	29			29			
A-C	160			160			

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	2.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	245	100.000
B		✓	194	100.000
C		✓	477	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	24	221
	B	55	0	139
	C	387	90	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.24	7.34	0.3	A
B-A	0.18	12.64	0.2	B
C-AB	0.23	5.51	0.5	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	105	680	0.154	104	0.2	6.237	A
B-A	41	394	0.105	41	0.1	10.196	B
C-AB	108	776	0.140	107	0.3	5.381	A
C-A	251			251			
A-B	18			18			
A-C	166			166			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	125	665	0.188	125	0.2	6.657	A
B-A	49	374	0.132	49	0.2	11.095	B
C-AB	143	808	0.176	142	0.3	5.410	A
C-A	286			286			
A-B	22			22			
A-C	199			199			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	644	0.238	153	0.3	7.328	A
B-A	61	345	0.175	60	0.2	12.614	B
C-AB	199	853	0.233	198	0.5	5.503	A
C-A	326			326			
A-B	26			26			
A-C	243			243			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	643	0.238	153	0.3	7.340	A
B-A	61	345	0.175	61	0.2	12.639	B
C-AB	199	854	0.233	199	0.5	5.511	A
C-A	326			326			
A-B	26			26			
A-C	243			243			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	125	665	0.188	125	0.2	6.671	A
B-A	49	373	0.132	50	0.2	11.128	B
C-AB	143	809	0.177	144	0.4	5.424	A
C-A	286			286			
A-B	22			22			
A-C	199			199			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	105	680	0.154	105	0.2	6.262	A
B-A	41	393	0.105	42	0.1	10.238	B
C-AB	109	777	0.140	109	0.3	5.402	A
C-A	250			250			
A-B	18			18			
A-C	166			166			

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	1.82	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	258	100.000
B		✓	121	100.000
C		✓	345	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	15	243
	B	38	0	83
	C	301	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.14	6.46	0.2	A
B-A	0.11	10.79	0.1	B
C-AB	0.11	5.28	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	62	680	0.092	62	0.1	5.826	A
B-A	29	414	0.069	28	0.1	9.332	A
C-AB	48	730	0.066	48	0.1	5.270	A
C-A	212			212			
A-B	11			11			
A-C	183			183			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	75	667	0.112	75	0.1	6.080	A
B-A	34	398	0.086	34	0.1	9.894	A
C-AB	62	753	0.082	62	0.1	5.210	A
C-A	248			248			
A-B	13			13			
A-C	218			218			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	91	648	0.141	91	0.2	6.459	A
B-A	42	376	0.111	42	0.1	10.778	B
C-AB	84	785	0.107	84	0.2	5.134	A
C-A	296			296			
A-B	17			17			
A-C	268			268			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	91	648	0.141	91	0.2	6.463	A
B-A	42	376	0.111	42	0.1	10.785	B
C-AB	84	785	0.107	84	0.2	5.140	A
C-A	296			296			
A-B	17			17			
A-C	268			268			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	75	666	0.112	75	0.1	6.088	A
B-A	34	398	0.086	34	0.1	9.905	A
C-AB	62	753	0.082	62	0.2	5.215	A
C-A	248			248			
A-B	13			13			
A-C	218			218			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	62	679	0.092	63	0.1	5.840	A
B-A	29	414	0.069	29	0.1	9.350	A
C-AB	48	731	0.066	48	0.1	5.281	A
C-A	212			212			
A-B	11			11			
A-C	183			183			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 11 A515_King Street.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 04/06/2018 16:22:08

»(Default Analysis Set) - Without Bypass, AM
»(Default Analysis Set) - Without Bypass, PM
»(Default Analysis Set) - Without Bypass, Interpeak

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Stream B-C	0.3	7.96	0.24	A	2.88	0.4	9.10	0.28	A	2.59	0.2	7.14	0.15	A	1.45
Stream B-A	0.3	16.54	0.20	C		0.3	19.00	0.24	C		0.2	13.61	0.14	B	
Stream C-AB	1.3	6.06	0.39	A		1.0	5.53	0.32	A		0.3	4.81	0.14	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D2	Without Bypass	PM	ONE HOUR	16:00	17:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	2.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			80.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	8.40	4.40	3.90	3.70	3.30	✓	1.00	31	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	490	0.084	0.212	0.133	0.303
1	B-C	748	0.108	0.272	-	-
1	C-B	620	0.226	0.226	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	395	100.000
B		✓	183	100.000
C		✓	707	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	356
	B	50	0	133
	C	589	118	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.24	7.96	0.3	A
B-A	0.20	16.54	0.3	C
C-AB	0.39	6.06	1.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	100	653	0.153	99	0.2	6.497	A
B-A	38	344	0.110	37	0.1	11.746	B
C-AB	183	860	0.213	181	0.5	5.300	A
C-A	349			349			
A-B	29			29			
A-C	268			268			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	120	631	0.189	119	0.2	7.028	A
B-A	45	314	0.143	45	0.2	13.356	B
C-AB	255	911	0.280	254	0.7	5.487	A
C-A	381			381			
A-B	35			35			
A-C	320			320			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	146	599	0.245	146	0.3	7.945	A
B-A	55	273	0.202	55	0.2	16.464	C
C-AB	385	984	0.391	383	1.2	6.018	A
C-A	394			394			
A-B	43			43			
A-C	392			392			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	146	598	0.245	146	0.3	7.965	A
B-A	55	273	0.202	55	0.3	16.537	C
C-AB	386	985	0.392	386	1.3	6.059	A
C-A	392			392			
A-B	43			43			
A-C	392			392			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	120	631	0.190	120	0.2	7.050	A
B-A	45	314	0.143	45	0.2	13.430	B
C-AB	256	913	0.281	258	0.7	5.539	A
C-A	379			379			
A-B	35			35			
A-C	320			320			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	100	652	0.154	100	0.2	6.525	A
B-A	38	343	0.110	38	0.1	11.800	B
C-AB	185	862	0.214	186	0.5	5.350	A
C-A	348			348			
A-B	29			29			
A-C	268			268			

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	2.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	524	100.000
B		✓	194	100.000
C		✓	673	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	24	500
	B	55	0	139
	C	583	90	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.28	9.10	0.4	A
B-A	0.24	19.00	0.3	C
C-AB	0.32	5.53	1.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	105	621	0.169	104	0.2	6.952	A
B-A	41	329	0.126	41	0.1	12.468	B
C-AB	142	841	0.169	140	0.4	5.140	A
C-A	365			365			
A-B	18			18			
A-C	376			376			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	125	593	0.211	125	0.3	7.687	A
B-A	49	296	0.167	49	0.2	14.555	B
C-AB	198	889	0.223	198	0.6	5.220	A
C-A	407			407			
A-B	22			22			
A-C	449			449			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	549	0.279	153	0.4	9.061	A
B-A	61	250	0.242	60	0.3	18.886	C
C-AB	303	958	0.316	301	1.0	5.502	A
C-A	438			438			
A-B	26			26			
A-C	551			551			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	549	0.279	153	0.4	9.096	A
B-A	61	250	0.242	61	0.3	19.000	C
C-AB	304	959	0.317	304	1.0	5.529	A
C-A	437			437			
A-B	26			26			
A-C	551			551			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	125	592	0.211	125	0.3	7.722	A
B-A	49	296	0.167	50	0.2	14.658	B
C-AB	199	890	0.224	201	0.6	5.253	A
C-A	406			406			
A-B	22			22			
A-C	449			449			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	105	620	0.169	105	0.2	6.988	A
B-A	41	329	0.126	42	0.1	12.554	B
C-AB	143	842	0.170	144	0.4	5.176	A
C-A	364			364			
A-B	18			18			
A-C	376			376			

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	1.45	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	424	100.000
B		✓	121	100.000
C		✓	547	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	15	409
	B	38	0	83
	C	503	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.15	7.14	0.2	A
B-A	0.14	13.61	0.2	B
C-AB	0.14	4.81	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	62	645	0.097	62	0.1	6.174	A
B-A	29	367	0.078	28	0.1	10.633	B
C-AB	62	812	0.077	62	0.1	4.799	A
C-A	350			350			
A-B	11			11			
A-C	308			308			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	75	625	0.119	75	0.1	6.542	A
B-A	34	341	0.100	34	0.1	11.708	B
C-AB	85	852	0.099	84	0.2	4.689	A
C-A	407			407			
A-B	13			13			
A-C	368			368			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	91	596	0.153	91	0.2	7.133	A
B-A	42	306	0.137	42	0.2	13.584	B
C-AB	124	911	0.137	124	0.3	4.581	A
C-A	478			478			
A-B	17			17			
A-C	450			450			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	91	596	0.153	91	0.2	7.138	A
B-A	42	306	0.137	42	0.2	13.607	B
C-AB	125	911	0.137	125	0.3	4.586	A
C-A	478			478			
A-B	17			17			
A-C	450			450			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	75	624	0.120	75	0.1	6.552	A
B-A	34	341	0.100	34	0.1	11.732	B
C-AB	85	853	0.100	85	0.2	4.699	A
C-A	407			407			
A-B	13			13			
A-C	368			368			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	62	644	0.097	63	0.1	6.190	A
B-A	29	367	0.078	29	0.1	10.662	B
C-AB	62	812	0.077	63	0.1	4.811	A
C-A	349			349			
A-B	11			11			
A-C	308			308			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 11 A515_King Street.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:49:46

Summary of junction performance

	AM					PM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Stream B-C	0.3	6.32	0.20	A	5.66	0.3	6.64	0.22	A	4.95	0.1	5.89	0.13	A	3.64
Stream B-A	0.1	9.48	0.13	A		0.2	9.73	0.14	A		0.1	8.76	0.09	A	
Stream C-AB	0.3	7.19	0.22	A		0.2	6.83	0.17	A		0.1	6.13	0.08	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15
D2	With Bypass	PM	ONE HOUR	16:00	17:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	5.66	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			80.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	8.40	4.40	3.90	3.70	3.30	✓	1.00	31	80

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	490	0.084	0.212	0.133	0.303
1	B-C	748	0.108	0.272	-	-
1	C-B	620	0.226	0.226	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	47	100.000
B		✓	183	100.000
C		✓	163	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	39	8
	B	50	0	133
	C	45	118	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.20	6.32	0.3	A
B-A	0.13	9.48	0.1	A
C-AB	0.22	7.19	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	100	728	0.138	99	0.2	5.724	A
B-A	38	454	0.083	37	0.1	8.635	A
C-AB	94	635	0.148	93	0.2	6.640	A
C-A	29			29			
A-B	29			29			
A-C	6			6			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	120	723	0.165	119	0.2	5.965	A
B-A	45	446	0.101	45	0.1	8.971	A
C-AB	113	638	0.178	113	0.2	6.864	A
C-A	33			33			
A-B	35			35			
A-C	7			7			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	146	716	0.205	146	0.3	6.318	A
B-A	55	435	0.127	55	0.1	9.470	A
C-AB	141	641	0.220	141	0.3	7.185	A
C-A	39			39			
A-B	43			43			
A-C	9			9			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	146	716	0.205	146	0.3	6.324	A
B-A	55	435	0.127	55	0.1	9.478	A
C-AB	141	641	0.220	141	0.3	7.195	A
C-A	39			39			
A-B	43			43			
A-C	9			9			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	120	723	0.165	120	0.2	5.973	A
B-A	45	446	0.101	45	0.1	8.983	A
C-AB	113	638	0.178	114	0.2	6.877	A
C-A	33			33			
A-B	35			35			
A-C	7			7			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	100	727	0.138	100	0.2	5.742	A
B-A	38	454	0.083	38	0.1	8.657	A
C-AB	94	635	0.148	94	0.2	6.664	A
C-A	29			29			
A-B	29			29			
A-C	6			6			

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	4.95	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	92	100.000
B		✓	194	100.000
C		✓	143	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	24	68
	B	55	0	139
	C	53	90	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.22	6.64	0.3	A
B-A	0.14	9.73	0.2	A
C-AB	0.17	6.83	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	105	714	0.147	104	0.2	5.899	A
B-A	41	452	0.092	41	0.1	8.759	A
C-AB	72	631	0.115	72	0.1	6.431	A
C-A	35			35			
A-B	18			18			
A-C	51			51			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	125	706	0.177	125	0.2	6.191	A
B-A	49	443	0.112	49	0.1	9.140	A
C-AB	88	633	0.138	87	0.2	6.594	A
C-A	41			41			
A-B	22			22			
A-C	61			61			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	695	0.220	153	0.3	6.631	A
B-A	61	431	0.141	60	0.2	9.717	A
C-AB	109	636	0.172	109	0.2	6.823	A
C-A	48			48			
A-B	26			26			
A-C	75			75			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	153	695	0.220	153	0.3	6.637	A
B-A	61	431	0.141	61	0.2	9.726	A
C-AB	109	636	0.172	109	0.2	6.830	A
C-A	48			48			
A-B	26			26			
A-C	75			75			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	125	706	0.177	125	0.2	6.201	A
B-A	49	443	0.112	50	0.1	9.155	A
C-AB	88	633	0.138	88	0.2	6.603	A
C-A	41			41			
A-B	22			22			
A-C	61			61			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	105	713	0.147	105	0.2	5.918	A
B-A	41	452	0.092	42	0.1	8.782	A
C-AB	72	631	0.115	73	0.1	6.445	A
C-A	35			35			
A-B	18			18			
A-C	51			51			

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	3.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	85	100.000
B		✓	121	100.000
C		✓	101	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	15	70
	B	38	0	83
	C	57	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	5.89	0.1	A
B-A	0.09	8.76	0.1	A
C-AB	0.08	6.13	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	62	716	0.087	62	0.1	5.507	A
B-A	29	466	0.061	28	0.1	8.215	A
C-AB	36	634	0.056	35	0.1	6.010	A
C-A	41			41			
A-B	11			11			
A-C	53			53			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	75	710	0.105	75	0.1	5.665	A
B-A	34	461	0.074	34	0.1	8.438	A
C-AB	43	637	0.068	43	0.1	6.058	A
C-A	48			48			
A-B	13			13			
A-C	63			63			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	91	702	0.130	91	0.1	5.890	A
B-A	42	453	0.092	42	0.1	8.758	A
C-AB	54	641	0.084	54	0.1	6.128	A
C-A	57			57			
A-B	17			17			
A-C	77			77			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	91	702	0.130	91	0.1	5.893	A
B-A	42	453	0.092	42	0.1	8.762	A
C-AB	54	641	0.084	54	0.1	6.129	A
C-A	57			57			
A-B	17			17			
A-C	77			77			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	75	710	0.105	75	0.1	5.668	A
B-A	34	461	0.074	34	0.1	8.443	A
C-AB	43	637	0.068	43	0.1	6.061	A
C-A	48			48			
A-B	13			13			
A-C	63			63			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	62	715	0.087	63	0.1	5.515	A
B-A	29	466	0.061	29	0.1	8.225	A
C-AB	36	634	0.056	36	0.1	6.015	A
C-A	40			40			
A-B	11			11			
A-C	53			53			

Appendix N
A515 / Windmill Lane / North Avenue Junction Capacity Results

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Import of Junction 12 A515_Windmill Lane.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Baseline - DO NOT ALTER
Report generation date: 01/06/2018 15:23:39

»(Default Analysis Set) - Base, PM
»(Default Analysis Set) - Base, AM
»(Default Analysis Set) - Base, Interpeak

Summary of junction performance

	PM					AM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Base														
Stream B-CD	0.0	8.13	0.01	A	2.23	0.0	6.24	0.03	A	2.94	0.0	7.18	0.02	A	1.67
Stream B-AD	0.0	11.28	0.01	B		0.0	12.04	0.01	B		0.0	10.29	0.02	B	
Stream A-D	0.1	8.08	0.08	A		0.1	8.30	0.08	A		0.0	7.71	0.05	A	
Stream D-AB	0.0	8.20	0.03	A		0.0	7.74	0.04	A		0.0	7.05	0.02	A	
Stream D-BC	0.1	10.25	0.08	B		0.1	10.25	0.10	B		0.1	9.49	0.05	A	
Stream C-ABD	0.5	7.31	0.26	A		0.6	7.27	0.30	A		0.3	6.17	0.17	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	PM	ONE HOUR	16:00	17:30	15
D2	Base	AM	ONE HOUR	08:00	09:30	15
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	2.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major
D	untitled		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.00			0.0		-
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	7.40	4.40	3.90	3.50	3.10	✓	1.00	80	22
D	One lane plus flare	10.00	5.60	3.70	3.50	3.50	✓	1.00	40	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	574	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
1	B-A	512	0.093	0.236	0.236	-	-	-	0.148	0.337	-	0.236	0.236	0.118
1	B-C	635	0.097	0.246	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	512	0.093	0.236	0.236	-	-	-	0.148	0.337	0.148	-	-	-
1	B-D, offside lane	512	0.093	0.236	0.236	-	-	-	0.148	0.337	0.148	-	-	-
1	C-B	603	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	685	-	-	-	-	-	-	0.266	-	0.105	-	-	-
1	D-B, nearside lane	539	0.156	0.156	0.354	-	-	-	0.248	0.248	0.098	-	-	-
1	D-B, offside lane	563	0.163	0.163	0.370	-	-	-	0.259	0.259	0.103	-	-	-
1	D-C	563	-	0.163	0.370	0.130	0.259	0.259	0.259	0.259	0.103	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Base	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	440	100.000
B		✓	8	100.000
C		✓	330	100.000
D		✓	41	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	13	394	33
	B	1	0	4	3
	C	221	100	0	9
	D	6	11	24	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.01	8.13	0.0	A
B-AD	0.01	11.28	0.0	B
A-B				
A-C				
A-D	0.08	8.08	0.1	A
D-AB	0.03	8.20	0.0	A
D-BC	0.08	10.25	0.1	B
C-ABD	0.26	7.31	0.5	A
C-D				
C-A				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	4	498	0.008	4	0.0	7.295	A
B-AD	2	382	0.005	2	0.0	9.461	A
A-B	10			10			
A-C	297			297			
A-D	25	512	0.049	25	0.1	7.390	A
D-AB	9	504	0.018	9	0.0	7.262	A
D-BC	22	441	0.050	22	0.1	8.593	A
C-ABD	103	646	0.159	102	0.3	6.610	A
C-D	6			6			
C-A	140			140			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	477	0.010	5	0.0	7.619	A
B-AD	2	357	0.006	2	0.0	10.150	B
A-B	12			12			
A-C	354			354			
A-D	30	499	0.059	30	0.1	7.667	A
D-AB	11	483	0.022	11	0.0	7.623	A
D-BC	26	416	0.063	26	0.1	9.223	A
C-ABD	132	656	0.201	131	0.3	6.862	A
C-D	6			6			
C-A	159			159			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	449	0.014	6	0.0	8.127	A
B-AD	3	322	0.009	3	0.0	11.272	B
A-B	14			14			
A-C	434			434			
A-D	36	482	0.075	36	0.1	8.070	A
D-AB	13	452	0.029	13	0.0	8.200	A
D-BC	32	384	0.084	32	0.1	10.239	B
C-ABD	177	671	0.264	177	0.5	7.290	A
C-D	7			7			
C-A	179			179			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	449	0.014	6	0.0	8.128	A
B-AD	3	322	0.009	3	0.0	11.279	B
A-B	14			14			
A-C	434			434			
A-D	36	482	0.075	36	0.1	8.075	A
D-AB	13	452	0.029	13	0.0	8.205	A
D-BC	32	383	0.084	32	0.1	10.248	B
C-ABD	178	671	0.265	178	0.5	7.308	A
C-D	7			7			
C-A	178			178			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	477	0.010	5	0.0	7.621	A
B-AD	2	357	0.006	2	0.0	10.159	B
A-B	12			12			
A-C	354			354			
A-D	30	499	0.059	30	0.1	7.677	A
D-AB	11	482	0.022	11	0.0	7.633	A
D-BC	26	416	0.063	26	0.1	9.238	A
C-ABD	132	656	0.201	133	0.4	6.892	A
C-D	6			6			
C-A	158			158			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	4	497	0.008	4	0.0	7.302	A
B-AD	2	382	0.005	2	0.0	9.475	A
A-B	10			10			
A-C	297			297			
A-D	25	511	0.049	25	0.1	7.406	A
D-AB	9	504	0.018	9	0.0	7.273	A
D-BC	22	440	0.050	22	0.1	8.613	A
C-ABD	103	646	0.160	104	0.3	6.646	A
C-D	6			6			
C-A	140			140			

(Default Analysis Set) - Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	2.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Base	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	320	100.000
B		✓	15	100.000
C		✓	357	100.000
D		✓	54	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	7	277	36
	B	0	0	12	3
	C	223	118	0	16
	D	11	14	29	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.03	6.24	0.0	A
B-AD	0.01	12.04	0.0	B
A-B				
A-C				
A-D	0.08	8.30	0.1	A
D-AB	0.04	7.74	0.0	A
D-BC	0.10	10.25	0.1	B
C-ABD	0.30	7.27	0.6	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	10	627	0.016	10	0.0	5.835	A
B-AD	1	346	0.003	1	0.0	10.423	B
A-B	5			5			
A-C	209			209			
A-D	27	506	0.054	27	0.1	7.514	A
D-AB	14	534	0.026	14	0.0	6.914	A
D-BC	27	443	0.061	27	0.1	8.637	A
C-ABD	121	669	0.181	120	0.3	6.548	A
C-D	10			10			
C-A	137			137			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	12	612	0.020	12	0.0	5.998	A
B-AD	1	327	0.004	1	0.0	11.046	B
A-B	6			6			
A-C	249			249			
A-D	32	492	0.066	32	0.1	7.828	A
D-AB	17	514	0.032	17	0.0	7.233	A
D-BC	32	421	0.076	32	0.1	9.256	A
C-ABD	155	684	0.227	155	0.4	6.806	A
C-D	11			11			
C-A	155			155			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	15	591	0.025	15	0.0	6.244	A
B-AD	2	301	0.005	2	0.0	12.030	B
A-B	8			8			
A-C	305			305			
A-D	40	474	0.084	40	0.1	8.292	A
D-AB	20	486	0.042	20	0.0	7.733	A
D-BC	39	390	0.100	39	0.1	10.240	B
C-ABD	208	705	0.295	207	0.6	7.250	A
C-D	12			12			
C-A	173			173			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	15	591	0.025	15	0.0	6.244	A
B-AD	2	301	0.005	2	0.0	12.036	B
A-B	8			8			
A-C	305			305			
A-D	40	474	0.084	40	0.1	8.297	A
D-AB	20	486	0.042	20	0.0	7.738	A
D-BC	39	390	0.100	39	0.1	10.252	B
C-ABD	208	705	0.296	208	0.6	7.273	A
C-D	12			12			
C-A	172			172			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	12	612	0.020	12	0.0	6.002	A
B-AD	1	327	0.004	1	0.0	11.058	B
A-B	6			6			
A-C	249			249			
A-D	32	492	0.066	32	0.1	7.839	A
D-AB	17	514	0.032	17	0.0	7.244	A
D-BC	32	420	0.076	32	0.1	9.272	A
C-ABD	155	684	0.227	156	0.4	6.838	A
C-D	11			11			
C-A	154			154			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	10	627	0.016	10	0.0	5.837	A
B-AD	1	346	0.003	1	0.0	10.435	B
A-B	5			5			
A-C	209			209			
A-D	27	505	0.054	27	0.1	7.532	A
D-AB	14	534	0.026	14	0.0	6.928	A
D-BC	27	443	0.061	27	0.1	8.660	A
C-ABD	122	670	0.182	122	0.3	6.587	A
C-D	10			10			
C-A	137			137			

(Default Analysis Set) - Base, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	1.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	339	100.000
B		✓	12	100.000
C		✓	316	100.000
D		✓	31	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	11	308	20
	B	4	0	6	2
	C	239	69	0	8
	D	8	7	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.02	7.18	0.0	A
B-AD	0.02	10.29	0.0	B
A-B				
A-C				
A-D	0.05	7.71	0.0	A
D-AB	0.02	7.05	0.0	A
D-BC	0.05	9.49	0.1	A
C-ABD	0.17	6.17	0.3	A
C-D				
C-A				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	543	0.010	5	0.0	6.693	A
B-AD	4	405	0.009	4	0.0	8.969	A
A-B	8			8			
A-C	232			232			
A-D	15	516	0.029	15	0.0	7.181	A
D-AB	9	564	0.015	9	0.0	6.485	A
D-BC	15	449	0.033	14	0.0	8.281	A
C-ABD	72	672	0.107	71	0.2	5.986	A
C-D	5			5			
C-A	161			161			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	529	0.012	6	0.0	6.888	A
B-AD	4	384	0.012	4	0.0	9.480	A
A-B	10			10			
A-C	277			277			
A-D	18	505	0.036	18	0.0	7.395	A
D-AB	10	547	0.019	10	0.0	6.709	A
D-BC	17	429	0.041	17	0.0	8.754	A
C-ABD	92	687	0.134	92	0.2	6.053	A
C-D	6			6			
C-A	186			186			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	8	509	0.015	8	0.0	7.182	A
B-AD	5	356	0.015	5	0.0	10.284	B
A-B	12			12			
A-C	339			339			
A-D	22	489	0.045	22	0.0	7.707	A
D-AB	13	523	0.025	13	0.0	7.051	A
D-BC	21	401	0.053	21	0.1	9.488	A
C-ABD	124	708	0.175	123	0.3	6.161	A
C-D	7			7			
C-A	217			217			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	8	509	0.015	8	0.0	7.182	A
B-AD	5	355	0.015	5	0.0	10.287	B
A-B	12			12			
A-C	339			339			
A-D	22	489	0.045	22	0.0	7.709	A
D-AB	13	523	0.025	13	0.0	7.053	A
D-BC	21	401	0.053	21	0.1	9.492	A
C-ABD	124	708	0.175	124	0.3	6.169	A
C-D	7			7			
C-A	217			217			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	529	0.012	6	0.0	6.892	A
B-AD	4	384	0.012	5	0.0	9.487	A
A-B	10			10			
A-C	277			277			
A-D	18	505	0.036	18	0.0	7.402	A
D-AB	10	547	0.019	10	0.0	6.715	A
D-BC	17	428	0.041	17	0.0	8.760	A
C-ABD	92	687	0.134	92	0.2	6.065	A
C-D	6			6			
C-A	186			186			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	543	0.010	5	0.0	6.697	A
B-AD	4	405	0.009	4	0.0	8.978	A
A-B	8			8			
A-C	232			232			
A-D	15	516	0.029	15	0.0	7.191	A
D-AB	9	563	0.015	9	0.0	6.492	A
D-BC	15	449	0.033	15	0.0	8.294	A
C-ABD	72	672	0.107	72	0.2	6.011	A
C-D	5			5			
C-A	160			160			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 12 A515_Windmill Lane.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - No Bypass
Report generation date: 04/06/2018 16:23:51

Summary of junction performance

	PM					AM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - Without Bypass														
Stream B-CD	0.0	10.05	0.02	B	2.05	0.0	7.71	0.03	A	2.49	0.0	8.26	0.02	A	1.36
Stream B-AD	0.0	16.22	0.01	C		0.0	17.40	0.01	C		0.0	13.32	0.02	B	
Stream A-D	0.1	9.55	0.09	A		0.1	9.04	0.09	A		0.1	8.45	0.05	A	
Stream D-AB	0.0	10.35	0.05	B		0.1	9.59	0.05	A		0.0	8.25	0.03	A	
Stream D-BC	0.1	15.43	0.12	C		0.2	14.17	0.13	B		0.1	12.13	0.07	B	
Stream C-ABD	1.2	6.68	0.37	A		1.1	7.91	0.39	A		0.6	5.80	0.22	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	PM	ONE HOUR	16:00	17:30	15
D2	Without Bypass	AM	ONE HOUR	08:00	09:30	15
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - Without Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	2.05	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major
D	untitled		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.00			0.0		-
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	7.40	4.40	3.90	3.50	3.10	✓	1.00	80	22
D	One lane plus flare	10.00	5.60	3.70	3.50	3.50	✓	1.00	40	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	574	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
1	B-A	512	0.093	0.236	0.236	-	-	-	0.148	0.337	-	0.236	0.236	0.118
1	B-C	635	0.097	0.246	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	512	0.093	0.236	0.236	-	-	-	0.148	0.337	0.148	-	-	-
1	B-D, offside lane	512	0.093	0.236	0.236	-	-	-	0.148	0.337	0.148	-	-	-
1	C-B	603	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	693	-	-	-	-	-	-	0.268	-	0.106	-	-	-
1	D-B, nearside lane	544	0.158	0.158	0.358	-	-	-	0.251	0.251	0.099	-	-	-
1	D-B, offside lane	557	0.161	0.161	0.367	-	-	-	0.257	0.257	0.101	-	-	-
1	D-C	557	-	0.161	0.367	0.128	0.257	0.257	0.257	0.257	0.101	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	Without Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	636	100.000
B		✓	8	100.000
C		✓	609	100.000
D		✓	44	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	13	590	33
	B	1	0	4	3
	C	500	100	0	9
	D	9	11	24	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.02	10.05	0.0	B
B-AD	0.01	16.22	0.0	C
A-B				
A-C				
A-D	0.09	9.55	0.1	A
D-AB	0.05	10.35	0.0	B
D-BC	0.12	15.43	0.1	C
C-ABD	0.37	6.68	1.2	A
C-D				
C-A				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	4	445	0.009	4	0.0	8.168	A
B-AD	2	316	0.006	2	0.0	11.450	B
A-B	10			10			
A-C	444			444			
A-D	25	465	0.053	25	0.1	8.173	A
D-AB	11	458	0.024	11	0.0	8.045	A
D-BC	22	358	0.061	22	0.1	10.685	B
C-ABD	150	768	0.196	149	0.4	5.813	A
C-D	5			5			
C-A	303			303			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	412	0.012	5	0.0	8.837	A
B-AD	2	278	0.008	2	0.0	13.062	B
A-B	12			12			
A-C	530			530			
A-D	30	443	0.067	30	0.1	8.703	A
D-AB	13	421	0.032	13	0.0	8.838	A
D-BC	26	319	0.082	26	0.1	12.273	B
C-ABD	209	806	0.260	208	0.7	6.040	A
C-D	6			6			
C-A	332			332			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	365	0.017	6	0.0	10.041	B
B-AD	3	225	0.012	3	0.0	16.184	C
A-B	14			14			
A-C	650			650			
A-D	36	414	0.088	36	0.1	9.536	A
D-AB	17	365	0.045	17	0.0	10.322	B
D-BC	32	266	0.120	32	0.1	15.374	C
C-ABD	318	862	0.369	316	1.2	6.633	A
C-D	6			6			
C-A	346			346			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	364	0.017	6	0.0	10.050	B
B-AD	3	225	0.012	3	0.0	16.217	C
A-B	14			14			
A-C	650			650			
A-D	36	413	0.088	36	0.1	9.553	A
D-AB	17	364	0.045	17	0.0	10.347	B
D-BC	32	265	0.120	32	0.1	15.433	C
C-ABD	319	863	0.370	319	1.2	6.681	A
C-D	6			6			
C-A	345			345			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	412	0.012	5	0.0	8.848	A
B-AD	2	277	0.008	2	0.0	13.097	B
A-B	12			12			
A-C	530			530			
A-D	30	442	0.067	30	0.1	8.727	A
D-AB	13	420	0.032	13	0.0	8.864	A
D-BC	26	319	0.082	26	0.1	12.328	B
C-ABD	211	808	0.261	213	0.7	6.099	A
C-D	6			6			
C-A	331			331			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	4	444	0.009	4	0.0	8.177	A
B-AD	2	316	0.006	2	0.0	11.478	B
A-B	10			10			
A-C	444			444			
A-D	25	464	0.054	25	0.1	8.199	A
D-AB	11	457	0.024	11	0.0	8.068	A
D-BC	22	358	0.062	22	0.1	10.730	B
C-ABD	152	769	0.197	153	0.5	5.867	A
C-D	5			5			
C-A	301			301			

(Default Analysis Set) - Without Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	2.49	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	Without Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	638	100.000
B		✓	15	100.000
C		✓	500	100.000
D		✓	54	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	7	595	36
	B	0	0	12	3
	C	366	118	0	16
	D	11	14	29	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.03	7.71	0.0	A
B-AD	0.01	17.40	0.0	C
A-B				
A-C				
A-D	0.09	9.04	0.1	A
D-AB	0.05	9.59	0.1	A
D-BC	0.13	14.17	0.2	B
C-ABD	0.39	7.91	1.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	10	555	0.018	10	0.0	6.604	A
B-AD	1	284	0.004	1	0.0	12.740	B
A-B	5			5			
A-C	448			448			
A-D	27	482	0.056	27	0.1	7.909	A
D-AB	14	479	0.029	14	0.0	7.732	A
D-BC	27	377	0.071	26	0.1	10.263	B
C-ABD	151	698	0.217	149	0.4	6.561	A
C-D	9			9			
C-A	216			216			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	12	525	0.023	12	0.0	7.015	A
B-AD	1	252	0.005	1	0.0	14.355	B
A-B	6			6			
A-C	535			535			
A-D	32	463	0.070	32	0.1	8.349	A
D-AB	17	446	0.037	17	0.0	8.388	A
D-BC	32	342	0.093	32	0.1	11.612	B
C-ABD	204	721	0.283	203	0.6	6.968	A
C-D	10			10			
C-A	235			235			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	15	482	0.031	15	0.0	7.702	A
B-AD	2	209	0.008	2	0.0	17.371	C
A-B	8			8			
A-C	655			655			
A-D	40	438	0.090	40	0.1	9.022	A
D-AB	21	397	0.052	21	0.1	9.567	A
D-BC	39	293	0.132	39	0.1	14.122	B
C-ABD	296	755	0.392	294	1.1	7.843	A
C-D	11			11			
C-A	244			244			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	15	482	0.031	15	0.0	7.705	A
B-AD	2	209	0.008	2	0.0	17.402	C
A-B	8			8			
A-C	655			655			
A-D	40	438	0.091	40	0.1	9.036	A
D-AB	21	396	0.052	21	0.1	9.587	A
D-BC	39	293	0.132	39	0.2	14.169	B
C-ABD	297	756	0.393	297	1.1	7.905	A
C-D	11			11			
C-A	243			243			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	12	525	0.023	12	0.0	7.022	A
B-AD	1	252	0.005	1	0.0	14.385	B
A-B	6			6			
A-C	535			535			
A-D	32	463	0.070	32	0.1	8.370	A
D-AB	17	445	0.037	17	0.0	8.412	A
D-BC	32	341	0.093	32	0.1	11.662	B
C-ABD	205	722	0.284	207	0.7	7.038	A
C-D	10			10			
C-A	234			234			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	10	555	0.018	10	0.0	6.608	A
B-AD	1	283	0.004	1	0.0	12.769	B
A-B	5			5			
A-C	448			448			
A-D	27	481	0.056	27	0.1	7.932	A
D-AB	14	478	0.029	14	0.0	7.754	A
D-BC	27	376	0.071	27	0.1	10.309	B
C-ABD	152	698	0.218	153	0.4	6.628	A
C-D	9			9			
C-A	215			215			

(Default Analysis Set) - Without Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	1.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Without Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	541	100.000
B		✓	12	100.000
C		✓	482	100.000
D		✓	31	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	11	510	20
	B	4	0	6	2
	C	405	69	0	8
	D	8	7	16	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.02	8.26	0.0	A
B-AD	0.02	13.32	0.0	B
A-B				
A-C				
A-D	0.05	8.45	0.1	A
D-AB	0.03	8.25	0.0	A
D-BC	0.07	12.13	0.1	B
C-ABD	0.22	5.80	0.6	A
C-D				
C-A				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	500	0.011	5	0.0	7.275	A
B-AD	4	351	0.011	4	0.0	10.371	B
A-B	8			8			
A-C	384			384			
A-D	15	488	0.031	15	0.0	7.602	A
D-AB	9	517	0.017	9	0.0	7.088	A
D-BC	15	393	0.037	14	0.0	9.507	A
C-ABD	91	730	0.124	90	0.2	5.622	A
C-D	5			5			
C-A	267			267			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	477	0.013	6	0.0	7.652	A
B-AD	4	319	0.014	4	0.0	11.436	B
A-B	10			10			
A-C	458			458			
A-D	18	471	0.038	18	0.0	7.939	A
D-AB	10	489	0.021	10	0.0	7.520	A
D-BC	17	361	0.048	17	0.1	10.460	B
C-ABD	122	758	0.161	122	0.3	5.659	A
C-D	6			6			
C-A	305			305			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	8	443	0.017	8	0.0	8.263	A
B-AD	5	276	0.020	5	0.0	13.309	B
A-B	12			12			
A-C	562			562			
A-D	22	448	0.049	22	0.1	8.442	A
D-AB	13	450	0.029	13	0.0	8.243	A
D-BC	21	318	0.067	21	0.1	12.113	B
C-ABD	177	800	0.221	176	0.6	5.784	A
C-D	7			7			
C-A	347			347			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	8	443	0.017	8	0.0	8.264	A
B-AD	5	276	0.020	5	0.0	13.318	B
A-B	12			12			
A-C	562			562			
A-D	22	448	0.049	22	0.1	8.448	A
D-AB	13	449	0.029	13	0.0	8.248	A
D-BC	21	318	0.067	21	0.1	12.126	B
C-ABD	177	801	0.222	177	0.6	5.798	A
C-D	7			7			
C-A	346			346			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	477	0.013	6	0.0	7.654	A
B-AD	4	319	0.014	5	0.0	11.451	B
A-B	10			10			
A-C	458			458			
A-D	18	471	0.038	18	0.0	7.947	A
D-AB	10	489	0.021	10	0.0	7.531	A
D-BC	17	361	0.048	17	0.1	10.477	B
C-ABD	123	759	0.161	123	0.4	5.682	A
C-D	6			6			
C-A	305			305			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	500	0.011	5	0.0	7.277	A
B-AD	4	350	0.011	4	0.0	10.387	B
A-B	8			8			
A-C	384			384			
A-D	15	488	0.031	15	0.0	7.616	A
D-AB	9	516	0.017	9	0.0	7.099	A
D-BC	15	392	0.037	15	0.0	9.529	A
C-ABD	91	730	0.125	92	0.3	5.649	A
C-D	5			5			
C-A	267			267			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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Filename: Junction 12 A515_Windmill Lane.j9
Path: X:\47074388 Derbyshire CC\60547092_Ashbourne Bypass\02 - Analysis\Junction Models\Future Year - Bypass
Report generation date: 04/06/2018 16:51:22

»(Default Analysis Set) - With Bypass, PM
»(Default Analysis Set) - With Bypass, AM
»(Default Analysis Set) - With Bypass, Interpeak

Summary of junction performance

	PM					AM					Interpeak				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	A1 - With Bypass														
Stream B-CD	0.0	6.41	0.01	A	2.68	0.0	5.42	0.02	A	3.75	0.0	6.19	0.01	A	2.10
Stream B-AD	0.0	7.74	0.01	A		0.0	8.70	0.00	A		0.0	7.72	0.01	A	
Stream A-D	0.1	6.99	0.07	A		0.1	6.93	0.07	A		0.0	6.77	0.04	A	
Stream D-AB	0.0	8.10	0.01	A		0.0	8.05	0.02	A		0.0	7.88	0.01	A	
Stream D-BC	0.1	7.91	0.10	A		0.2	8.05	0.13	A		0.1	7.51	0.07	A	
Stream C-ABD	0.0	0.00	0.00	A		0.0	0.00	0.00	A		0.0	0.00	0.00	A	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	07/08/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ross.paradise
Description	

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	PM	ONE HOUR	16:00	17:30	15
D2	With Bypass	AM	ONE HOUR	08:00	09:30	15
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	(Default Analysis Set)	100.000

(Default Analysis Set) - With Bypass, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	2.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	(untitled)		Major
B	(untitled)		Minor
C	(untitled)		Major
D	untitled		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.00			0.0		-
C	6.00			50.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	7.40	4.40	3.90	3.50	3.10	✓	1.00	80	22
D	One lane plus flare	10.00	5.60	3.70	3.50	3.50	✓	1.00	40	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	574	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
1	B-A	512	0.093	0.236	0.236	-	-	-	0.148	0.337	-	0.236	0.236	0.118
1	B-C	635	0.097	0.246	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	512	0.093	0.236	0.236	-	-	-	0.148	0.337	0.148	-	-	-
1	B-D, offside lane	512	0.093	0.236	0.236	-	-	-	0.148	0.337	0.148	-	-	-
1	C-B	603	0.234	0.234	0.334	-	-	-	-	-	-	-	-	-
1	D-A	649	-	-	-	-	-	-	0.251	-	0.099	-	-	-
1	D-B, nearside lane	510	0.148	0.148	0.335	-	-	-	0.235	0.235	0.093	-	-	-
1	D-B, offside lane	557	0.161	0.161	0.366	-	-	-	0.256	0.256	0.101	-	-	-
1	D-C	557	-	0.161	0.366	0.128	0.256	0.256	0.256	0.256	0.101	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	With Bypass	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	106	100.000
B		✓	8	100.000
C		✓	94	100.000
D		✓	52	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	13	60	33
	B	1	0	4	3
	C	85	0	0	9
	D	0	11	41	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.01	6.41	0.0	A
B-AD	0.01	7.74	0.0	A
A-B				
A-C				
A-D	0.07	6.99	0.1	A
D-AB	0.01	8.10	0.0	A
D-BC	0.10	7.91	0.1	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	4	577	0.007	4	0.0	6.286	A
B-AD	2	482	0.004	2	0.0	7.498	A
A-B	10			10			
A-C	45			45			
A-D	25	558	0.045	25	0.0	6.745	A
D-AB	4	470	0.009	4	0.0	7.735	A
D-BC	35	522	0.067	34	0.1	7.380	A
C-ABD	0	582	0.000	0	0.0	0.000	A
C-D	7			7			
C-A	64			64			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	573	0.009	5	0.0	6.336	A
B-AD	2	476	0.005	2	0.0	7.596	A
A-B	12			12			
A-C	54			54			
A-D	30	555	0.053	30	0.1	6.849	A
D-AB	5	462	0.011	5	0.0	7.885	A
D-BC	41	515	0.080	41	0.1	7.597	A
C-ABD	0	578	0.000	0	0.0	0.000	A
C-D	8			8			
C-A	76			76			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	568	0.011	6	0.0	6.406	A
B-AD	3	468	0.006	3	0.0	7.736	A
A-B	14			14			
A-C	66			66			
A-D	36	551	0.066	36	0.1	6.994	A
D-AB	7	451	0.015	7	0.0	8.103	A
D-BC	51	506	0.100	51	0.1	7.905	A
C-ABD	0	572	0.000	0	0.0	0.000	A
C-D	10			10			
C-A	94			94			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	568	0.011	6	0.0	6.407	A
B-AD	3	468	0.006	3	0.0	7.736	A
A-B	14			14			
A-C	66			66			
A-D	36	551	0.066	36	0.1	6.994	A
D-AB	7	451	0.015	7	0.0	8.103	A
D-BC	51	506	0.100	51	0.1	7.908	A
C-ABD	0	572	0.000	0	0.0	0.000	A
C-D	10			10			
C-A	94			94			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	573	0.009	5	0.0	6.339	A
B-AD	2	476	0.005	2	0.0	7.600	A
A-B	12			12			
A-C	54			54			
A-D	30	555	0.053	30	0.1	6.853	A
D-AB	5	462	0.011	5	0.0	7.888	A
D-BC	41	515	0.080	42	0.1	7.600	A
C-ABD	0	578	0.000	0	0.0	0.000	A
C-D	8			8			
C-A	76			76			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	4	577	0.007	4	0.0	6.289	A
B-AD	2	482	0.004	2	0.0	7.502	A
A-B	10			10			
A-C	45			45			
A-D	25	558	0.045	25	0.0	6.752	A
D-AB	4	470	0.009	4	0.0	7.739	A
D-BC	35	522	0.067	35	0.1	7.389	A
C-ABD	0	582	0.000	0	0.0	0.000	A
C-D	7			7			
C-A	64			64			

(Default Analysis Set) - With Bypass, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	3.75	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	With Bypass	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	94	100.000
B		✓	15	100.000
C		✓	61	100.000
D		✓	70	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	7	51	36
	B	0	0	12	3
	C	45	0	0	16
	D	0	14	56	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.02	5.42	0.0	A
B-AD	0.00	8.70	0.0	A
A-B				
A-C				
A-D	0.07	6.93	0.1	A
D-AB	0.02	8.05	0.0	A
D-BC	0.13	8.05	0.2	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	10	685	0.015	10	0.0	5.331	A
B-AD	1	424	0.003	1	0.0	8.503	A
A-B	5			5			
A-C	38			38			
A-D	27	564	0.048	27	0.1	6.704	A
D-AB	6	473	0.012	6	0.0	7.706	A
D-BC	47	529	0.089	47	0.1	7.457	A
C-ABD	0	584	0.000	0	0.0	0.000	A
C-D	12			12			
C-A	34			34			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	12	683	0.018	12	0.0	5.369	A
B-AD	1	421	0.003	1	0.0	8.585	A
A-B	6			6			
A-C	46			46			
A-D	32	562	0.058	32	0.1	6.799	A
D-AB	7	466	0.015	7	0.0	7.849	A
D-BC	56	523	0.107	56	0.1	7.703	A
C-ABD	0	580	0.000	0	0.0	0.000	A
C-D	14			14			
C-A	40			40			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	15	679	0.022	15	0.0	5.422	A
B-AD	2	415	0.004	2	0.0	8.702	A
A-B	8			8			
A-C	56			56			
A-D	40	559	0.071	40	0.1	6.930	A
D-AB	9	456	0.019	9	0.0	8.054	A
D-BC	68	516	0.133	68	0.2	8.047	A
C-ABD	0	575	0.000	0	0.0	0.000	A
C-D	18			18			
C-A	50			50			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	15	679	0.022	15	0.0	5.422	A
B-AD	2	415	0.004	2	0.0	8.702	A
A-B	8			8			
A-C	56			56			
A-D	40	559	0.071	40	0.1	6.930	A
D-AB	9	456	0.019	9	0.0	8.055	A
D-BC	68	515	0.133	68	0.2	8.052	A
C-ABD	0	575	0.000	0	0.0	0.000	A
C-D	18			18			
C-A	50			50			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	12	683	0.018	12	0.0	5.371	A
B-AD	1	421	0.003	1	0.0	8.587	A
A-B	6			6			
A-C	46			46			
A-D	32	562	0.058	32	0.1	6.800	A
D-AB	7	465	0.015	7	0.0	7.852	A
D-BC	56	523	0.107	56	0.1	7.709	A
C-ABD	0	580	0.000	0	0.0	0.000	A
C-D	14			14			
C-A	40			40			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	10	685	0.015	10	0.0	5.333	A
B-AD	1	424	0.003	1	0.0	8.503	A
A-B	5			5			
A-C	38			38			
A-D	27	564	0.048	27	0.1	6.708	A
D-AB	6	473	0.012	6	0.0	7.711	A
D-BC	47	529	0.089	47	0.1	7.473	A
C-ABD	0	584	0.000	0	0.0	0.000	A
C-D	12			12			
C-A	34			34			

(Default Analysis Set) - With Bypass, Interpeak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	(untitled)	Crossroads	Two-way	2.10	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	With Bypass	Interpeak	ONE HOUR	11:45	13:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	96	100.000
B		✓	12	100.000
C		✓	84	100.000
D		✓	34	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	11	65	20
	B	4	0	6	2
	C	76	0	0	8
	D	0	7	27	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.01	6.19	0.0	A
B-AD	0.01	7.72	0.0	A
A-B				
A-C				
A-D	0.04	6.77	0.0	A
D-AB	0.01	7.88	0.0	A
D-BC	0.07	7.51	0.1	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

Main Results for each time segment

11:45 - 12:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	597	0.009	5	0.0	6.086	A
B-AD	4	484	0.008	4	0.0	7.491	A
A-B	8			8			
A-C	49			49			
A-D	15	560	0.027	15	0.0	6.604	A
D-AB	3	476	0.006	3	0.0	7.598	A
D-BC	23	527	0.043	23	0.0	7.140	A
C-ABD	0	585	0.000	0	0.0	0.000	A
C-D	6			6			
C-A	57			57			

12:00 - 12:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	593	0.011	6	0.0	6.131	A
B-AD	4	479	0.009	4	0.0	7.587	A
A-B	10			10			
A-C	58			58			
A-D	18	557	0.032	18	0.0	6.675	A
D-AB	3	470	0.007	3	0.0	7.713	A
D-BC	27	521	0.052	27	0.1	7.293	A
C-ABD	0	581	0.000	0	0.0	0.000	A
C-D	7			7			
C-A	68			68			

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	8	589	0.013	8	0.0	6.194	A
B-AD	5	471	0.012	5	0.0	7.725	A
A-B	12			12			
A-C	72			72			
A-D	22	553	0.040	22	0.0	6.774	A
D-AB	4	461	0.009	4	0.0	7.875	A
D-BC	33	513	0.065	33	0.1	7.511	A
C-ABD	0	576	0.000	0	0.0	0.000	A
C-D	9			9			
C-A	84			84			

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	8	589	0.013	8	0.0	6.194	A
B-AD	5	471	0.012	5	0.0	7.725	A
A-B	12			12			
A-C	72			72			
A-D	22	553	0.040	22	0.0	6.774	A
D-AB	4	461	0.009	4	0.0	7.875	A
D-BC	33	513	0.065	33	0.1	7.511	A
C-ABD	0	576	0.000	0	0.0	0.000	A
C-D	9			9			
C-A	84			84			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	6	593	0.011	6	0.0	6.131	A
B-AD	4	479	0.009	4	0.0	7.591	A
A-B	10			10			
A-C	58			58			
A-D	18	557	0.032	18	0.0	6.679	A
D-AB	3	470	0.007	3	0.0	7.715	A
D-BC	27	521	0.052	27	0.1	7.295	A
C-ABD	0	581	0.000	0	0.0	0.000	A
C-D	7			7			
C-A	68			68			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-CD	5	597	0.009	5	0.0	6.086	A
B-AD	4	484	0.008	4	0.0	7.495	A
A-B	8			8			
A-C	49			49			
A-D	15	560	0.027	15	0.0	6.609	A
D-AB	3	476	0.006	3	0.0	7.600	A
D-BC	23	527	0.043	23	0.0	7.144	A
C-ABD	0	584	0.000	0	0.0	0.000	A
C-D	6			6			
C-A	57			57			