

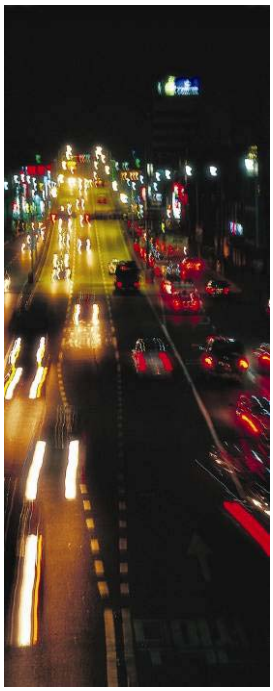

Solihull Core Strategy Transport and Infrastructure Assessment

Stage 3 - Junction Assessments

May 2011

Solihull MBC and the Highways Agency

Mott MacDonald

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1. Introduction

1.1 The Core Strategy

Mott MacDonald was commissioned by the Highways Agency and Solihull MBC to assess the impacts of the Core Strategy growth on the local and strategic highway network. Stage 1 of this study has already reported and considered the existing transport and land-use planning evidence base. Stage 2 of the study was commissioned in December 2010 and reported in March 2011. This stage considered the impacts further by way of modelling undertaken in PRISM (The West Midlands Multi Modal Strategic Model).

From 2011 the Solihull Local Development Framework (LDF) will replace the Unitary Development Plan (UDP) as the main planning framework for the Borough. The emerging Core Strategy will form the main LDF document.

Transport is a fundamental consideration of the Solihull LDF Core Strategy and an assessment of potential transport impacts is critical to enabling an informed response to spatial proposals. The movement of people and goods is an essential function of established communities and proposed development sites. Therefore, transport and infrastructure provision, and future plans and demand, form a key part of the evidence base required.

1.2 Stage 2 - PRISM Assessment

PRISM is a state-of-the-art disaggregate demand model based upon highly detailed zoning, networks and travel behaviour focusing on the individual traveller. The model has been used extensively in the West Midlands region for similar studies including the Black Country Core Strategy and the Regional Spatial Strategy Evidence base.

The planning data inputs to PRISM were updated to incorporate the Solihull Core Strategy housing and commercial development growth, and full demand model runs were undertaken. The Strategy's housing and employment forecasts were implemented in the 2016 and 2026 PRISM forecasts.

The growth in housing and employment in Solihull, as driven by the Solihull Core Strategy, is forecast to increase traffic volume on the Solihull and strategic road network, most notably on the M42 corridor and the Solihull Town Centre junctions. The PRISM demand model runs illustrated that the Core Strategy is forecast to increase pressure on a number of junctions in Solihull Town Centre and Junctions 4 to 6 of the M42, with motorway journey times increasing by up to 50% between 2006 and 2026. Junction 6 of the M42 is congested in the

2006 base model, with congestion forecast to become more severe in future years, with journey times on and off the M42 at this junction increasing by up to 80% between 2006 and 2026.

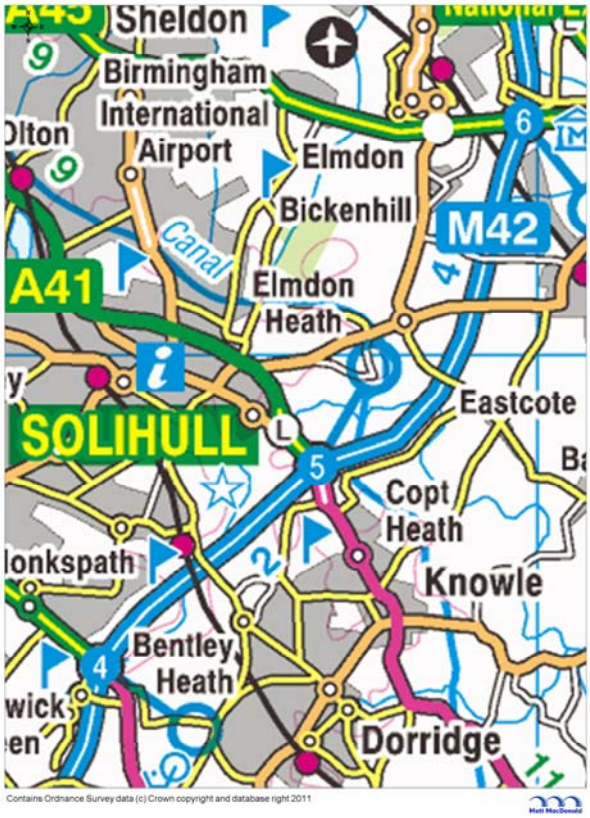
1.3 Stage 3 Junction Assessments

Stage 3 of the study includes junction assessments of the three M42 junctions that were identified by the Stage 2 PRISM modelling indicating an increase in forecast congestion by either 2016 or 2026. The three junctions that are assessed for Stage 3 are:

- M42 junction 4 (A34/A3400), including the Tesco junction to the north and the Blythe Valley, Gate lane junctions to the south;
- M42 Junction 5 (A41/A4141); and
- M42 Junction 6 (A45/Southway/Motorcycle Museum).

The location of the three junctions is shown in Figure 1.1.

Figure 1.1: Location of Junctions



Source: Ordnance Survey

Models for these junctions will be developed for base year (2011 or year of available traffic data) and 2016 to start the process. The models will be interrogated to determine when the junctions 'fall over' (see Section 2.2). This will be undertaken by applying growth factors extracted from PRISM to assess which year the junctions will become congested either by interpolating or extrapolating the growth between the base year and 2016 or 2016 and 2026.

This report summarises the findings of these assessments.

2. Methodology

2.1 Junction Models

The base models have been developed using the junction modelling software tool LinSig.

LinSig is a software package commonly used to assess the impact of traffic on signalised junctions. LinSig is used by traffic engineers to construct a model of the junction or network which can then be used to assess different designs and methods of operation. Apart from stand-alone junctions, it can be used for multiple traffic signal junctions, complex compound junctions such as signalled roundabouts, and road networks which may include traffic signal pedestrian crossings and priority junctions as well as traffic signal junctions.

The base model networks will be developed using the existing layouts for Junctions 4 to 6. This approach has been agreed with the Highways Agency.

The latest version of LinSig is Version 3. LinSig Version 3 allows:

- Multiple Traffic Signal Controllers;
- Lane based Modelling giving Improved Modelling of Short Lanes;
- Larger Network Modelling;
- Delay Based Traffic Assignment;
- Matrix Estimation; and
- Pedestrian Modelling.

A site visit was conducted on Thursday 7th April 2011 during both the AM and PM peak hours to observe traffic queues and behaviour at each of the junctions.

2.2 Modelling Assumptions

One of the most important results provided by LinSig 3 is the mean maximum queue. The mean maximum queue represents the maximum queue within a typical cycle averaged over all the cycles within the modelled time period. When a lane is oversaturated the Maximum Queue within each cycle will grow progressively over the modelled time period. This means that the Mean Maximum Queue will be approximately half the final queue at the end of the modelled time period.

For the purpose of this study, a junction is deemed to have 'fallen over' based on the following mean maximum queue criteria:

- Queue on circulating lanes exceeds the physical capacity. If the degree of saturation is below 90%, the queue can be up to the physical lane capacity. Where the degree of saturation exceeds

90%, it is likely that queues would not clear and that blocking back would be more likely.

- On external lanes, the ultimate impact of the queue is deemed to be an extra 50% on top of the mean maximum queue. Therefore, if there is a 50 PCU capacity available between a junction stop line and the motorway mainline, a mean maximum queue of 33 should not interact with the motorway. A mean maximum queue in excess of 33 would more likely interact with the motorway mainline.

2.3 PRISM Growth factors

2.3.1 Introduction

PRISM has been developed for the base year of 2006 and forecast years for 2016 and 2026. For the M42 appraisal, the 2016 and 2026 forecasts contain the Solihull Core Strategy housing and employment growth, as detailed in the PRISM note (Mott MacDonald, March 2011).

Factors are required in order to apply growth to existing observed data to derive 2016 and 2026 forecasts.

Modelled traffic flows from the 2006 base and 2016 and 2026 PRISM forecasts have been used to calculate a series of growth factors for junctions 4, 5 and 6 of the M42.

2.3.2 Calculating traffic growth

The factors produced are based on the total traffic flow through each junction, and are not based on individual turning movements.

2.3.3 Requirement

The following factors have been calculated:

- Junctions 4 and 5
  - 2008 to 2011
  - 2011 to 2016
  - 2016 to 2026.
- Junction 6
  - 2011 to 2016
  - 2016 to 2026.

2.3.4 Methodology

All growth factors were calculated assuming that the growth in traffic between all modelled years is linear. Separate factors have been calculated for each junction and by time period. PRISM time periods are

AM (0700 – 0930), Inter-Peak (0930 – 1530), PM (1530 – 1900) and Off-Peak (1900 – 0700).

For each PRISM forecast and for each time period the total traffic into each of the motorway junctions was calculated.

2.3.5 2016 to 2026 Growth Factor

The relative change in traffic flow between the 2016 and 2026 PRISM forecasts was calculated. This relative change in forecast traffic flow comprises the 2016 to 2026 growth factor.

2.3.6 2008 to 2011 and 2011 to 2016 Growth Factors

The growth factors from 2008 to 2011 and from 2011 to 2016 are calculated based on the growth in traffic between 2006 and 2016 PRISM forecasts.

Linear interpolation between PRISM 2006 and 2026 forecasts was used to forecast 2008 and 2011 traffic flow. These forecasts were then used to calculate growth factors between 2008 and 2011, and between 2011 and 2016.

2.3.7 Growth Factors

The growth factors obtained from PRISM are summarised in Tables 2.1 to 2.3.

Table 2.1: Growth Factors from 2008 to 2011

	Junction 4	Junction 5
AM	1.047	1.044
IP	1.075	1.069
PM	1.038	1.041
OP	1.117	1.139

Table 2.2: Growth Factors from 2011 to 2016

	Junction 4	Junction 5	Junction 6
AM	1.075	1.070	1.101
IP	1.116	1.107	1.114
PM	1.061	1.066	1.105
OP	1.175	1.203	1.191

Table 2.3: Growth Factors from 2016 to 2026

	Junction 4	Junction 5	Junction 6
AM	1.087	1.080	1.106
IP	1.065	1.087	1.114
PM	1.037	1.058	1.118
OP	1.157	1.176	1.192

3. M42 Junction 4

3.1 Introduction

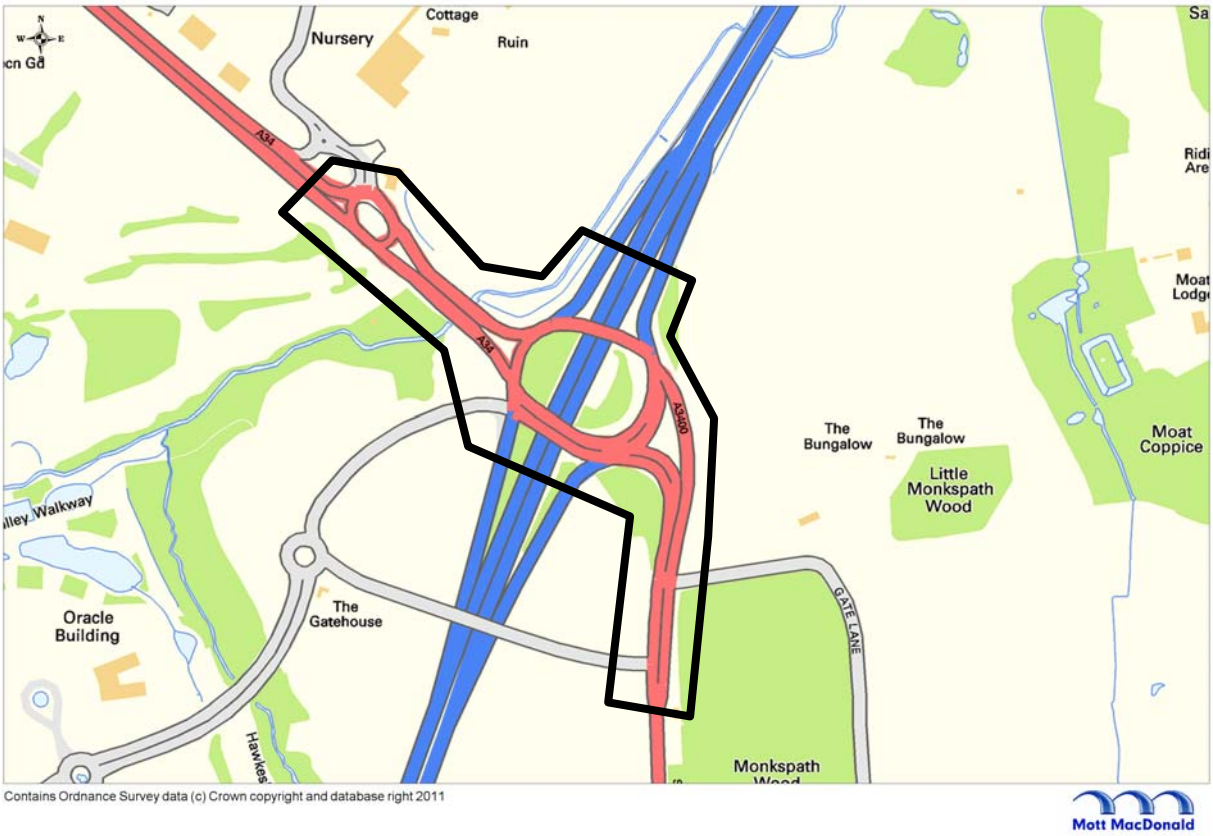
M42 Junction 4 provides a strategic access to Solihull and South Birmingham from the M42.

The LinSig model incorporates the following junctions:

- A34 Stratford Road / Tesco / Notcutts Gyratory
- M42 Junction 4
- A3400 Stratford Road / Gate Lane
- A3400 / Blythe Valley Egress.

The location of the junctions is shown in Figure 3.1.

Figure 3.1: M42 Junction 4 LinSig Model Area



Source: Ordnance Survey

The three external junctions have been included as they are part of the UTC system that controls traffic on M42 Junction 4. The junctions are operated and maintained by Solihull MBC.

The junction was visited in both the AM and PM peak periods on Thursday 7th April 2011. During both peak periods, no significant capacity or queuing issues were observed, and no blocking back was observed from the circulating lane stop lines.

3.2 Base Model

Initially, it was proposed that traffic flows for Junction 4 would be calculated by using a combination of link flows from TRADS / MIDAS and traffic data from SPECTRUM. However, it was identified that a recent study had been undertaken by consultants WSP for "The Green" development to support a planning application.

The WSP study included a VISSIM model, which incorporated the Tesco / Notcutts gyratory, M42 Junction 4, A3400 / Gate Lane and A3400 / Blythe Valley Park exit junctions.

To construct the VISSIM model, traffic counts and queue data had been collected in 2008. Details of these surveys are described in Section 3.2.2.

The WSP study also contained signal timings. As the 2008 signal data matches the 2008 traffic and queue data, the LinSig models developed for the Core Strategy study have been calibrated to 2008 rather than 2011.

3.2.1 Junction Geometry

Junction geometry was collected from up to date OS mapping. This data was then inputted into the LinSig model to calculate saturation flows (based on RR 67 Prediction of saturation flows for road junctions controlled by traffic signals published by TRL).

3.2.2 Traffic Flow Data

As part of this study, no new traffic flows and queue data were collected. The study utilised traffic data collected on Thursday 17 July 2008 at the junctions identified in Figure 3.1 that were used by WSP to build a VISSIM model for "The Green" development.

Weekday classified data was collected between the hours of 06.00 to 20.00. The 2008 traffic counts were not standard junction counts; traffic data was collected for each movement rather than origin-destination counts. Therefore assumptions were made to prepare the flows for input into the LinSig model.

These include:

- Turning the individual turning counts into origin-destination counts
- Taking the origin flows and following the route through the network applying surveyed proportions.

The peak periods used for this assessment are as follows:

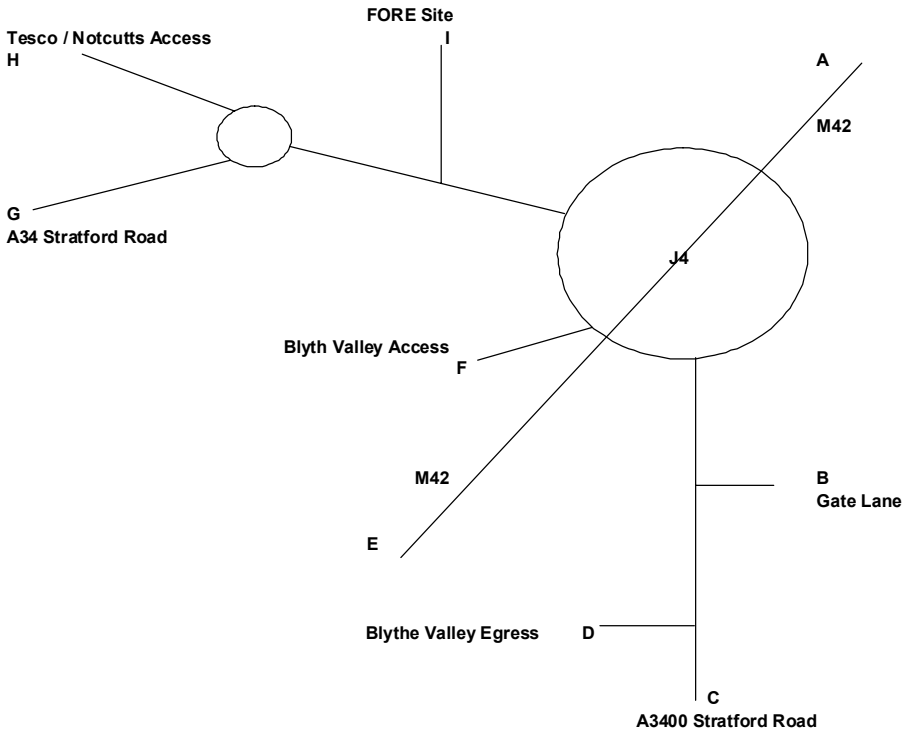
- AM Peak – 07.45 to 08.45
- PM Peak – 17.00 to 18.00.

The traffic flows have been converted into passenger car units (PCUs) for input into LinSig. One PCU is equivalent to 5.75 metres. The following conversion factors have been used:

- Pedal Cycle – 0.2
- Motor Cycle – 0.4
- Cars and Light Goods Vehicles – 1.0
- Ordinary Goods Vehicles 1 – 1.5
- Ordinary Goods Vehicles 2 – 2.3
- Passenger Service Vehicles – 2.0.

Figure 3.2 shows the zone structure of the LinSig model. Tables 3.1 and 3.2 summarise the traffic movements between each zone.

Figure 3.2: M42 Junction 4 LinSig Zone System



Source: Mott MacDonald

Table 3.1: 2008 AM Peak Traffic Flows (PCUs) - Zone to Zone

Zone	Approach	A	B	C	D	E	F	G	H	I	Total
A	M42 North	2	29	113	0	0	187	796	105	0	1,232
B	Gate Lane	52	0	9	0	32	36	98	13	0	240
C	A3400 Stratford Road	133	8	0	0	81	93	249	33	0	597
D	Blyth Valley Egress	31	2	22	0	19	22	58	8	0	162
E	M42 South	0	10	40	0	8	168	517	68	0	811
F	Blythe Valley Access	0	0	0	0	0	0	0	0	0	0
G	A34 Stratford Road	821	62	239	0	424	264	35	0	0	1,845
H	Tesco / Notcutts Access	51	4	15	0	27	17	84	0	0	198
I	FORE Site	0	0	0	0	0	0	0	0	0	0
	Total	1,090	115	438	0	591	787	1,837	227	0	5,085

Source: WSP / Mott MacDonald

Table 3.2: 2008 PM Peak Traffic Flows (PCUs) - Zone to Zone

Zone	Approach	A	B	C	D	E	F	G	H	I	Total
A	M42 North	0	65	134	0	0	61	616	97	0	973
B	Gate Lane	32	0	7	0	23	5	63	10	0	140
C	A3400 Stratford Road	111	12	0	0	80	19	218	35	0	475
D	Blyth Valley Egress	130	14	147	0	94	22	257	41	0	705
E	M42 South	0	27	55	0	10	39	489	77	0	697
F	Blythe Valley Access	0	0	0	0	0	0	0	0	0	0
G	A34 Stratford Road	576	146	300	0	339	115	61	1	0	1,538
H	Tesco / Notcutts Access	64	16	33	0	38	13	163	0	0	327
I	FORE Site	0	0	0	0	0	0	0	0	0	0
	Total	913	280	676	0	584	274	1,867	261	0	4,855

Source: WSP / Mott MacDonald

3.2.3 Signal Data

Traffic signal data was obtained from the work undertaken by WSP and directly from Solihull MBC. The staging arrangement and intergreens were obtained from the timing sheets. The junction on fixed timings in 2008 and therefore the future modelling uses fixed timings.

We have calibrated the base LinSig model to the 2008 traffic and queue data obtained by WSP in 2008, as well as the signal timings used in the WSP VISSIM model.

The signal timings used for the WSP VISSIM model will be used for the 2008 calibration model.

For the 2016 and 'fall over' scenarios, the LinSig model will optimise the signal timings to reflect the fact that traffic flows have increased.

There is a signalised junction located in between the Tesco / Notcutts gyratory to the north and M42 Junction 4 to the south. This junction provides an access arm to the Fore development site (bounded by the A34 to the west and the M42 to the south). At present this site is closed off to the general public, and subsequently, the signal stage for this arm is only called by the occasional site visitor. Therefore, it will be excluded from the 2008 calibration assessments.

3.2.4 2008 Calibration Model Results

Table 3.3 summarise the 2008 calibration model for the AM and PM peak period. The node / link diagram can be observed in **Appendix A**.

Table 3.3: M42 Junction 4 2008 Calibration Model Results AM and PM Peak Periods

		AM Peak			PM Peak		
Item	Lane Description	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	**83.9%**	-	-	**99.5%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	80.3%	20.3	7.4	53.5%	7.5	3.0
1/2	Circulating at M42 Off Slip N/B Ahead	83.9%	24.2	10.5	66.7%	10.2	5.3
1/3	Circulating at M42	26.3%	22.6	3.7	24.7%	8.2	1.5

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
	Off Slip N/B Right						
2/1	Circulating at M42 Off Slip N/B Ahead	40.3%	15.0	3.4	9.6%	3.5	0.3
2/2	Circulating at M42 Off Slip N/B Ahead	33.6%	3.6	0.8	11.3%	7.7	1.9
3/2+3/1	M42 Off Slip N/B to Roundabout Left	74.2%	24.3	8.4	99.5%	94.1	18.0
3/3	M42 Off Slip N/B to Roundabout Ahead	8.0%	15.2	0.7	21.6%	24.7	1.4
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	17.2%	14.9	1.0	5.7%	21.6	0.3
6/1	M42 Off Slip N/B Ahead Ahead2	38.4%	1.5	0.3	30.9%	1.3	0.2
6/2	M42 Off Slip N/B Ahead	3.0%	0.9	0.0	4.7%	1.0	0.0
7/2+7/1	A34 Stratford Road Ahead	60.1%	5.8	2.7	45.0%	4.6	1.4
7/3	A34 Stratford Road Ahead	52.3%	5.8	2.8	50.7%	5.6	2.3
7/4	A34 Stratford Road Ahead	44.1%	5.2	2.1	43.7%	5.2	1.5
8/1	Circulating at A34 Stratford Road Ahead	20.2%	29.3	1.9	24.0%	10.6	0.9
8/2	Circulating at A34 Stratford Road Ahead	19.9%	29.2	1.9	23.8%	10.6	0.9
8/3	Circulating at A34 Stratford Road Right	10.8%	12.2	0.3	16.1%	38.1	1.6
J4: M42/A3400/M42 S/B Off Slip Road		**65.3%**	-	-	**75.6%**	-	-
1/1	Circulating at M42 Off Slip S/B Ahead	38.2%	8.1	2.6	48.3%	6.6	2.9
1/2	Circulating at M42 Off Slip S/B Right	27.5%	6.0	1.3	4.5%	5.4	0.2
1/3	Circulating at M42 Off Slip S/B Right	51.1%	7.2	2.7	39.9%	3.6	0.7
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	27.6%	15.3	2.4	42.6%	23.7	3.1
2/3+2/4	M42 Off Slip S/B Ahead	65.3%	19.6	7.5	75.6%	28.6	7.5
3/1	Circulating at Stratford Road Right	48.5%	6.4	1.3	35.1%	7.8	1.2

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
3/2	Circulating at Stratford Road Right	44.3%	6.0	1.1	40.7%	9.1	1.7
4/1	Circulating at A3400 Stratford Lane Ahead	26.5%	16.1	4.3	5.5%	17.2	0.8
4/2	Circulating at A3400 Stratford Lane Right Ahead	39.6%	9.9	3.6	42.0%	10.5	5.4
4/3	Circulating at A3400 Stratford Lane Right	28.8%	15.7	4.7	13.5%	9.3	1.4
5/2+5/1	A3400 Stratford Road Ahead Left	41.4%	21.9	3.1	21.9%	16.3	1.8
6/1	A3400 Stratford Road Ahead	32.9%	23.3	2.7	43.1%	16.7	3.8
6/2+6/3	A3400 Stratford Road Ahead	45.4%	22.8	3.8	59.8%	21.0	6.3

The queues predicted for both peak periods broadly compare favourably with the observed queue counts.

In terms of capacity, the results suggest that the junction operates within capacity, and this was observed during the site visit to the junction.

In the PM peak, a queue of 18 PCUs has been modelled for the M42 northbound off slip at the main roundabout. The off slip can actually accommodate queues of up to 45 PCUs so no interaction will occur with the M42 mainline.

The results at the A34 Stratford Road southbound approach to the Tesco / Notcutts gyratory exceeds 90% degree of saturation in both peak periods, but this will not affect the performance of M42 Junction 4. This is due to the queues not blocking back to the junction.

3.3 Forecast Models

The Fore development site access arm will be included in the 2016 and 'fall over' year scenarios as this site has already been recognised by Solihull MBC as a committed commercial development.

Changes have been made to the traffic data to incorporate two changes. Firstly, an assumption has been made that the Fore development site would be operational in 2016. Traffic flows have been added to the model (mainly traffic from the A34 towards Birmingham) that would not have been included in the traffic growth assumptions. This is due to the fact that the PRISM zone, which includes this development, actually feeds on to the network onto the A34 to the north of the study area and not at the actual access point. The flows were obtained from the TA undertaken by WSP for The Green development.

Secondly, half of the traffic assigned to the Blythe Valley Park zone in PRISM accesses the network onto Creynolds Lane. Therefore, traffic associated with Blythe Valley Park that has been assigned via Creynolds Lane would not have been included within the PRISM growth calculations. This traffic comprises trips to and from Birmingham on the A34. These trips have been re-assigned through Junction 4 for both peak periods for robustness.

3.3.1 2016 Analysis

As the model has been calibrated to 2008, a 2011 model has not been undertaken. Table 3.4 summarises the growth rates that have been applied from 2008 to 2011 and 2011 to 2016 to the base traffic flows.

Table 3.4: M42 Junction 4 Growth Rates

Scenario	AM Peak	PM Peak
2008 to 2011	1.047	1.038
2011 to 2016	1.075	1.061

Source: PRISM

Table 3.5 summarise the 2016 model for the AM and PM peak period. The node / link diagram can be observed in **Appendix A**.

Table 3.5: M42 Junction 4 2016 Model Results AM and PM Peak Periods

		AM Peak			PM Peak		
Item	Lane Description	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	**95.7%**	-	-	**106.2%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	83.4%	16.3	13.2	103.4%	103.5	45.3
1/2	Circulating at M42 Off Slip N/B Ahead	91.5%	27.9	17.8	104.6%	119.8	50.3

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
1/3	Circulating at M42 Off Slip N/B Right	27.4%	12.2	4.1	29.6%	8.9	4.3
2/1	Circulating at M42 Off Slip N/B Ahead	67.8%	14.7	6.0	11.4%	5.8	0.7
2/2	Circulating at M42 Off Slip N/B Ahead	61.7%	16.2	4.8	13.6%	15.7	1.5
3/2+3/1	M42 Off Slip N/B to Roundabout Left	95.7%	59.3	17.2	106.2%	167.3	34.6
3/3	M42 Off Slip N/B to Roundabout Ahead	9.9%	16.9	0.8	19.3%	21.3	1.4
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	20.8%	16.5	1.2	5.3%	18.9	0.3
6/1	M42 Off Slip N/B Ahead Ahead2	43.2%	1.6	0.4	34.0%	1.4	0.3
6/2	M42 Off Slip N/B Ahead	3.3%	0.9	0.0	5.2%	1.0	0.0
7/2+7/1	A34 Stratford Road Ahead	50.7%	3.0	1.2	45.5%	3.4	1.0
7/3	A34 Stratford Road Ahead	45.2%	3.9	3.7	57.8%	4.9	1.8
7/4	A34 Stratford Road Ahead	85.0%	10.9	7.0	47.2%	5.9	3.2
8/1	Circulating at A34 Stratford Road Ahead	27.4%	23.4	2.2	34.0%	13.6	2.6
8/2	Circulating at A34 Stratford Road Ahead	27.2%	23.4	2.2	33.5%	13.5	2.6
8/3	Circulating at A34 Stratford Road Right	14.7%	45.1	1.2	22.8%	33.0	1.8
J4: M42/A3400/M42 S/B Off Slip Road		**95.0%**	-	-	**81.1%**	-	-
1/1	Circulating at M42 Off Slip S/B Ahead	30.4%	5.9	1.6	59.6%	7.2	5.7
1/2	Circulating at M42 Off Slip S/B Right	23.5%	3.6	0.5	14.7%	4.3	0.9
1/3	Circulating at M42 Off Slip S/B Right	91.9%	19.8	9.3	53.4%	9.1	8.0
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	38.9%	20.2	3.1	36.9%	19.3	3.1
2/3+2/4	M42 Off Slip S/B Ahead	95.0%	47.5	16.0	65.8%	22.1	7.1
3/1	Circulating at Stratford Road	47.1%	5.3	8.2	54.2%	16.7	7.5

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
	Right						
3/2	Circulating at Stratford Road Right	47.1%	5.3	7.8	65.6%	15.7	8.7
4/1	Circulating at A3400 Stratford Lane Ahead	23.3%	7.8	1.4	19.4%	10.5	0.8
4/2	Circulating at A3400 Stratford Lane Right Ahead	57.9%	14.2	7.9	43.5%	14.8	2.9
4/3	Circulating at A3400 Stratford Lane Right	50.3%	14.4	5.3	18.0%	11.9	0.8
5/2+5/1	A3400 Stratford Road Ahead Left	40.5%	17.4	2.7	19.7%	11.2	1.6
6/1	A3400 Stratford Road Ahead	49.2%	23.7	3.4	81.1%	20.5	7.5
6/2+6/3	A3400 Stratford Road Ahead	62.8%	19.3	4.9	78.6%	16.4	5.7

The AM peak results show that Junction 4 would operate within capacity in 2016. All internal and external queues are within acceptable limits.

However, the results for the Tesco / Nottcutts gyratory show that excessive queues would form on the A34 southbound approach to the junction. This will not, however, directly affect the performance of Junction 4 mainline and the slips onto / off the roundabout.

The PM peak results show queuing problems on the circulating carriageway at the M42 northbound off slip signalised junction. Predicted queues on two lanes for the A34 towards Solihull are between 45 to 50 PCUs. The queue on the off slip is also approaching the limit of the queuing capacity. Therefore, more green time cannot be provided for the two circulating lanes to reduce queuing.

The junction works within capacity elsewhere in the PM peak.

Due to these results, a 2026 assessment has not been undertaken as severe problems are predicted to occur in 2016 in the PM peak period.

3.3.2 2013 'Fall Over' Analysis

Junction 4 was found to work within acceptable limits in 2013. To obtain the growth rate for 2013, the following rates from 2011 have been applied:

- AM Peak – 1.030
- PM Peak – 1.024.

Table 3.6 summarises the 2016 model for the AM and PM peak period. The node / link diagram can be observed in **Appendix A**.

Table 3.6: M42 Junction 4 2013 Model Results AM and PM Peak Periods

		AM Peak			PM Peak		
Item	Lane Description	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	**82.0%**	-	-	**106.3%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	55.9%	5.9	3.5	87.5%	26.0	15.6
1/2	Circulating at M42 Off Slip N/B Ahead	82.0%	12.4	9.7	90.1%	28.5	18.0
1/3	Circulating at M42 Off Slip N/B Right	21.8%	7.6	3.6	26.1%	11.7	2.5
2/1	Circulating at M42 Off Slip N/B Ahead	51.9%	9.2	4.7	10.1%	5.7	1.0
2/2	Circulating at M42 Off Slip N/B Ahead	44.6%	11.3	3.7	12.0%	2.7	0.5
3/2+3/1	M42 Off Slip N/B to Roundabout Left	76.7%	30.4	6.7	106.3%	170.0	31.9
3/3	M42 Off Slip N/B to Roundabout Ahead	13.3%	22.8	0.9	22.8%	24.9	1.5
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	25.1%	21.9	1.4	6.0%	21.6	0.3
6/1	M42 Off Slip N/B Ahead Ahead2	41.4%	1.6	0.4	32.8%	1.4	0.2
6/2	M42 Off Slip N/B Ahead	3.1%	0.9	0.0	4.9%	1.0	0.0
7/2+7/1	A34 Stratford Road Ahead	46.4%	2.5	1.1	43.1%	3.1	0.9
7/3	A34 Stratford Road Ahead	39.9%	3.2	1.4	55.0%	4.4	1.6
7/4	A34 Stratford Road Ahead	69.5%	5.3	2.3	44.0%	5.3	3.0
8/1	Circulating at A34 Stratford Road	37.2%	29.6	2.3	35.0%	38.0	2.7

Item	Lane Description	AM Peak Deg Sat (%)	AM Peak Av. Delay Per PCU (s/pcu)	AM Peak Mean Max Queue (pcu)	PM Peak Deg Sat (%)	PM Peak Av. Delay Per PCU (s/pcu)	PM Peak Mean Max Queue (pcu)
	Ahead						
8/2	Circulating at A34 Stratford Road Ahead	36.5%	29.5	2.2	35.0%	38.0	2.7
8/3	Circulating at A34 Stratford Road Right	19.3%	46.0	1.1	23.6%	8.2	1.3
J4: M42/A3400/M42 S/B Off Slip Road		**88.3%**	-	-	**70.2%**	-	-
1/1	Circulating at M42 Off Slip S/B Ahead	31.7%	7.4	2.7	61.3%	9.1	7.3
1/2	Circulating at M42 Off Slip S/B Right	24.0%	4.8	1.5	15.9%	5.1	1.0
1/3	Circulating at M42 Off Slip S/B Right	88.3%	16.5	16.7	54.5%	10.5	8.0
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	33.3%	18.0	2.8	32.3%	17.1	2.8
2/3+2/4	M42 Off Slip S/B Ahead	81.5%	27.0	10.9	57.4%	19.1	6.3
3/1	Circulating at Stratford Road Right	38.4%	4.0	5.7	55.0%	19.7	7.4
3/2	Circulating at Stratford Road Right	52.0%	4.7	8.3	66.3%	18.0	8.7
4/1	Circulating at A3400 Stratford Lane Ahead	22.4%	7.6	1.4	20.7%	10.1	0.7
4/2	Circulating at A3400 Stratford Lane Right Ahead	54.7%	13.9	7.4	42.7%	14.7	2.6
4/3	Circulating at A3400 Stratford Lane Right	44.2%	14.6	4.8	18.1%	11.4	0.7
5/2+5/1	A3400 Stratford Road Ahead Left	40.1%	17.1	2.6	18.5%	9.3	1.2
6/1	A3400 Stratford Road Ahead	40.0%	21.4	2.5	69.6%	14.5	4.9
6/2+6/3	A3400 Stratford Road Ahead	69.6%	21.4	5.6	70.2%	12.3	4.0

The results in the PM peak period show improvements at the M42 northbound off slip signalised junction. Predicted queues on the two circulating lanes used by traffic travelling to the A34 towards Solihull and Birmingham, have reduced to acceptable levels and can be

accommodated within the available storage capacity. The predicted queue on the slip road is 32 PCUs, which allowing for assumptions regarding mean maximum queues, could mean that a queue could fill the available capacity, but not interact with the motorway mainline.

The AM results still show significant queues on the A34 southbound approach to the Tesco / Notcutts gyratory.

3.4 Summary

The assessment demonstrates that Junction 4 can accommodate traffic growth up to 2013. Beyond 2013, significant queues would begin to form on the circulating carriageway at the junction with the M42 northbound slip road.

It should be noted, however, that there are committed schemes in place for Blythe Valley 2 when it is developed. This should improve capacity, particularly at the location noted in the above paragraph.

Further assessment of the impact of the traffic growth on the Tesco / Notcutts gyratory may also need to be considered, as the AM results show significant queues on the A34 southbound approach.

4. M42 Junction 5

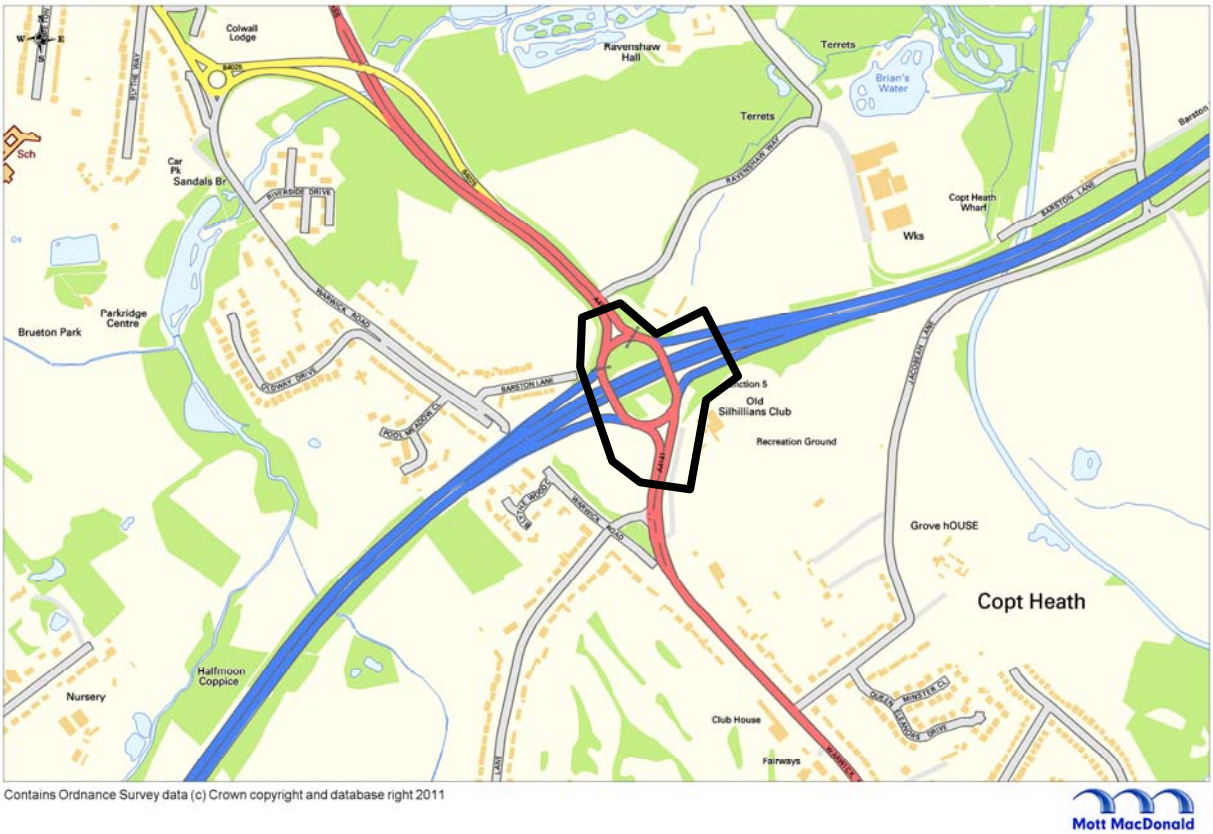
4.1 Introduction

The LinSig model incorporates Junction 5 only, and includes the following approaches (from North to West):

- A41 Solihull Bypass
- M42 East
- A4141 Warwick Road
- M42 West.

The location of the junctions is shown in Figure 4.1.

Figure 4.1: M42 Junction 5 LinSig Model Area



Source: Ordnance Survey

The junction was visited in both the AM and PM peak periods on Thursday 7th April 2011. During both peak periods, no significant capacity or queuing issues were observed.

4.2 Base Model

Junction 5 is currently a non-signalised roundabout junction, but as stated above, there is a proposed scheme to signalise two approaches. These are:

- M42 Eastbound Off Slip / Circulating Carriageway
- M42 Westbound Off Slip / Circulating Carriageway.

This scheme has been developed by the Highways Agency, and according to a Solihull MBC report submitted to the cabinet member for transport and highways on 20 January 2011, construction was proposed to commence on 14 February 2011. Whilst the scheme is not as yet in place, it was noted during the site visit that there were construction workers on site. The scheme referred to in the cabinet report is Option 1. This can be seen in **Appendix B**.

The proposed scheme has been devised by the Highways Agency to provide mitigation against two major issues:

- Collisions occur where the M42 north and south-bound off-slip roads and the A41 and A4141 meet the roundabout circulatory carriageway, where the greater cluster of collisions is with the off-slip roads
- Congestion, particularly at peak time, can result in queues extending to the motorway with risk of collision where vehicles diverge to leave the motorway.

For the purposes of this study, it has been assumed that this scheme including the signalisation of the two motorway arms will be in place in 2011. We have therefore assessed the base scenario with this new junction layout.

4.2.1 Junction Geometry

Junction geometry was collected from up to date OS mapping. This data was then inputted into the LinSig model to calculate saturation flows (based on RR 67 Prediction of saturation flows for road junctions controlled by traffic signals published by TRL).

4.2.2 Signal Data

From discussions with Amey, it is our understanding that detailed signal design has not as yet been undertaken for the proposed signalisation. However, Amey did provide a draft LinSig assessment which has formed the basis of this work.

Signal timings (including intergreens) were measured using the relevant industry standards (Traffic Advisory Leaflet 1/06 part 4 of 4).

4.2.3 Traffic flow data

As part of the preliminary work undertaken by Amey for the proposed partial signalisation of junction 5, traffic flows and queue data were collected on Tuesday 1 July 2008. This data was forwarded to Mott MacDonald for use in this report.

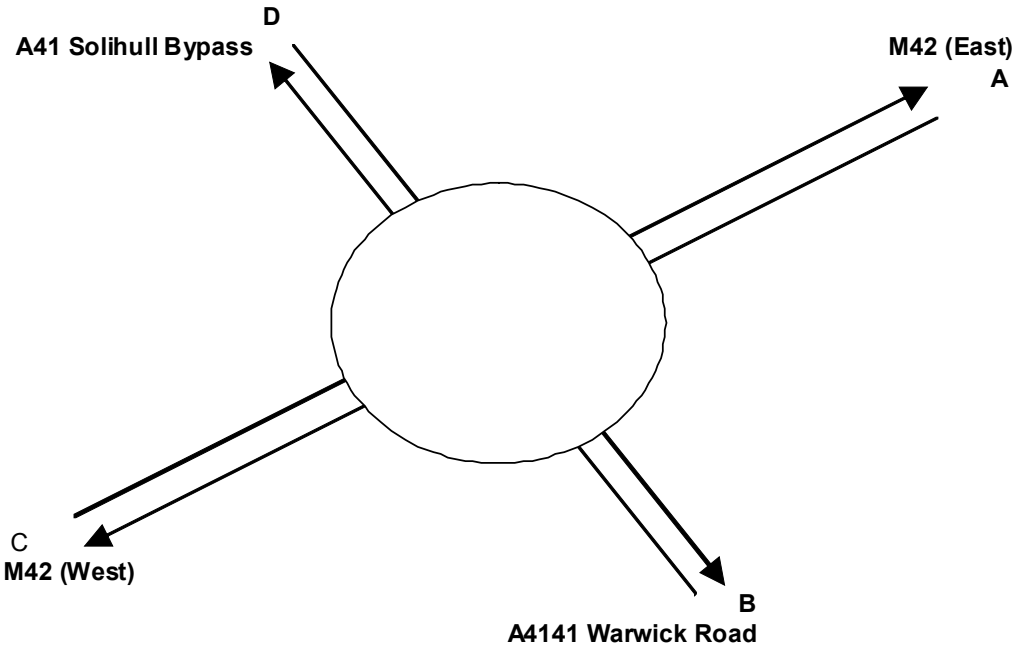
Weekday classified data was collected between the hours of 07.00 to 19.00.

The peak periods used for this assessment are as follows:
- AM Peak – 07.45 to 08.45
- PM Peak – 16.45 to 17.45.

The traffic flows have been converted into passenger car units (PCUs) for input into LinSig.

Figure 4.2 shows the zone structure of the LinSig model.

Figure 4.2: M42 Junction 5 LinSig Zonal System



Source: Mott MacDonald

Tables 4.1 and 4.2 summarise the traffic movements between each zone for the 2011 base year. The 2008 flows have had growth applied to take the flows to 2011 by using the factors contained within Table 2.1

Table 4.1: 2011 AM Peak Traffic Flows (PCUs) - Zone to Zone

Zone	Approach	A	B	C	D	Total
A	M42 East	0	201	1	716	918
B	A4141 Warwick Road	285	0	227	745	1,257
C	M42 West	1	209	0	568	778
D	A41 Solihull Bypass	503	684	595	0	1,782
	Total	789	1,094	823	2,029	4,735

Source: Amey / Mott MacDonald

Table 4.2: 2011 PM Peak Traffic Flows (PCUs) - Zone to Zone

Zone	Approach	A	B	C	D	Total
A	M42 East	0	268	1	382	651
B	A4141 Warwick Road	192	0	197	614	1,003
C	M42 West	0	164	0	529	693
D	A41 Solihull Bypass	580	858	648	0	2,086
	Total	772	1,290	846	1,525	4,433

Source: Amey / Mott MacDonald

4.2.4 Base Model Results

The results found in Appendix B and summarised in Table 4.3 show the predicted performance of the new scheme for the 2011 base year.

The results summarised in Table 4.3 show that the junction is approaching capacity in both peak periods. In particular, the degree of saturation is approaching 90% on the nearside and middle lane on the A4141 approach in the AM peak period (86.6%).

However, the queues on the two motorway slip roads and the circulating carriageway at the signal junctions are not as yet significant where blocking back could occur.

The predicted queues for the circulating carriageway at the northbound M42 off slip are a maximum of 10.9 PCUs on the off side lane in the 2011 AM peak. The actual storage capacity is 18 PCUs per lane, and therefore, blocking back is unlikely to occur.

The predicted queues for the circulating carriageway at the southbound M42 off slip are a maximum of 11.8 PCUs on the off side lane in the 2011 AM peak. The actual storage capacity is 16 PCUs per lane, and therefore, blocking back is unlikely to occur.

Table 4.3: M42 Junction 5 2011 Model Results AM and PM Peak Periods

		AM Peak			PM Peak		
Item	Lane Description	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	**86.6%**	-	-	**89.3%**	-	-
J1: M42J5 NB	-	**81.3%**	-	-	**89.3%**	-	-
1/1	M42NB Left	78.3%	28.6	7.8	58.8%	20.9	5.6
1/2	M42NB Ahead Left	72.4%	11.0	9.4	53.7%	10.2	6.0
2/1	M42NB Gyratory Ahead	78.1%	11.2	10.9	58.0%	8.6	6.1
2/2	M42NB Gyratory Right Ahead	81.3%	6.5	2.5	89.3%	10.5	6.2
3/2+3/1	A41 Left Ahead	71.6%	7.5	1.2	81.4%	10.7	2.3
3/3	A41 Ahead	13.4%	1.1	0.1	9.6%	1.0	0.1
4/1	A41 Gyratory Ahead	12.5%	1.1	0.1	9.0%	1.0	0.0
4/2	A41 Gyratory Ahead Right	**86.6%**	-	-	**70.7%**	-	-
J2: M42J5 SB	-	86.6%	16.1	9.0	63.6%	4.9	2.0
2/2+2/1	A4141 Ahead Left	80.4%	16.1	5.4	50.0%	5.1	1.1
2/3	A4141 Ahead	71.6%	24.8	7.2	70.7%	31.0	4.9
3/2+3/1	M42SB Left Ahead	64.7%	24.4	6.6	62.0%	31.7	4.7
3/3	M42SB Ahead	74.3%	17.9	11.4	67.9%	11.4	10.3
4/1	M42SB Gyratory Ahead	74.1%	17.5	11.8	68.0%	11.1	10.8
4/2	M42SB Gyratory Ahead Right	46.4%	1.7	0.4	39.4%	1.5	0.3
5/1	A4141 Gyratory Right Ahead	21.5%	1.2	0.1	13.7%	1.1	0.1
5/2	A4141 Gyratory Right	**86.6%**	-	-	**89.3%**	-	-

4.3 Forecast Models

The 2011 traffic counts have had the growth obtained from PRISM applied to 2016 and 2026 to test the future capacity of the junction. The growth rates are summarised in Table 4.4.

Table 4.4: M42 Junction 5 Growth Rates

Scenario	AM Peak	PM Peak
2011 to 2016	1.070	1.066
2016 to 2026	1.080	1.058

Source: PRISM

4.3.1 2016 Analysis

The results found in Appendix B and summarised in Table 4.5 show the predicted performance of the new scheme for the 2016 future year.

Table 4.5: M42 Junction 5 2016 Model Results AM and PM Peak Periods

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	95.8%	-	-	94.2%	-	-
J1: M42J5 NB	-	95.8%	-	-	94.2%	-	-
1/2+1/1	M42NB Ahead Left	95.8%	57.0	14.8	62.6%	21.5	6.1
2/1	M42NB Gyratory Ahead	72.9%	10.3	9.0	56.7%	10.6	6.6
2/2	M42NB Gyratory Right Ahead	79.6%	11.5	9.0	62.4%	9.3	7.4
3/2+3/1	A41 Left Ahead	87.4%	9.6	5.8	94.2%	17.7	10.9
3/3	A41 Ahead	78.6%	10.0	1.8	89.4%	18.0	6.3
4/1	A41 Gyratory Ahead	14.5%	1.1	0.1	10.3%	1.0	0.1
4/2	A41 Gyratory Ahead Right	13.2%	1.1	0.1	9.6%	1.0	0.1
J2: M42J5 SB	-	95.7%	-	-	75.4%	-	-
2/2+2/1	A4141 Ahead Left	95.7%	38.4	16.3	69.4%	6.0	2.6
2/3	A4141 Ahead	92.3%	37.3	12.6	55.7%	6.0	1.4
3/2+3/1	M42SB Left Ahead	94.0%	58.8	13.6	75.4%	33.3	5.7
3/3	M42SB Ahead	84.6%	41.6	9.4	66.5%	33.4	5.2
4/1	M42SB Gyratory Ahead	70.3%	14.0	11.0	72.5%	12.5	11.7
4/2	M42SB Gyratory Ahead Right	70.4%	14.0	11.5	72.4%	12.3	12.1
5/1	A4141 Gyratory Right Ahead	49.9%	1.8	0.5	41.9%	1.6	0.4
5/2	A4141 Gyratory Right	22.7%	1.2	0.1	14.7%	1.1	0.1

The AM peak results show that whilst the junction overall operates above capacity, the only significant queues are on the A4141 approach. However, the degree of saturation is 95.7%, which is only slightly above the acceptable degree of saturation for an external link on an approach to a roundabout junction.

The worst case queue on the motorway slip roads is on the M42 southbound off slip, where the degree of saturation is 94% and the queue is 14 PCUs. The capacity of this lane is approximately 56 PCUs, so blocking back to the motorway mainline would not typically occur.

Queues on the circulating lanes are all within capacity and blocking back would not occur.

The PM peak results show significant queues beginning to form on the A41 approach. In particular, the nearside lane results show a predicted queue of 11 PCUs and a 94% degree of saturation.

The M42 off slip approaches and the circulating lanes do not show any issues regarding capacity in the PM peak period. Circulating queues can be accommodated within the available storage capacity and queues on the off slips are not significant.

4.3.2 2026 Analysis

The results found in Appendix B and summarised in Table 4.6 show the predicted performance of the new scheme for the 2026 future year.

Table 4.6: M42 Junction 5 2026 Model Results AM and PM Peak Periods

		AM Peak			PM Peak		
Item	Lane Description	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	107.0%	-	-	99.1%	-	-
J1: M42J5 NB	-	96.6%	-	-	99.1%	-	-
1/2+1/1	M42NB Ahead Left	96.6%	58.4	16.5	66.3%	22.2	6.6
2/1	M42NB Gyratory Ahead	73.1%	10.9	9.4	59.0%	11.0	6.7
2/2	M42NB Gyratory Right Ahead	87.4%	16.2	13.0	67.1%	9.9	8.0
3/2+3/1	A41 Left Ahead	93.3%	16.8	14.4	99.1%	39.0	29.1
3/3	A41 Ahead	87.8%	17.0	6.0	96.9%	39.9	18.8
4/1	A41 Gyratory Ahead	15.2%	1.1	0.1	10.9%	1.1	0.1

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
4/2	A41 Gyratory Ahead Right	13.8%	1.1	0.1	10.1%	1.1	0.1
J2: M42J5 SB	-	107.0%	-	-	79.2%	-	-
2/2+2/1	A4141 Ahead Left	107.0%	153.9	61.0	74.9%	7.6	3.3
2/3	A4141 Ahead	105.6%	148.4	48.5	61.7%	7.1	1.8
3/2+3/1	M42SB Left Ahead	104.6%	151.7	28.7	79.2%	35.9	6.5
3/3	M42SB Ahead	103.5%	142.4	25.0	71.7%	35.9	5.9
4/1	M42SB Gyratory Ahead	73.9%	14.6	12.3	76.5%	14.2	13.5
4/2	M42SB Gyratory Ahead Right	73.9%	14.5	12.5	76.8%	13.9	13.6
5/1	A4141 Gyratory Right Ahead	51.5%	1.9	0.5	44.1%	1.7	0.4
5/2	A4141 Gyratory Right	25.3%	1.3	0.2	15.9%	1.1	0.1
Network: M42 Junction 5	-	107.0%	-	-	99.1%	-	-

The 2026 results indicate that for both the AM and PM peak periods, the predicted queues can be accommodated on the circulating lanes without causing blocking back. The worst case queue is 14 PCUs for both of the circulating lanes at the junction with the M42 southbound off slip. The capacity is 17 and 18 PCUs for the nearside and offside lanes respectively.

The worst case queues on the motorway off slips occur in the AM peak. The predicted queues on the nearside and offside lanes on the M42 southbound off slip are 29 and 25 PCUs respectively. The degree of saturation is approximately 105% for each lane. The queues are approximately half of the actual capacity before interaction with the motorway mainline, and therefore, interaction with the motorway mainline is unlikely to occur.

The AM peak results also show significant queues at the give way approach from the A4141. The predicted queues vary between 49 and 61 PCUs per lane, with degree of saturations above 105%.

In the PM peak, significant queues are also predicted for the A41 approach. The predicted queues vary between 19 and 29 PCUs per lane, with degree of saturations exceeding 95%.

Whilst the two motorway off slips are predicted to operate at capacity in 2026, the results show that both the A4141 and the A41 approaches in the AM and PM peaks respectively will experience excessive queues. These would not, however, affect the operation of the mainline motorway or indeed the on / off slips.

4.4 Summary

In summary, the results demonstrate that the circulating lanes and the M42 off slips would operate without blocking back upstream approaches or the motorway mainline.

However, from 2016, significant queues are predicted for the A4141 approach in the AM peak period and the A41 approach in the PM peak period.

Options to be considered could be the signalisation of one or both of the remaining give way links. This may allow more gaps for traffic to enter the junction from the A41 and A4141 approaches than otherwise would occur. However, the circulating capacity at these approaches is less than at the M42 off slip approaches. Therefore, care would need to be taken to demonstrate that the A41 and A4141 exits would not be blocked by queued circulating traffic.

5. M42 Junction 6

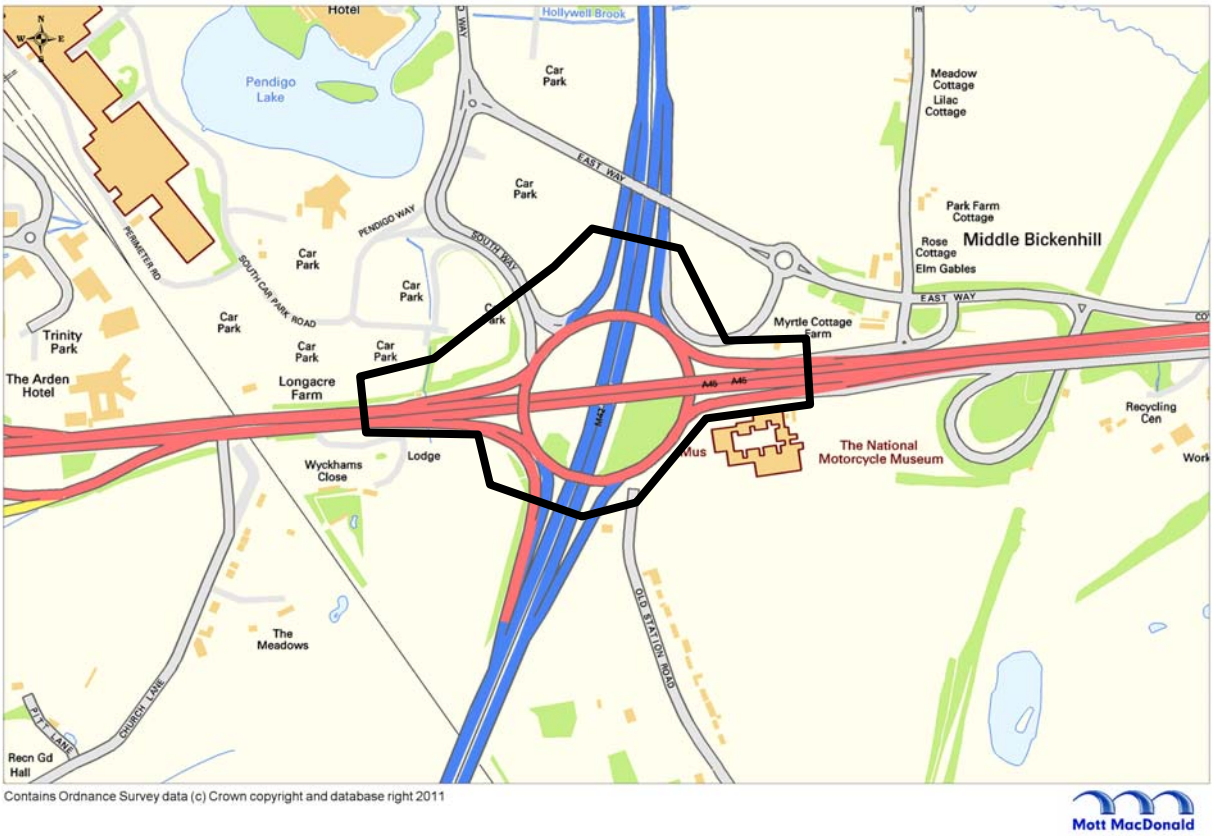
5.1 Introduction

The LinSig model incorporates Junction 6 only, and includes the following approaches (from North clockwise):

- M42 (North)
- A45 Coventry Road (East)
- The National Motorcycle Museum Access (South East)
- M42 (South)
- A45 Coventry Road (West)
- South Way (North West).

The location of the junctions is shown in Figure 5.1.

Figure 5.1: M42 Junction 6 LinSig Model Area



Source: Ordnance Survey

5.2 Base Model

Junction 6 is a signalised roundabout junction. The only approach not signalised is the exit arm from the National Motorcycle Museum.

Arup consultants have recently undertaken a traffic flow and queue count at this junction in support of a proposal at the NEC. This information was provided by Arup for use in this study.

5.2.1 Junction Geometry

Junction geometry was collected from up to date OS mapping. This data was then inputted into the LinSig model to calculate saturation flows (based on RR 67 Prediction of saturation flows for road junctions controlled by traffic signals published by TRL).

5.2.2 Signal Data

M42 Junction 6 is controlled by MOVA. Signal plans were provided by Amey, although real time MOVA outputs could not be provided.

Observations of signal timings in both peak periods showed a wide variation of cycle times. This is expected as the junction is MOVA controlled.

Due to the junction being under MOVA control, full optimisation has been applied in LinSig to calculate stage times and signal offsets.

Based on the signal outputs, a universal cycle time of 77 seconds has been used for both peak periods.

5.2.3 Traffic flow data

Traffic flows and queue data was collected on Friday 4 March 2011.

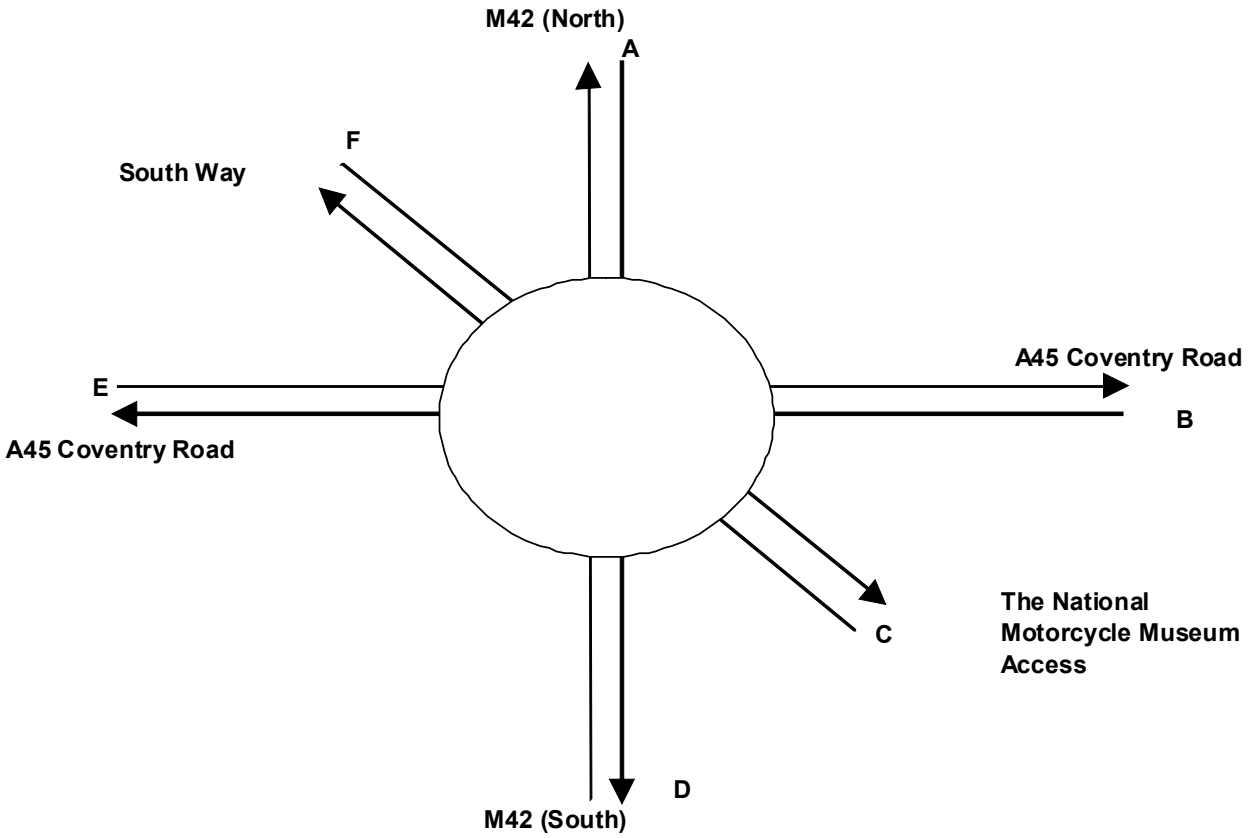
Weekday classified data was collected between the hours of 07.00 to 09.00 in the AM peak and 16.00 to 18.00 in the PM peak.

The peak periods used for this assessment are as follows:
- AM Peak – 07.30 to 08.30
- PM Peak – 16.30 to 17.30.

The traffic flows have been converted into passenger car units (PCUs) for input into LinSig.

Figure 5.2 shows the zone structure of the LinSig model. Tables 5.1 and 5.2 summarise the traffic movements between each zone.

Figure 5.2: M42 Junction 6 LinSig Zonal System



Source: Mott MacDonald

Table 5.1: 2011 AM Peak Traffic Flows (PCUs) - Zone to Zone

Zone	Approach	A	B	C	D	E	F	Total
A	M42 North	14	453	10	0	885	60	1,422
B	A45 Coventry Road (East)	308	0	5	956	4	39	1,312
C	Museum Access	2	2	0	0	1	2	7
D	M42 South	0	890	4	0	4	382	1,280
E	A45 Coventry Road (West)	737	12	14	307	0	162	1,232
F	South Way	19	12	0	45	73	1	150
	Total	1,080	1,369	33	1,308	967	645	5,402

Source: ARUP / Mott MacDonald

Table 5.2: 2011 PM Peak Traffic Flows (PCUs) - Zone to Zone

Zone	Approach	A	B	C	D	E	F	Total
A	M42 North	5	242	5	0	725	15	992
B	A45 Coventry Road (East)	535	0	0	1,041	12	12	1,600
C	Museum Access	3	3	0	5	7	1	19
D	M42 South	0	509	3	0	3	154	669
E	A45 Coventry Road (West)	909	2	8	532	0	84	1,535
F	South Way	116	27	0	134	151	1	429
	Total	1,568	783	16	1,712	898	267	5,244

Source: ARUP / Mott MacDonald

5.2.4 Base Model Results

The results found in Appendix C and summarised in Table 5.3 show the performance of M42 Junction 6 for the 2011 base year.

The results summarised in Table 5.3 show that the junction is approaching capacity in both peak periods. However, no significant queues were observed on the motorway off slips which could conceivably block back onto the motorway mainline.

The high demand for traffic turning right from the M42 northbound off slip to the A45 Coventry Road towards Coventry does create some significant queues on the circulating carriageway (the offside lane) at the junction with the A45 Coventry Road (West). Queues were observed at this location on site, but the resulting queues started to clear before blocking back.

Significant queues have also been modelled on the A45 Coventry Road (West) approach to the junction in both peak periods. In both of the peak periods, the degree of saturation is approaching or exceeds 90%.

Table 5.3: M42 Junction 6 2011 Model Results AM and PM Peak Periods

		AM Peak			PM Peak		
Item	Lane Description	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 6	-	87.8%	-	-	78.2%	-	-
J1: SCN 87	-	86.0%	-	-	78.2%	-	-
1/2+1/1	A45 Coventry Road Left Left2	81.8%	34.5	12.1	71.0%	19.7	12.1
1/4+1/3	A45 Coventry Road	82.0%	37.0	11.7	77.2%	22.4	14.0

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
	Left						
2/1	Circulating (with A45 Coventry Road) Ahead	36.8%	10.0	5.7	26.0%	18.7	3.6
2/2	Circulating (with A45 Coventry Road) Ahead Ahead2	40.2%	27.4	8.7	78.2%	28.6	6.0
2/3	Circulating (with A45 Coventry Road) Ahead	86.0%	12.9	10.9	74.2%	27.0	12.4
4/1	Circulating (with S Way) Ahead	43.7%	2.8	9.6	59.8%	5.8	4.7
4/2	Circulating (with S Way) Ahead	30.0%	2.0	1.3	42.7%	3.7	3.7
4/3	Circulating (with S Way) Right	42.8%	5.8	3.3	35.5%	2.5	9.8
4/4	Circulating (with S Way) Right	43.2%	4.5	5.8	39.7%	5.1	2.7
5/2+5/1	S Way Left	5.0%	36.3	0.2	27.0%	36.8	1.3
5/4+5/3	S Way Ahead	20.0%	39.5	0.9	58.9%	47.4	3.3
5/5	S Way Ahead	37.0%	44.5	1.9	65.3%	53.0	4.1
J2: SCN 88	-	72.4%	-	-	69.1%	-	-
1/2+1/1	M42 S/B Off Slip Ahead Left	72.4%	25.6	10.2	57.1%	24.9	7.0
1/3	M42 S/B Off Slip Ahead	67.4%	28.4	9.5	61.9%	29.4	7.8
2/1	Circulating (with M6 S/B Off Slip) Ahead	64.6%	12.8	5.2	50.6%	8.7	2.4
2/2	Circulating (with M6 S/B Off Slip) Right Ahead	54.0%	16.1	7.8	46.1%	12.2	8.1
2/3	Circulating (with M6 S/B Off Slip) Right	22.6%	21.3	4.6	35.5%	8.6	4.0
3/1	Circulating (with A45 Coventry Road) Right Ahead	26.5%	8.8	1.1	53.7%	15.7	3.8
3/2	Circulating (with A45 Coventry Road) Right	71.4%	15.3	11.7	69.1%	16.4	9.9
3/3	Circulating (with A45 Coventry Road) Right	60.0%	13.5	10.7	58.7%	15.9	9.8
4/1	A45 Coventry Road Ahead Left	63.0%	24.7	9.1	66.2%	24.8	10.1

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
4/2	A45 Coventry Road Ahead	60.8%	24.1	8.7	65.0%	24.4	9.8
4/3	A45 Coventry Road Ahead	45.1%	21.0	5.9	68.4%	25.4	10.5
6/2+6/1	Motorcycle Museum Ahead Left	7.4%	35.7	0.1	22.5%	39.6	0.3
7/1	Circulating (with Motorcycle Museum) Ahead	36.7%	1.5	0.3	51.9%	2.0	3.2
7/2	Circulating (with Motorcycle Museum) Right Ahead	58.8%	2.3	3.4	59.4%	2.3	2.9
7/3	Circulating (with Motorcycle Museum) Right	46.8%	1.8	2.0	55.9%	2.2	3.8
J3: SCN 86	-	87.8%	-	-	78.2%	-	-
1/1	Circulating (with M42 N/B Off Slip) Ahead	77.9%	16.2	4.5	40.1%	11.9	3.0
1/2	Circulating (with M42 N/B Off Slip) Right Ahead	87.8%	29.6	13.9	51.8%	14.2	4.6
1/3	Circulating (with M42 N/B Off Slip) Right	52.4%	35.1	7.5	54.4%	13.0	11.7
2/1+2/2	M42 N/B Off Slip Ahead Left	31.8%	11.9	3.7	24.2%	22.1	2.6
2/3	M42 N/B Off Slip Ahead	86.5%	28.0	19.5	78.2%	35.2	11.6

5.3 Forecast Models

The 2011 traffic counts have had PRISM growth applied to 2016 and 2026 to test the future capacity of the junction. The growth rates are summarised in Table 5.4.

Table 5.4: M42 Junction 6 Growth Rates

Scenario	AM Peak	PM Peak
2011 to 2016	1.101	1.105
2016 to 2026	1.106	1.118

Source: PRISM

5.3.1 2016 Analysis

The AM peak results demonstrate that Junction 6 would start to operate inefficiently from 2016. The results at the M42 northbound off slip junction show that predicted queues on the circulating carriageway would fill the available capacity (15 PCUs per lane for the nearside and middle lane). The predicted queues for the nearside and offside lanes are 15 PCUs. Queues longer than this would result in the M42 southbound on slip being blocked.

Table 5.5: M42 Junction 6 2016 Model Results AM and PM Peak Periods

		AM Peak			PM Peak		
Item	Lane Description	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 6	-	94.4%	-	-	85.3%	-	-
J1: SCN 87	-	94.4%	-	-	85.3%	-	-
1/2+1/1	A45 Coventry Road Left Left2	94.4%	56.4	18.3	82.9%	25.7	16.0
1/4+1/3	A45 Coventry Road Left	94.0%	59.8	17.3	85.3%	28.4	17.3
2/1	Circulating (with A45 Coventry Road) Ahead	41.0%	7.8	2.3	27.7%	11.2	1.3
2/2	Circulating (with A45 Coventry Road) Ahead Ahead2	41.7%	18.8	9.9	83.5%	48.5	15.3
2/3	Circulating (with A45 Coventry Road) Ahead	92.5%	28.3	14.0	79.0%	18.3	3.7
4/1	Circulating (with S Way) Ahead	47.8%	2.5	1.6	68.8%	7.6	7.0
4/2	Circulating (with S Way) Ahead	33.3%	2.0	1.0	48.6%	5.8	9.6
4/3	Circulating (with S Way) Right	43.5%	8.0	5.2	40.4%	3.5	8.3
4/4	Circulating (with S Way) Right	51.2%	6.4	9.0	45.8%	6.1	3.1
5/2+5/1	S Way Left	5.5%	36.3	0.2	24.4%	33.9	1.4
5/4+5/3	S Way Ahead	27.8%	42.0	1.3	51.8%	41.1	3.1
5/5	S Way Ahead	37.5%	44.7	1.9	63.5%	47.3	4.5
J2: SCN 88	-	80.9%	-	-	74.1%	-	-
1/2+1/1	M42 S/B Off Slip Ahead Left	74.9%	25.6	10.9	65.8%	25.9	8.7

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
1/3	M42 S/B Off Slip Ahead	74.8%	30.4	11.5	60.8%	28.2	7.9
2/1	Circulating (with M6 S/B Off Slip) Ahead	66.7%	16.0	7.6	56.9%	8.6	2.7
2/2	Circulating (with M6 S/B Off Slip) Right Ahead	62.0%	19.1	9.9	57.0%	19.6	11.3
2/3	Circulating (with M6 S/B Off Slip) Right	30.7%	19.0	6.2	35.8%	11.3	6.4
3/1	Circulating (with A45 Coventry Road) Right Ahead	23.1%	10.2	1.2	66.4%	12.0	2.8
3/2	Circulating (with A45 Coventry Road) Right	80.9%	18.9	13.4	74.1%	22.9	14.0
3/3	Circulating (with A45 Coventry Road) Right	65.0%	15.4	12.8	66.1%	19.5	10.0
4/1	A45 Coventry Road Ahead Left	72.3%	28.6	11.1	70.6%	25.4	11.4
4/2	A45 Coventry Road Ahead	68.8%	27.2	10.3	70.0%	25.2	11.1
4/3	A45 Coventry Road Ahead	51.1%	22.8	6.7	73.1%	26.3	12.1
6/2+6/1	Motorcycle Museum Ahead Left	8.6%	39.7	0.1	22.6%	36.7	0.3
7/1	Circulating (with Motorcycle Museum) Ahead	38.0%	1.5	1.9	59.6%	2.4	4.4
7/2	Circulating (with Motorcycle Museum) Right Ahead	66.7%	2.9	4.7	63.8%	2.6	6.2
7/3	Circulating (with Motorcycle Museum) Right	51.8%	2.0	4.2	61.4%	2.5	5.1
J3: SCN 86	**-**	93.0%	-	-	74.8%	-	-
1/1	Circulating (with M42 N/B Off Slip) Ahead	88.0%	33.1	14.8	49.9%	6.8	1.4
1/2	Circulating (with M42 N/B Off Slip) Right Ahead	88.3%	33.6	14.8	62.6%	10.7	2.8
1/3	Circulating (with M42 N/B Off Slip) Right	73.2%	50.7	10.8	66.5%	28.8	13.8

Item	Lane Description	AM Peak			PM Peak		
		Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
2/1+2/2	M42 N/B Off Slip Ahead Left	40.5%	13.1	5.5	23.1%	18.9	2.6
2/3	M42 N/B Off Slip Ahead	93.0%	37.2	25.1	74.8%	29.5	11.8

A sensitivity test was undertaken by changing the offsets between the M42 northbound off slip junction and the A46 East Coventry Road junction. Whilst this will reduce the circulating queues at the M42 northbound off slip junction, the queues on the circulating carriageway at the A46 East Coventry Road junction would increase and consequently block the exit from Junction 6 to the A45 East.

The predicted queue on the offside lane for the right turn from the M42 northbound off slip is predicted to be 25 PCUs and the corresponding degree of saturation is 93%. The capacity on this lane is approximately 55 PCUs, and therefore, the predicted queue is unlikely to interact with the mainline.

In all other locations the results suggest that the operation of the motorway mainline would not be affected.

The junction is predicted to operate better in the PM peak period. At all locations, there would not be any interaction with the motorway mainline.

5.3.2 2026 Analysis

The 2016 results demonstrate that at certain locations of the junction (M42 northbound off slip for example) internal queuing would start to have an impact on the operation of the junction, with internal queues starting to block exits from the junction. Therefore, this scenario has not been modelled as the issues identified in 2016 would only get worse in 2026.

5.4 Summary

The assessment of M42 Junction 6 demonstrates that the junction would typically operate efficiently until 2016. After 2016, internal queues would start to block exits from the junction, and also affect the flow of vehicles entering the junction from external links.

It is our understanding that the improvement of Junction 6 is fairly fluid due to the eventual development of the High Speed 2 (HS2) station at Birmingham International Station and other developments at NEC which are subject to negotiations currently. The development of HS2 is likely to require further investigation and feasibility work leading to potential significant improvement works to Junction 6 so that the development traffic can be accommodated. In agreement with all parties and due to future uncertainties at this junction; this study has fallen short of reporting any further improvements that maybe required. This will be subject to further work in the future.

6. Conclusions

Mott MacDonald was commissioned by the Highways Agency and Solihull MBC to assess the impacts of the Core Strategy growth on the local and strategic highway network. This work has been split into three stages. Stage 1 of this study has already reported and considered the existing transport and land-use planning evidence base. Stage 2 of the study was commissioned in December 2010 and reported in March 2011. This stage considered the impacts further by way of modelling undertaken in PRISM (The West Midlands Multi Modal Strategic Model).

Stage 3 of the study included junction assessments of the three M42 junctions that were identified by the Stage 2 PRISM modelling indicating an increase in forecast congestion by either 2016 or 2026. The three junctions assessed for Stage 3 are:

- M42 junction 4 (A34/A3400), including the Tesco junction to the north and the Blythe Valley, Gate lane junctions to the south;
- M42 Junction 5 (A41/A4141); and
- M42 Junction 6 (A45/Southway/Motorcycle Museum).

The junctions were modelled using LinSIG v3 and utilised existing information where available. The modelling undertaken identified the following conclusions.

6.1.1 M42 Junction 4

M42 Junction 4 assessment demonstrates that the junction can accommodate traffic growth up to 2013. Beyond 2013, significant queues would begin to form on the circulating carriageway at the junction with the M42 northbound slip road.

It should be noted, however, that there are committed schemes in place for Blythe Valley 2 when it is developed. This should improve capacity, as the areas where queues begin to form are around the access to Blythe Valley Business Park.

Further assessment of the impact of the traffic growth on the Tesco / Notcutts gyratory may also need to be considered, as the AM results show significant queues on the A34 southbound approach.

6.1.2 M42 Junction 5

Junction 5 has been modelled with the proposed part signalisation completed. This work is expected to start on site shortly therefore has been classed as committed.

The results from the LinSig modelling demonstrate that the circulating lanes and the M42 off slips would operate without blocking back upstream approaches or the motorway mainline until 2016.

However, from 2016, significant queues are predicted for the A4141 approach in the AM peak period and the A41 approach in the PM peak period.

An option that could be considered to improve the delays at the junction is the signalisation of one or both of the remaining give way links. This may allow more gaps for traffic to enter the junction from the A41 and A4141 approaches than otherwise would occur. However, the circulating capacity at these approaches is less than at the M42 off slip approaches. Therefore, care would need to be taken to demonstrate that the A41 and A4141 exits would not be blocked by queued circulating traffic. To assess these options would require a separate piece of work to be undertaken.

6.1.3 M42 Junction 6

The assessment of M42 Junction 6 demonstrates that the junction would typically operate efficiently until 2016. After 2016, internal queues would start to block exits from the junction, and also affect the flow of vehicles entering the junction from external links.

It is expected that the improvement of Junction 6 is fairly fluid due to the eventual development of the High Speed 2 (HS2) station near Birmingham International Station and other proposed developments at the National Exhibition Centre (NEC) which are subject to negotiations currently. The development of HS2 is likely to require further investigation and feasibility work leading to potential significant improvement works to Junction 6 so that the development traffic can be accommodated. In agreement with all parties and due to future uncertainties at this junction; this study has fallen short of reporting any further improvements that maybe required. This will be subject to further work in the future.

Appendices

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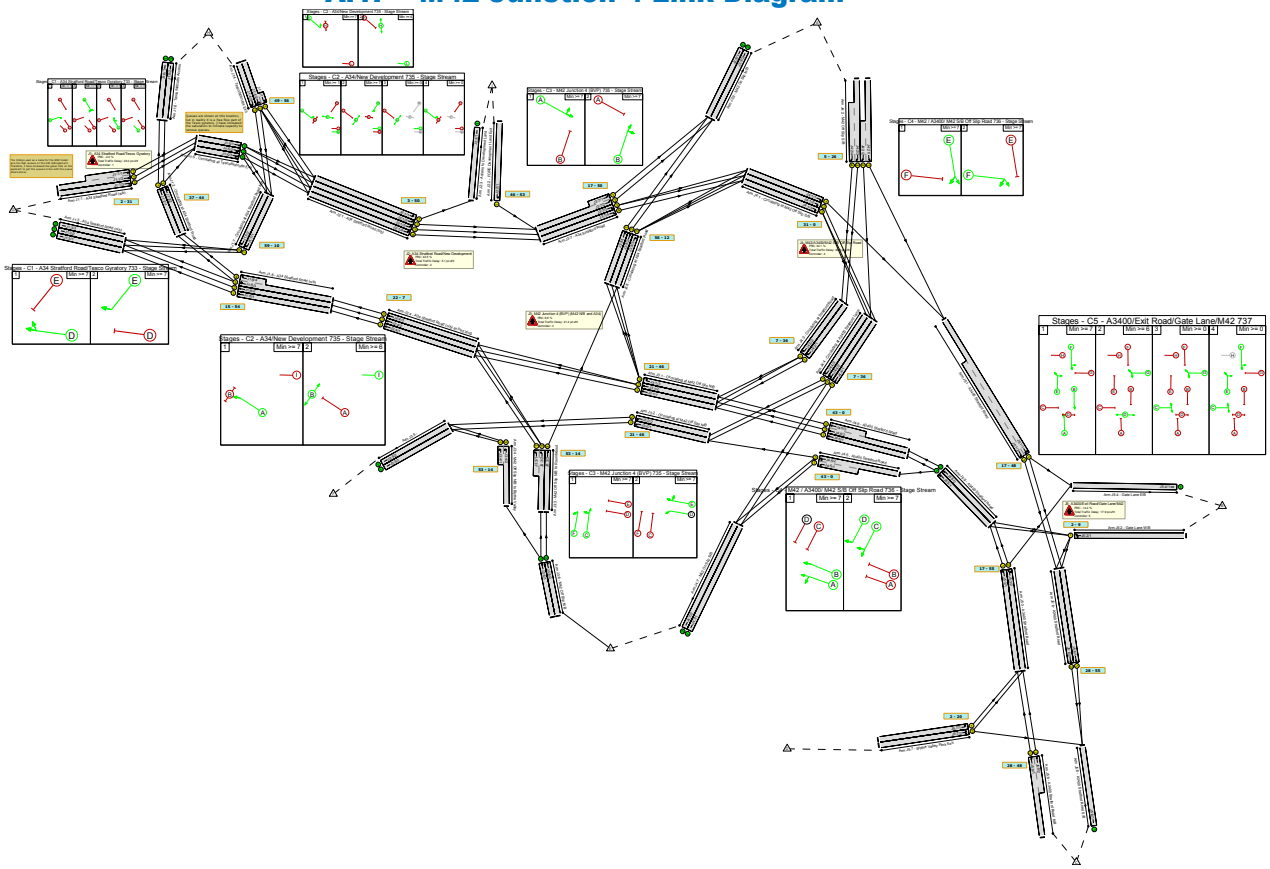
Appendix A. M42 Junction 4

A.1. M42 Junction 4 Link Diagram



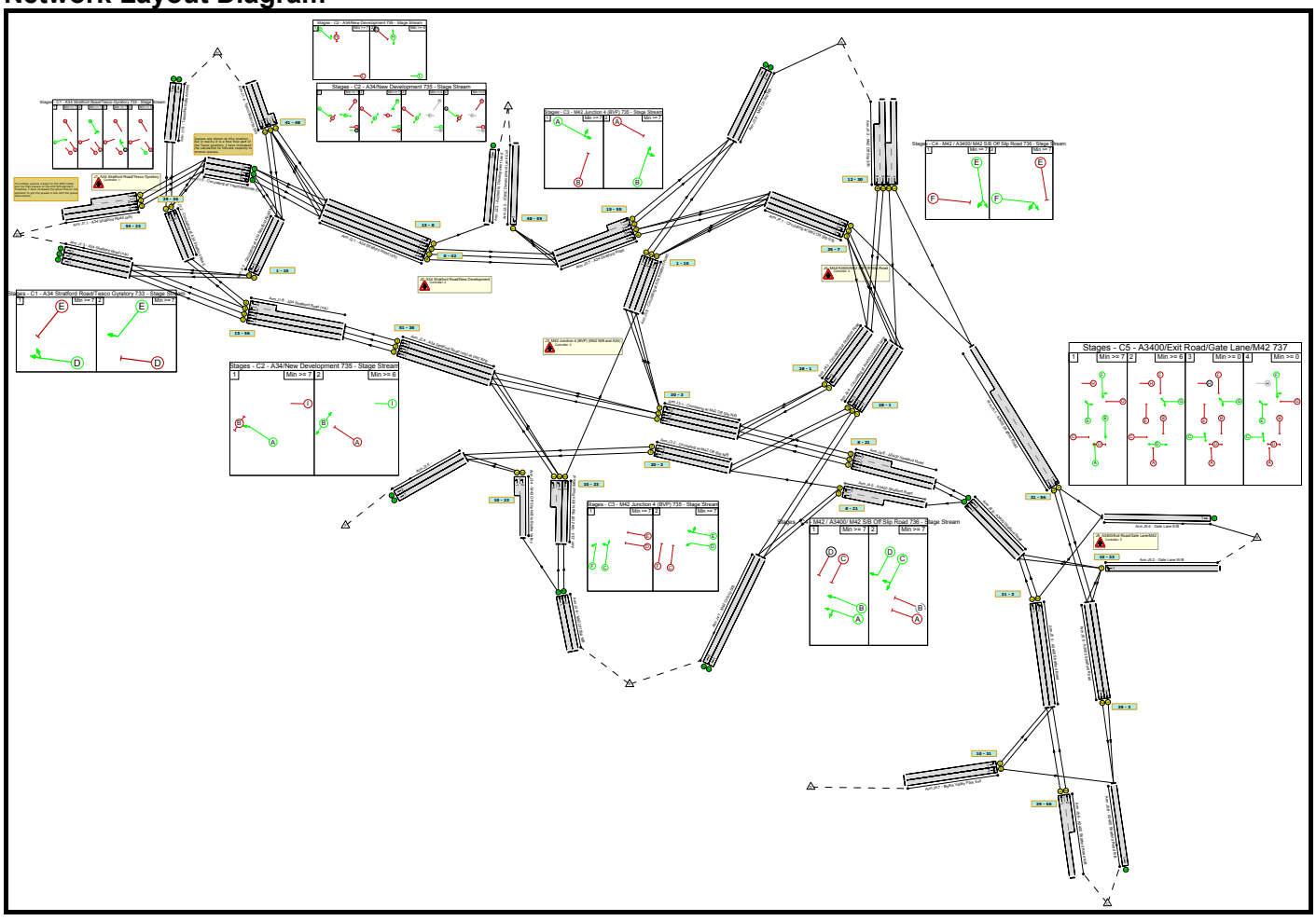
Source: Mott MacDonald

Full Input Data And Results OH Format

User and Project Details

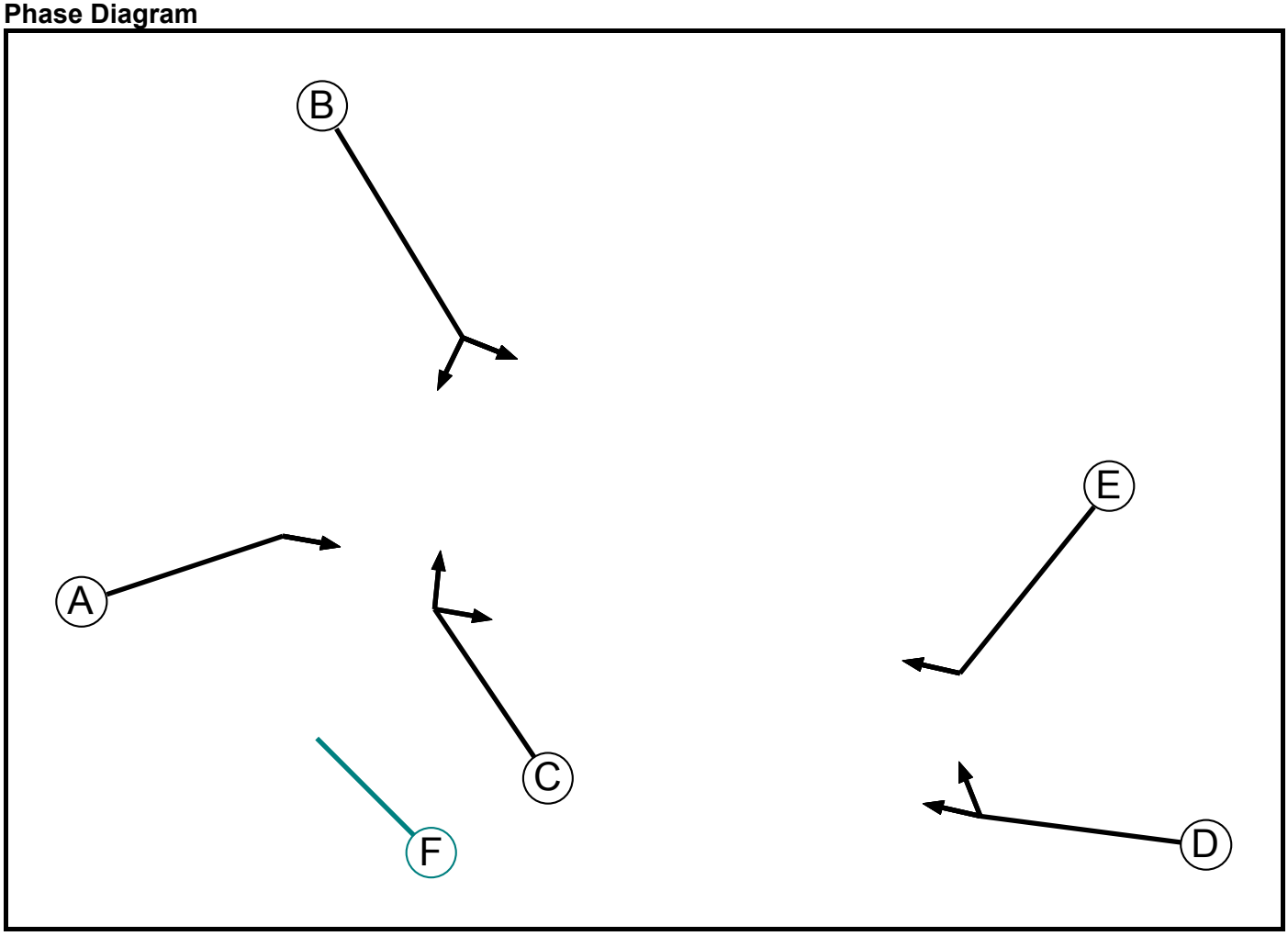
Project:	**Solihull Core Strategy Transport and Infrastructure Assessment**
Title:	**M42 Junction 4**
Location:	Solihull
File name:	M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Author:	OWH
Company:	Mott MacDonald
Address:	85 Canterbury House, Birmingham, B3 1LZ
Notes:	Model developed by Mott MacDonald. Traffic, queue and signal data obtained from 3rd parties.

Network Layout Diagram



C1 - A34 Stratford Road/Tesco Gyratory 733

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	2		7	7
B	Traffic	2		7	7
C	Traffic	2		7	7
D	Traffic	1		7	7
E	Traffic	1		7	7
F	Dummy	2		5	5

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Phase Intergreens Matrix

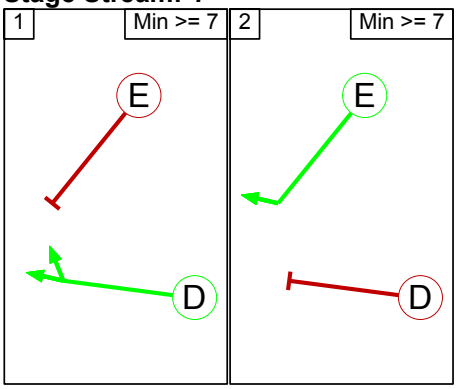
Terminating Phase \ Starting Phase	A	B	C	D	E	F
A		6	6	-	-	3
B	6		6	-	-	3
C	5	5		-	-	3
D	-	-	-		5	-
E	-	-	-	5		-
F	2	2	2	-	-	

Phases in Stage

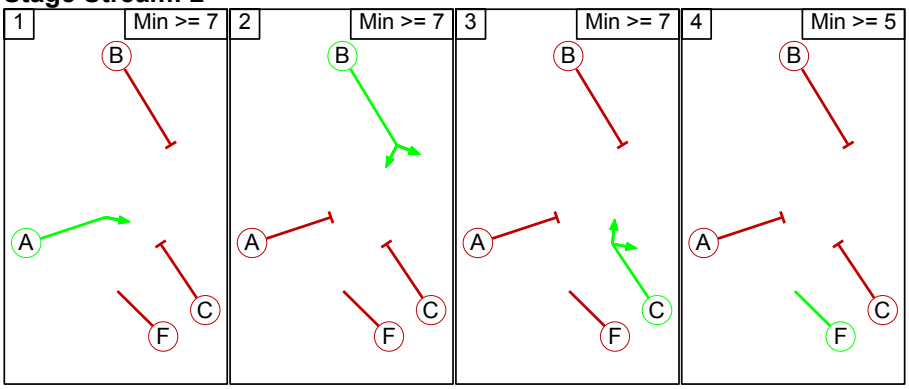
Stream	Stage No.	Phases in Stage
1	1	D
1	2	E
2	1	A
2	2	B
2	3	C
2	4	F

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

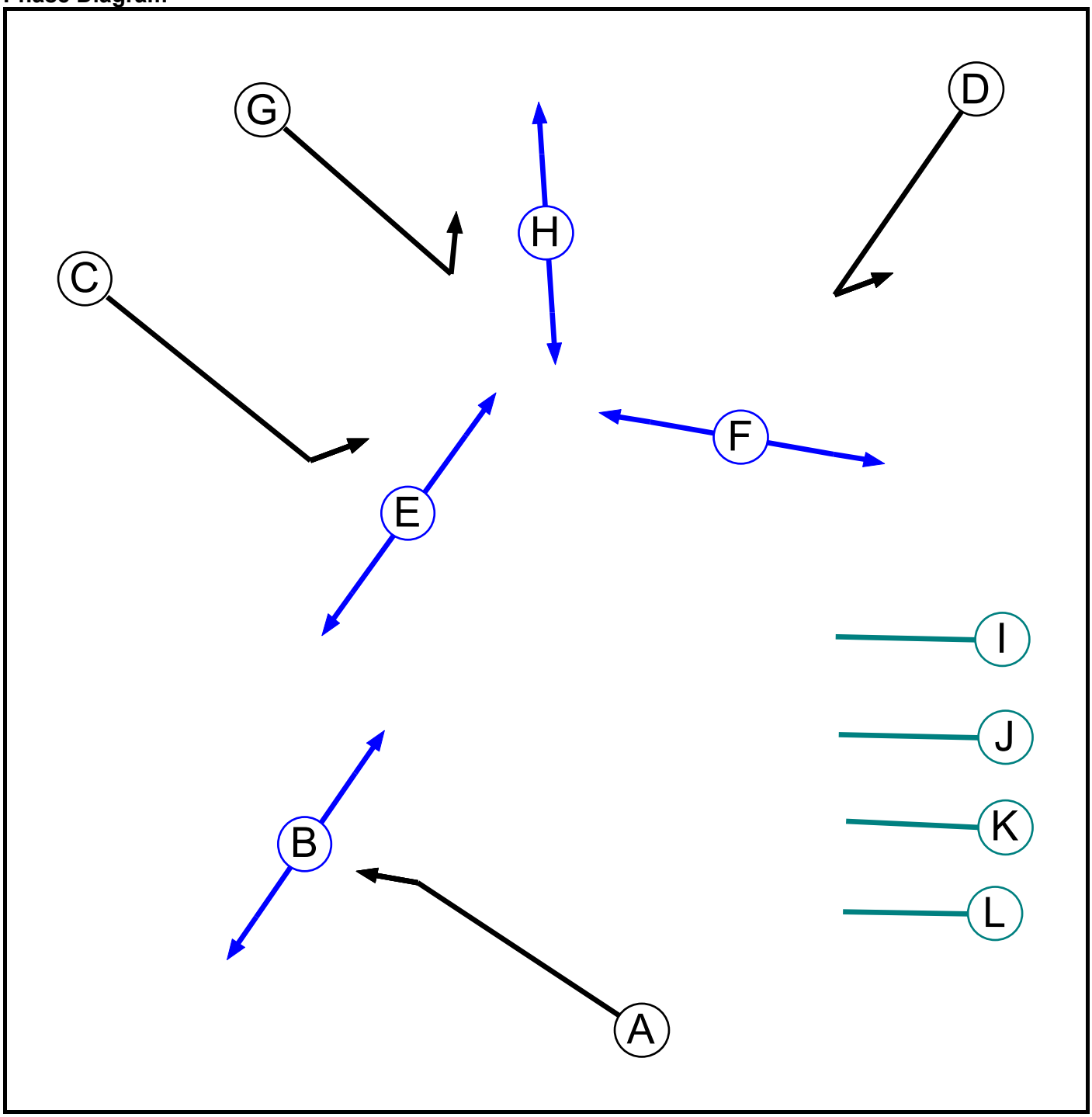
From Stage \ To Stage	1	2
1		5
2	5	

Stage Stream: 2

From Stage \ To Stage	1	2	3	4
1		6	6	3
2	6		6	3
3	5	5		3
4	2	2	2	

C2 - A34/New Development 735

Phase Diagram



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Pedestrian	1		6	6
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Pedestrian	2		6	6
F	Pedestrian	2		4	4
G	Traffic	3		7	7
H	Pedestrian	3		4	4
I	Dummy	1		3	3
J	Dummy	2		3	3
K	Dummy	2		3	3
L	Dummy	3		3	3

Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L
A		6	-	-	-	-	-	-	6	-	-	-
B	0		-	-	-	-	-	-	-	-	-	-
C	-	-		6	6	-	-	-	-	6	-	-
D	-	-	5		-	6	-	-	-	-	6	-
E	-	-	0	-		-	-	-	-	-	-	-
F	-	-	-	0	-		-	-	-	-	-	-
G	-	-	-	-	-	-		6	-	-	-	6
H	-	-	-	-	-	-	0		-	-	-	-
I	3	-	-	-	-	-	-	-		-	-	-
J	-	-	3	-	-	-	-	-	-		-	-
K	-	-	-	3	-	-	-	-	-	-		-
L	-	-	-	-	-	-	3	-	-	-	-	

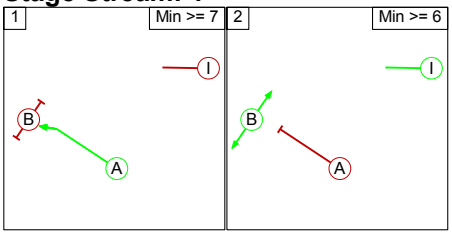
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B I
2	1	C F K
2	2	D E J
2	3	E J
2	4	C
3	1	G
3	2	H L

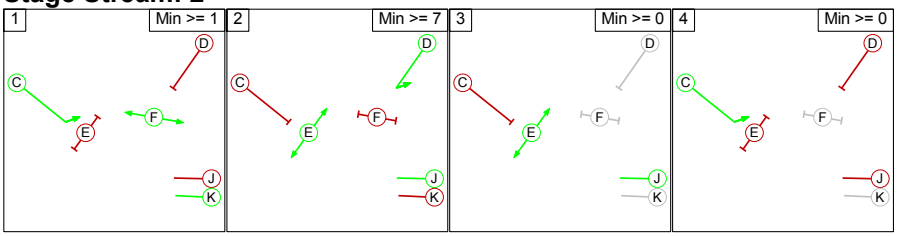
Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Stage Diagram

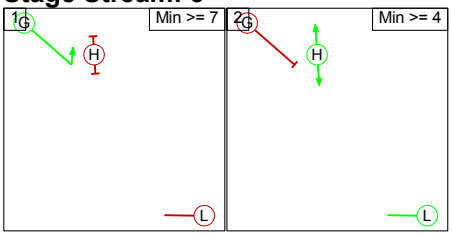
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Stage Stream: 3

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

Prohibited Stage Change

Stage Stream: 1

	To Stage		
		1	2
From Stage	1		6
	2	3	

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Stage Stream: 2

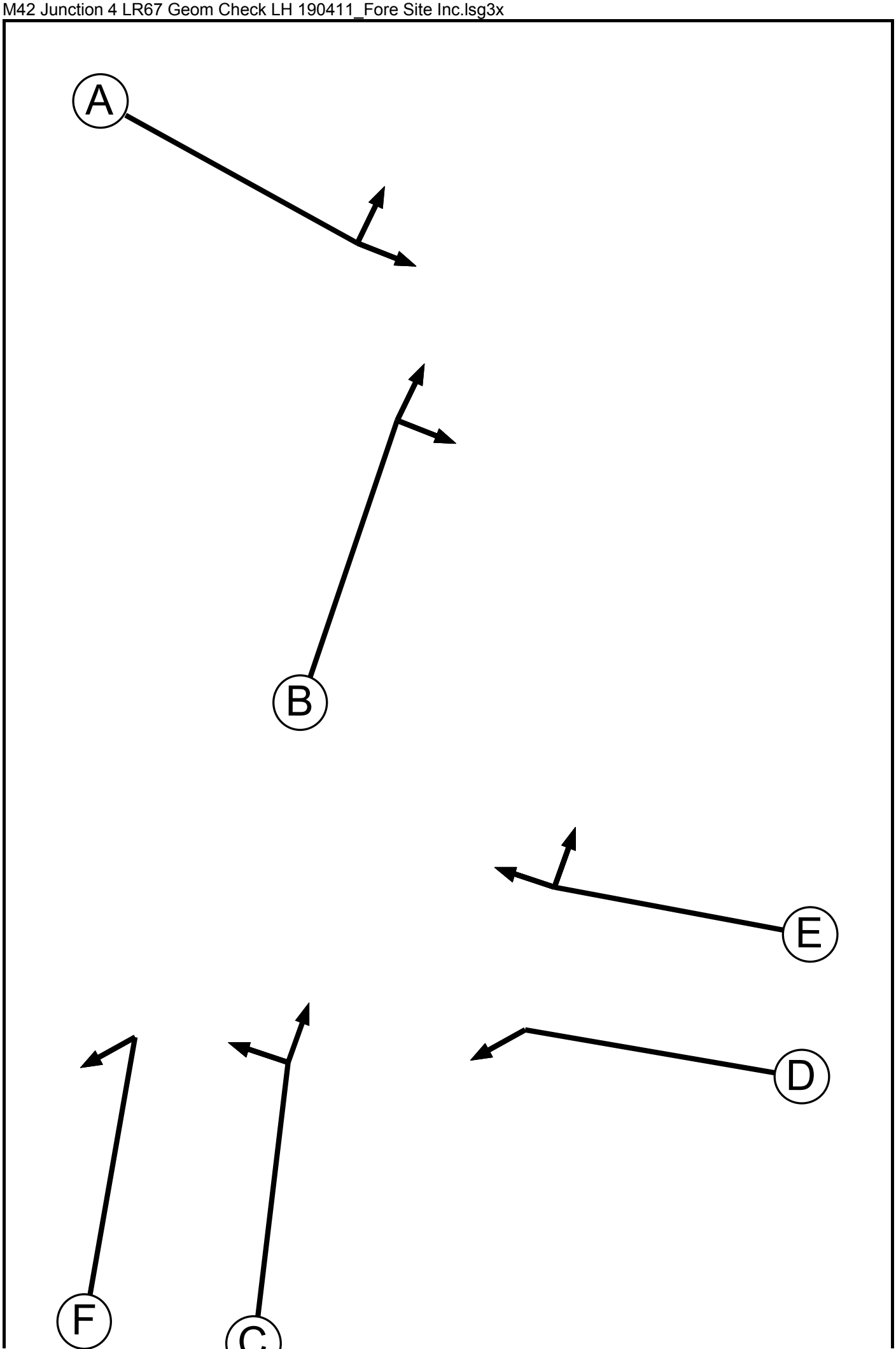
		To Stage			
		1	2	3	4
From Stage	1		6	6	0
	2	6		0	5
	3	3	2		3
	4	0	6	6	

Stage Stream: 3

		To Stage		
		1	2	
From Stage	1		6	
	2	3		

C3 - M42 Junction 4 (BVP) 735

Phase Diagram


A
B
E
D
F
C

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	2		7	7
F	Traffic	2		7	7

Phase Intergreens Matrix

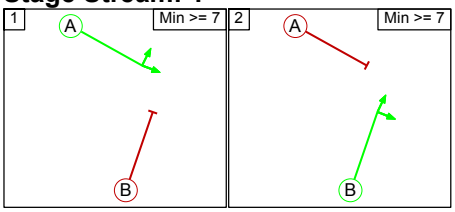
Terminating Phase \ Starting Phase	A	B	C	D	E	F
A		6	-	-	-	-
B	5		-	-	-	-
C	-	-		7	7	-
D	-	-	7		-	7
E	-	-	7	-		7
F	-	-	-	7	7	

Phases in Stage

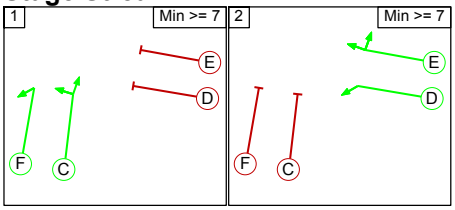
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C F
2	2	D E

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

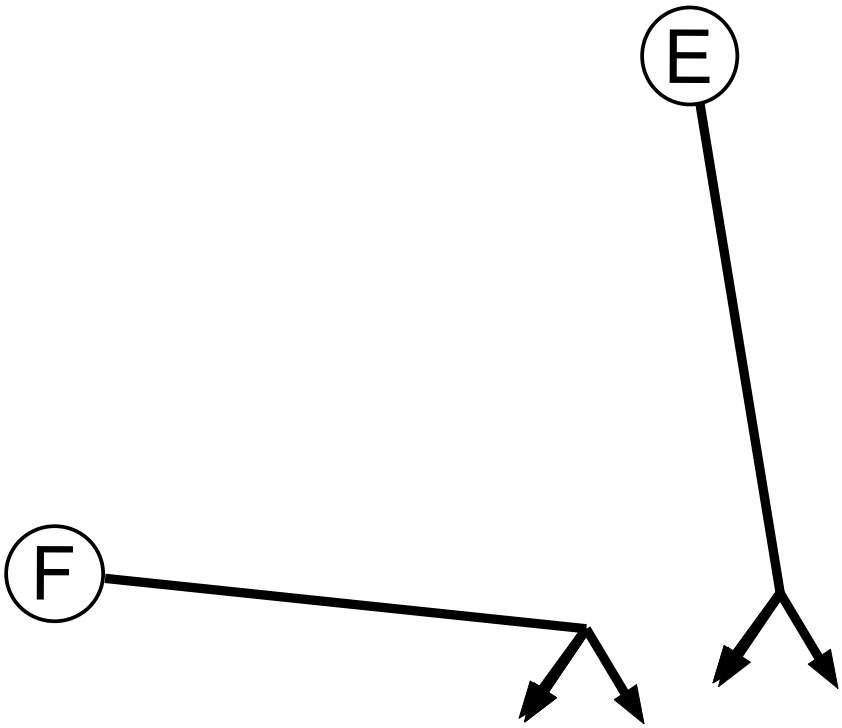
From Stage \ To Stage	1	2
1		6
2	5	

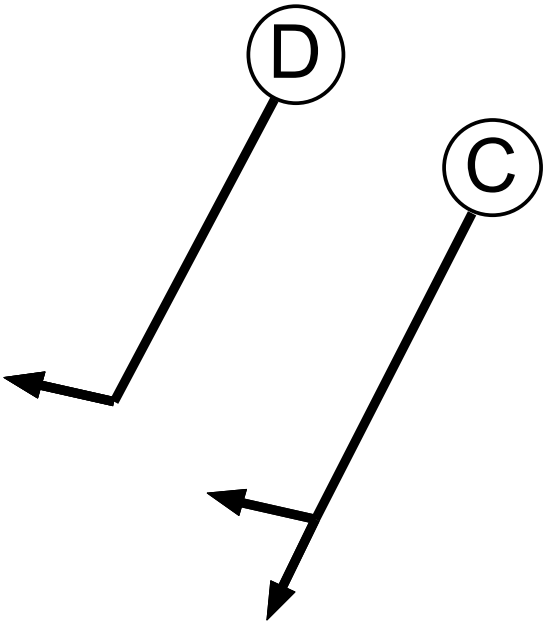
Stage Stream: 2

From Stage \ To Stage	1	2
1		7
2	7	

C4 - M42 / A3400/ M42 S/B Off Slip Road 736

Phase Diagram


E
F


D
C

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	1		7	7
D	Traffic	1		7	7
E	Traffic	2		7	7
F	Traffic	2		7	7

Phase Intergreens Matrix

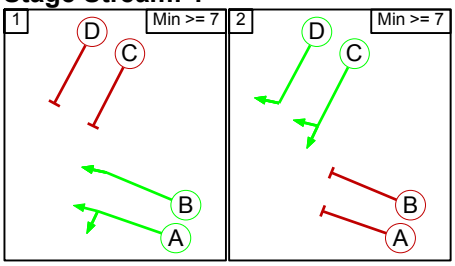
Terminating Phase \ Starting Phase	A	B	C	D	E	F
A		-	7	7	-	-
B	-		7	7	-	-
C	7	7		-	-	-
D	7	7	-		-	-
E	-	-	-	-		5
F	-	-	-	-	5	

Phases in Stage

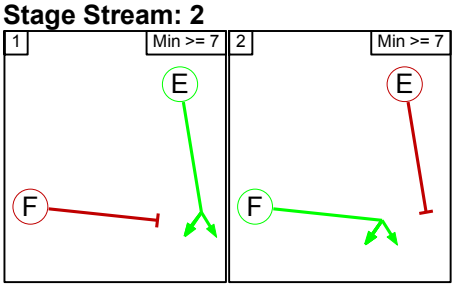
Stream	Stage No.	Phases in Stage
1	1	A B
1	2	C D
2	1	E
2	2	F

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

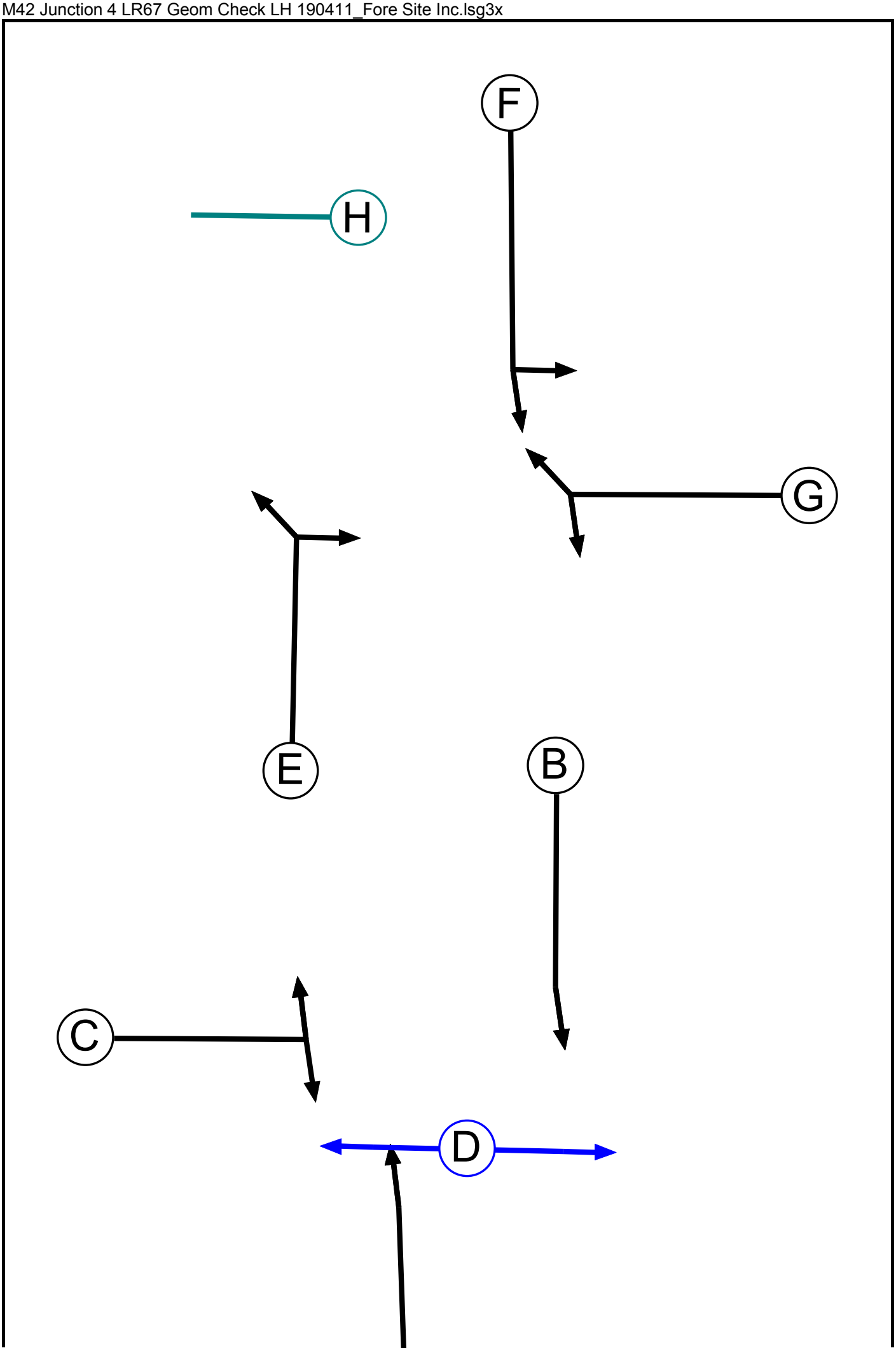
		To Stage	
		1	2
From Stage	1		7
	2	7	

Stage Stream: 2

		To Stage	
		1	2
From Stage	1		5
	2	5	

C5 - A3400/Exit Road/Gate Lane/M42 737

Phase Diagram


F
H
G
E
B
C
D

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Pedestrian		6	6
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Dummy		2	2

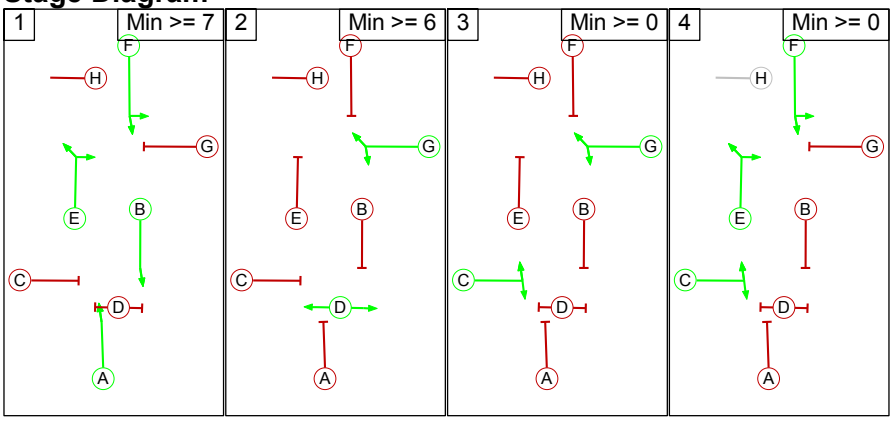
Phase Intergreens Matrix

		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		-	8	7	-	-	-	3
	B	-		7	9	-	-	-	3
	C	8	8		9	-	-	-	-
	D	16	16	16		-	-	-	-
	E	-	-	-	-		-	7	-
	F	-	-	-	-	-		7	-
	G	-	-	-	-	8	8		8
	H	2	2	-	-	-	-	2	

Phases in Stage

Stage No.	Phases in Stage
1	A B E F
2	D G
3	C G
4	C E F

Stage Diagram



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	B	Losing	7	7
1	2	E	Losing	7	7
1	3	B	Losing	7	7
1	3	E	Losing	7	7

Prohibited Stage Change

From Stage \ To Stage	1	2	3	4
1		16	14	8
2	16		16	16
3	8	9		8
4	8	9	7	

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Give-Way Lane Input Data

Junction: J1: A34 Stratford Road/Tesco Gyratory
There are no Opposed Lanes in this Junction

Junction: J2: A34 Stratford Road/New Development
There are no Opposed Lanes in this Junction

Junction: J3: M42 Junction 4 (BVP) (M42 N/B and A34)
There are no Opposed Lanes in this Junction

Junction: J4: M42/A3400/M42 S/B Off Slip Road
There are no Opposed Lanes in this Junction

Junction: J5: A3400/Exit Road/Gate Lane/M42
There are no Opposed Lanes in this Junction

Lane Input Data

Junction: J1: A34 Stratford Road/Tesco Gyratory

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 (A34 Stratford Road (s/b))	U	A	2	3	12.0	Geom	-	3.80	0.00	Y	Arm J1:5 Ahead	36.00
J1:1/2 (A34 Stratford Road (s/b))	U	A	2	3	60.0	Geom	-	3.80	0.00	N	Arm J1:5 Ahead	36.00
J1:1/3 (A34 Stratford Road (s/b))	U	A	2	3	60.0	Geom	-	3.80	0.00	N	Arm J1:5 Ahead	36.00
J1:2/1 (Circulating at A34 Stratford Road)	U	C	2	3	60.0	Geom	-	4.50	0.00	Y	Arm J1:6 Ahead	32.00
J1:2/2 (Circulating at A34 Stratford Road)	U	C	2	3	60.0	Geom	-	4.50	0.00	Y	Arm J1:5 Right Arm J1:6 Ahead	10.00 32.00
J1:3/1 (A34 Stratford Road (n/b))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:3/2 (A34 Stratford Road (n/b))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:3/3 (A34 Stratford Road (n/b))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:4/1 (Tesco/Notcutts Exit)	U	B	2	3	3.0	Geom	-	3.50	0.00	Y	Arm J2:1 Left	58.00
J1:4/2 (Tesco/Notcutts Exit)	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J1:7 Ahead Arm J2:1 Left	58.00 58.00
J1:4/3 (Tesco/Notcutts Exit)	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J1:7 Ahead	58.00
J1:5/1 (Circulating at Tesco/Notcutts Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:5/2 (Circulating at Tesco/Notcutts Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:5/3 (Circulating at Tesco/Notcutts Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

J1:6/1 (Tesco/Notcutts Access)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/2 (Tesco/Notcutts Access)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/1 (Circulating at A34 Stratford Road N/B)	U	E	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J1:3 Right	11.00
J1:7/2 (Circulating at A34 Stratford Road N/B)	U	E	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J1:3 Right	11.00
J1:8/1 (A34 Stratford Road (n/b))	U	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J1:3 Ahead	Inf
J1:8/2 (A34 Stratford Road (n/b))	U	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J1:3 Ahead	Inf
J1:8/3 (A34 Stratford Road (n/b))	U	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J1:2 Right Arm J1:3 Ahead	Inf Inf
J1:8/4 (A34 Stratford Road (n/b))	U	D	2	3	7.0	Geom	-	3.25	0.00	Y	Arm J1:2 Right	Inf

Junction: J2: A34 Stratford Road/New Development

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 (A34 Stratford Road (s/b))	U	G	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J2:3 Left	24.00
J2:1/2 (A34 Stratford Road (s/b))	U	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J3:7 Ahead	Inf
J2:1/3 (A34 Stratford Road (s/b))	U	C	2	3	60.0	Geom	-	3.25	0.00	N	Arm J3:7 Ahead	Inf
J2:1/4 (A34 Stratford Road (s/b))	U	C	2	3	60.0	Geom	-	3.25	0.00	N	Arm J3:7 Ahead	Inf
J2:2/1 (FORE Development Land Exit)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J3:7 Left	12.00
J2:3/1 (Access to Development Land)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:4/1 (A34 Stratford Road (n/b) at Ped Xing)	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J1:8 Ahead	Inf
J2:4/2 (A34 Stratford Road (n/b) at Ped Xing)	U	A	2	3	60.0	Geom	-	3.50	0.00	N	Arm J1:8 Ahead	Inf
J2:4/3 (A34 Stratford Road (n/b) at Ped Xing)	U	A	2	3	60.0	Geom	-	3.50	0.00	N	Arm J1:8 Ahead	Inf

Junction: J3: M42 Junction 4 (BVP) (M42 N/B and A34)

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)
J3:1/1 (Circulating at M42 Off Slip N/B)	U	E	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J2:4 Ahead	59.00
J3:1/2 (Circulating at M42 Off Slip N/B)	U	E	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J2:4 Ahead	59.00
J3:1/3 (Circulating at M42 Off Slip N/B)	U	E	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J3:8 Right	50.00
J3:2/1 (Circulating at M42 Off Slip N/B)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J3:5 Ahead	87.00
J3:2/2 (Circulating at M42 Off Slip N/B)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J3:5 Ahead	87.00
J3:3/1 (M42 Off Slip N/B to Roundabout)	U	C	2	3	7.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	57.00
J3:3/2 (M42 Off Slip N/B to Roundabout)	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	57.00
J3:3/3 (M42 Off Slip N/B to Roundabout)	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J3:8 Ahead	Inf
J3:4/1 (M42 Off Slip N/B to Blythe Valley)	U	F	2	3	5.0	Geom	-	4.00	0.00	Y	Arm J3:5 Left	21.00
J3:4/2 (M42 Off Slip N/B to Blythe Valley)	U	F	2	3	60.0	Geom	-	4.00	0.00	Y	Arm J3:5 Left	21.00
J3:5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:6/1 (M42 Off Slip N/B)	U		2	3	60.0	Geom	-	3.45	0.00	Y	Arm J3:3 Ahead Arm J3:4 Ahead	Inf Inf
J3:6/2 (M42 Off Slip N/B)	U		2	3	60.0	Geom	-	3.45	0.00	Y	Arm J3:3 Ahead	Inf

J3:7/1 (A34 Stratford Road)	U	A	2	3	6.0	Geom	-	3.60	0.00	Y	Arm J3:9 Ahead	47.00
J3:7/2 (A34 Stratford Road)	U	A	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J3:9 Ahead	47.00
J3:7/3 (A34 Stratford Road)	U	A	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J4:1 Ahead	58.00
J3:7/4 (A34 Stratford Road)	U	A	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J4:1 Ahead	58.00
J3:8/1 (Circulating at A34 Stratford Road)	U	B	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J3:9 Ahead	57.00
J3:8/2 (Circulating at A34 Stratford Road)	U	B	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J3:9 Ahead	57.00
J3:8/3 (Circulating at A34 Stratford Road)	U	B	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J4:1 Right	52.00
J3:9/1 (M42 On Slip N/B)	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:9/2 (M42 On Slip N/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J4: M42/A3400/M42 S/B Off Slip 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)
J4:1/1 (Circulating at M42 Off Slip S/B)	U	F	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J5:1 Ahead	74.00
J4:1/2 (Circulating at M42 Off Slip S/B)	U	F	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J4:4 Right	30.00
J4:1/3 (Circulating at M42 Off Slip S/B)	U	F	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J4:3 Right Arm J4:4 Right	Inf 30.00
J4:2/1 (M42 Off Slip S/B)	U	E	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J5:1 Ahead	36.00
J4:2/2 (M42 Off Slip S/B)	U	E	2	3	11.0	Geom	-	3.60	0.00	Y	Arm J4:4 Ahead	47.00
J4:2/3 (M42 Off Slip S/B)	U	E	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J4:3 Ahead	47.00
J4:2/4 (M42 Off Slip S/B)	U	E	2	3	16.0	Geom	-	3.30	0.00	Y	Arm J4:3 Ahead	47.00
J4:3/1 (Circulating at Stratford Road)	U	D	2	3	60.0	Geom	-	3.80	0.00	Y	Arm J3:1 Right	58.00
J4:3/2 (Circulating at Stratford Road)	U	D	2	3	60.0	Geom	-	3.80	0.00	Y	Arm J3:1 Right	58.00
J4:4/1 (Circulating at A3400 Stratford Lane)	U	C	2	3	60.0	Geom	-	3.80	0.00	Y	Arm J4:7 Ahead	77.00
J4:4/2 (Circulating at A3400 Stratford Lane)	U	C	2	3	60.0	Geom	-	3.80	0.00	Y	Arm J3:2 Right Arm J4:7 Ahead	64.00 77.00
J4:4/3 (Circulating at A3400 Stratford Lane)	U	C	2	3	60.0	Geom	-	3.80	0.00	Y	Arm J3:2 Right	64.00
J4:5/1 (A3400 Stratford Road)	U	A	2	3	11.0	Geom	-	3.40	0.00	Y	Arm J4:7 Left	87.00

J4:5/2 (A3400 Stratford Road)	U	A	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J3:2 Ahead Arm J4:7 Left	Inf 87.00
J4:6/1 (A3400 Stratford Road)	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J3:1 Ahead	75.00
J4:6/2 (A3400 Stratford Road)	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J3:1 Ahead	75.00
J4:6/3 (A3400 Stratford Road)	U	B	2	3	10.0	Geom	-	3.65	0.00	Y	Arm J3:1 Ahead	61.00
J4:7/1 (M42 On Slip S/B)	U		2	3	60.0	Inf	-	-	-	-	-	-
J4:7/2 (M42 On Slip S/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J5: A3400/Exit Road/Gate Lane/M42

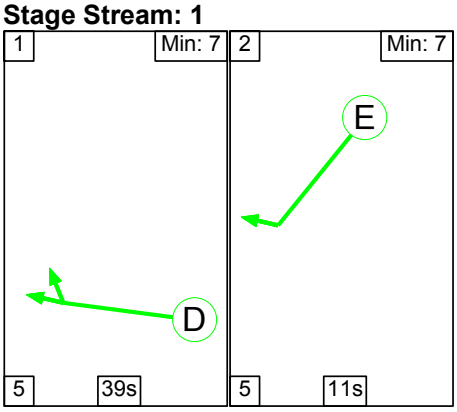
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J5:1/1 (A3400 Stratford Road)	U	F	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J5:4 Left Arm J5:6 Ahead	12.00 Inf
J5:1/2 (A3400 Stratford Road)	U	F	2	3	30.0	Geom	-	3.60	0.00	Y	Arm J5:6 Ahead	Inf
J5:2/1 (Gate Lane W/B)	U	G	2	3	60.0	Geom	-	2.70	0.00	Y	Arm J5:5 Right Arm J5:6 Left	20.00 13.00
J5:3/1 (A3400 Stratford Road)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J5:5 Ahead	Inf
J5:3/2 (A3400 Stratford Road)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J5:4 Right Arm J5:5 Ahead	25.00 Inf
J5:4/1 (Gate Lane E/B)	U		2	3	60.0	Inf	-	-	-	-	-	-
J5:5/1 (A3400 Stratford Road)	U		2	3	60.0	Geom	-	3.50	0.00	Y	Arm J4:5 Ahead Arm J4:6 Ahead	Inf Inf
J5:5/2 (A3400 Stratford Road)	U		2	3	60.0	Geom	-	3.50	0.00	N	Arm J4:6 Ahead	Inf
J5:6/1 (A3400 Stratford Road)	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J5:8 Ahead	Inf
J5:6/2 (A3400 Stratford Road)	U	B	2	3	60.0	Geom	-	3.65	0.00	N	Arm J5:8 Ahead	Inf
J5:7/1 (Blythe Valley Park Exit)	U	C	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J5:3 Left	18.00
J5:7/2 (Blythe Valley Park Exit)	U	C	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J5:3 Left Arm J5:8 Right	18.00 20.00
J5:8/1 (A3400 Stratford Road S/B)	U		2	3	60.0	Inf	-	-	-	-	-	-

J5:9/1 (A3400 Stratford Road N/B)	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J5:3 Ahead	Inf
J5:9/2 (A3400 Stratford Road N/B)	U	A	2	3	10.0	Geom	-	3.50	0.00	N	Arm J5:3 Ahead	Inf

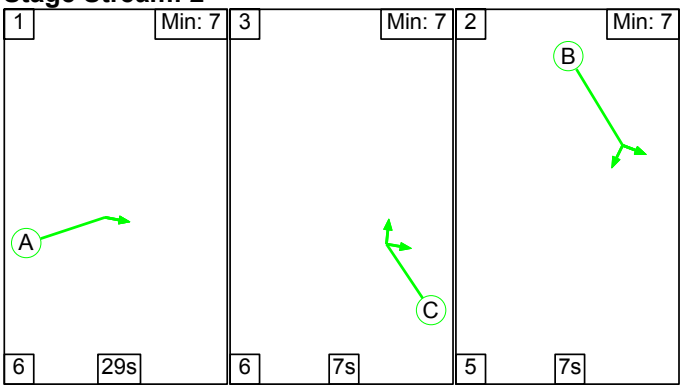
Scenario 1: '2008 AM Peak Base Calibration' (FG1: '2008 AM Peak Base', Plan 1: 'Network Control Plan 1')
C1 - A34 Stratford Road/Tesco Gyratory 733

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

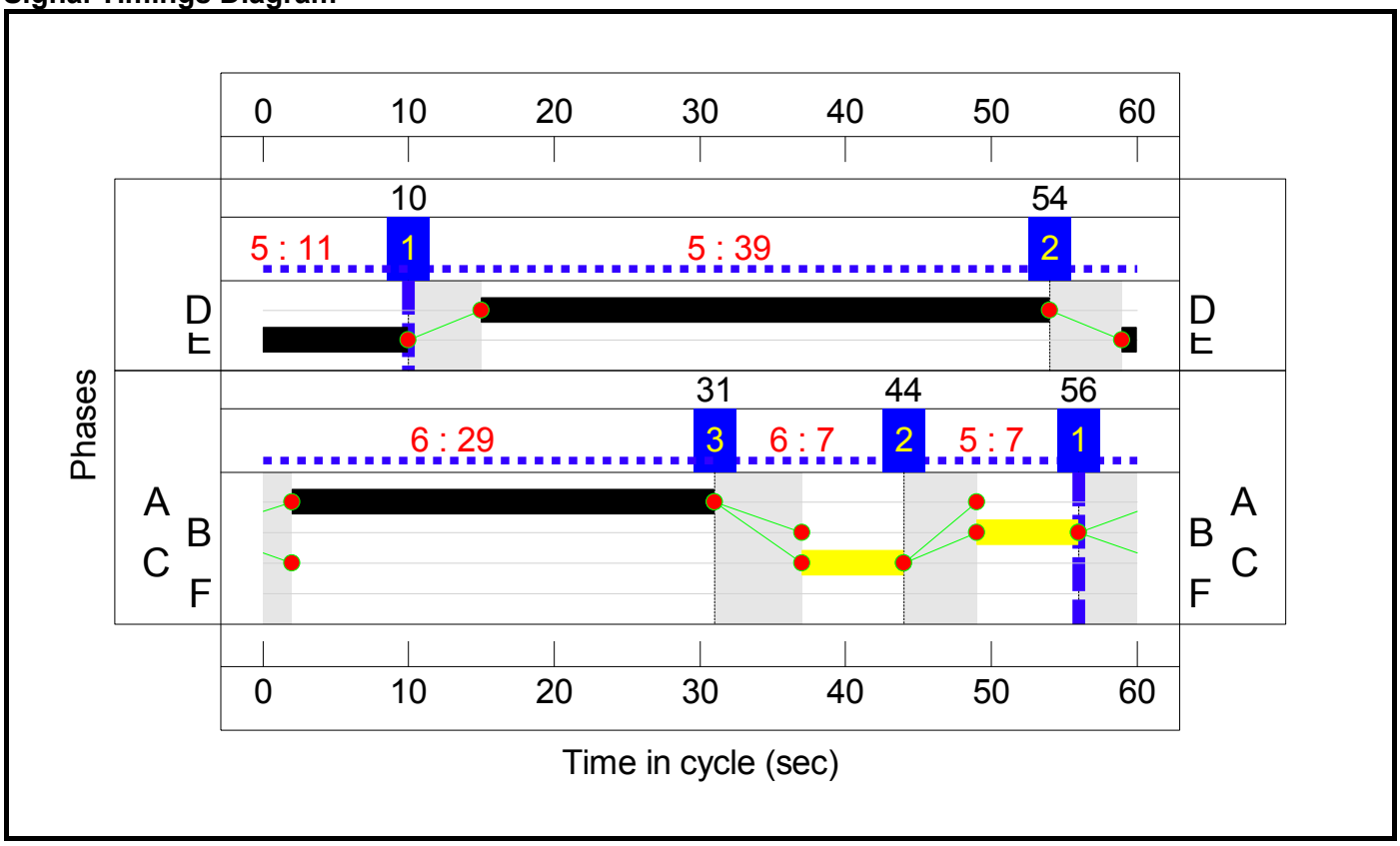
Stage Stream: 1

Stage	1	2
Duration	39	11
Change Point	10	54

Stage Stream: 2

Stage	1	3	2
Duration	29	7	7
Change Point	56	31	44

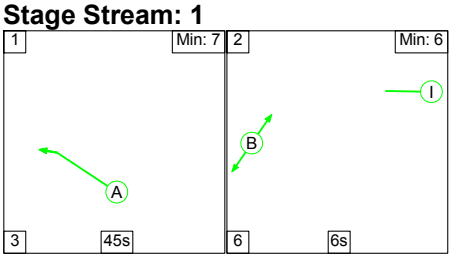
Signal Timings Diagram



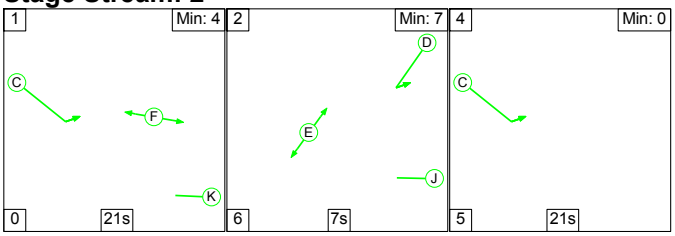
C2 - A34/New Development 735

Stage Sequence Diagram

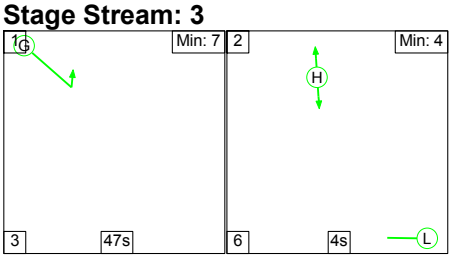
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	45	6
Change Point	10	58

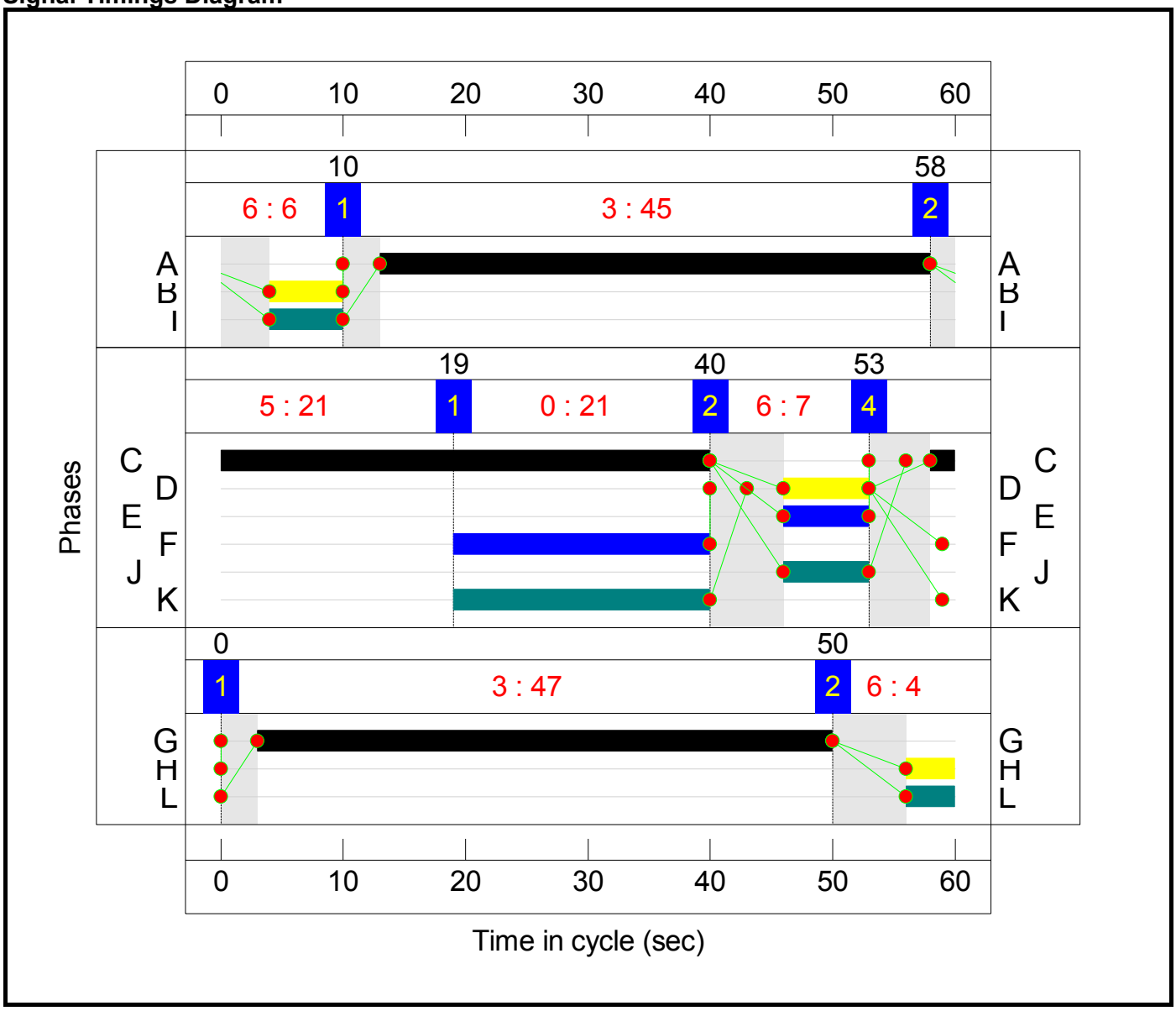
Stage Stream: 2

Stage	1	2	4
Duration	21	7	21
Change Point	19	40	53

Stage Stream: 3

Stage	1	2
Duration	47	4
Change Point	0	50

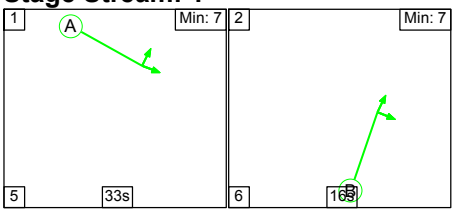
Signal Timings Diagram



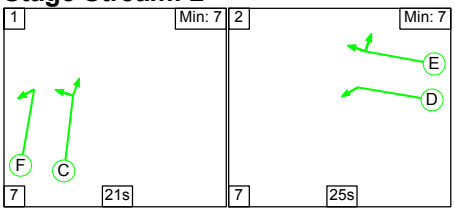
C3 - M42 Junction 4 (BVP) 735

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

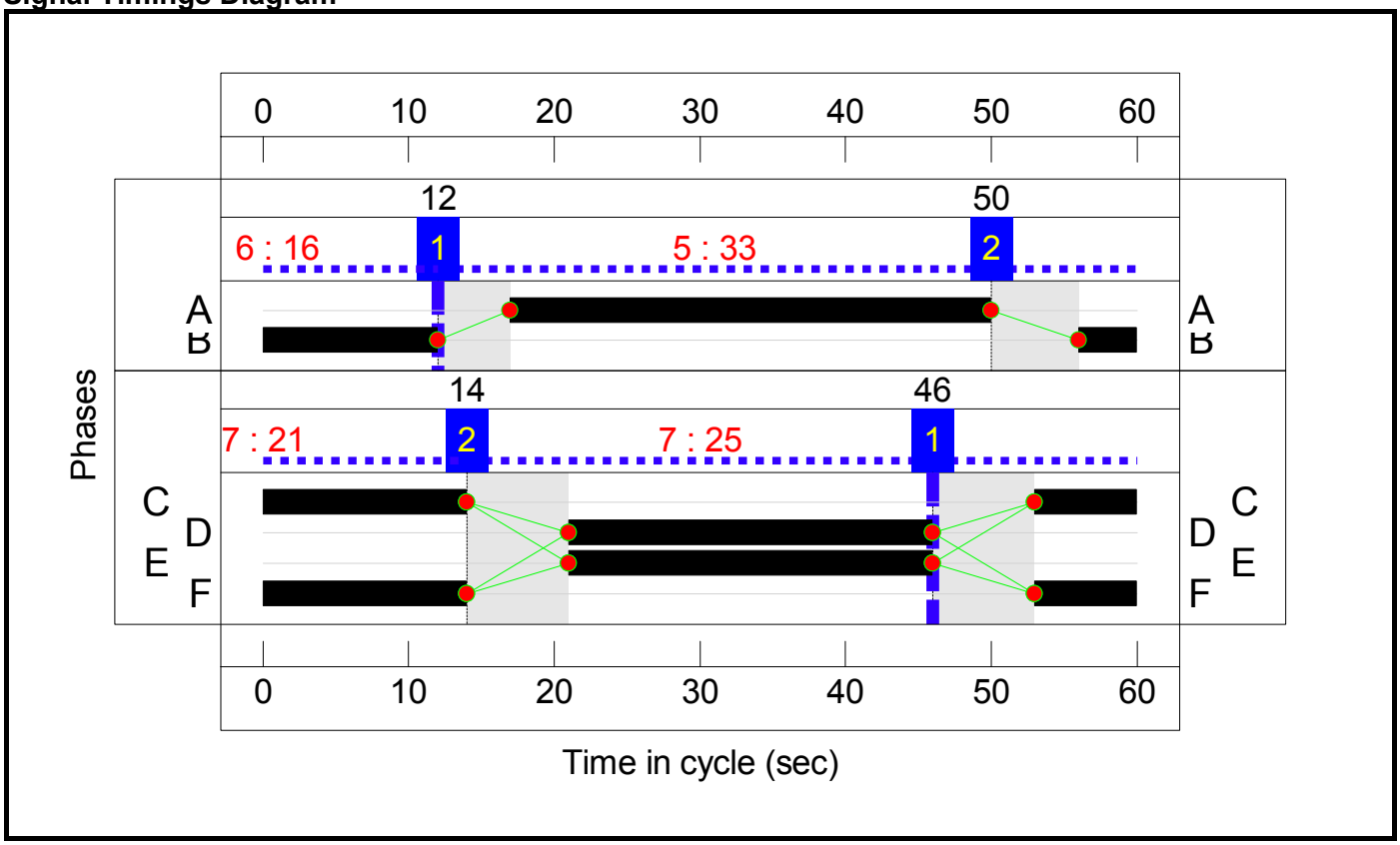
Stage Stream: 1

Stage	1	2
Duration	33	16
Change Point	12	50

Stage Stream: 2

Stage	1	2
Duration	21	25
Change Point	46	14

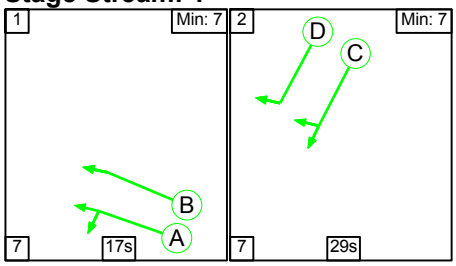
Signal Timings Diagram



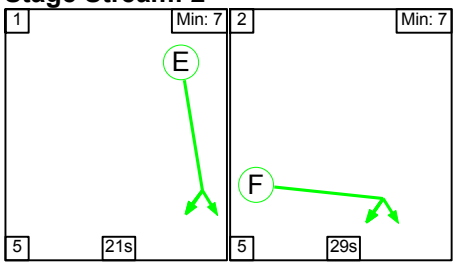
C4 - M42 / A3400/ M42 S/B Off Slip Road 736

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

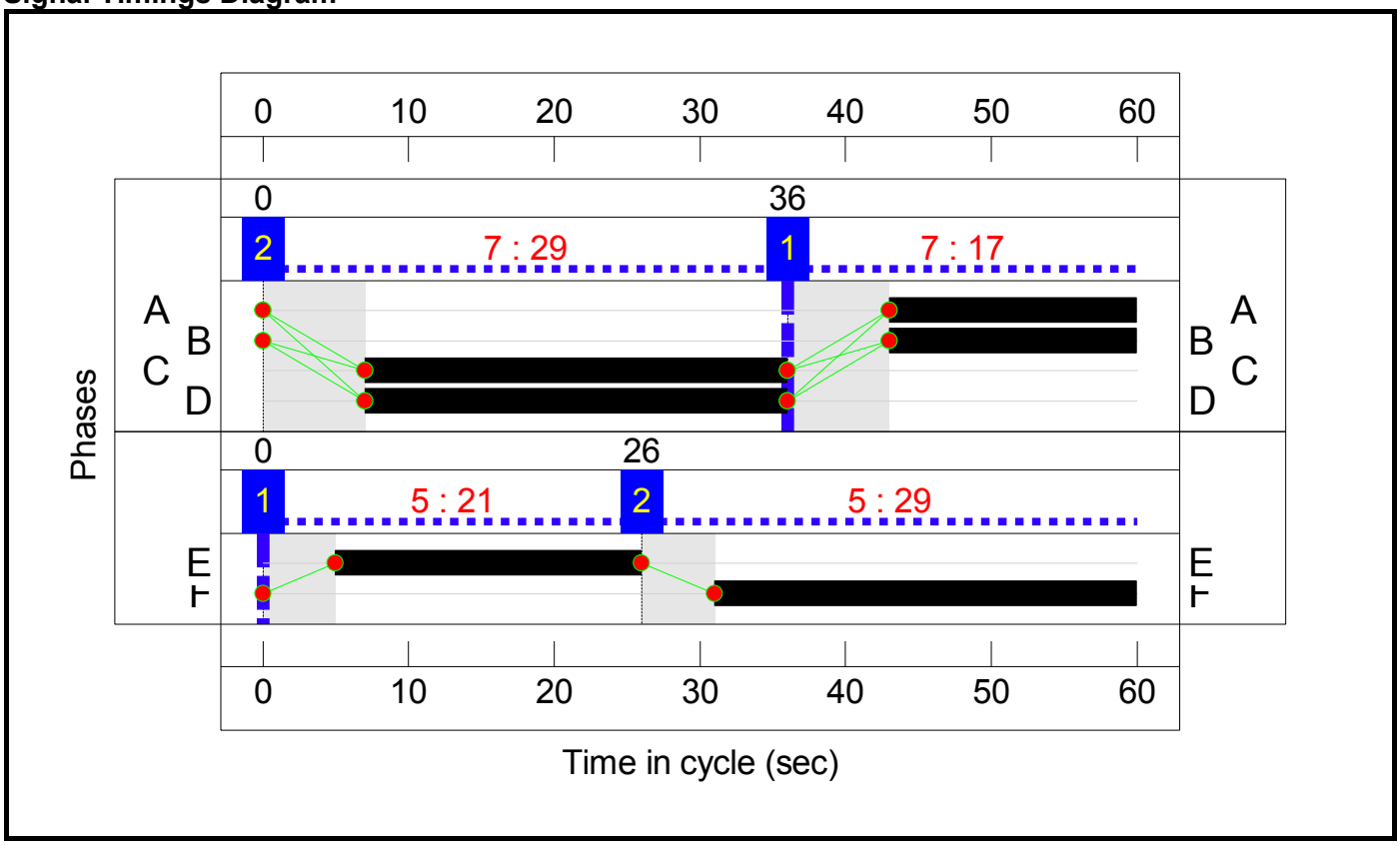
Stage Stream: 1

Stage	1	2
Duration	17	29
Change Point	36	0

Stage Stream: 2

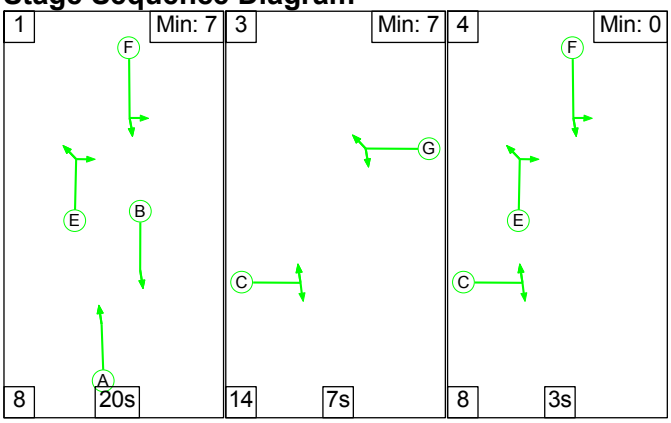
Stage	1	2
Duration	21	29
Change Point	0	26

Signal Timings Diagram



C5 - A3400/Exit Road/Gate Lane/M42 737

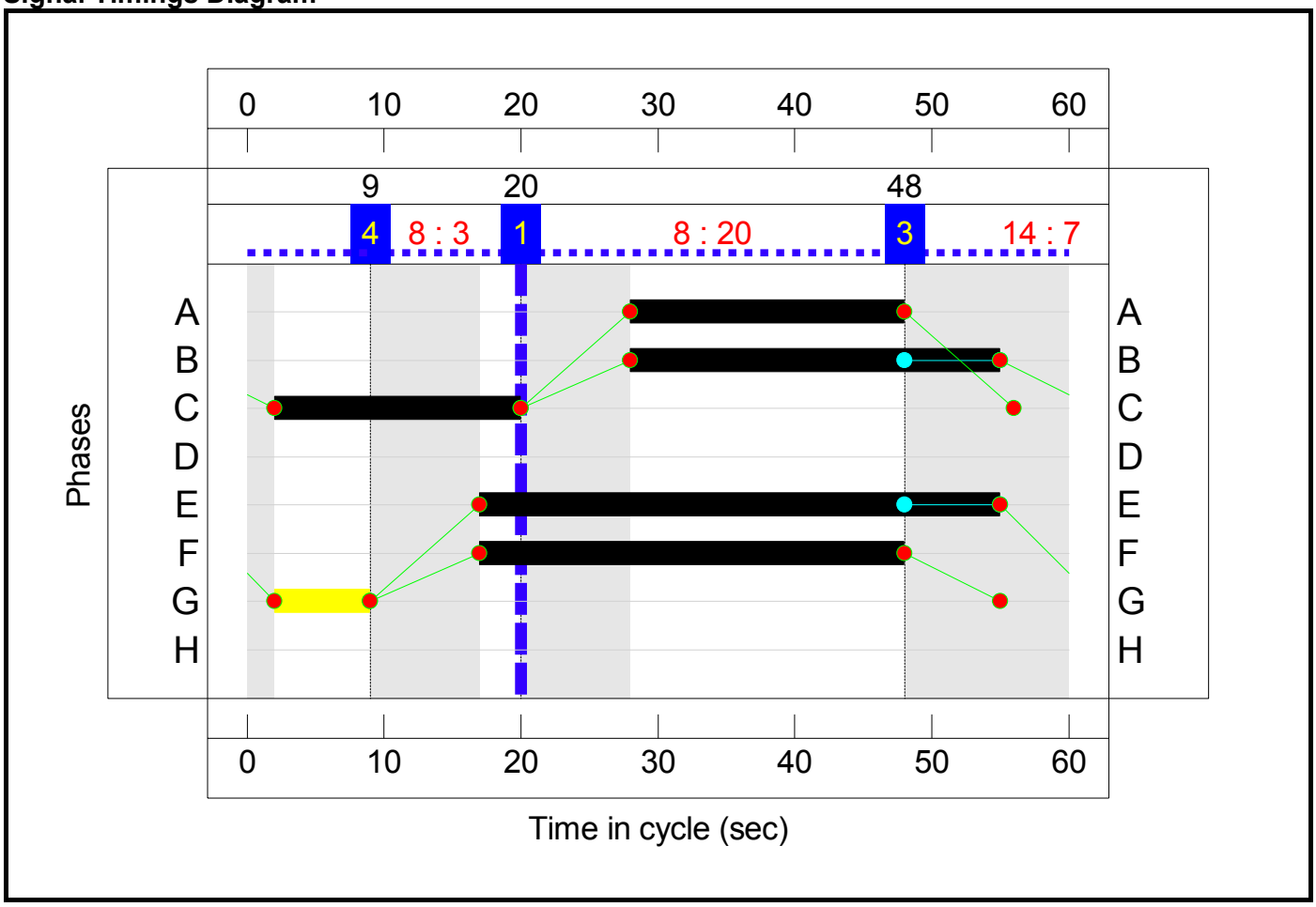
Stage Sequence Diagram



Stage Timings

Stage	1	3	4
Duration	20	7	3
Change Point	20	48	9

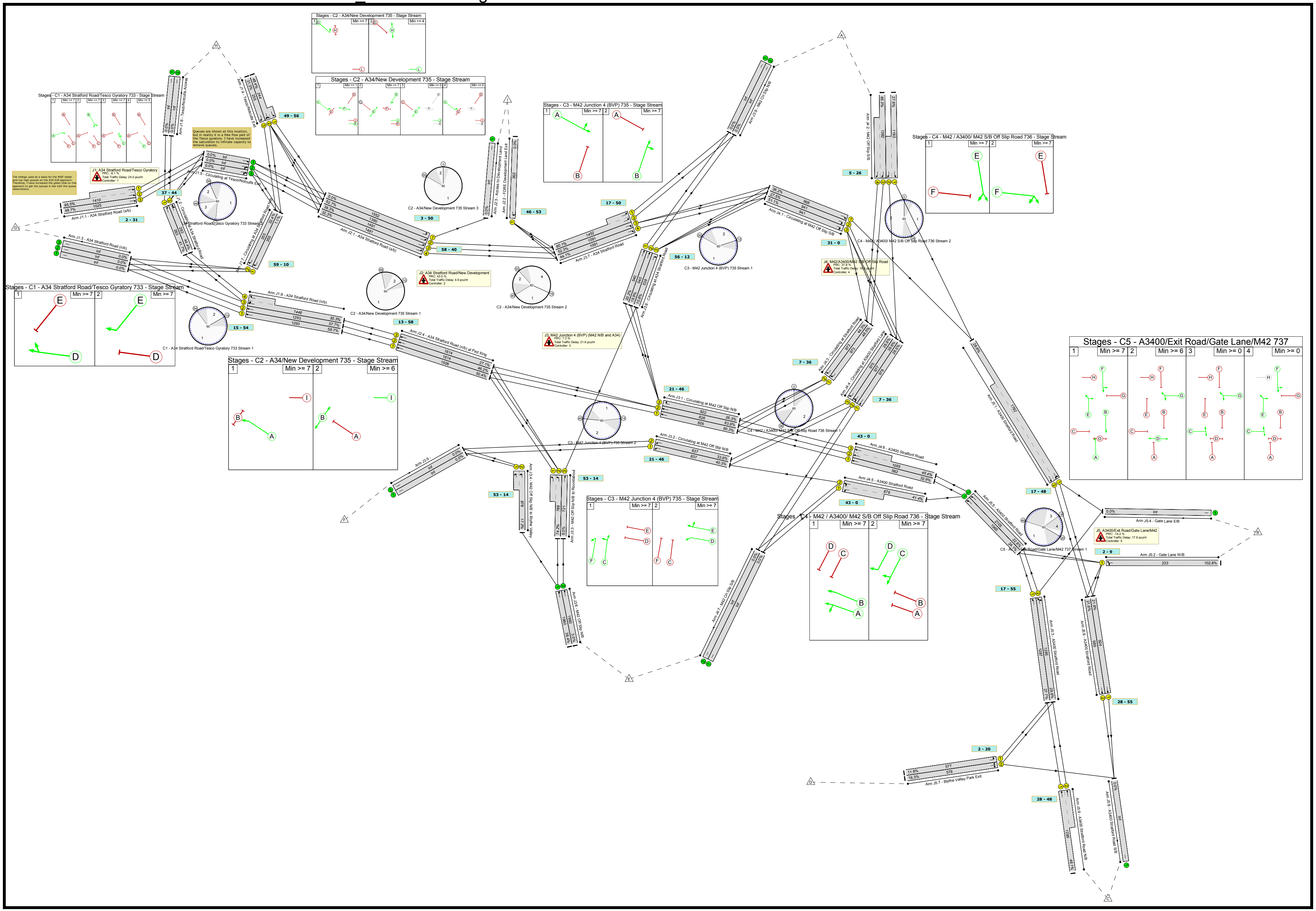
Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format

M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 4	-	-	-	**102.8%**	-	-
J1: A34 Stratford Road/Tesco Gyratory	-	-	-	**95.5%**	-	-
1/2+1/1	A34 Stratford Road (s/b) Ahead	1346	2050:1915	95.5%	34.3	20.7
1/3	A34 Stratford Road (s/b) Ahead	499	2050	48.7%	13.3	5.9
2/1	Circulating at A34 Stratford Road Ahead	110	1973	41.7%	32.1	2.2
2/2	Circulating at A34 Stratford Road Right Ahead	117	1973	44.4%	27.4	2.2
4/2+4/1	Tesco/Notcutts Exit Ahead Left	118	1915:1965	48.4%	38.2	2.3
4/3	Tesco/Notcutts Exit Ahead	80	1915	31.3%	33.8	1.4
7/1	Circulating at A34 Stratford Road N/B Right	4	1773	1.1%	6.3	0.0
7/2	Circulating at A34 Stratford Road N/B Right	115	1773	32.4%	20.3	1.9
8/1	A34 Stratford Road (n/b) Ahead	760	1940	58.7%	11.1	8.9
8/2	A34 Stratford Road (n/b) Ahead	746	1940	57.7%	7.4	9.9
8/3+8/4	A34 Stratford Road (n/b) Right Ahead	439	1940:1940	30.3%	7.4	2.2
J2: A34 Stratford Road/New Development	-	-	-	**62.7%**	-	-
1/1	A34 Stratford Road (s/b) Left	0	1940	0.0%	0.0	0.0
1/2	A34 Stratford Road (s/b) Ahead	872	1940	62.7%	6.0	3.5
1/3	A34 Stratford Road (s/b) Ahead	571	2080	38.3%	3.7	1.6
1/4	A34 Stratford Road (s/b) Ahead	481	2080	32.3%	3.6	1.4
2/1	FORE Development Land Exit Left	0	1965	0.0%	0.0	0.0
4/1	A34 Stratford Road (n/b) at Ped Xing Ahead	760	1965	50.4%	5.0	3.9
4/2	A34 Stratford Road (n/b) at Ped Xing Ahead	746	2105	46.2%	4.8	7.1
4/3	A34 Stratford Road (n/b) at Ped Xing Ahead	439	2105	27.1%	2.5	1.1
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	-	-	**83.9%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	665	1907	80.3%	20.3	7.4
1/2	Circulating at M42 Off Slip N/B Ahead	695	1907	83.9%	24.2	10.5
1/3	Circulating at M42 Off Slip N/B Right	218	1898	26.3%	22.6	3.7

2/1	Circulating at M42 Off Slip N/B Ahead	338	1932	40.3%	15.0	3.4
2/2	Circulating at M42 Off Slip N/B Ahead	281	1932	33.6%	3.6	0.8
3/2+3/1	M42 Off Slip N/B to Roundabout Left	585	1915:1915	74.2%	24.3	8.4
3/3	M42 Off Slip N/B to Roundabout Ahead	58	1965	8.0%	15.2	0.7
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	168	1881:1881	17.2%	14.9	1.0
6/1	M42 Off Slip N/B Ahead Ahead2	753	1960	38.4%	1.5	0.3
6/2	M42 Off Slip N/B Ahead	58	1960	3.0%	0.9	0.0
7/2+7/1	A34 Stratford Road Ahead	872	1914:1914	60.1%	5.8	2.7
7/3	A34 Stratford Road Ahead	571	1925	52.3%	5.8	2.8
7/4	A34 Stratford Road Ahead	481	1925	44.1%	5.2	2.1
8/1	Circulating at A34 Stratford Road Ahead	110	1905	20.2%	29.3	1.9
8/2	Circulating at A34 Stratford Road Ahead	108	1905	19.9%	29.2	1.9
8/3	Circulating at A34 Stratford Road Right	58	1900	10.8%	12.2	0.3
J4: M42/A3400/M42 S/B Off Slip Road	**-**	**-**	**-**	**65.3%**	**-**	**-**
1/1	Circulating at M42 Off Slip S/B Ahead	370	1936	38.2%	8.1	2.6
1/2	Circulating at M42 Off Slip S/B Right	259	1881	27.5%	6.0	1.3
1/3	Circulating at M42 Off Slip S/B Right Right2	481	1881	51.1%	7.2	2.7
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	329	1867:1914	27.6%	15.3	2.4
2/3+2/4	M42 Off Slip S/B Ahead	903	1885:1885	65.3%	19.6	7.5
3/1	Circulating at Stratford Road Right	472	1945	48.5%	6.4	1.3
3/2	Circulating at Stratford Road Right	431	1945	44.3%	6.0	1.1
4/1	Circulating at A3400 Stratford Lane Ahead	259	1957	26.5%	16.1	4.3
4/2	Circulating at A3400 Stratford Lane Right Ahead	387	1953	39.6%	9.9	3.6
4/3	Circulating at A3400 Stratford Lane Right	281	1949	28.8%	15.7	4.7
5/2+5/1	A3400 Stratford Road Ahead Left	283	1942:1922	41.4%	21.9	3.1
6/1	A3400 Stratford Road Ahead	193	1941	32.9%	23.3	2.7
6/2+6/3	A3400 Stratford Road Ahead	482	1941:1932	45.4%	22.8	3.8
J5: A3400/Exit Road/Gate Lane/M42	**-**	**-**	**-**	**102.8%**	**-**	**-**
1/1+1/2	A3400 Stratford Road Left Ahead	512	1893:1975	28.6%	8.7	3.0

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

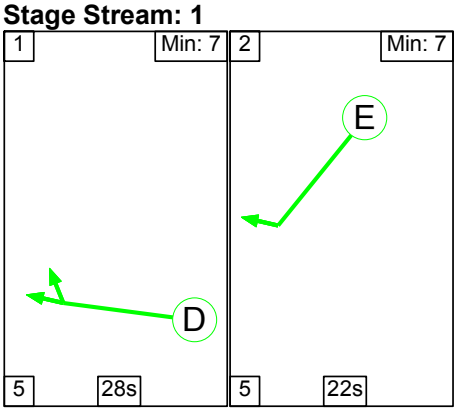
2/1	Gate Lane W/B Right Left	240	1751	102.8%	172.3	13.7
3/1	A3400 Stratford Road Ahead	356	1980	27.7%	3.8	1.4
3/2	A3400 Stratford Road Right Ahead	381	1977	29.6%	3.9	1.5
5/1	A3400 Stratford Road Ahead Ahead2	476	1965	24.1%	1.2	0.2
5/2	A3400 Stratford Road Ahead	482	2105	22.8%	1.1	0.1
6/1	A3400 Stratford Road Ahead	202	1980	21.9%	3.9	0.7
6/2	A3400 Stratford Road Ahead	214	2120	21.6%	3.3	1.3
7/1	Blythe Valley Park Exit Left	68	1823	11.8%	18.1	0.9
7/2	Blythe Valley Park Exit Left Right	94	1826	16.3%	18.5	1.2
9/1+9/2	A3400 Stratford Road N/B Ahead	597	1965:2105	46.1%	17.4	4.3

C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 1 PRC for Signalled Lanes (%):	53.4	Total Delay for Signalled Lanes (pcuHr):	5.41	
C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 2 PRC for Signalled Lanes (%):	-6.1	Total Delay for Signalled Lanes (pcuHr):	18.55	
C2 - A34/New Development 735	Stream: 1 PRC for Signalled Lanes (%):	78.7	Total Delay for Signalled Lanes (pcuHr):	2.35	
C2 - A34/New Development 735	Stream: 2 PRC for Signalled Lanes (%):	43.5	Total Delay for Signalled Lanes (pcuHr):	2.52	
C2 - A34/New Development 735	Stream: 3 PRC for Signalled Lanes (%):	Inf	Total Delay for Signalled Lanes (pcuHr):	0.00	
C3 - M42 Junction 4 (BVP) 735	Stream: 1 PRC for Signalled Lanes (%):	49.9	Total Delay for Signalled Lanes (pcuHr):	4.98	
C3 - M42 Junction 4 (BVP) 735	Stream: 2 PRC for Signalled Lanes (%):	7.3	Total Delay for Signalled Lanes (pcuHr):	16.33	
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 1 PRC for Signalled Lanes (%):	85.4	Total Delay for Signalled Lanes (pcuHr):	11.00	
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 2 PRC for Signalled Lanes (%):	37.8	Total Delay for Signalled Lanes (pcuHr):	8.54	
C5 - A3400/Exit Road/Gate Lane/M42 737	PRC for Signalled Lanes (%):	-14.2	Total Delay for Signalled Lanes (pcuHr):	17.64	
	PRC Over All Lanes (%):	-14.2	Total Delay Over All Lanes(pcuHr):	87.94	Cycle Time (s): 60

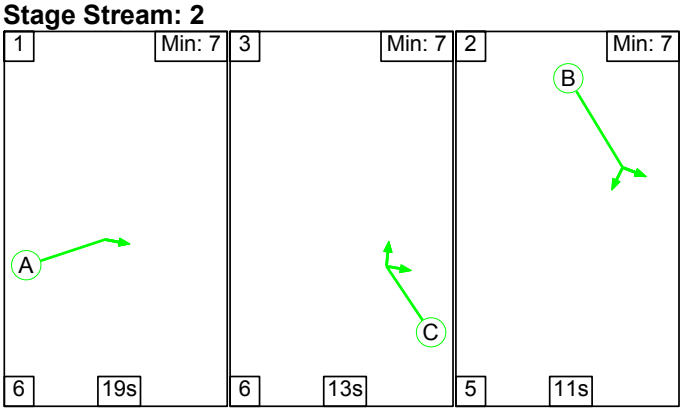
Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Scenario 2: '2008 PM Peak Base Calibration' (FG2: '2008 PM Peak Base', Plan 1: 'Network Control Plan 1')
C1 - A34 Stratford Road/Tesco Gyratory 733

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

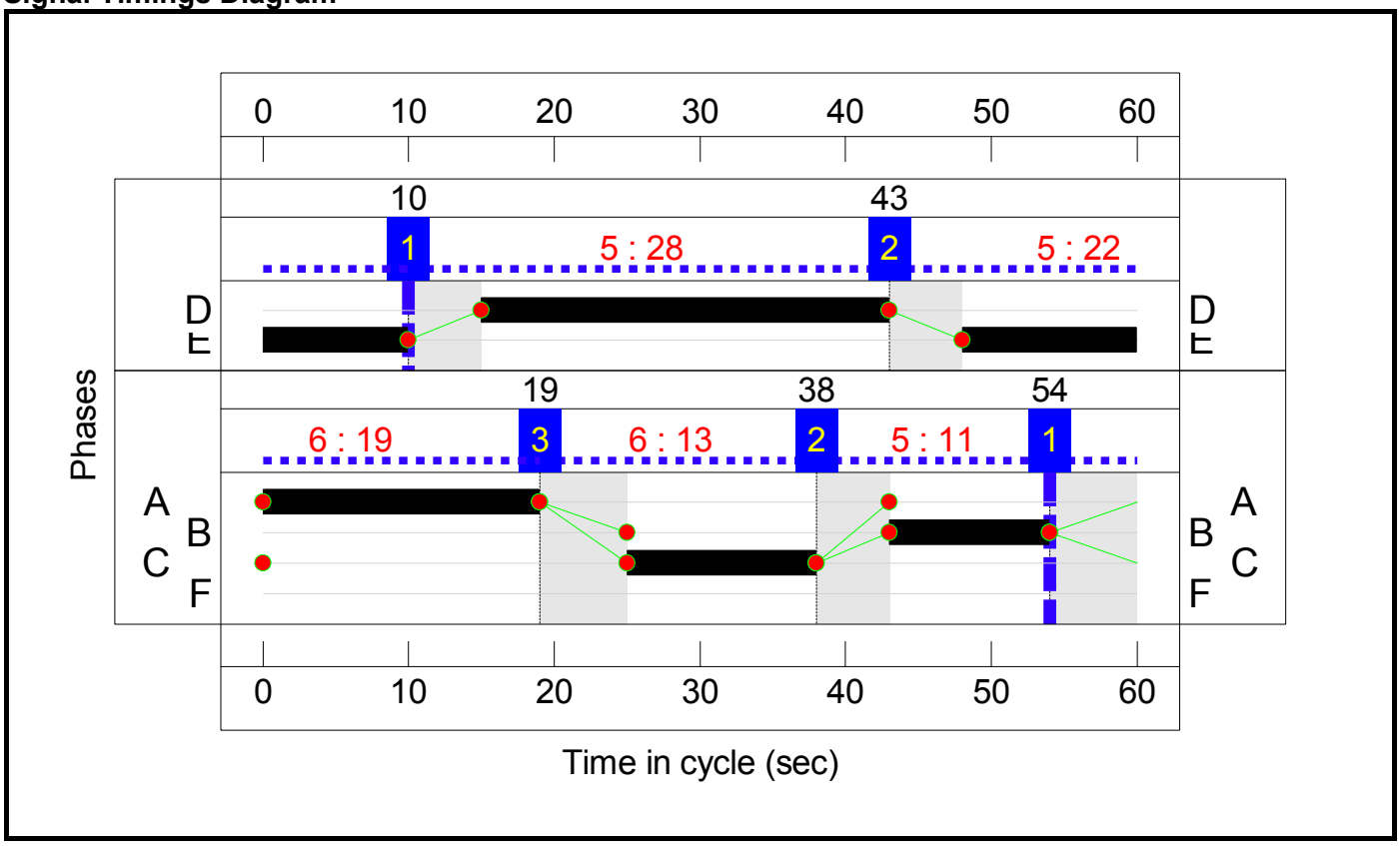
Stage Stream: 1

Stage	1	2
Duration	28	22
Change Point	10	43

Stage Stream: 2

Stage	1	3	2
Duration	19	13	11
Change Point	54	19	38

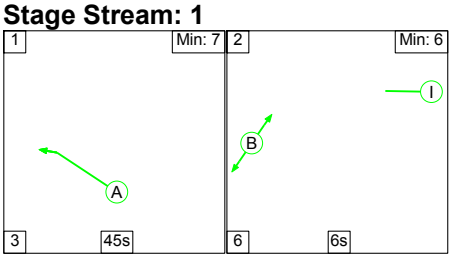
Signal Timings Diagram



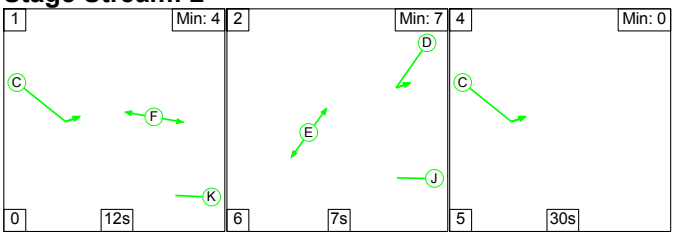
C2 - A34/New Development 735

Stage Sequence Diagram

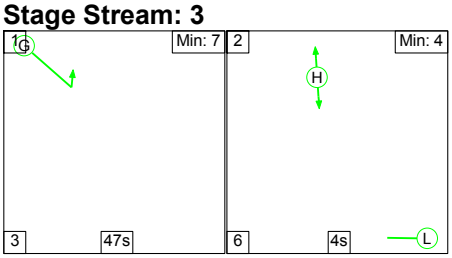
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	45	6
Change Point	49	37

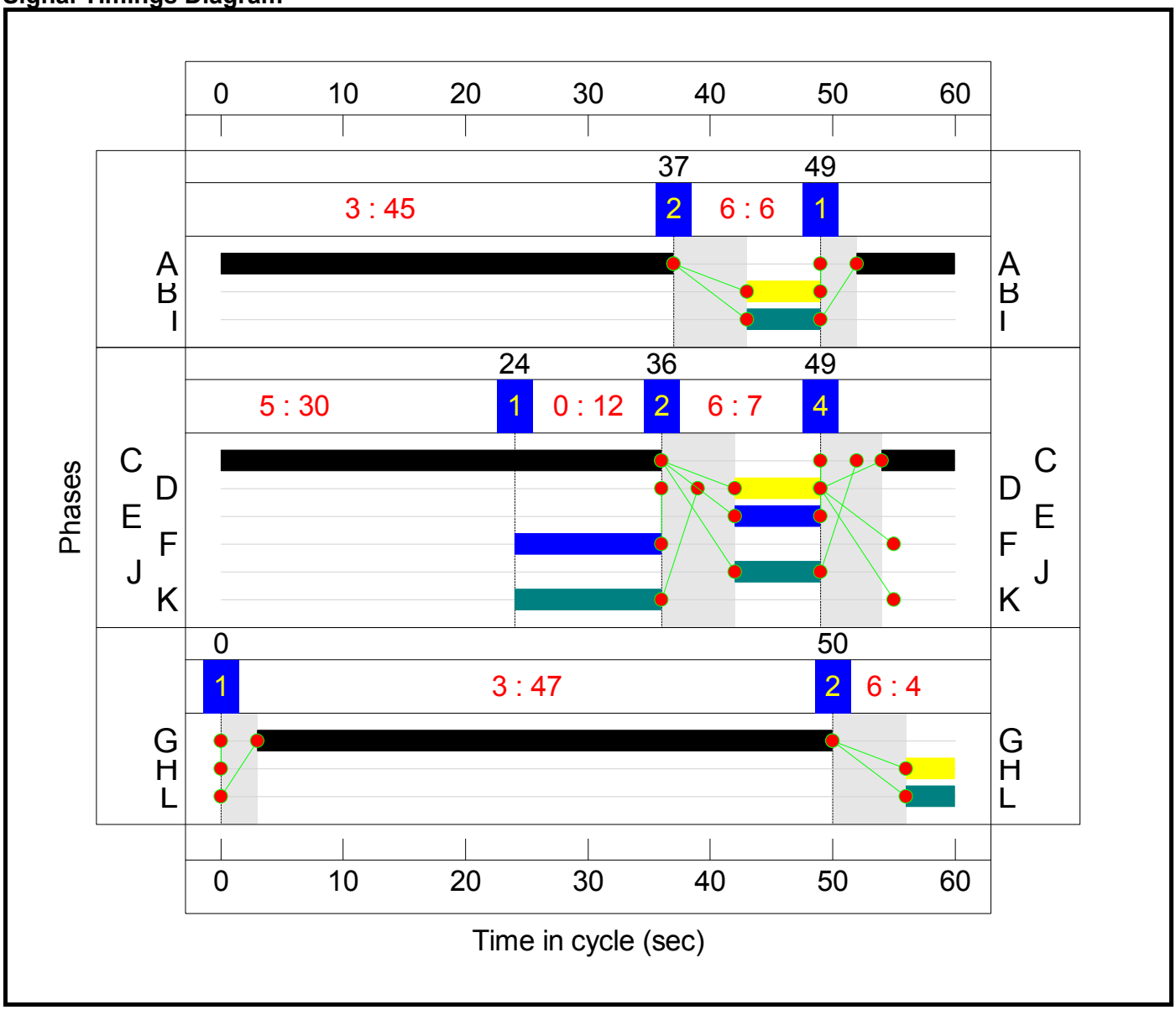
Stage Stream: 2

Stage	1	2	4
Duration	12	7	30
Change Point	24	36	49

Stage Stream: 3

Stage	1	2
Duration	47	4
Change Point	0	50

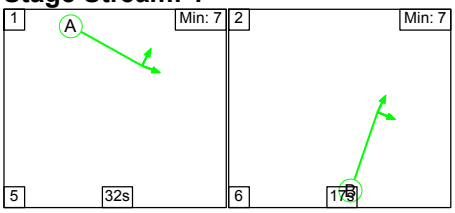
Signal Timings Diagram



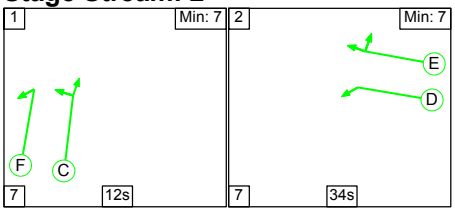
C3 - M42 Junction 4 (BVP) 735

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

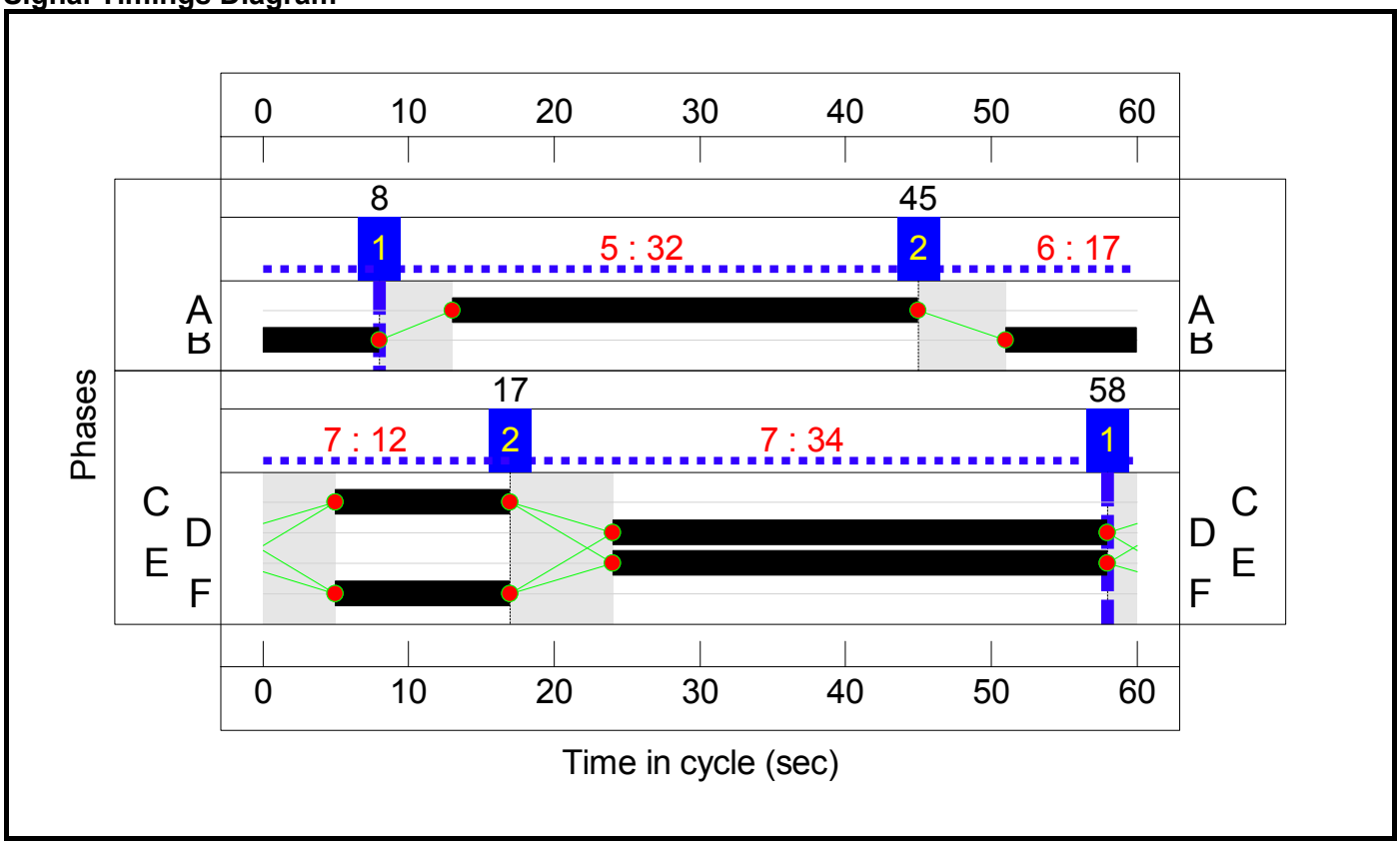
Stage Stream: 1

Stage	1	2
Duration	32	17
Change Point	8	45

Stage Stream: 2

Stage	1	2
Duration	12	34
Change Point	58	17

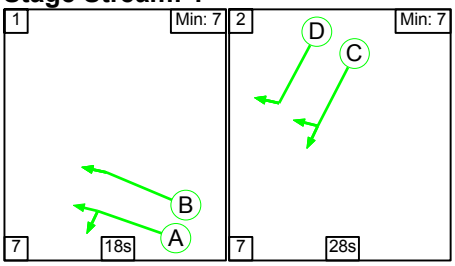
Signal Timings Diagram



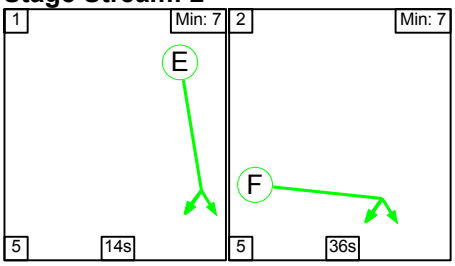
C4 - M42 / A3400/ M42 S/B Off Slip Road 736

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

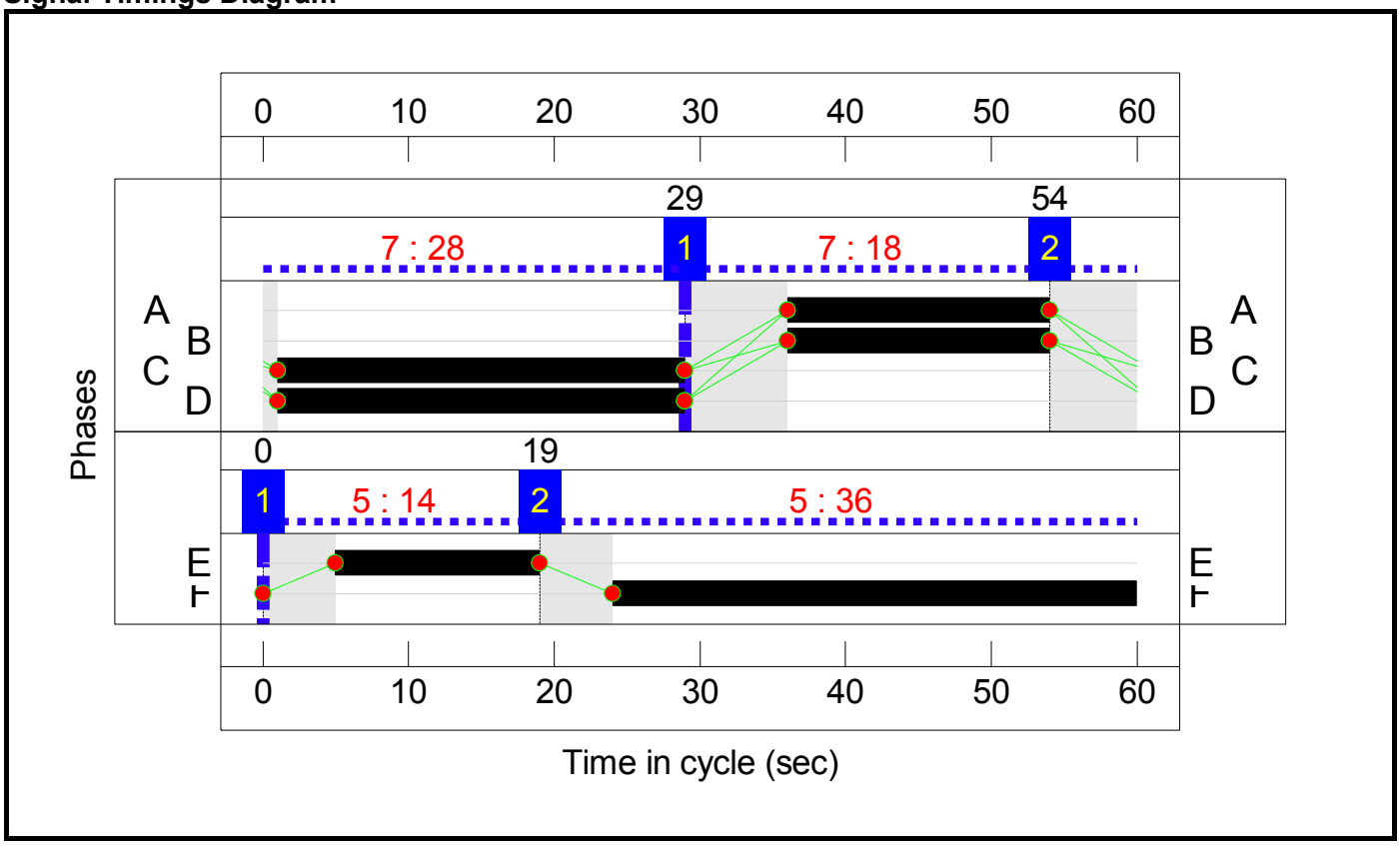
Stage Stream: 1

Stage	1	2
Duration	18	28
Change Point	29	54

Stage Stream: 2

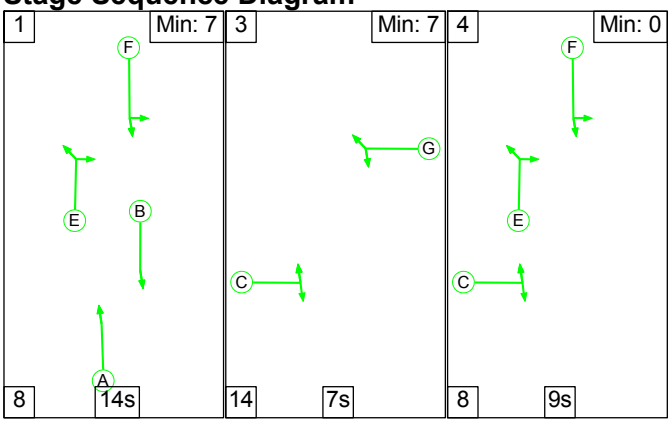
Stage	1	2
Duration	14	36
Change Point	0	19

Signal Timings Diagram



C5 - A3400/Exit Road/Gate Lane/M42 737

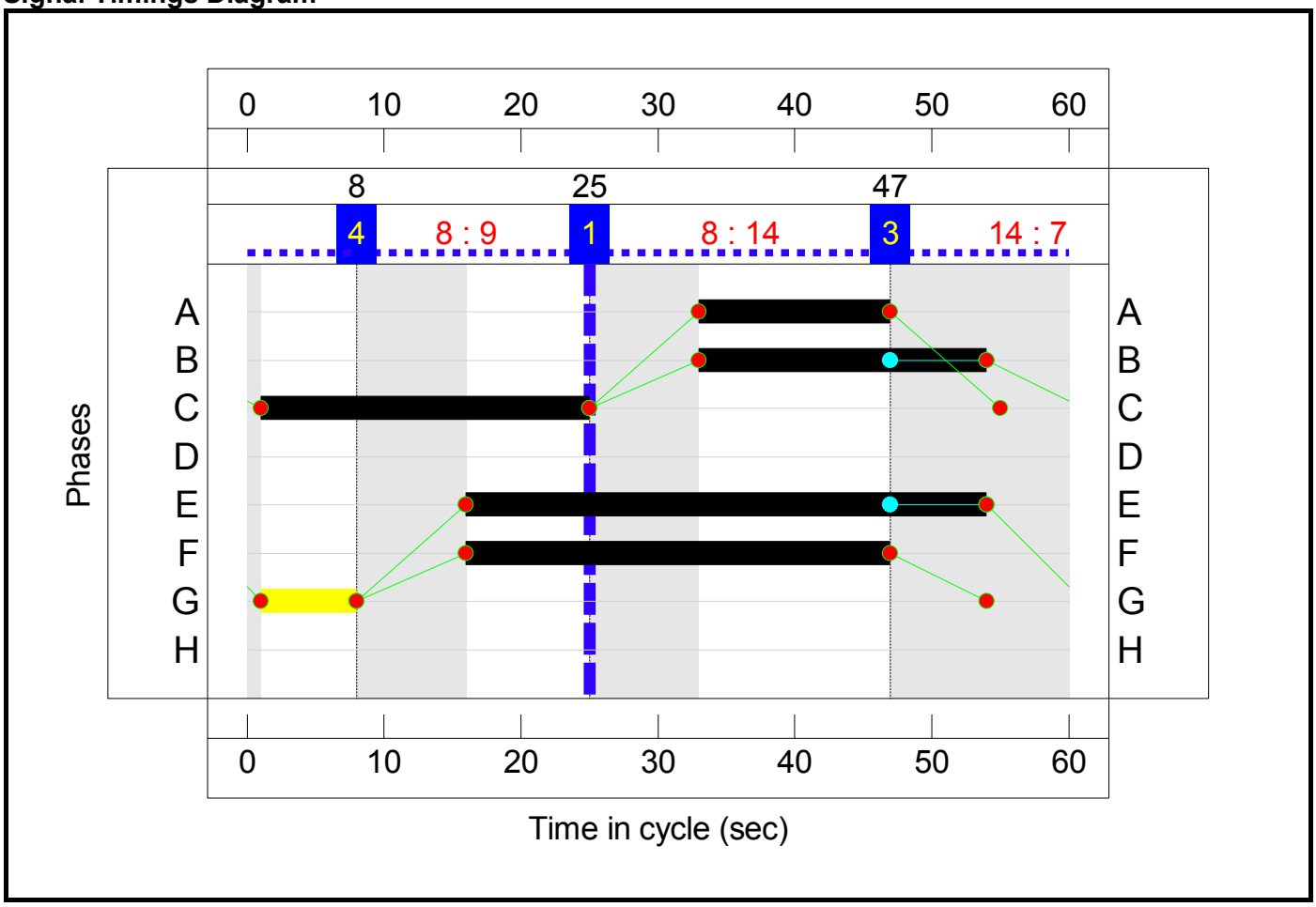
Stage Sequence Diagram



Stage Timings

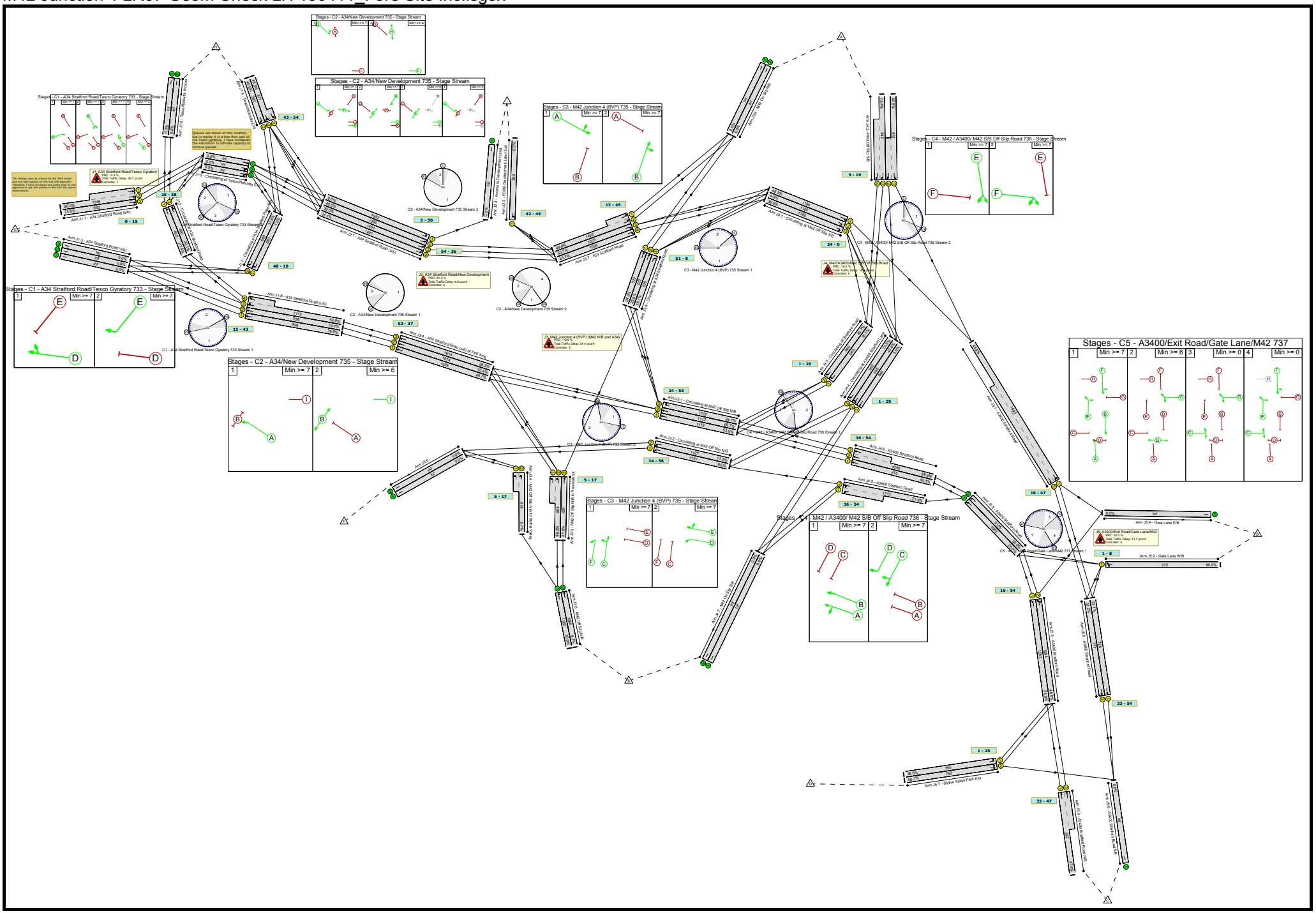
Stage	1	3	4
Duration	14	7	9
Change Point	25	47	8

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 4	-	-	-	**99.5%**	-	-
J1: A34 Stratford Road/Tesco Gyratory	-	-	-	**90.2%**	-	-
1/2+1/1	A34 Stratford Road (s/b) Ahead	1034	2050:1915	90.2%	33.2	13.4
1/3	A34 Stratford Road (s/b) Ahead	503	2050	73.6%	27.5	8.8
2/1	Circulating at A34 Stratford Road Ahead	126	1973	27.4%	13.6	1.4
2/2	Circulating at A34 Stratford Road Right Ahead	134	1973	29.1%	18.2	2.0
4/2+4/1	Tesco/Notcutts Exit Ahead Left	172	1915:1965	46.3%	30.1	2.9
4/3	Tesco/Notcutts Exit Ahead	155	1915	40.5%	28.8	2.6
7/1	Circulating at A34 Stratford Road N/B Right	8	1773	1.2%	2.8	0.0
7/2	Circulating at A34 Stratford Road N/B Right	216	1773	31.8%	11.7	1.2
8/1	A34 Stratford Road (n/b) Ahead	748	1940	79.8%	20.9	13.8
8/2	A34 Stratford Road (n/b) Ahead	700	1940	74.7%	15.9	8.5
8/3+8/4	A34 Stratford Road (n/b) Right Ahead	455	1940:1940	40.9%	10.6	7.5
J2: A34 Stratford Road/New Development	-	-	-	**49.7%**	-	-
1/1	A34 Stratford Road (s/b) Left	0	1940	0.0%	0.0	0.0
1/2	A34 Stratford Road (s/b) Ahead	640	1940	46.0%	3.2	1.1
1/3	A34 Stratford Road (s/b) Ahead	537	2080	36.0%	2.4	0.6
1/4	A34 Stratford Road (s/b) Ahead	463	2080	31.1%	2.4	0.6
2/1	FORE Development Land Exit Left	0	1965	0.0%	0.0	0.0
4/1	A34 Stratford Road (n/b) at Ped Xing Ahead	748	1965	49.7%	6.3	6.8
4/2	A34 Stratford Road (n/b) at Ped Xing Ahead	700	2105	43.4%	4.1	4.2
4/3	A34 Stratford Road (n/b) at Ped Xing Ahead	455	2105	28.2%	5.1	3.7
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	-	-	**99.5%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	595	1907	53.5%	7.5	3.0
1/2	Circulating at M42 Off Slip N/B Ahead	742	1907	66.7%	10.2	5.3
1/3	Circulating at M42 Off Slip N/B Right	273	1898	24.7%	8.2	1.5

2/1	Circulating at M42 Off Slip N/B Ahead	108	1932	9.6%	3.5	0.3
2/2	Circulating at M42 Off Slip N/B Ahead	127	1932	11.3%	7.7	1.9
3/2+3/1	M42 Off Slip N/B to Roundabout Left	566	1915:1915	99.5%	94.1	18.0
3/3	M42 Off Slip N/B to Roundabout Ahead	92	1965	21.6%	24.7	1.4
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	39	1881:1881	5.7%	21.6	0.3
6/1	M42 Off Slip N/B Ahead Ahead2	605	1960	30.9%	1.3	0.2
6/2	M42 Off Slip N/B Ahead	92	1960	4.7%	1.0	0.0
7/2+7/1	A34 Stratford Road Ahead	640	1914:1914	45.0%	4.6	1.4
7/3	A34 Stratford Road Ahead	537	1925	50.7%	5.6	2.3
7/4	A34 Stratford Road Ahead	463	1925	43.7%	5.2	1.5
8/1	Circulating at A34 Stratford Road Ahead	137	1905	24.0%	10.6	0.9
8/2	Circulating at A34 Stratford Road Ahead	136	1905	23.8%	10.6	0.9
8/3	Circulating at A34 Stratford Road Right	92	1900	16.1%	38.1	1.6
J4: M42/A3400/M42 S/B Off Slip Road	-	-	-	**75.6%**	-	-
1/1	Circulating at M42 Off Slip S/B Ahead	577	1936	48.3%	6.6	2.9
1/2	Circulating at M42 Off Slip S/B Right	52	1881	4.5%	5.4	0.2
1/3	Circulating at M42 Off Slip S/B Right Right2	463	1881	39.9%	3.6	0.7
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	260	1867:1914	42.6%	23.7	3.1
2/3+2/4	M42 Off Slip S/B Ahead	713	1885:1885	75.6%	28.6	7.5
3/1	Circulating at Stratford Road Right	330	1945	35.1%	7.8	1.2
3/2	Circulating at Stratford Road Right	383	1945	40.7%	9.1	1.7
4/1	Circulating at A3400 Stratford Lane Ahead	52	1957	5.5%	17.2	0.8
4/2	Circulating at A3400 Stratford Lane Right Ahead	397	1956	42.0%	10.5	5.4
4/3	Circulating at A3400 Stratford Lane Right	127	1949	13.5%	9.3	1.4
5/2+5/1	A3400 Stratford Road Ahead Left	243	1936:1922	21.9%	16.3	1.8
6/1	A3400 Stratford Road Ahead	265	1941	43.1%	16.7	3.8
6/2+6/3	A3400 Stratford Road Ahead	632	1941:1932	59.8%	21.0	6.3
J5: A3400/Exit Road/Gate Lane/M42	-	-	-	**60.0%**	-	-
1/1+1/2	A3400 Stratford Road Left Ahead	776	1854:1975	45.8%	10.4	5.8

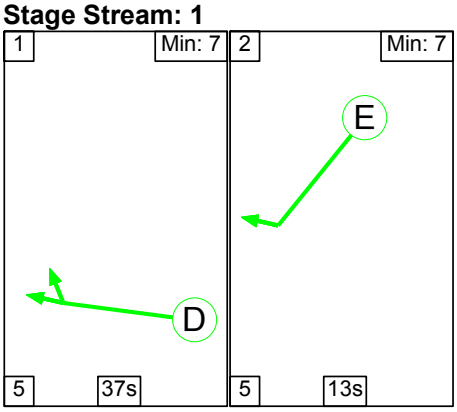
2/1	Gate Lane W/B Right Left	140	1750	60.0%	43.5	2.9
3/1	A3400 Stratford Road Ahead	449	1980	34.9%	5.4	4.1
3/2	A3400 Stratford Road Right Ahead	584	1975	45.5%	5.2	4.5
5/1	A3400 Stratford Road Ahead Ahead2	508	1965	25.9%	1.2	0.2
5/2	A3400 Stratford Road Ahead	632	2105	30.0%	1.2	0.2
6/1	A3400 Stratford Road Ahead	240	1980	33.1%	7.6	2.5
6/2	A3400 Stratford Road Ahead	289	2120	37.2%	8.4	4.1
7/1	Blythe Valley Park Exit Left	278	1823	36.6%	15.8	3.5
7/2	Blythe Valley Park Exit Left Right	427	1828	56.1%	18.7	6.0
9/1+9/2	A3400 Stratford Road N/B Ahead	475	1965:2105	57.8%	24.5	5.1

C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 1 PRC for Signalled Lanes (%):	12.8	Total Delay for Signalled Lanes (pcuHr):	9.48	
C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 2 PRC for Signalled Lanes (%):	-0.3	Total Delay for Signalled Lanes (pcuHr):	17.20	
C2 - A34/New Development 735	Stream: 1 PRC for Signalled Lanes (%):	81.3	Total Delay for Signalled Lanes (pcuHr):	2.75	
C2 - A34/New Development 735	Stream: 2 PRC for Signalled Lanes (%):	95.5	Total Delay for Signalled Lanes (pcuHr):	1.23	
C2 - A34/New Development 735	Stream: 3 PRC for Signalled Lanes (%):	Inf	Total Delay for Signalled Lanes (pcuHr):	0.00	
C3 - M42 Junction 4 (BVP) 735	Stream: 1 PRC for Signalled Lanes (%):	77.4	Total Delay for Signalled Lanes (pcuHr):	4.11	
C3 - M42 Junction 4 (BVP) 735	Stream: 2 PRC for Signalled Lanes (%):	-10.6	Total Delay for Signalled Lanes (pcuHr):	20.01	
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 1 PRC for Signalled Lanes (%):	50.4	Total Delay for Signalled Lanes (pcuHr):	9.43	
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 2 PRC for Signalled Lanes (%):	19.0	Total Delay for Signalled Lanes (pcuHr):	8.98	
C5 - A3400/Exit Road/Gate Lane/M42 737	PRC for Signalled Lanes (%):	50.0	Total Delay for Signalled Lanes (pcuHr):	13.29	
	PRC Over All Lanes (%):	-10.6	Total Delay Over All Lanes(pcuHr):	87.12	Cycle Time (s): 60

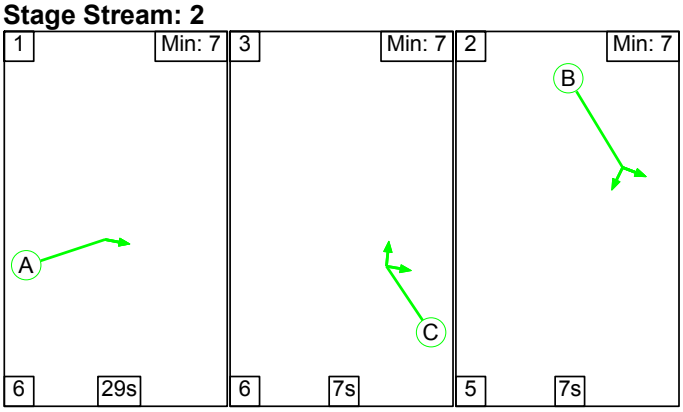
Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Scenario 5: '2016 AM Peak Base' (FG5: '2016 AM Peak Base', Plan 1: 'Network Control Plan 1')
C1 - A34 Stratford Road/Tesco Gyratory 733

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

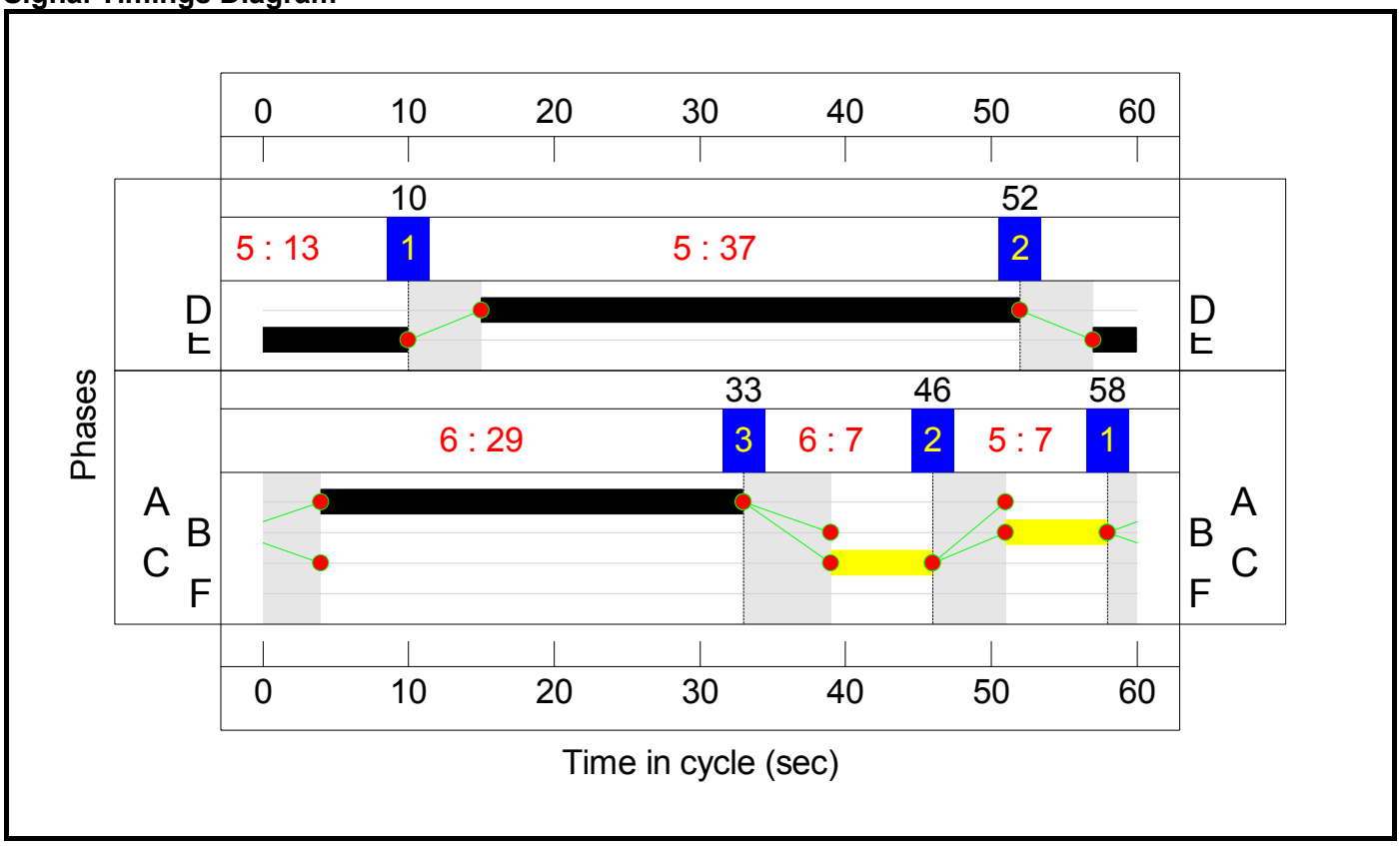
Stage Stream: 1

Stage	1	2
Duration	37	13
Change Point	10	52

Stage Stream: 2

Stage	1	3	2
Duration	29	7	7
Change Point	58	33	46

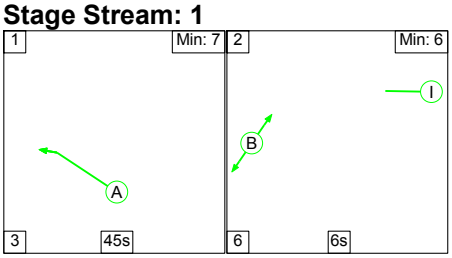
Signal Timings Diagram



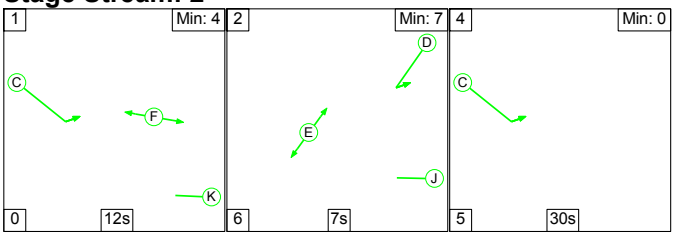
C2 - A34/New Development 735

Stage Sequence Diagram

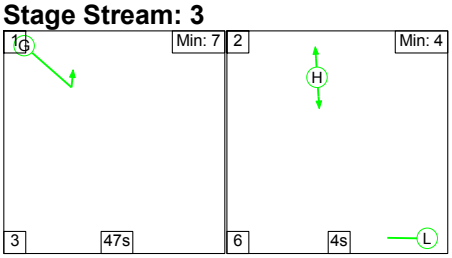
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	45	6
Change Point	13	1

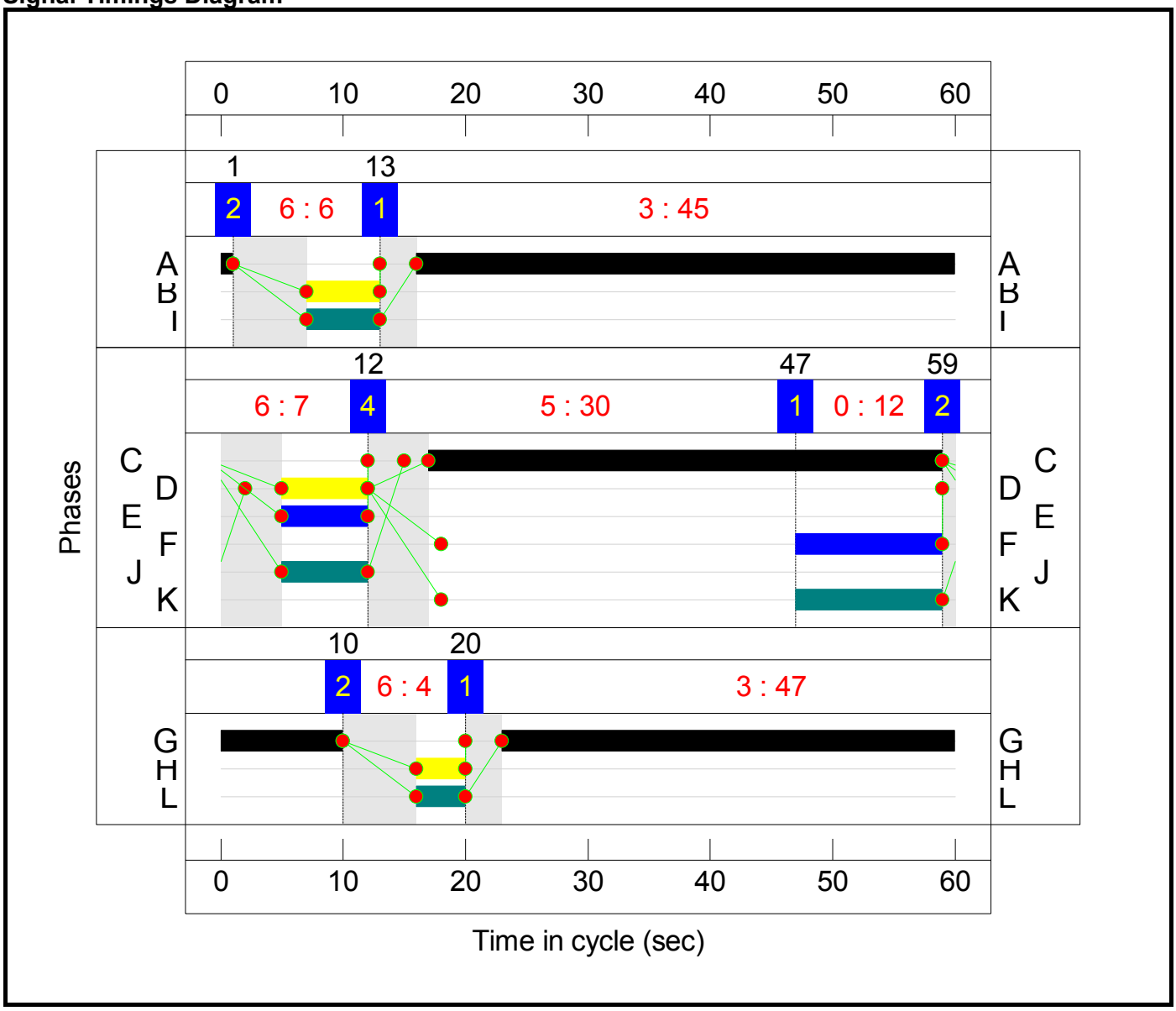
Stage Stream: 2

Stage	1	2	4
Duration	12	7	30
Change Point	47	59	12

Stage Stream: 3

Stage	1	2
Duration	47	4
Change Point	20	10

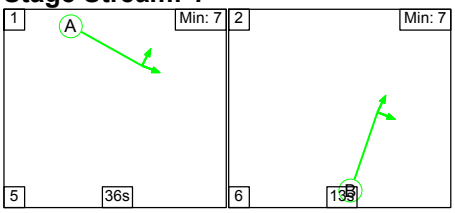
Signal Timings Diagram



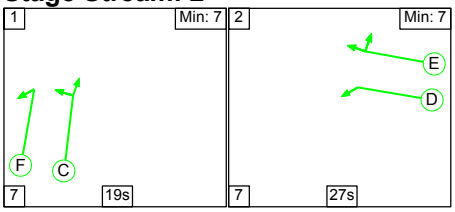
C3 - M42 Junction 4 (BVP) 735

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

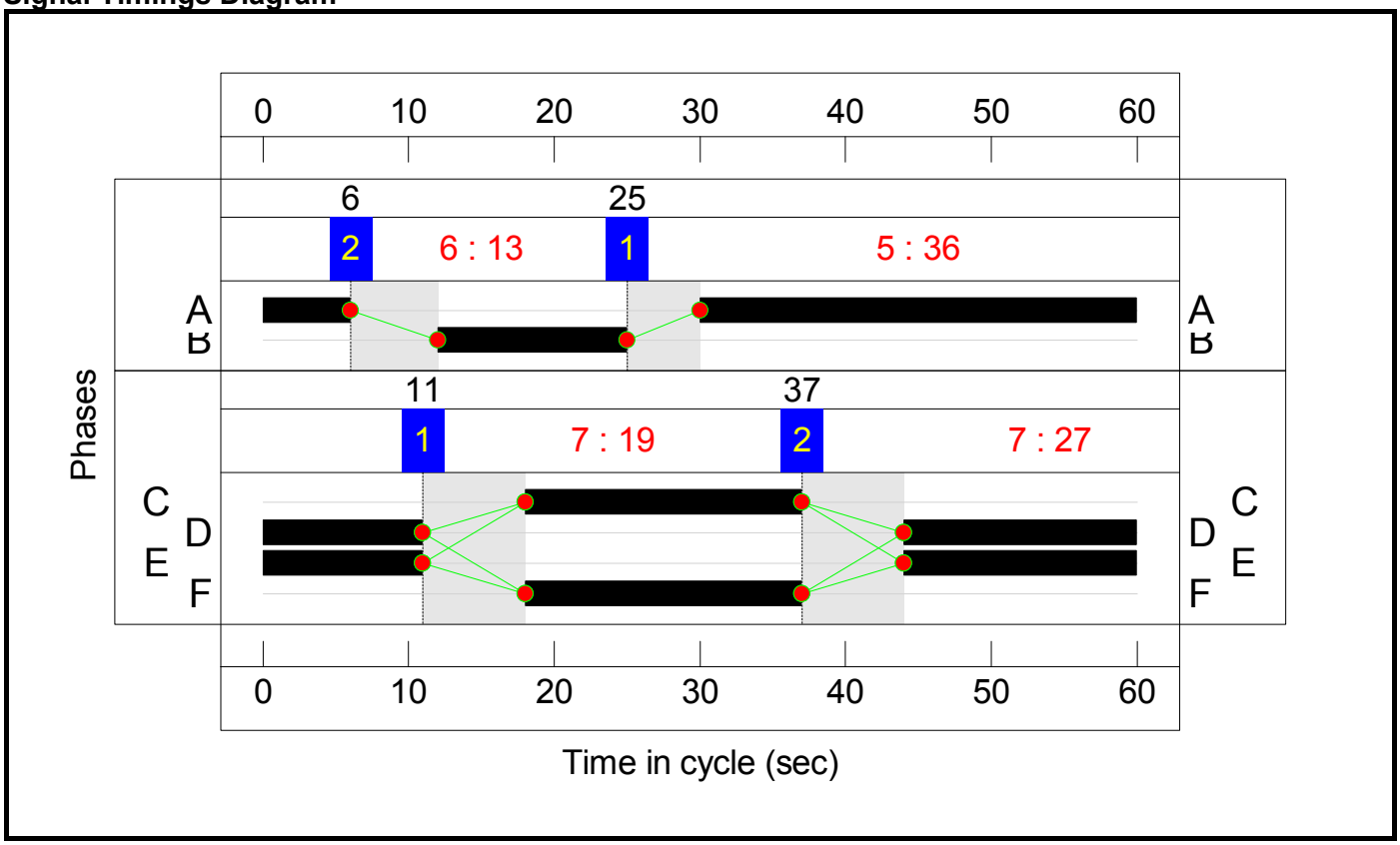
Stage Stream: 1

Stage	1	2
Duration	36	13
Change Point	25	6

Stage Stream: 2

Stage	1	2
Duration	19	27
Change Point	11	37

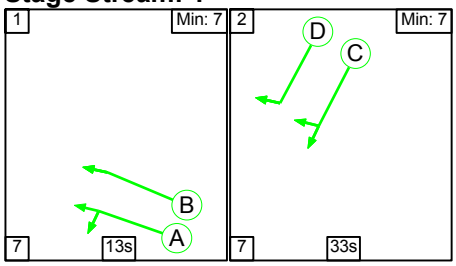
Signal Timings Diagram



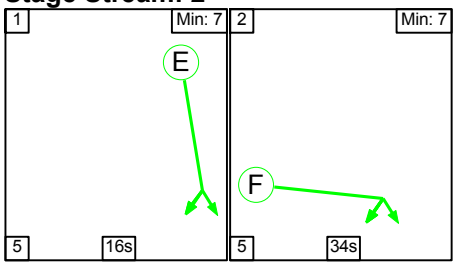
C4 - M42 / A3400/ M42 S/B Off Slip Road 736

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

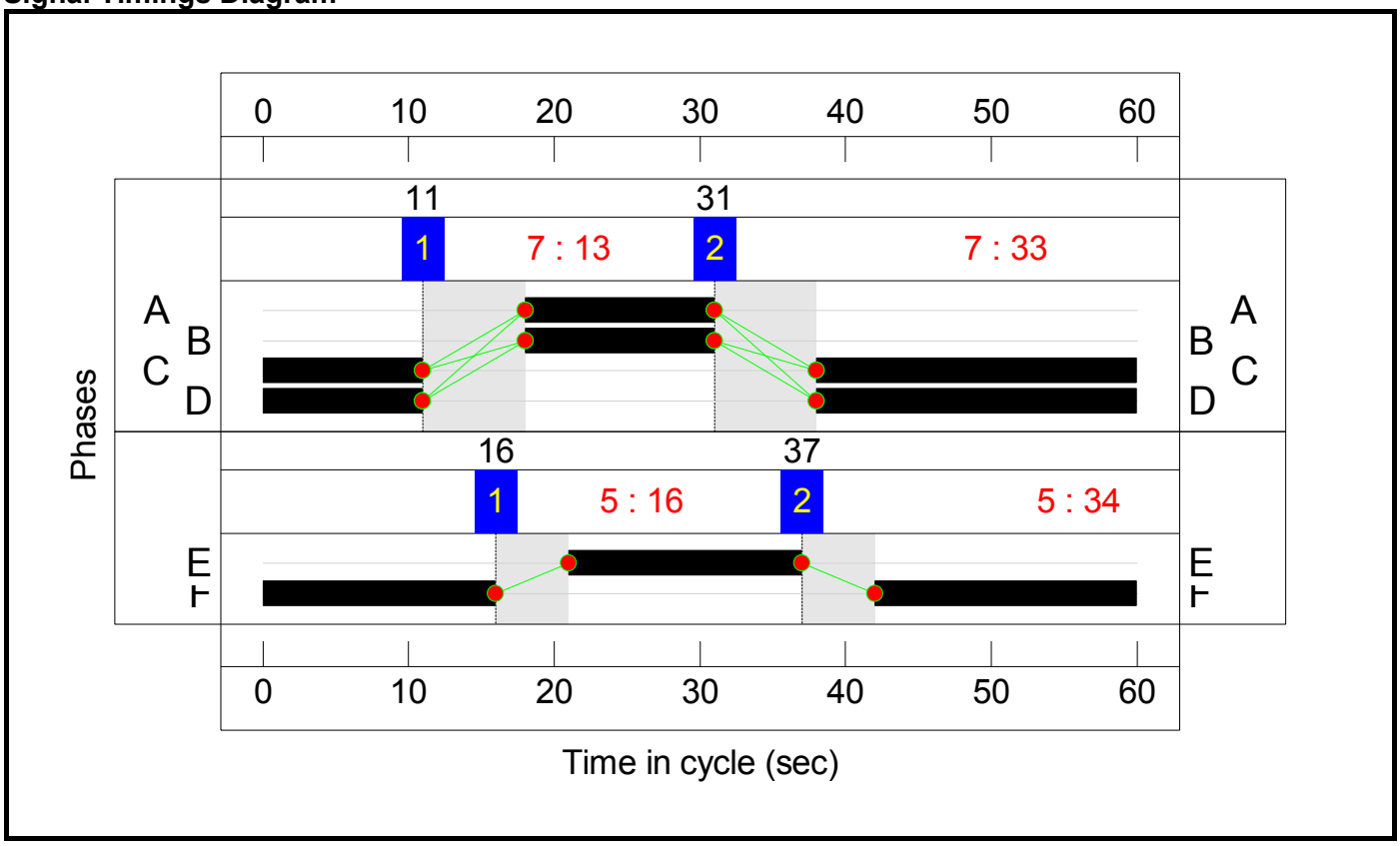
Stage Stream: 1

Stage	1	2
Duration	13	33
Change Point	11	31

Stage Stream: 2

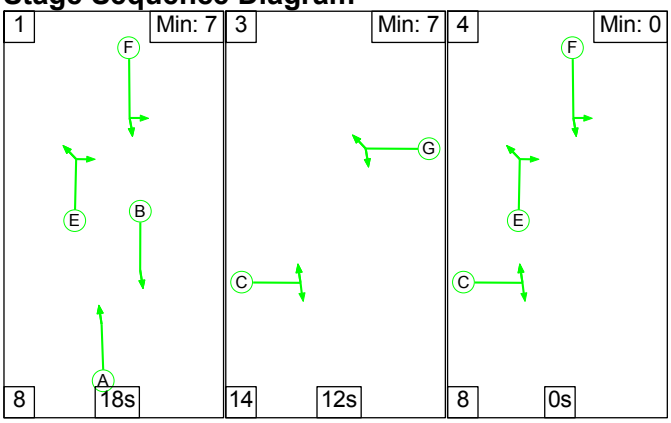
Stage	1	2
Duration	16	34
Change Point	16	37

Signal Timings Diagram



C5 - A3400/Exit Road/Gate Lane/M42 737

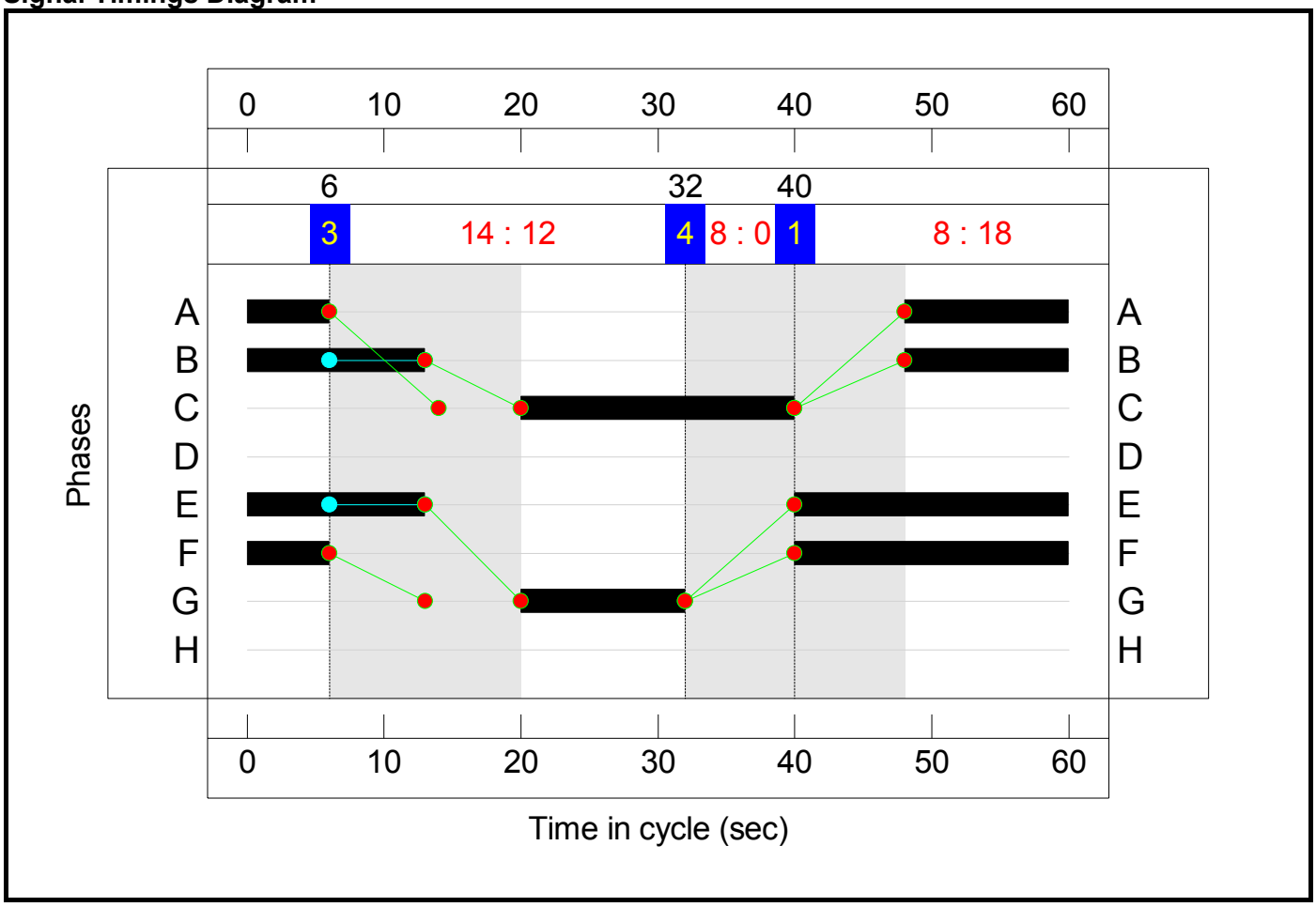
Stage Sequence Diagram



Stage Timings

Stage	1	3	4
Duration	18	12	0
Change Point	40	6	32

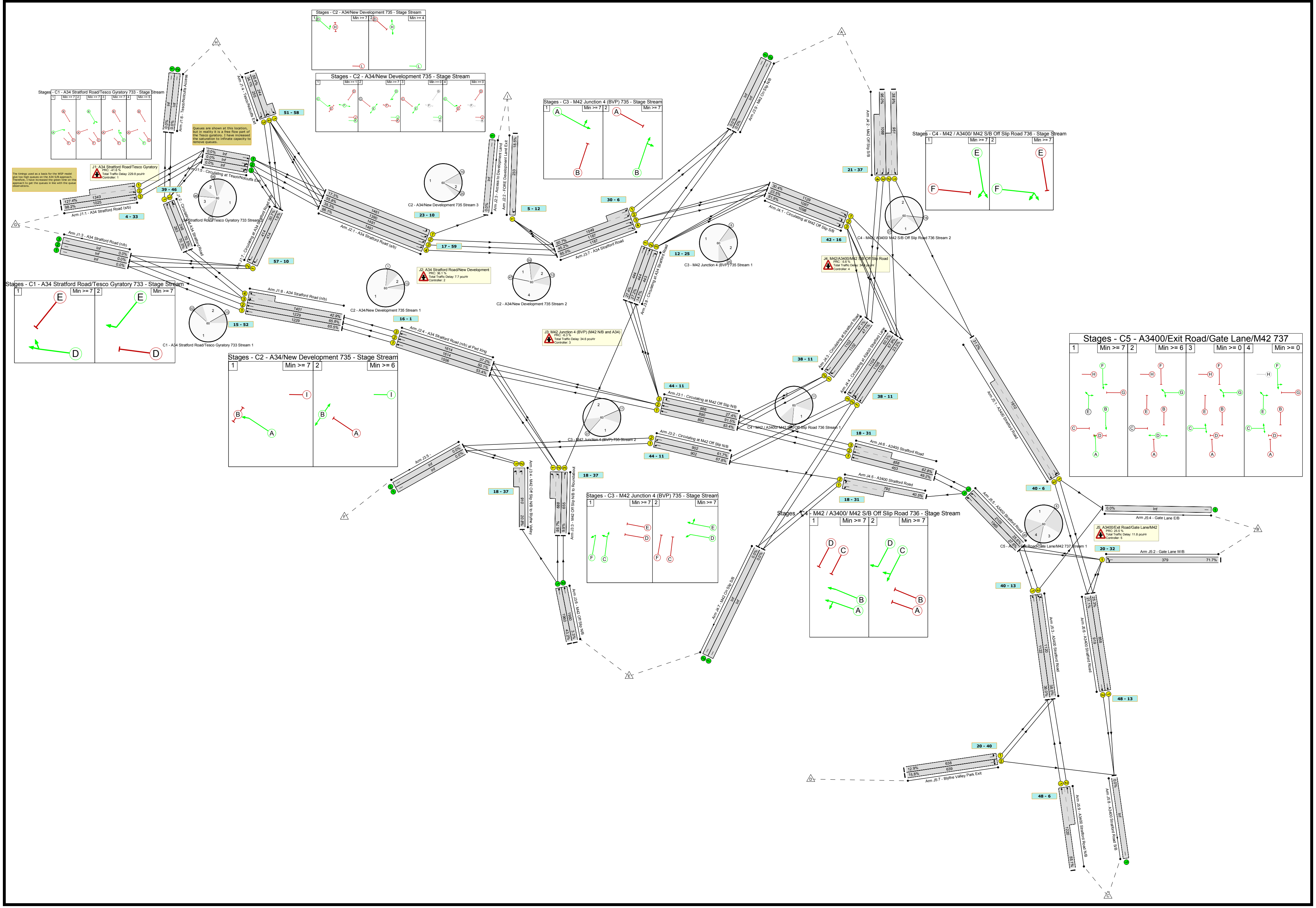
Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format

M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 4	-	-	-	**127.4%**	-	-
J1: A34 Stratford Road/Tesco Gyratory	-	-	-	**127.4%**	-	-
1/2+1/1	A34 Stratford Road (s/b) Ahead	1711	2050:1915	127.4%	426.7	219.8
1/3	A34 Stratford Road (s/b) Ahead	1007	2050	98.2%	57.6	28.2
2/1	Circulating at A34 Stratford Road Ahead	185	1973	70.3%	34.6	3.7
2/2	Circulating at A34 Stratford Road Right Ahead	175	1863	70.5%	38.9	3.5
4/2+4/1	Tesco/Notcutts Exit Ahead Left	135	1915:1965	55.4%	40.6	2.7
4/3	Tesco/Notcutts Exit Ahead	87	1915	34.1%	34.3	1.6
7/1	Circulating at A34 Stratford Road N/B Right	8	1773	1.9%	5.5	0.0
7/2	Circulating at A34 Stratford Road N/B Right	127	1773	30.7%	15.8	0.9
8/1	A34 Stratford Road (n/b) Ahead	805	1940	65.5%	5.2	6.9
8/2	A34 Stratford Road (n/b) Ahead	808	1940	65.8%	10.8	5.9
8/3+8/4	A34 Stratford Road (n/b) Right Ahead	601	1940:1940	42.9%	4.3	13.9
J2: A34 Stratford Road/New Development	-	-	-	**66.1%**	-	-
1/1	A34 Stratford Road (s/b) Left	294	1826	17.3%	1.8	0.4
1/2	A34 Stratford Road (s/b) Ahead	973	1940	55.8%	3.7	1.8
1/3	A34 Stratford Road (s/b) Ahead	656	2080	35.3%	2.8	1.2
1/4	A34 Stratford Road (s/b) Ahead	986	2080	66.1%	3.8	1.4
2/1	FORE Development Land Exit Left	43	1747	18.5%	32.6	0.7
4/1	A34 Stratford Road (n/b) at Ped Xing Ahead	805	1965	53.4%	12.3	12.5
4/2	A34 Stratford Road (n/b) at Ped Xing Ahead	808	2105	50.1%	3.2	3.6
4/3	A34 Stratford Road (n/b) at Ped Xing Ahead	601	2105	37.2%	8.6	7.7
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	-	-	**95.7%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	742	1907	83.4%	16.3	13.2
1/2	Circulating at M42 Off Slip N/B Ahead	814	1907	91.5%	27.9	17.8
1/3	Circulating at M42 Off Slip N/B Right	243	1898	27.4%	12.2	4.1

2/1	Circulating at M42 Off Slip N/B Ahead	611	1932	67.8%	14.7	6.0
2/2	Circulating at M42 Off Slip N/B Ahead	556	1932	61.7%	16.2	4.8
3/2+3/1	M42 Off Slip N/B to Roundabout Left	658	1915:1915	95.7%	59.3	17.2
3/3	M42 Off Slip N/B to Roundabout Ahead	65	1965	9.9%	16.9	0.8
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	189	1881:1881	20.8%	16.5	1.2
6/1	M42 Off Slip N/B Ahead Ahead2	847	1960	43.2%	1.6	0.4
6/2	M42 Off Slip N/B Ahead	65	1960	3.3%	0.9	0.0
7/2+7/1	A34 Stratford Road Ahead	982	1914:1914	50.7%	3.0	1.2
7/3	A34 Stratford Road Ahead	667	1925	45.2%	3.9	3.7
7/4	A34 Stratford Road Ahead	1009	1925	85.0%	10.9	7.0
8/1	Circulating at A34 Stratford Road Ahead	122	1905	27.4%	23.4	2.2
8/2	Circulating at A34 Stratford Road Ahead	121	1905	27.2%	23.4	2.2
8/3	Circulating at A34 Stratford Road Right	65	1900	14.7%	45.1	1.2
J4: M42/A3400/M42 S/B Off Slip Road	-	-	-	**95.0%**	-	-
1/1	Circulating at M42 Off Slip S/B Ahead	416	1936	30.4%	5.9	1.6
1/2	Circulating at M42 Off Slip S/B Right	316	1881	23.5%	3.6	0.5
1/3	Circulating at M42 Off Slip S/B Right Right2	1009	1883	91.9%	19.8	9.3
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	370	1867:1914	38.9%	20.2	3.1
2/3+2/4	M42 Off Slip S/B Ahead	1015	1885:1885	95.0%	47.5	16.0
3/1	Circulating at Stratford Road Right	519	1945	47.1%	5.3	8.2
3/2	Circulating at Stratford Road Right	519	1945	47.1%	5.3	7.8
4/1	Circulating at A3400 Stratford Lane Ahead	316	1957	23.3%	7.8	1.4
4/2	Circulating at A3400 Stratford Lane Right Ahead	641	1952	57.9%	14.2	7.9
4/3	Circulating at A3400 Stratford Lane Right	556	1949	50.3%	14.4	5.3
5/2+5/1	A3400 Stratford Road Ahead Left	320	1952:1922	40.5%	17.4	2.7
6/1	A3400 Stratford Road Ahead	223	1941	49.2%	23.7	3.4
6/2+6/3	A3400 Stratford Road Ahead	538	1941:1932	62.8%	19.3	4.9
J5: A3400/Exit Road/Gate Lane/M42	-	-	-	**71.7%**	-	-
1/1+1/2	A3400 Stratford Road Left Ahead	575	1896:1975	31.2%	16.3	3.1

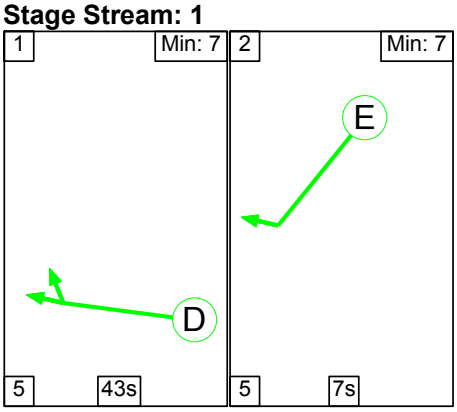
2/1	Gate Lane W/B Right Left	272	1751	71.7%	38.2	5.4
3/1	A3400 Stratford Road Ahead	404	1980	36.0%	5.6	1.8
3/2	A3400 Stratford Road Right Ahead	426	1977	38.0%	5.5	1.8
5/1	A3400 Stratford Road Ahead Ahead2	543	1965	27.6%	1.3	0.2
5/2	A3400 Stratford Road Ahead	538	2105	25.6%	1.1	0.2
6/1	A3400 Stratford Road Ahead	239	1980	25.3%	4.1	0.4
6/2	A3400 Stratford Road Ahead	229	2120	21.1%	3.0	0.2
7/1	Blythe Valley Park Exit Left	82	1823	12.9%	16.5	1.0
7/2	Blythe Valley Park Exit Left Right	101	1827	15.8%	16.8	1.2
9/1+9/2	A3400 Stratford Road N/B Ahead	672	1965:2105	55.1%	20.1	5.4

C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 1 PRC for Signalled Lanes (%):	36.9	Total Delay for Signalled Lanes (pcuHr):	4.88	
C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 2 PRC for Signalled Lanes (%):	-41.6	Total Delay for Signalled Lanes (pcuHr):	224.95	
C2 - A34/New Development 735	Stream: 1 PRC for Signalled Lanes (%):	68.4	Total Delay for Signalled Lanes (pcuHr):	4.90	
C2 - A34/New Development 735	Stream: 2 PRC for Signalled Lanes (%):	36.1	Total Delay for Signalled Lanes (pcuHr):	2.63	
C2 - A34/New Development 735	Stream: 3 PRC for Signalled Lanes (%):	419.5	Total Delay for Signalled Lanes (pcuHr):	0.12	
C3 - M42 Junction 4 (BVP) 735	Stream: 1 PRC for Signalled Lanes (%):	5.9	Total Delay for Signalled Lanes (pcuHr):	6.68	
C3 - M42 Junction 4 (BVP) 735	Stream: 2 PRC for Signalled Lanes (%):	-6.3	Total Delay for Signalled Lanes (pcuHr):	27.51	
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 1 PRC for Signalled Lanes (%):	43.3	Total Delay for Signalled Lanes (pcuHr):	12.76	
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 2 PRC for Signalled Lanes (%):	-5.6	Total Delay for Signalled Lanes (pcuHr):	21.84	
C5 - A3400/Exit Road/Gate Lane/M42 737	PRC for Signalled Lanes (%):	25.5	Total Delay for Signalled Lanes (pcuHr):	11.44	
	PRC Over All Lanes (%):	-41.6	Total Delay Over All Lanes(pcuHr):	318.47	Cycle Time (s): 60

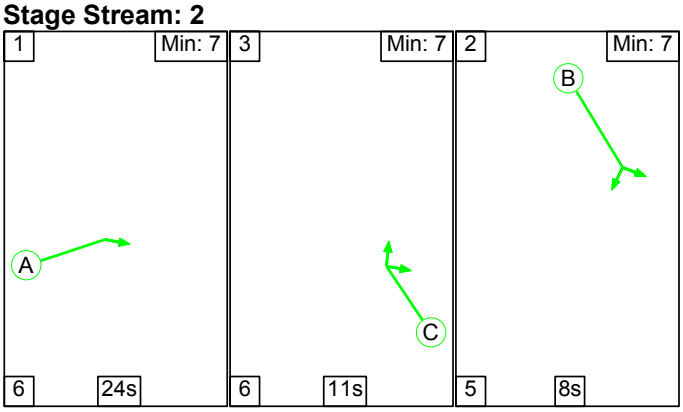
Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Scenario 6: '2016 PM Peak Base' (FG6: '2016 PM Peak Base', Plan 1: 'Network Control Plan 1')
C1 - A34 Stratford Road/Tesco Gyratory 733

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

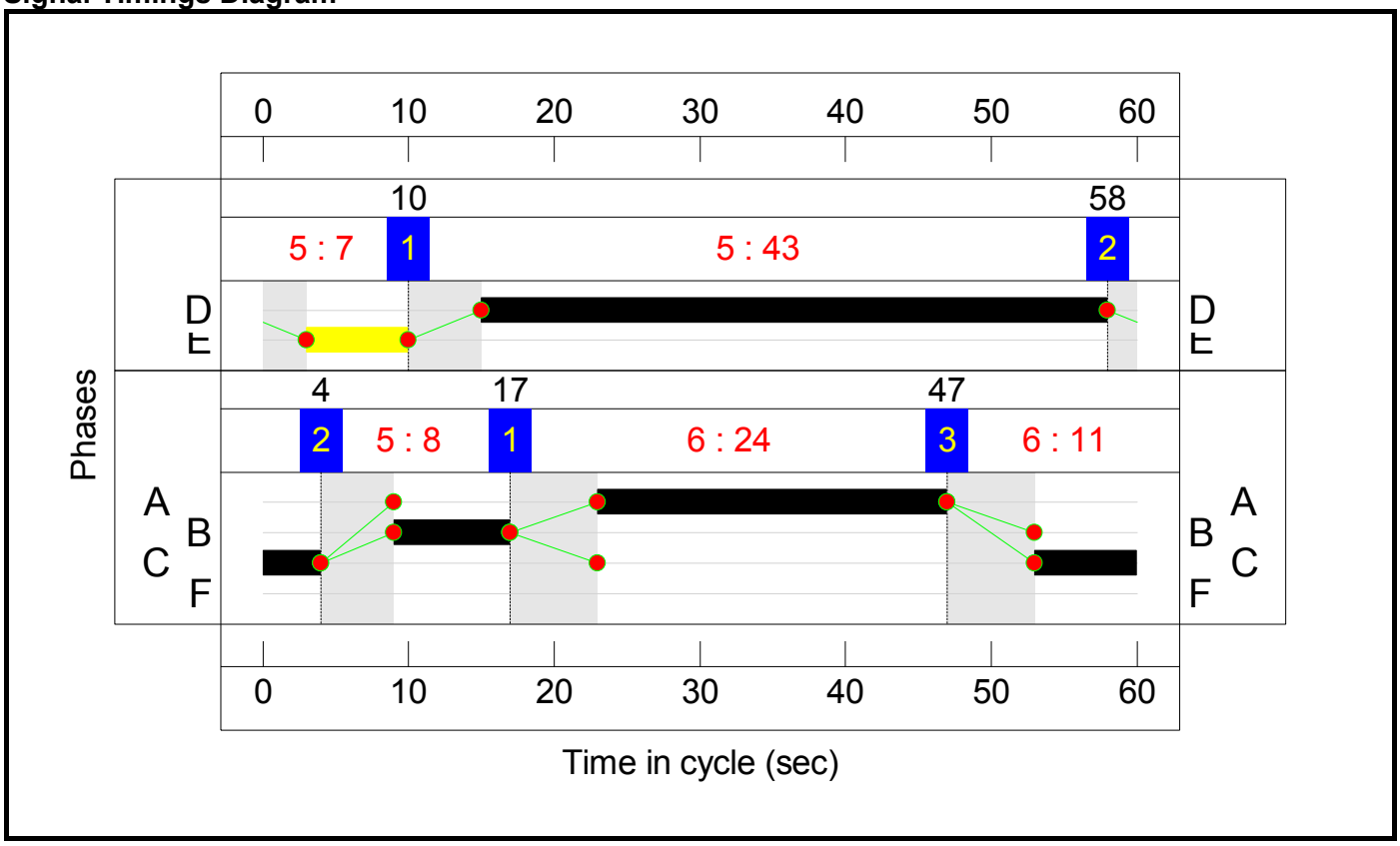
Stage Stream: 1

Stage	1	2
Duration	43	7
Change Point	10	58

Stage Stream: 2

Stage	1	3	2
Duration	24	11	8
Change Point	17	47	4

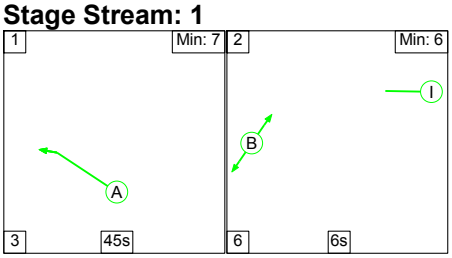
Signal Timings Diagram



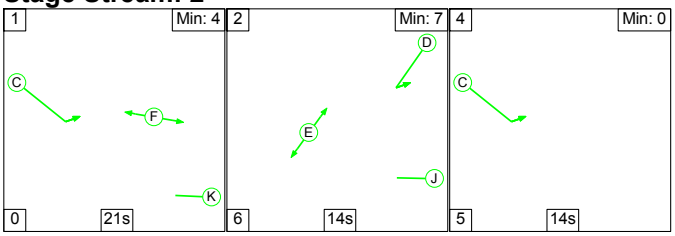
C2 - A34/New Development 735

Stage Sequence Diagram

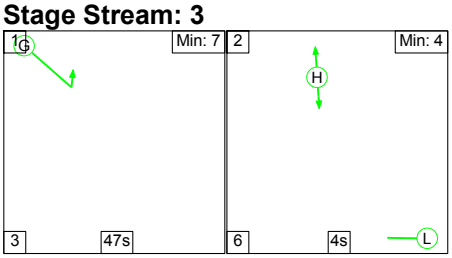
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	45	6
Change Point	4	52

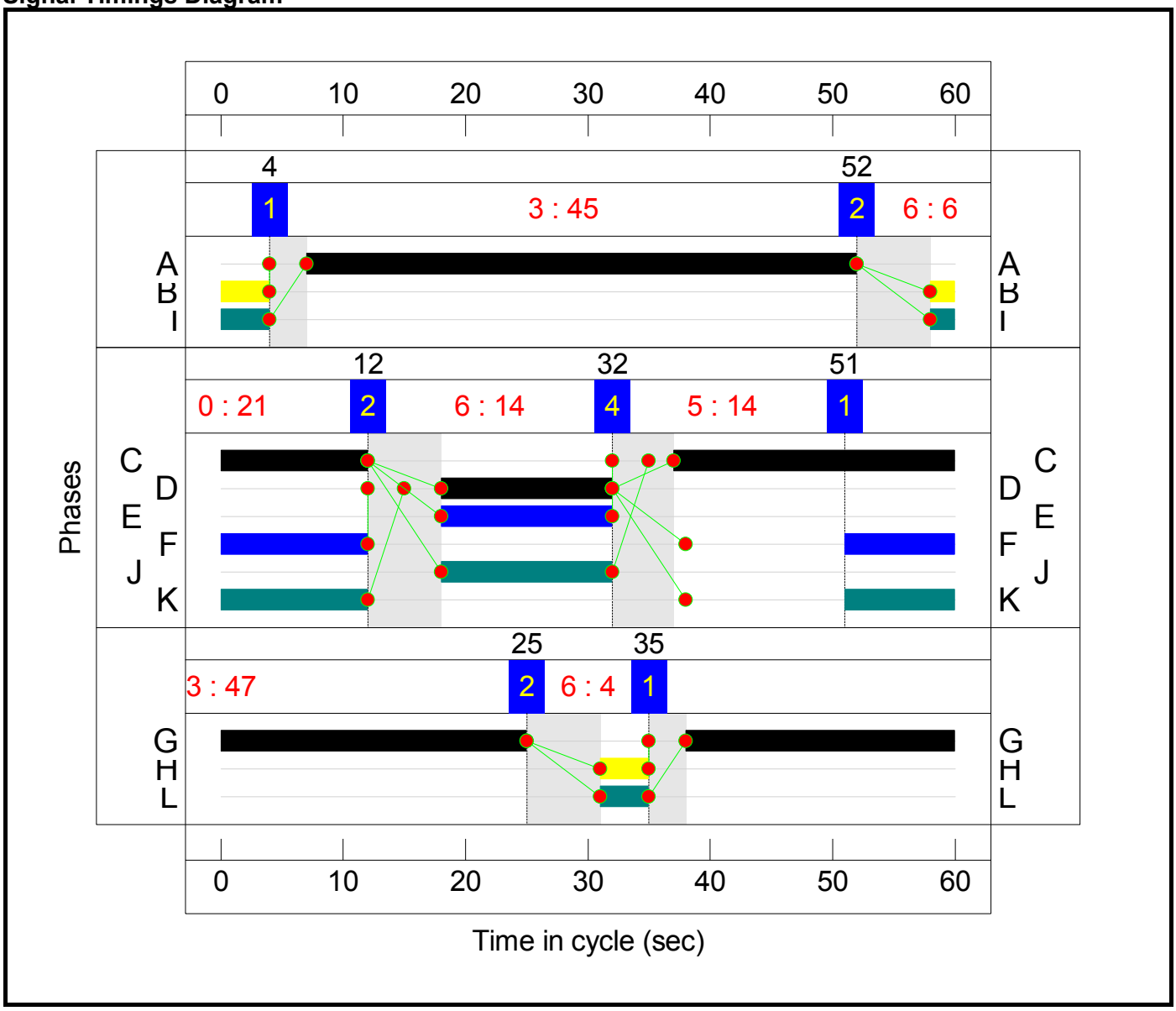
Stage Stream: 2

Stage	1	2	4
Duration	21	14	14
Change Point	51	12	32

Stage Stream: 3

Stage	1	2
Duration	47	4
Change Point	35	25

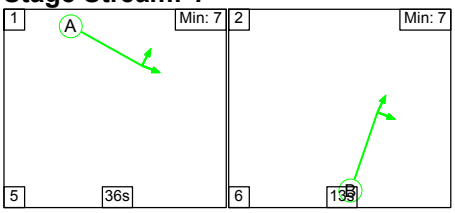
Signal Timings Diagram



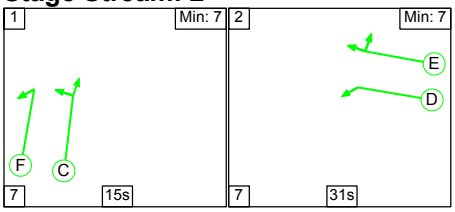
C3 - M42 Junction 4 (BVP) 735

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

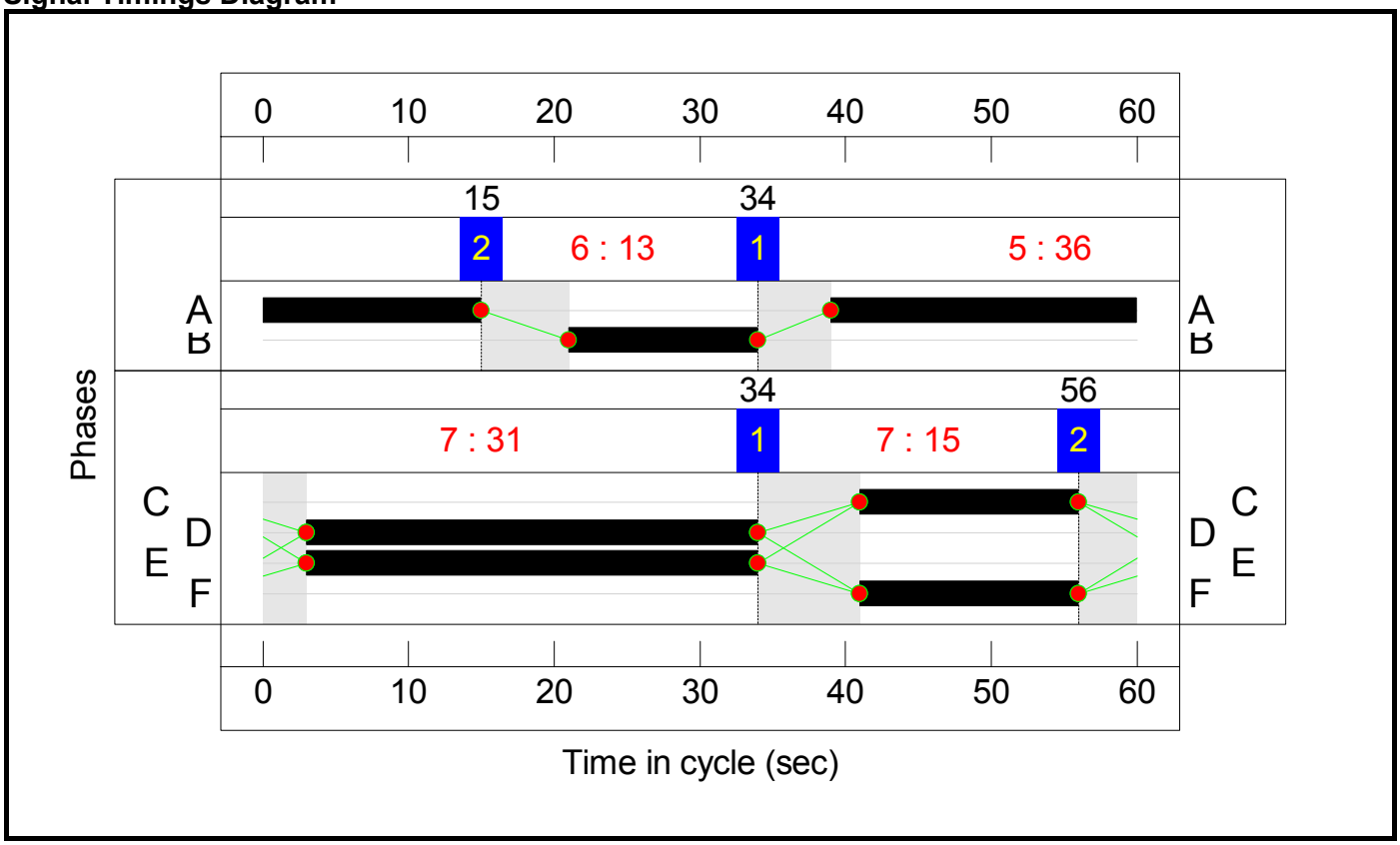
Stage Stream: 1

Stage	1	2
Duration	36	13
Change Point	34	15

Stage Stream: 2

Stage	1	2
Duration	15	31
Change Point	34	56

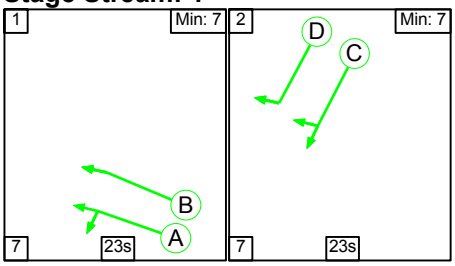
Signal Timings Diagram



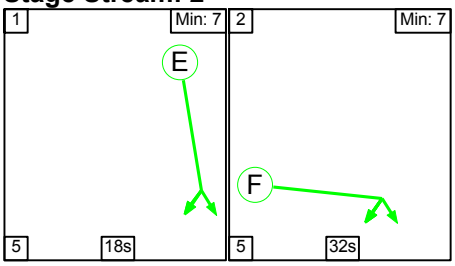
C4 - M42 / A3400/ M42 S/B Off Slip Road 736

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

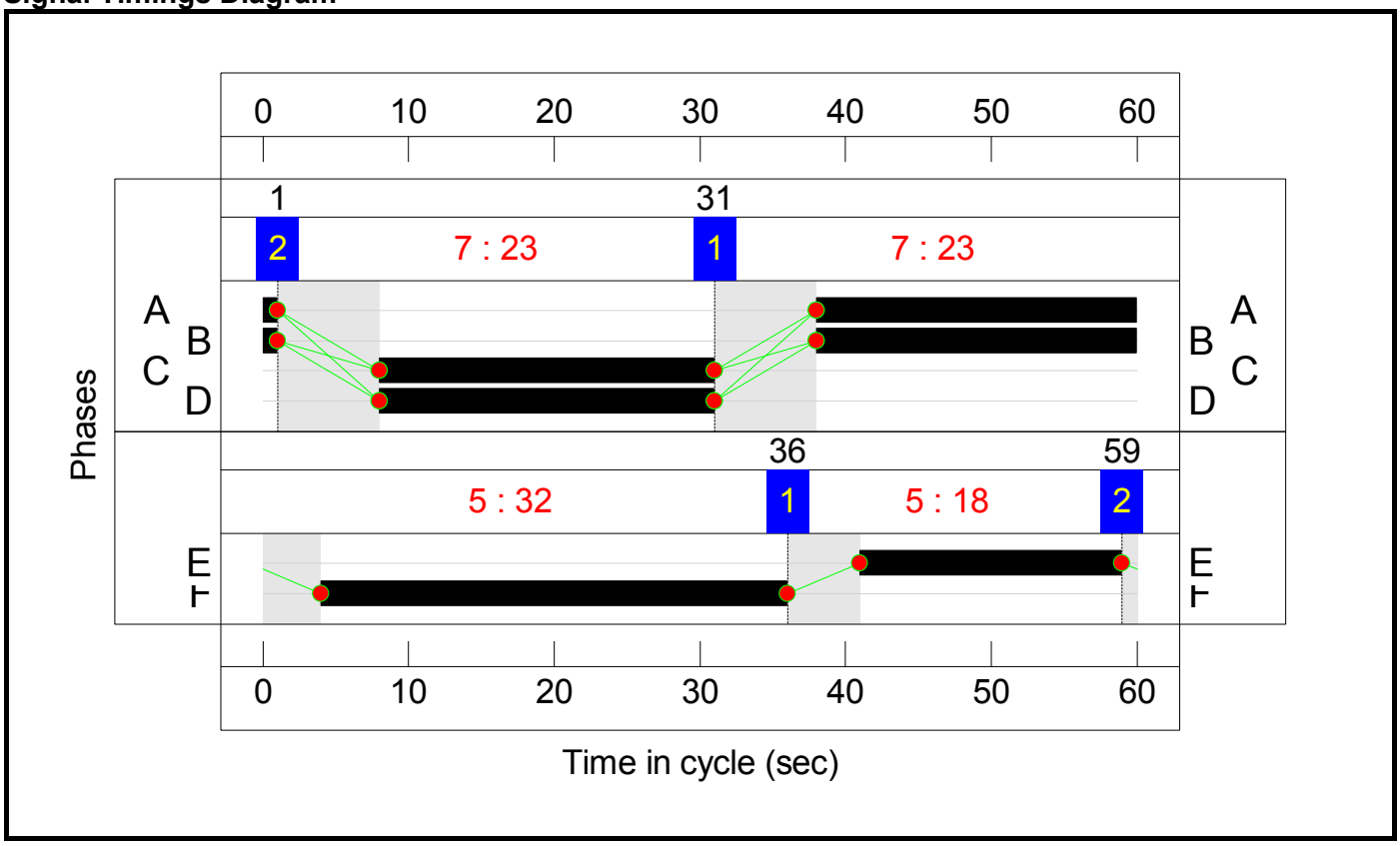
Stage Stream: 1

Stage	1	2
Duration	23	23
Change Point	31	1

Stage Stream: 2

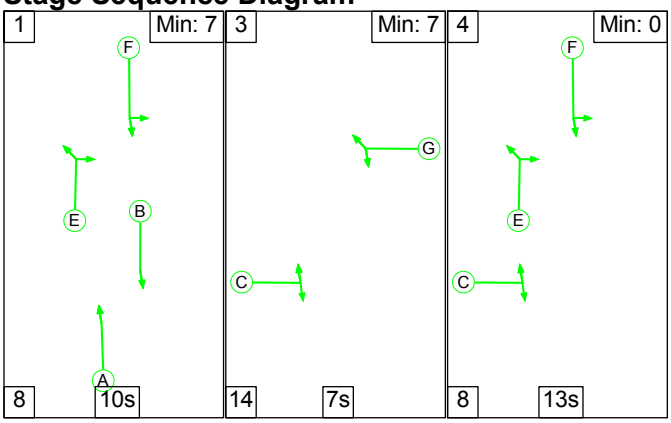
Stage	1	2
Duration	18	32
Change Point	36	59

Signal Timings Diagram



C5 - A3400/Exit Road/Gate Lane/M42 737

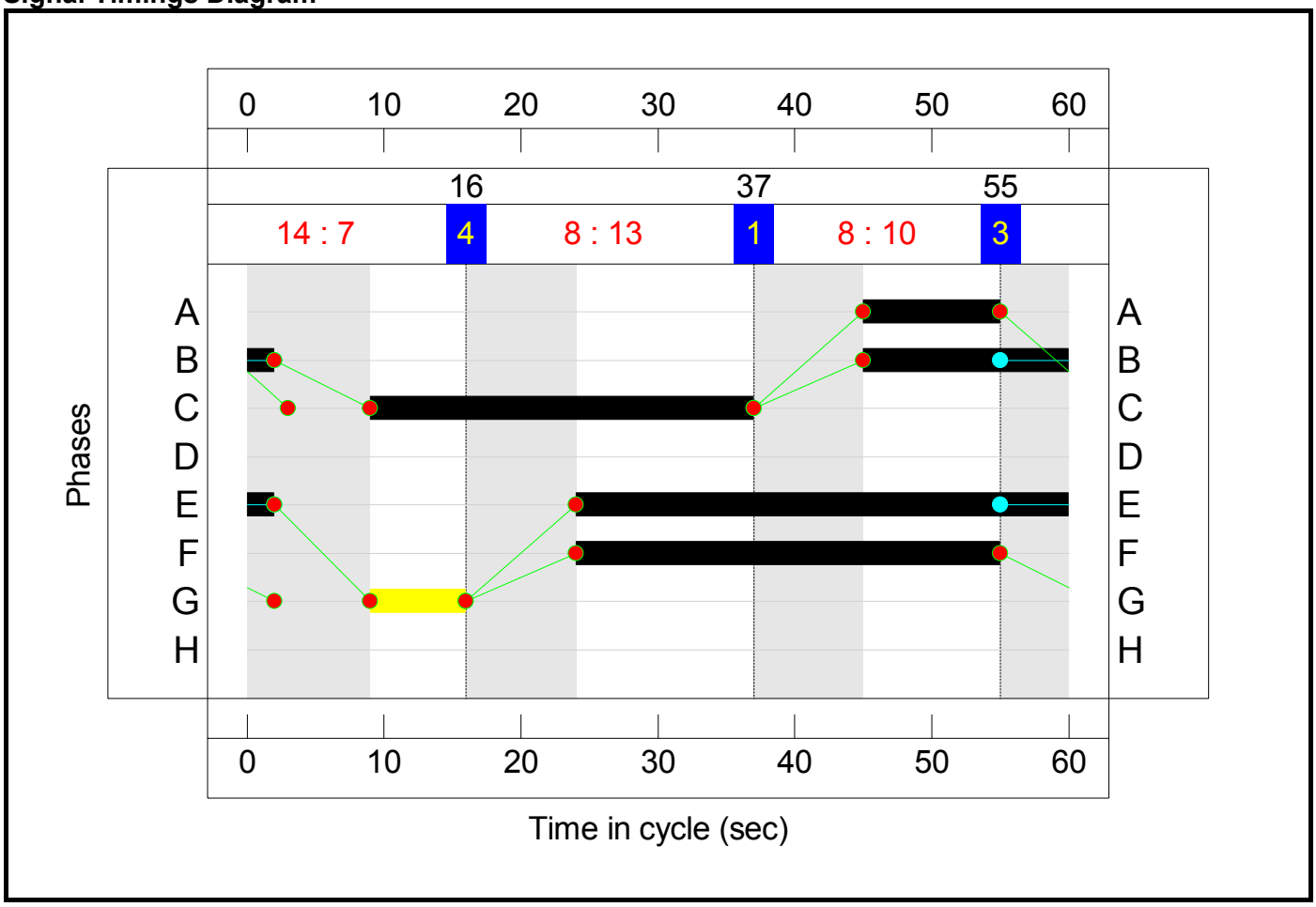
Stage Sequence Diagram



Stage Timings

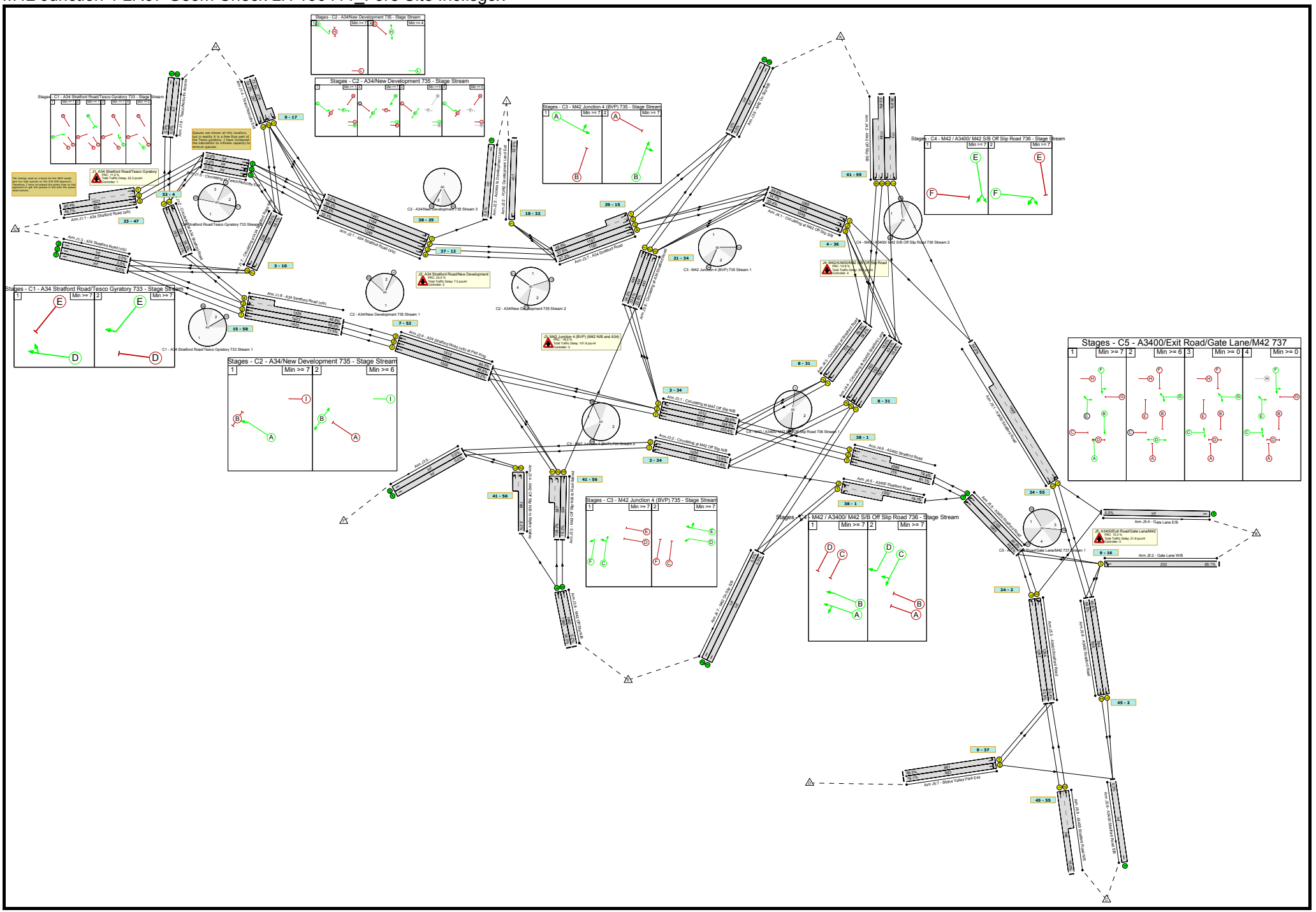
Stage	1	3	4
Duration	10	7	13
Change Point	37	55	16

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 4	-	-	-	**106.2%**	-	-
J1: A34 Stratford Road/Tesco Gyratory	-	-	-	**80.4%**	-	-
1/2+1/1	A34 Stratford Road (s/b) Ahead	1228	2050:1915	80.4%	20.7	10.7
1/3	A34 Stratford Road (s/b) Ahead	399	2050	46.7%	16.6	5.2
2/1	Circulating at A34 Stratford Road Ahead	151	1973	37.1%	19.1	2.0
2/2	Circulating at A34 Stratford Road Right Ahead	149	1956	36.3%	27.9	2.3
4/2+4/1	Tesco/Notcutts Exit Ahead Left	202	1915:1965	73.3%	47.9	4.5
4/3	Tesco/Notcutts Exit Ahead	156	1915	54.3%	37.2	3.0
7/1	Circulating at A34 Stratford Road N/B Right	90	1773	38.1%	38.9	1.8
7/2	Circulating at A34 Stratford Road N/B Right	156	1773	66.0%	66.5	3.5
8/1	A34 Stratford Road (n/b) Ahead	1143	1940	77.5%	6.4	4.6
8/2	A34 Stratford Road (n/b) Ahead	842	1940	56.5%	3.9	7.9
8/3+8/4	A34 Stratford Road (n/b) Right Ahead	755	1940:1940	46.8%	2.8	1.1
J2: A34 Stratford Road/New Development	-	-	-	**73.2%**	-	-
1/1	A34 Stratford Road (s/b) Left	33	1826	2.2%	1.4	0.0
1/2	A34 Stratford Road (s/b) Ahead	655	1940	56.3%	4.8	2.8
1/3	A34 Stratford Road (s/b) Ahead	651	2080	52.2%	4.7	3.5
1/4	A34 Stratford Road (s/b) Ahead	413	2080	33.1%	2.6	0.6
2/1	FORE Development Land Exit Left	231	1747	52.9%	28.2	3.8
4/1	A34 Stratford Road (n/b) at Ped Xing Ahead	1143	1965	73.2%	5.7	3.7
4/2	A34 Stratford Road (n/b) at Ped Xing Ahead	842	2105	49.8%	5.9	7.6
4/3	A34 Stratford Road (n/b) at Ped Xing Ahead	755	2105	44.3%	2.9	1.9
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	-	-	**106.2%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	1052	1907	103.4%	103.5	45.3
1/2	Circulating at M42 Off Slip N/B Ahead	1064	1907	104.6%	119.8	50.3
1/3	Circulating at M42 Off Slip N/B Right	300	1898	29.6%	8.9	4.3

2/1	Circulating at M42 Off Slip N/B Ahead	117	1932	11.4%	5.8	0.7
2/2	Circulating at M42 Off Slip N/B Ahead	140	1932	13.6%	15.7	1.5
3/2+3/1	M42 Off Slip N/B to Roundabout Left	624	1915:1915	106.2%	167.3	34.6
3/3	M42 Off Slip N/B to Roundabout Ahead	101	1965	19.3%	21.3	1.4
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	42	1881:1881	5.3%	18.9	0.3
6/1	M42 Off Slip N/B Ahead Ahead2	666	1960	34.0%	1.4	0.3
6/2	M42 Off Slip N/B Ahead	101	1960	5.2%	1.0	0.0
7/2+7/1	A34 Stratford Road Ahead	704	1914:1914	45.5%	3.4	1.0
7/3	A34 Stratford Road Ahead	686	1925	57.8%	4.9	1.8
7/4	A34 Stratford Road Ahead	560	1925	47.2%	5.9	3.2
8/1	Circulating at A34 Stratford Road Ahead	151	1905	34.0%	13.6	2.6
8/2	Circulating at A34 Stratford Road Ahead	149	1905	33.5%	13.5	2.6
8/3	Circulating at A34 Stratford Road Right	101	1900	22.8%	33.0	1.8
J4: M42/A3400/M42 S/B Off Slip Road	-	-	-	**81.1%**	-	-
1/1	Circulating at M42 Off Slip S/B Ahead	635	1936	59.6%	7.2	5.7
1/2	Circulating at M42 Off Slip S/B Right	152	1881	14.7%	4.3	0.9
1/3	Circulating at M42 Off Slip S/B Right Right2	560	1905	53.4%	9.1	8.0
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	285	1867:1914	36.9%	19.3	3.1
2/3+2/4	M42 Off Slip S/B Ahead	785	1885:1885	65.8%	22.1	7.1
3/1	Circulating at Stratford Road Right	422	1945	54.2%	16.7	7.5
3/2	Circulating at Stratford Road Right	510	1945	65.6%	15.7	8.7
4/1	Circulating at A3400 Stratford Lane Ahead	152	1957	19.4%	10.5	0.8
4/2	Circulating at A3400 Stratford Lane Right Ahead	340	1955	43.5%	14.8	2.9
4/3	Circulating at A3400 Stratford Lane Right	140	1949	18.0%	11.9	0.8
5/2+5/1	A3400 Stratford Road Ahead Left	267	1933:1922	19.7%	11.2	1.6
6/1	A3400 Stratford Road Ahead	630	1941	81.1%	20.5	7.5
6/2+6/3	A3400 Stratford Road Ahead	854	1941:1932	78.6%	16.4	5.7
J5: A3400/Exit Road/Gate Lane/M42	-	-	-	**78.1%**	-	-
1/1+1/2	A3400 Stratford Road Left Ahead	853	1855:1975	50.5%	8.2	30.6

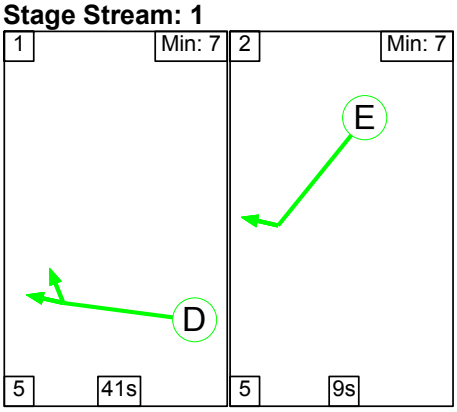
2/1	Gate Lane W/B Right Left	152	1750	65.1%	46.3	3.3
3/1	A3400 Stratford Road Ahead	821	1980	63.8%	8.4	10.2
3/2	A3400 Stratford Road Right Ahead	814	1976	63.4%	7.6	9.2
5/1	A3400 Stratford Road Ahead Ahead2	897	1965	45.6%	1.7	4.3
5/2	A3400 Stratford Road Ahead	854	2105	40.6%	1.4	0.3
6/1	A3400 Stratford Road Ahead	265	1980	44.6%	12.5	3.5
6/2	A3400 Stratford Road Ahead	315	2120	49.5%	12.6	4.1
7/1	Blythe Valley Park Exit Left	586	1823	66.5%	17.9	8.3
7/2	Blythe Valley Park Exit Left Right	689	1826	78.1%	22.0	11.1
9/1+9/2	A3400 Stratford Road N/B Ahead	522	1965:2105	70.0%	30.9	5.6

C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 1 PRC for Signalled Lanes (%):	16.1	Total Delay for Signalled Lanes (pcuHr):	7.23			
C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 2 PRC for Signalled Lanes (%):	11.9	Total Delay for Signalled Lanes (pcuHr):	15.08			
C2 - A34/New Development 735	Stream: 1 PRC for Signalled Lanes (%):	23.0	Total Delay for Signalled Lanes (pcuHr):	3.66			
C2 - A34/New Development 735	Stream: 2 PRC for Signalled Lanes (%):	59.9	Total Delay for Signalled Lanes (pcuHr):	3.83			
C2 - A34/New Development 735	Stream: 3 PRC for Signalled Lanes (%):	3962.8	Total Delay for Signalled Lanes (pcuHr):	0.01			
C3 - M42 Junction 4 (BVP) 735	Stream: 1 PRC for Signalled Lanes (%):	55.7	Total Delay for Signalled Lanes (pcuHr):	4.57			
C3 - M42 Junction 4 (BVP) 735	Stream: 2 PRC for Signalled Lanes (%):	-18.0	Total Delay for Signalled Lanes (pcuHr):	97.03			
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 1 PRC for Signalled Lanes (%):	10.9	Total Delay for Signalled Lanes (pcuHr):	14.79			
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 2 PRC for Signalled Lanes (%):	36.9	Total Delay for Signalled Lanes (pcuHr):	9.20			
C5 - A3400/Exit Road/Gate Lane/M42 737	PRC for Signalled Lanes (%):	15.3	Total Delay for Signalled Lanes (pcuHr):	21.17			
	PRC Over All Lanes (%):	-18.0	Total Delay Over All Lanes(pcuHr):	177.61	Cycle Time (s):	60	

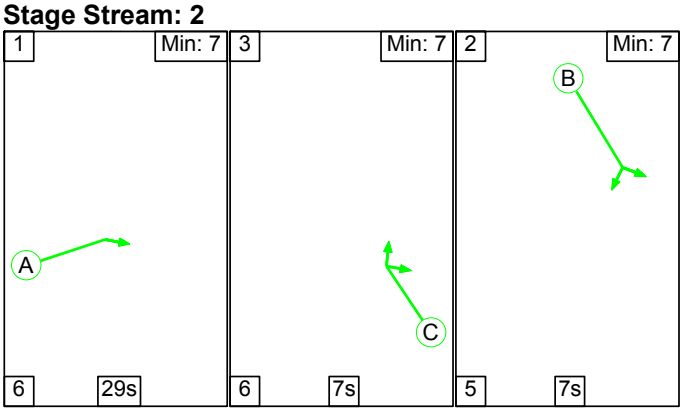
Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Scenario 9: '2013 AM Peak Base' (FG13: '2013 AM Peak Base', Plan 1: 'Network Control Plan 1')
C1 - A34 Stratford Road/Tesco Gyratory 733

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

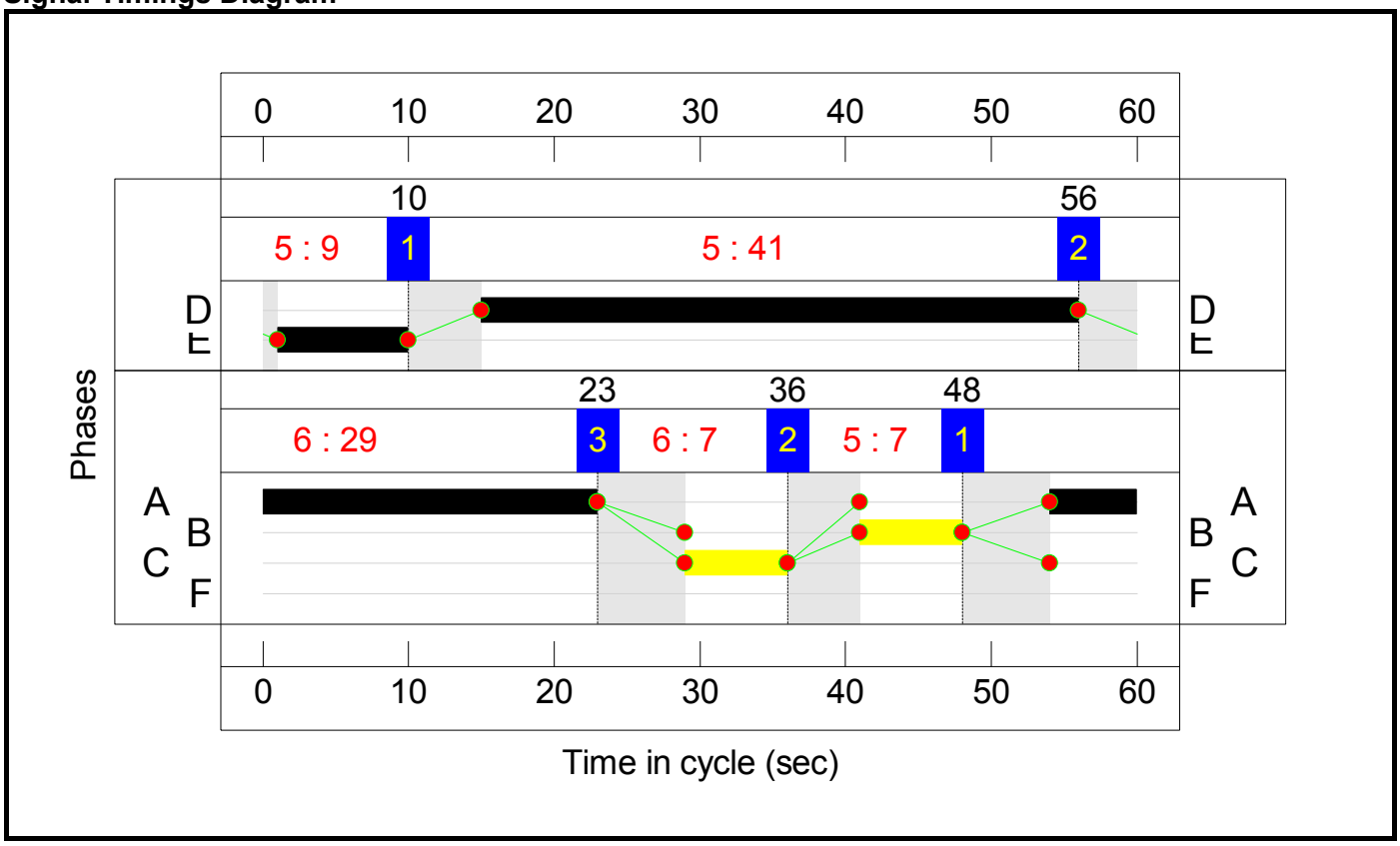
Stage Stream: 1

Stage	1	2
Duration	41	9
Change Point	10	56

Stage Stream: 2

Stage	1	3	2
Duration	29	7	7
Change Point	48	23	36

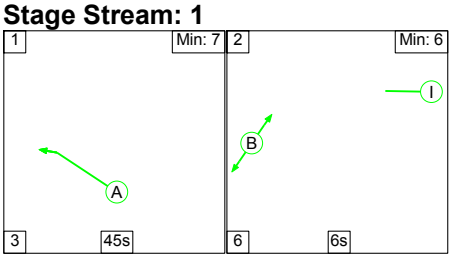
Signal Timings Diagram



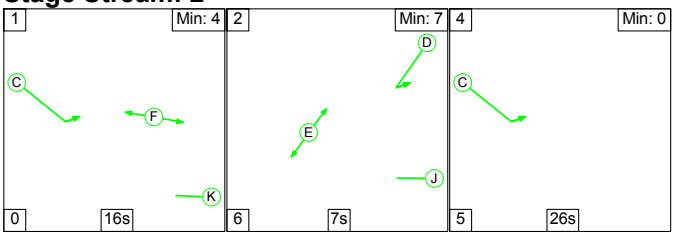
C2 - A34/New Development 735

Stage Sequence Diagram

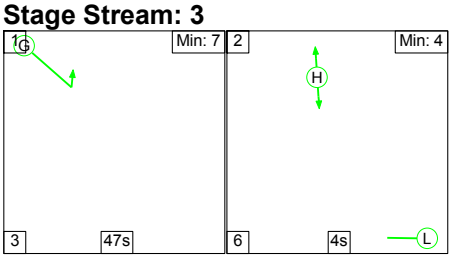
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	45	6
Change Point	48	36

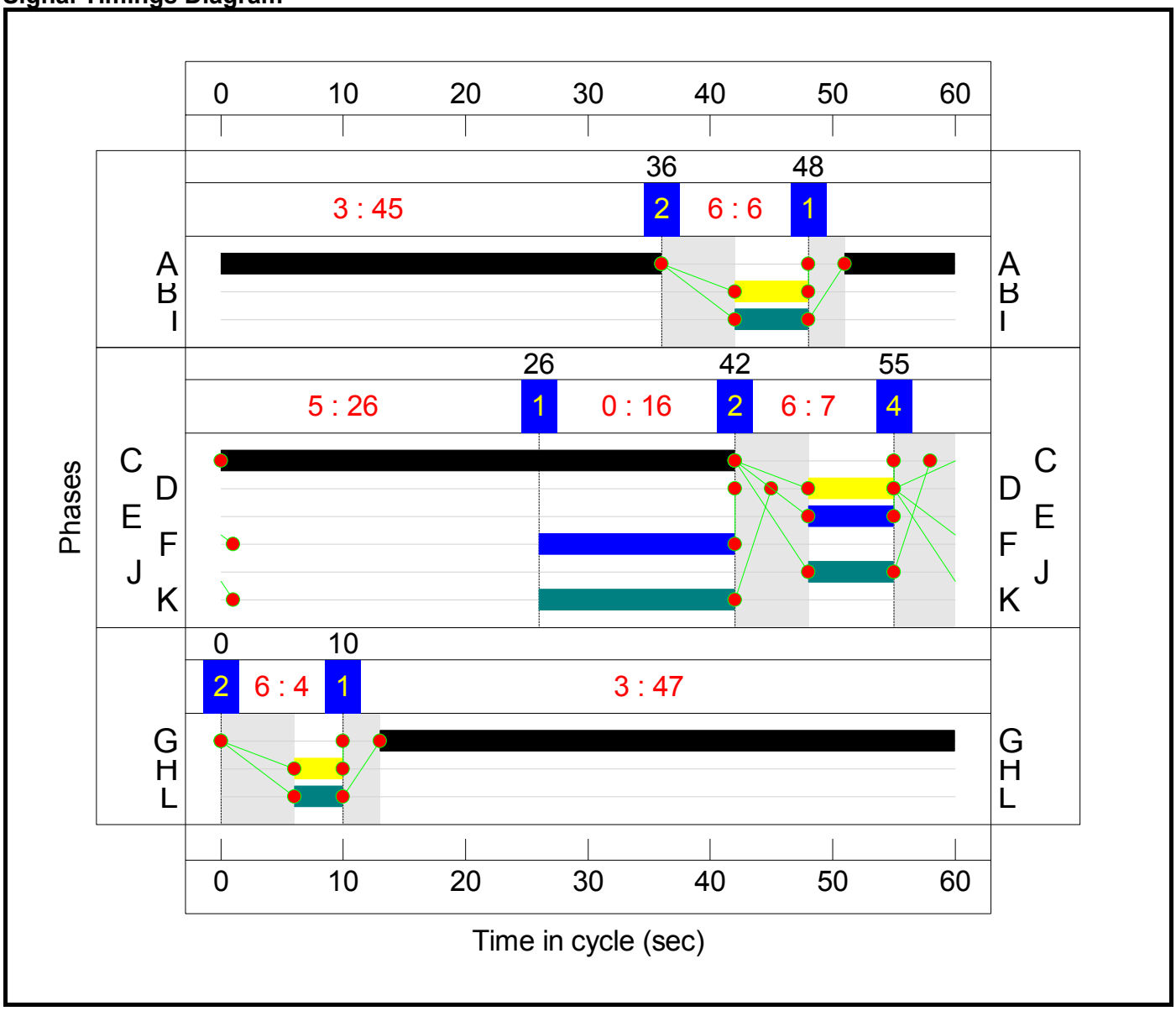
Stage Stream: 2

Stage	1	2	4
Duration	16	7	26
Change Point	26	42	55

Stage Stream: 3

Stage	1	2
Duration	47	4
Change Point	10	0

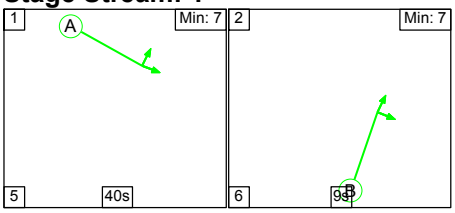
Signal Timings Diagram



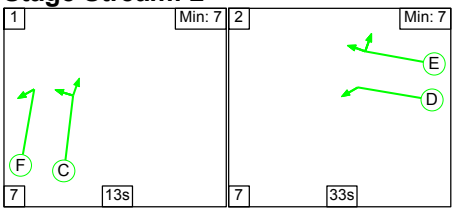
C3 - M42 Junction 4 (BVP) 735

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

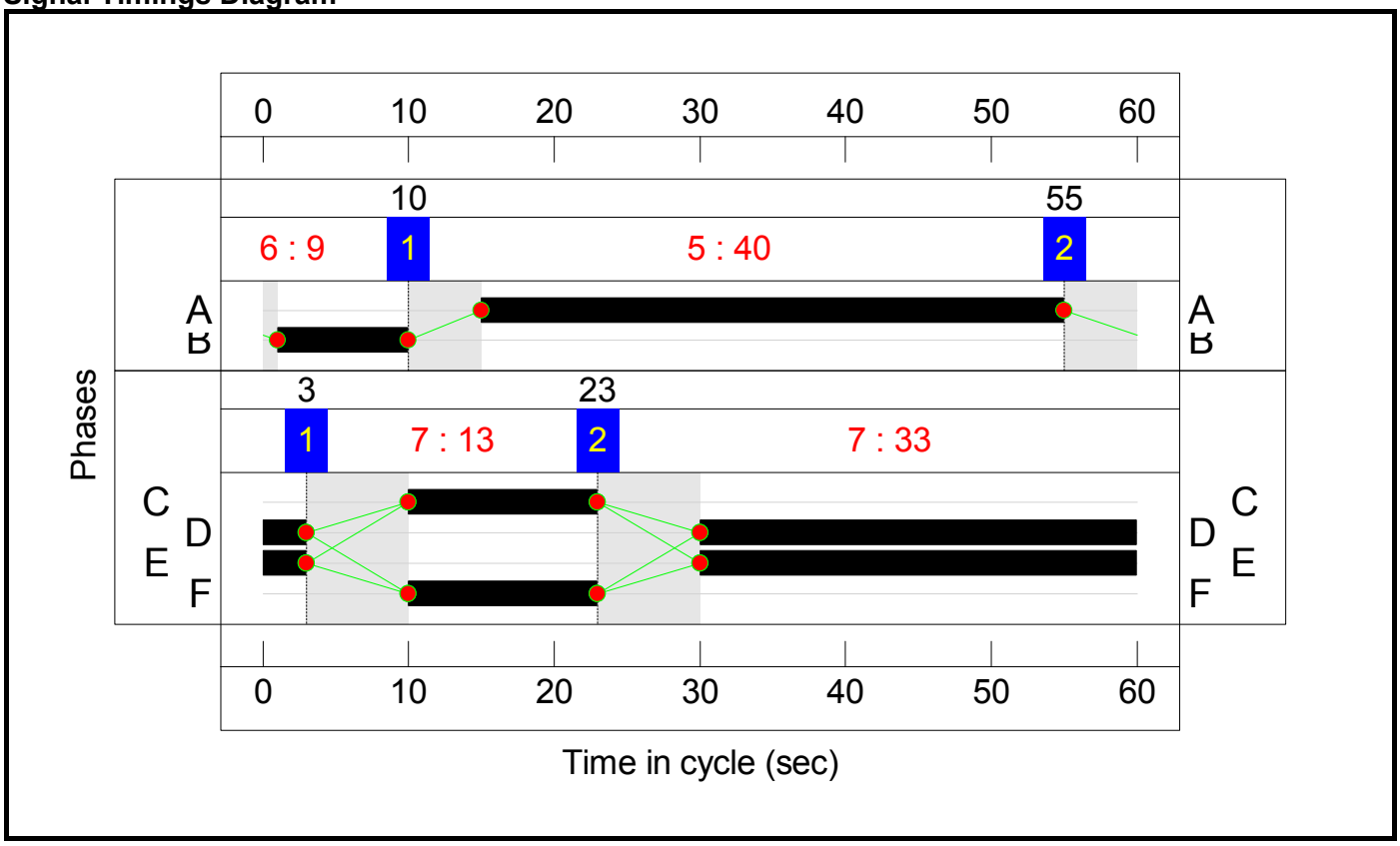
Stage Stream: 1

Stage	1	2
Duration	40	9
Change Point	10	55

Stage Stream: 2

Stage	1	2
Duration	13	33
Change Point	3	23

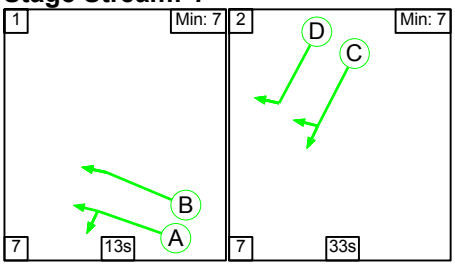
Signal Timings Diagram



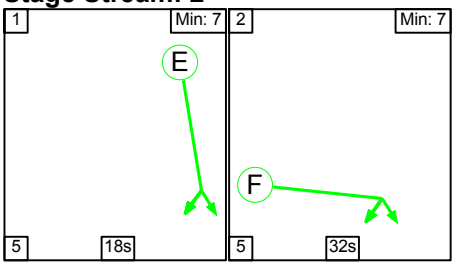
C4 - M42 / A3400/ M42 S/B Off Slip Road 736

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

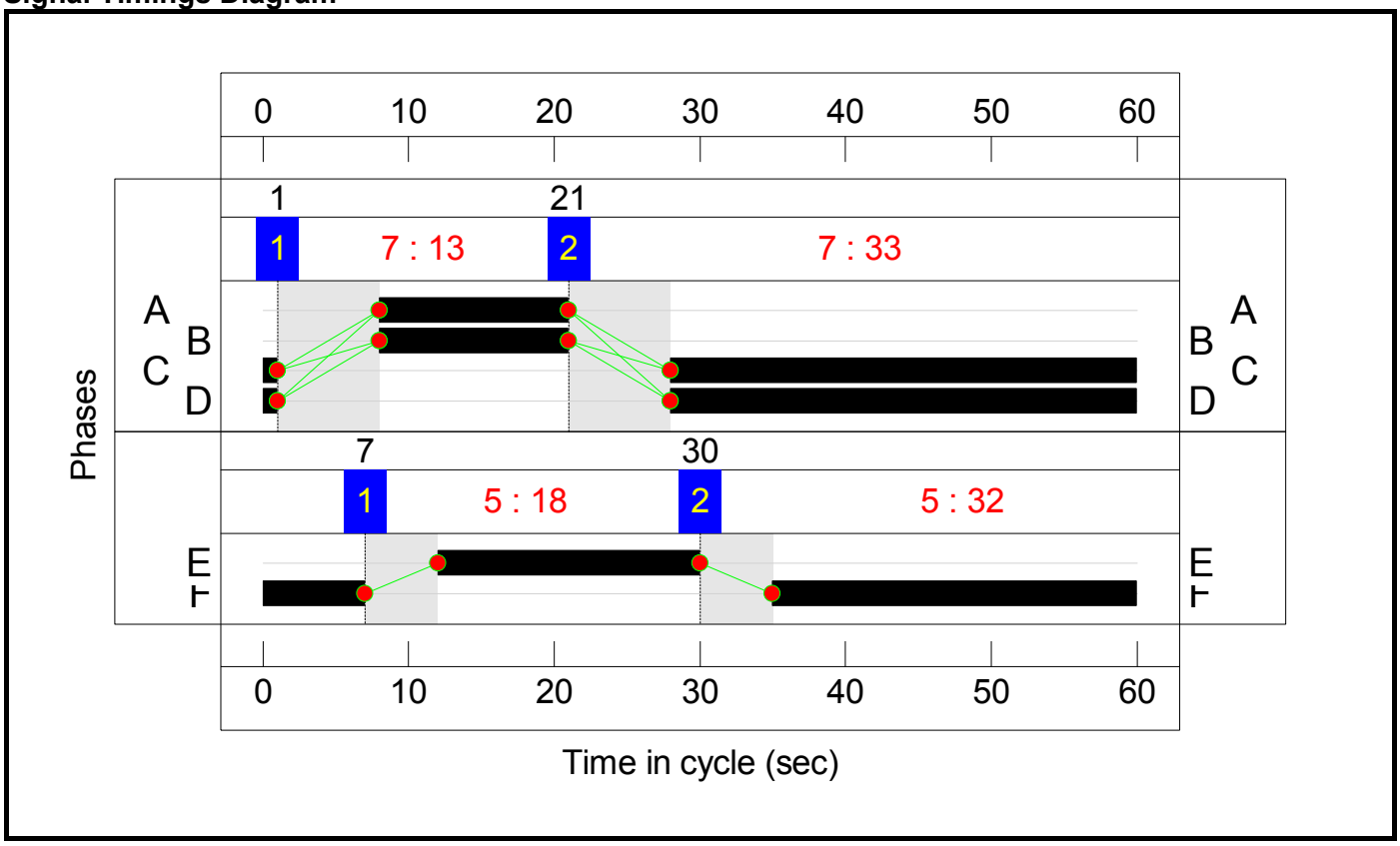
Stage Stream: 1

Stage	1	2
Duration	13	33
Change Point	1	21

Stage Stream: 2

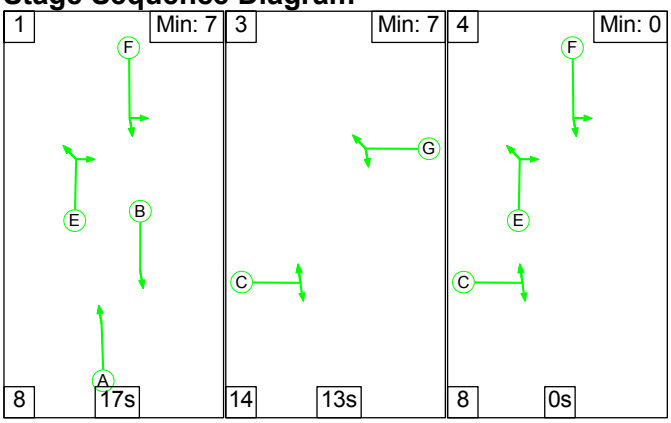
Stage	1	2
Duration	18	32
Change Point	7	30

Signal Timings Diagram



C5 - A3400/Exit Road/Gate Lane/M42 737

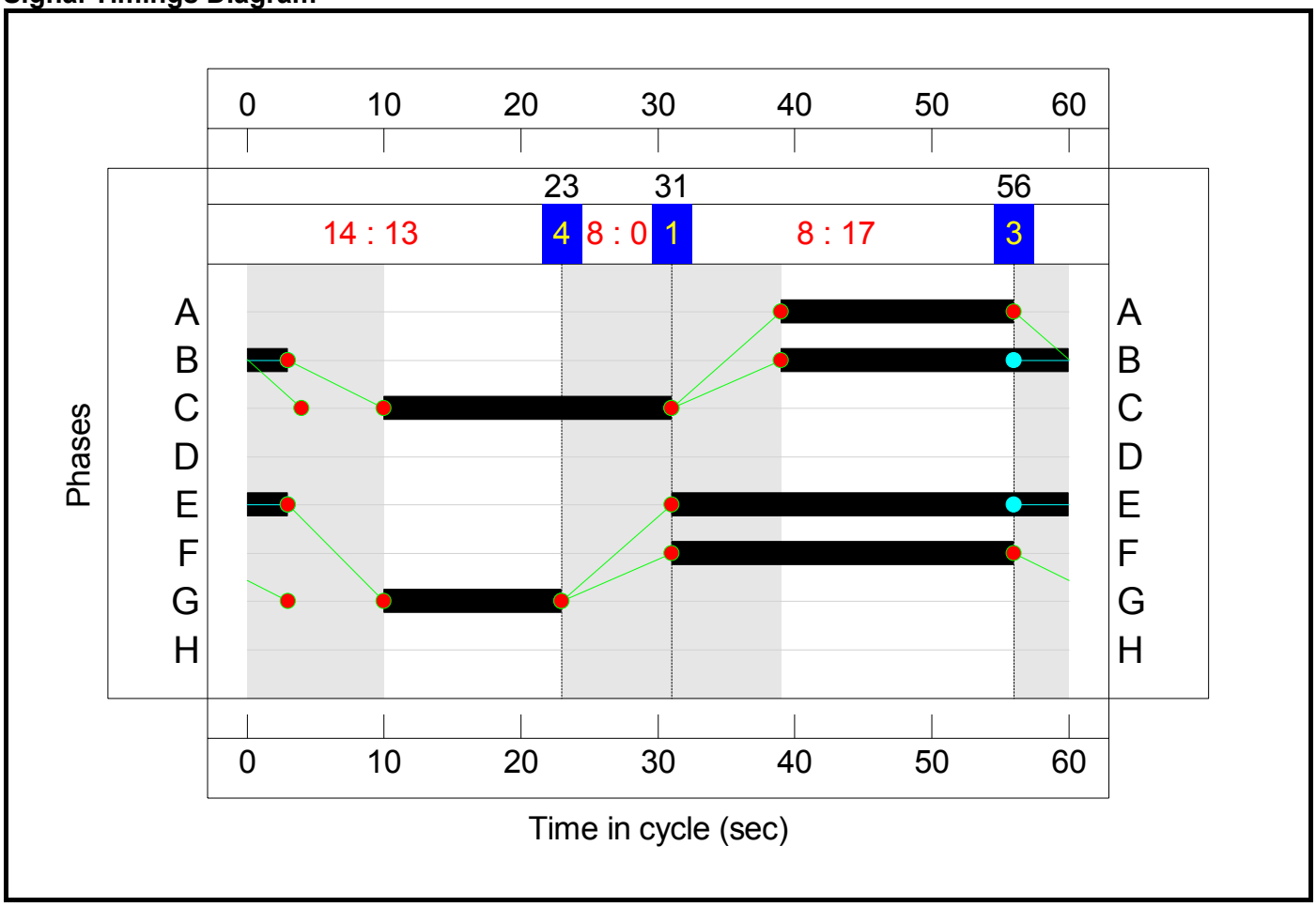
Stage Sequence Diagram



Stage Timings

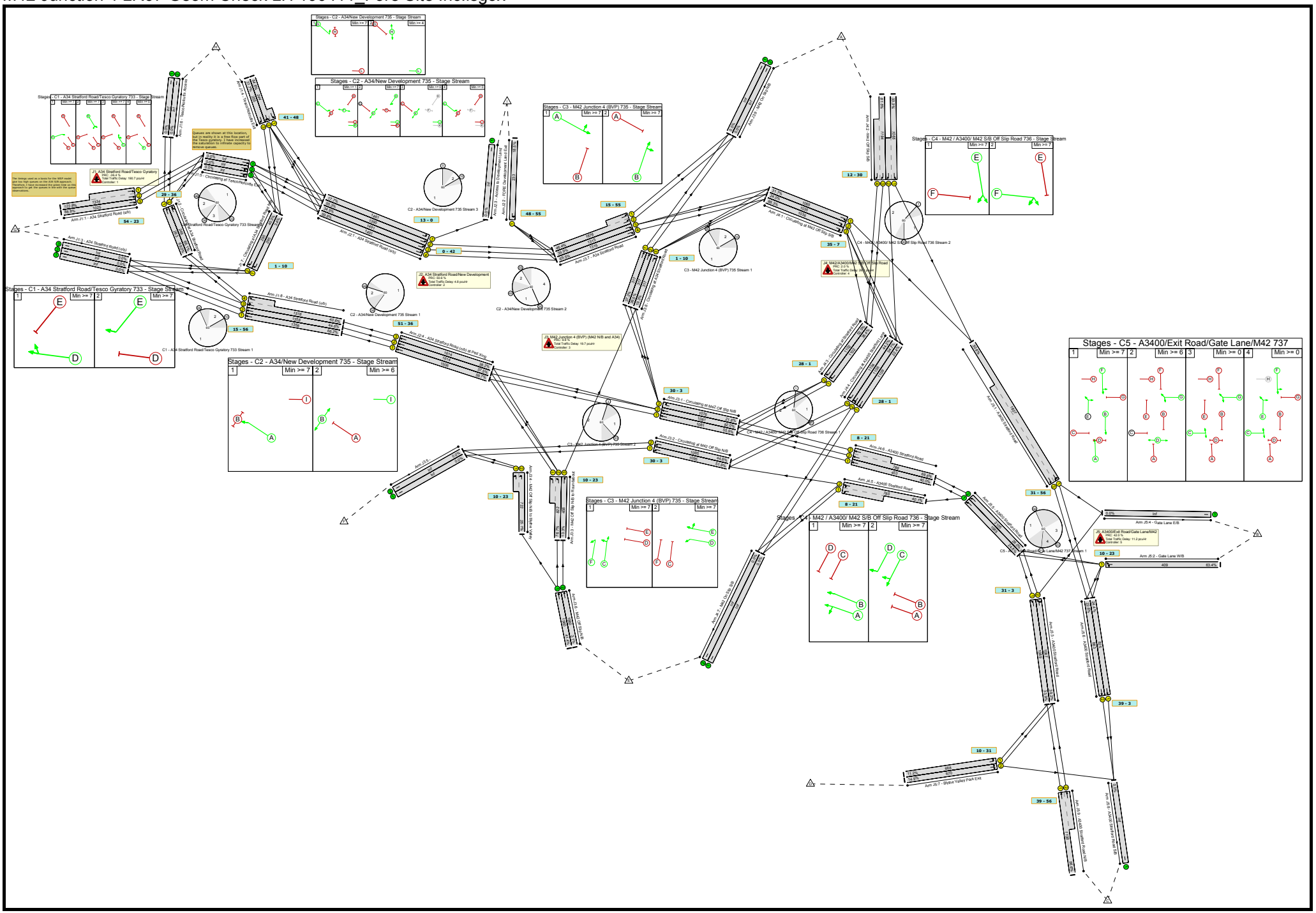
Stage	1	3	4
Duration	17	13	0
Change Point	31	56	23

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 4	-	-	-	**122.8%**	-	-
J1: A34 Stratford Road/Tesco Gyratory	-	-	-	**122.8%**	-	-
1/2+1/1	A34 Stratford Road (s/b) Ahead	1638	2050:1915	122.8%	373.0	185.6
1/3	A34 Stratford Road (s/b) Ahead	910	2050	88.8%	28.2	17.1
2/1	Circulating at A34 Stratford Road Ahead	179	1973	68.0%	33.8	3.4
2/2	Circulating at A34 Stratford Road Right Ahead	169	1860	68.1%	37.7	3.7
4/2+4/1	Tesco/Notcutts Exit Ahead Left	133	1915:1965	54.5%	40.3	2.6
4/3	Tesco/Notcutts Exit Ahead	81	1915	31.7%	33.9	1.4
7/1	Circulating at A34 Stratford Road N/B Right	10	1773	3.4%	15.2	0.2
7/2	Circulating at A34 Stratford Road N/B Right	119	1773	40.3%	27.7	2.2
8/1	A34 Stratford Road (n/b) Ahead	899	1940	66.2%	15.1	14.1
8/2	A34 Stratford Road (n/b) Ahead	605	1940	44.6%	8.4	6.7
8/3+8/4	A34 Stratford Road (n/b) Right Ahead	616	1940:1940	40.6%	11.7	8.5
J2: A34 Stratford Road/New Development	-	-	-	**59.8%**	-	-
1/1	A34 Stratford Road (s/b) Left	294	1826	17.7%	1.8	0.4
1/2	A34 Stratford Road (s/b) Ahead	932	1940	55.3%	3.5	1.6
1/3	A34 Stratford Road (s/b) Ahead	620	2080	34.5%	2.4	1.1
1/4	A34 Stratford Road (s/b) Ahead	891	2080	59.8%	3.4	1.3
2/1	FORE Development Land Exit Left	43	1747	18.5%	32.6	0.7
4/1	A34 Stratford Road (n/b) at Ped Xing Ahead	899	1965	59.7%	4.9	6.8
4/2	A34 Stratford Road (n/b) at Ped Xing Ahead	605	2105	37.5%	3.0	1.6
4/3	A34 Stratford Road (n/b) at Ped Xing Ahead	616	2105	38.2%	3.6	5.6
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	-	-	**82.0%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	604	1907	55.9%	5.9	3.5
1/2	Circulating at M42 Off Slip N/B Ahead	886	1907	82.0%	12.4	9.7
1/3	Circulating at M42 Off Slip N/B Right	234	1898	21.8%	7.6	3.6

2/1	Circulating at M42 Off Slip N/B Ahead	568	1932	51.9%	9.2	4.7
2/2	Circulating at M42 Off Slip N/B Ahead	488	1932	44.6%	11.3	3.7
3/2+3/1	M42 Off Slip N/B to Roundabout Left	630	1915:1915	76.7%	30.4	6.7
3/3	M42 Off Slip N/B to Roundabout Ahead	61	1965	13.3%	22.8	0.9
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	181	1881:1881	25.1%	21.9	1.4
6/1	M42 Off Slip N/B Ahead Ahead2	811	1960	41.4%	1.6	0.4
6/2	M42 Off Slip N/B Ahead	61	1960	3.1%	0.9	0.0
7/2+7/1	A34 Stratford Road Ahead	941	1914:1914	46.4%	2.5	1.1
7/3	A34 Stratford Road Ahead	631	1925	39.9%	3.2	1.4
7/4	A34 Stratford Road Ahead	914	1925	69.5%	5.3	2.3
8/1	Circulating at A34 Stratford Road Ahead	118	1905	37.2%	29.6	2.3
8/2	Circulating at A34 Stratford Road Ahead	116	1905	36.5%	29.5	2.2
8/3	Circulating at A34 Stratford Road Right	61	1900	19.3%	46.0	1.1
J4: M42/A3400/M42 S/B Off Slip Road	**-**	**-**	**-**	**88.3%**	**-**	**-**
1/1	Circulating at M42 Off Slip S/B Ahead	398	1936	31.7%	7.4	2.7
1/2	Circulating at M42 Off Slip S/B Right	294	1881	24.0%	4.8	1.5
1/3	Circulating at M42 Off Slip S/B Right Right2	914	1883	88.3%	16.5	16.7
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	355	1867:1914	33.3%	18.0	2.8
2/3+2/4	M42 Off Slip S/B Ahead	973	1885:1885	81.5%	27.0	10.9
3/1	Circulating at Stratford Road Right	423	1945	38.4%	4.0	5.7
3/2	Circulating at Stratford Road Right	573	1945	52.0%	4.7	8.3
4/1	Circulating at A3400 Stratford Lane Ahead	294	1957	22.4%	7.6	1.4
4/2	Circulating at A3400 Stratford Lane Right Ahead	605	1952	54.7%	13.9	7.4
4/3	Circulating at A3400 Stratford Lane Right	488	1949	44.2%	14.6	4.8
5/2+5/1	A3400 Stratford Road Ahead Left	307	1951:1922	40.1%	17.1	2.6
6/1	A3400 Stratford Road Ahead	181	1941	40.0%	21.4	2.5
6/2+6/3	A3400 Stratford Road Ahead	547	1941:1932	69.6%	21.4	5.6
J5: A3400/Exit Road/Gate Lane/M42	**-**	**-**	**-**	**63.4%**	**-**	**-**
1/1+1/2	A3400 Stratford Road Left Ahead	551	1894:1975	30.6%	16.5	3.2

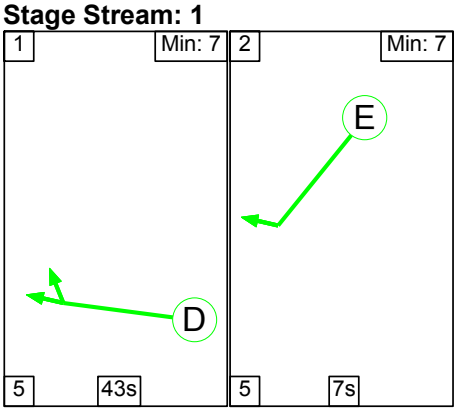
2/1	Gate Lane W/B Right Left	259	1751	63.4%	32.6	4.7
3/1	A3400 Stratford Road Ahead	369	1980	33.9%	5.9	1.7
3/2	A3400 Stratford Road Right Ahead	426	1977	39.2%	5.9	1.9
5/1	A3400 Stratford Road Ahead Ahead2	488	1965	24.8%	1.2	0.2
5/2	A3400 Stratford Road Ahead	547	2105	26.0%	1.2	0.2
6/1	A3400 Stratford Road Ahead	220	1980	24.4%	4.6	0.4
6/2	A3400 Stratford Road Ahead	228	2120	22.6%	3.5	0.3
7/1	Blythe Valley Park Exit Left	75	1823	11.2%	15.6	0.9
7/2	Blythe Valley Park Exit Left Right	100	1826	14.9%	15.9	1.2
9/1+9/2	A3400 Stratford Road N/B Ahead	644	1965:2105	56.6%	21.1	5.5

C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 1 PRC for Signalled Lanes (%):	36.0	Total Delay for Signalled Lanes (pcuHr):	8.14	
C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 2 PRC for Signalled Lanes (%):	-36.4	Total Delay for Signalled Lanes (pcuHr):	182.56	
C2 - A34/New Development 735	Stream: 1 PRC for Signalled Lanes (%):	50.8	Total Delay for Signalled Lanes (pcuHr):	2.35	
C2 - A34/New Development 735	Stream: 2 PRC for Signalled Lanes (%):	50.6	Total Delay for Signalled Lanes (pcuHr):	2.32	
C2 - A34/New Development 735	Stream: 3 PRC for Signalled Lanes (%):	408.1	Total Delay for Signalled Lanes (pcuHr):	0.13	
C3 - M42 Junction 4 (BVP) 735	Stream: 1 PRC for Signalled Lanes (%):	29.5	Total Delay for Signalled Lanes (pcuHr):	5.05	
C3 - M42 Junction 4 (BVP) 735	Stream: 2 PRC for Signalled Lanes (%):	9.8	Total Delay for Signalled Lanes (pcuHr):	14.31	
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 1 PRC for Signalled Lanes (%):	29.4	Total Delay for Signalled Lanes (pcuHr):	11.84	
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 2 PRC for Signalled Lanes (%):	2.0	Total Delay for Signalled Lanes (pcuHr):	14.30	
C5 - A3400/Exit Road/Gate Lane/M42 737	PRC for Signalled Lanes (%):	42.0	Total Delay for Signalled Lanes (pcuHr):	10.90	
	PRC Over All Lanes (%):	-36.4	Total Delay Over All Lanes(pcuHr):	252.59	Cycle Time (s): 60

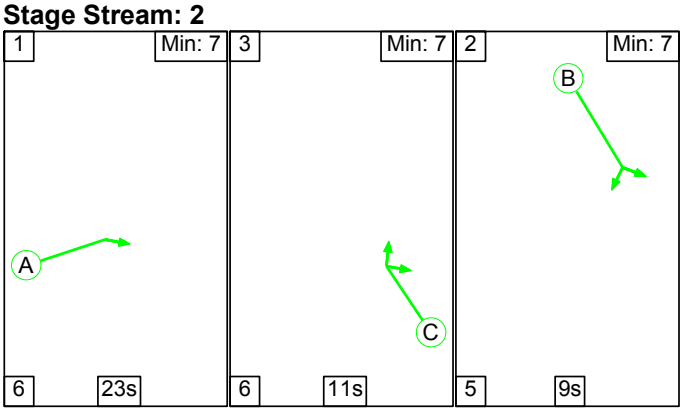
Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Scenario 10: '2013 PM Peak Base' (FG14: '2013 PM Peak Base', Plan 1: 'Network Control Plan 1')
C1 - A34 Stratford Road/Tesco Gyratory 733

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

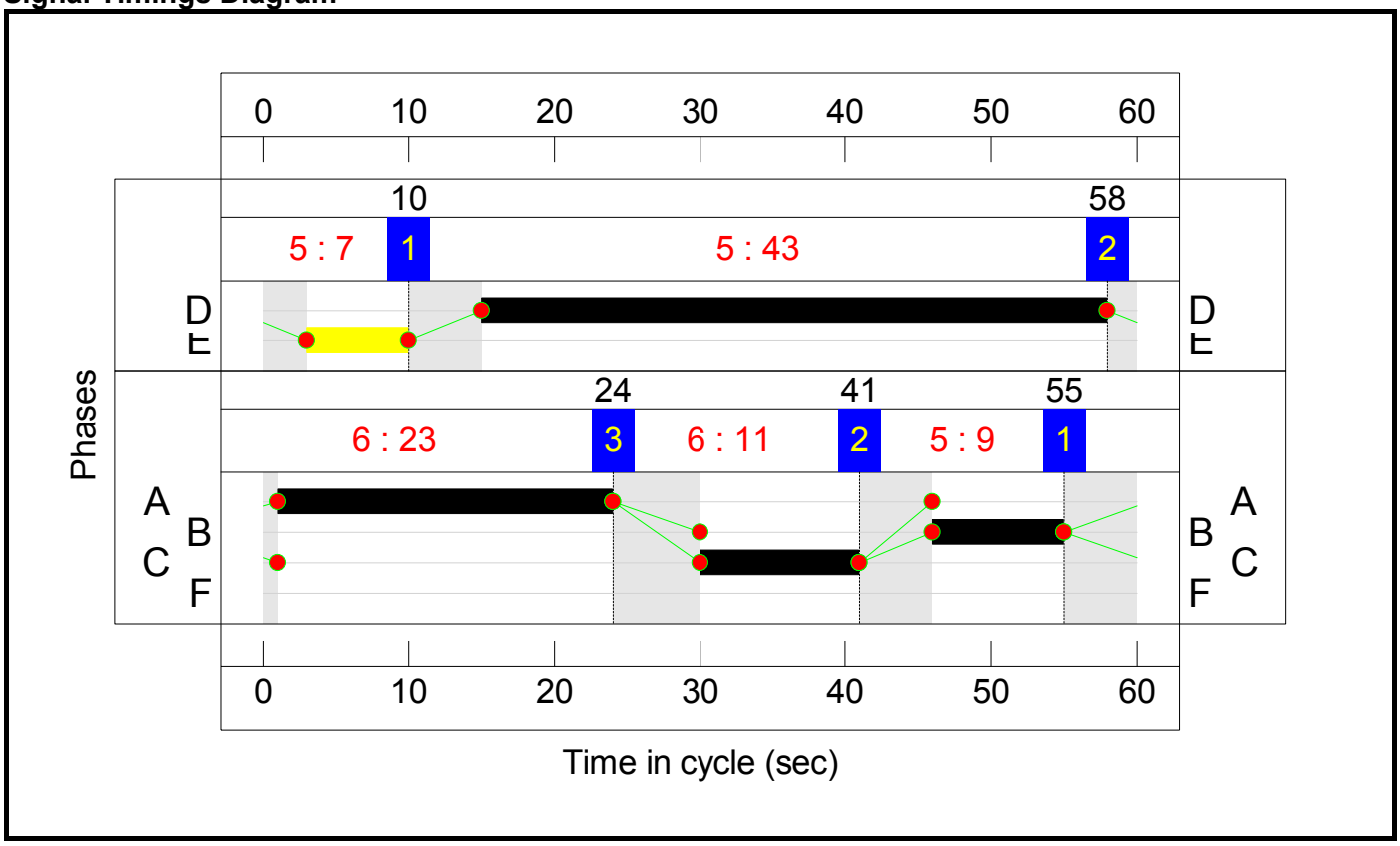
Stage Stream: 1

Stage	1	2
Duration	43	7
Change Point	10	58

Stage Stream: 2

Stage	1	3	2
Duration	23	11	9
Change Point	55	24	41

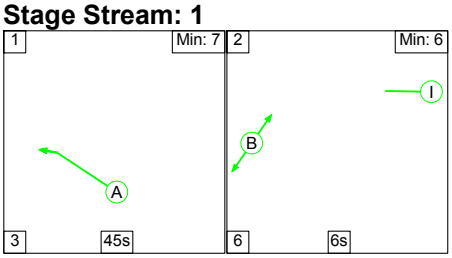
Signal Timings Diagram



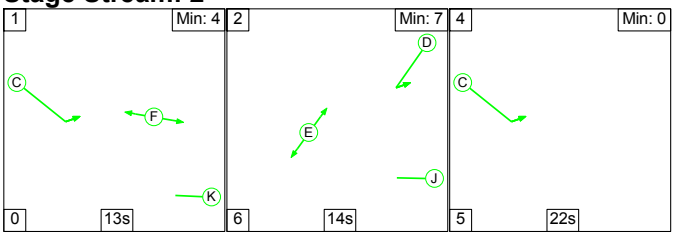
C2 - A34/New Development 735

Stage Sequence Diagram

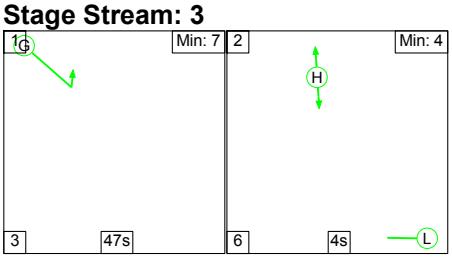
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	45	6
Change Point	5	53

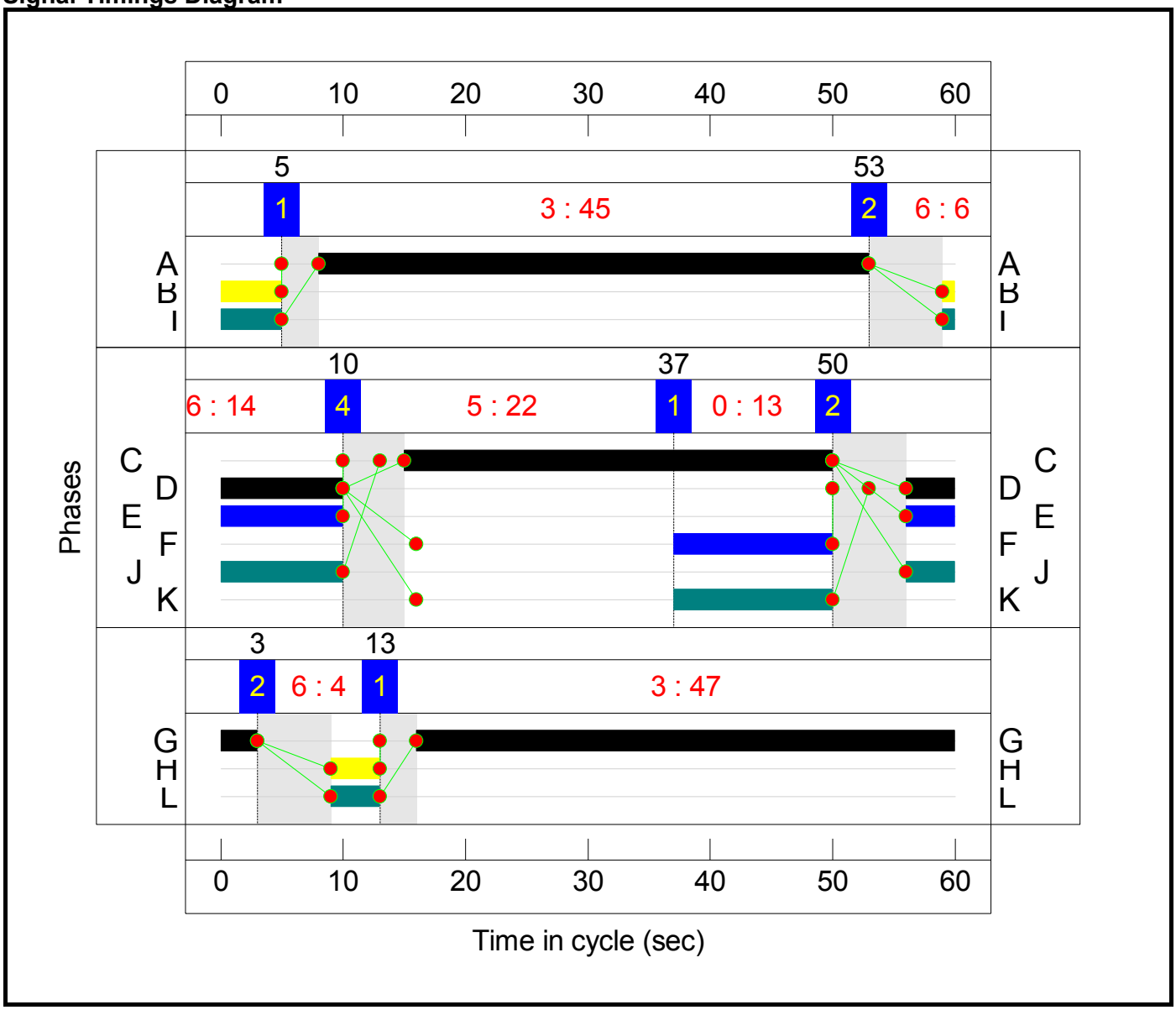
Stage Stream: 2

Stage	1	2	4
Duration	13	14	22
Change Point	37	50	10

Stage Stream: 3

Stage	1	2
Duration	47	4
Change Point	13	3

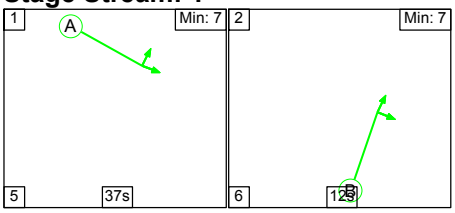
Signal Timings Diagram



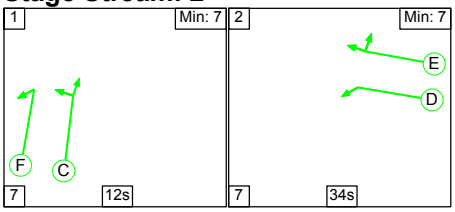
C3 - M42 Junction 4 (BVP) 735

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

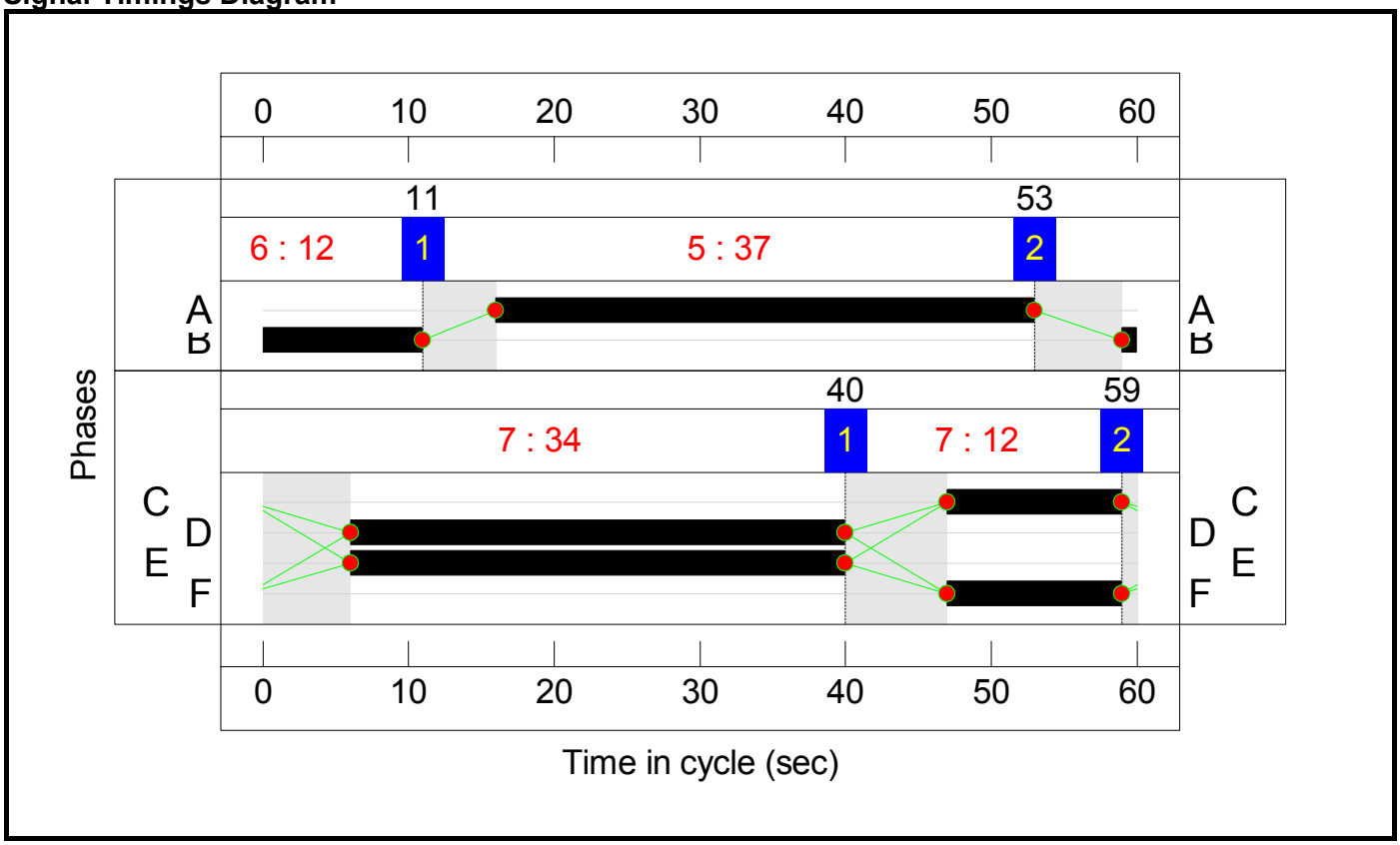
Stage Stream: 1

Stage	1	2
Duration	37	12
Change Point	11	53

Stage Stream: 2

Stage	1	2
Duration	12	34
Change Point	40	59

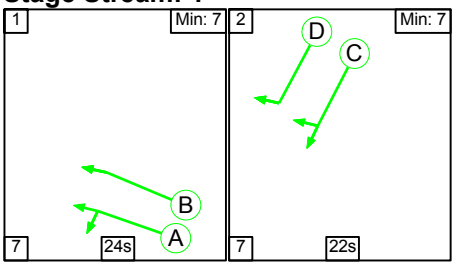
Signal Timings Diagram



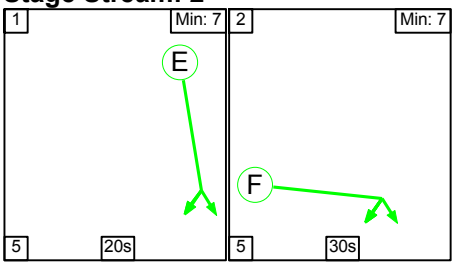
C4 - M42 / A3400/ M42 S/B Off Slip Road 736

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

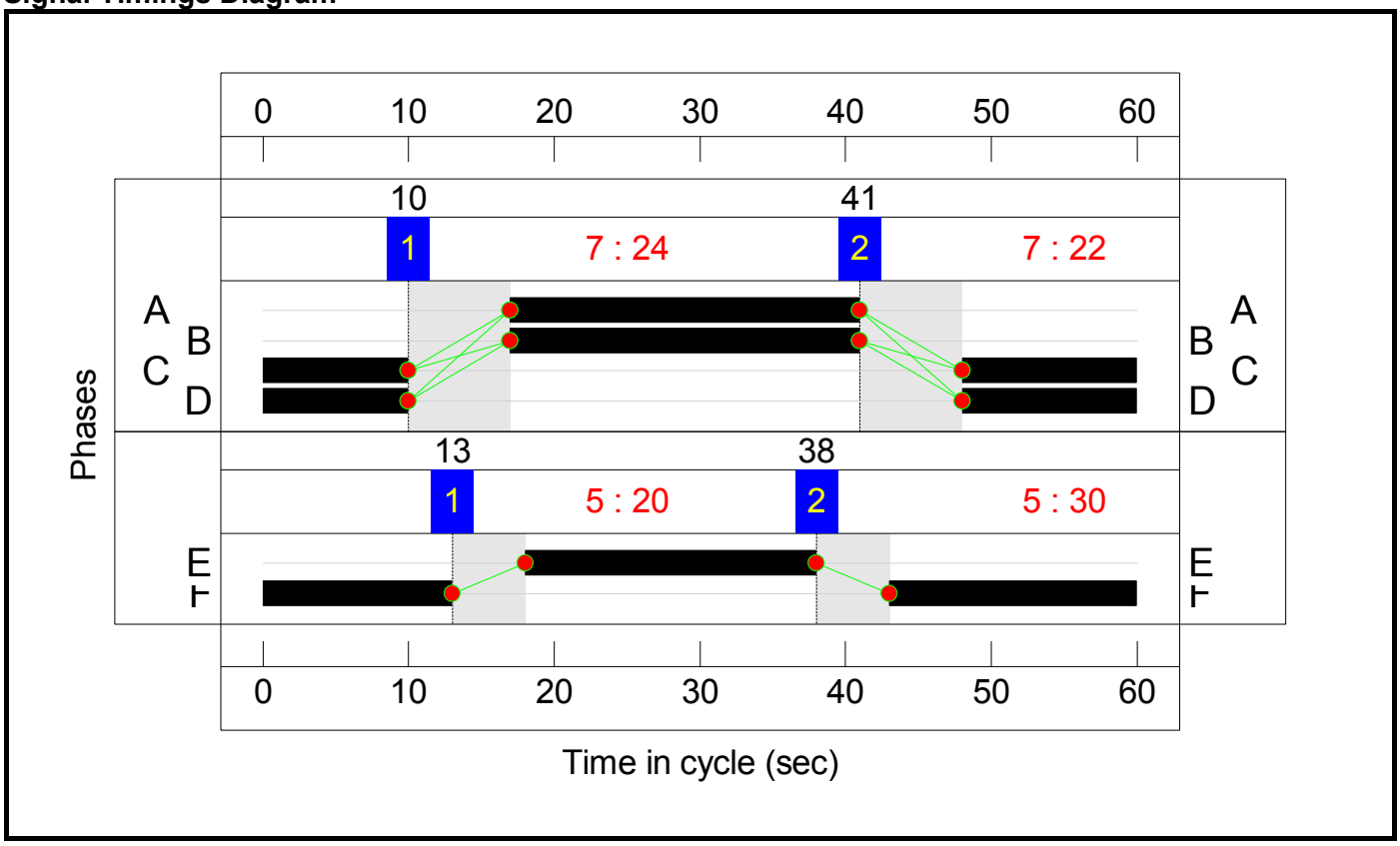
Stage Stream: 1

Stage	1	2
Duration	24	22
Change Point	10	41

Stage Stream: 2

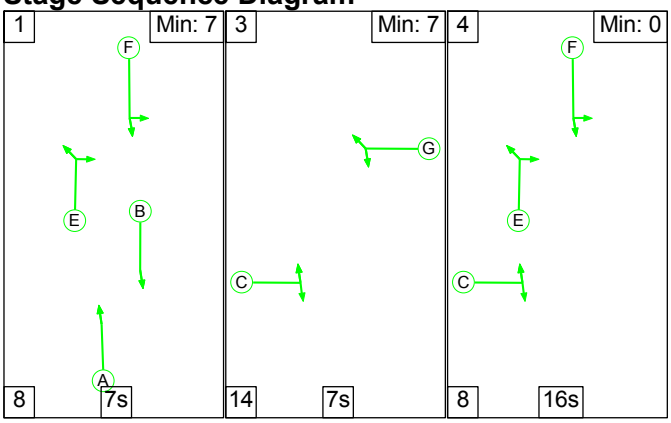
Stage	1	2
Duration	20	30
Change Point	13	38

Signal Timings Diagram



C5 - A3400/Exit Road/Gate Lane/M42 737

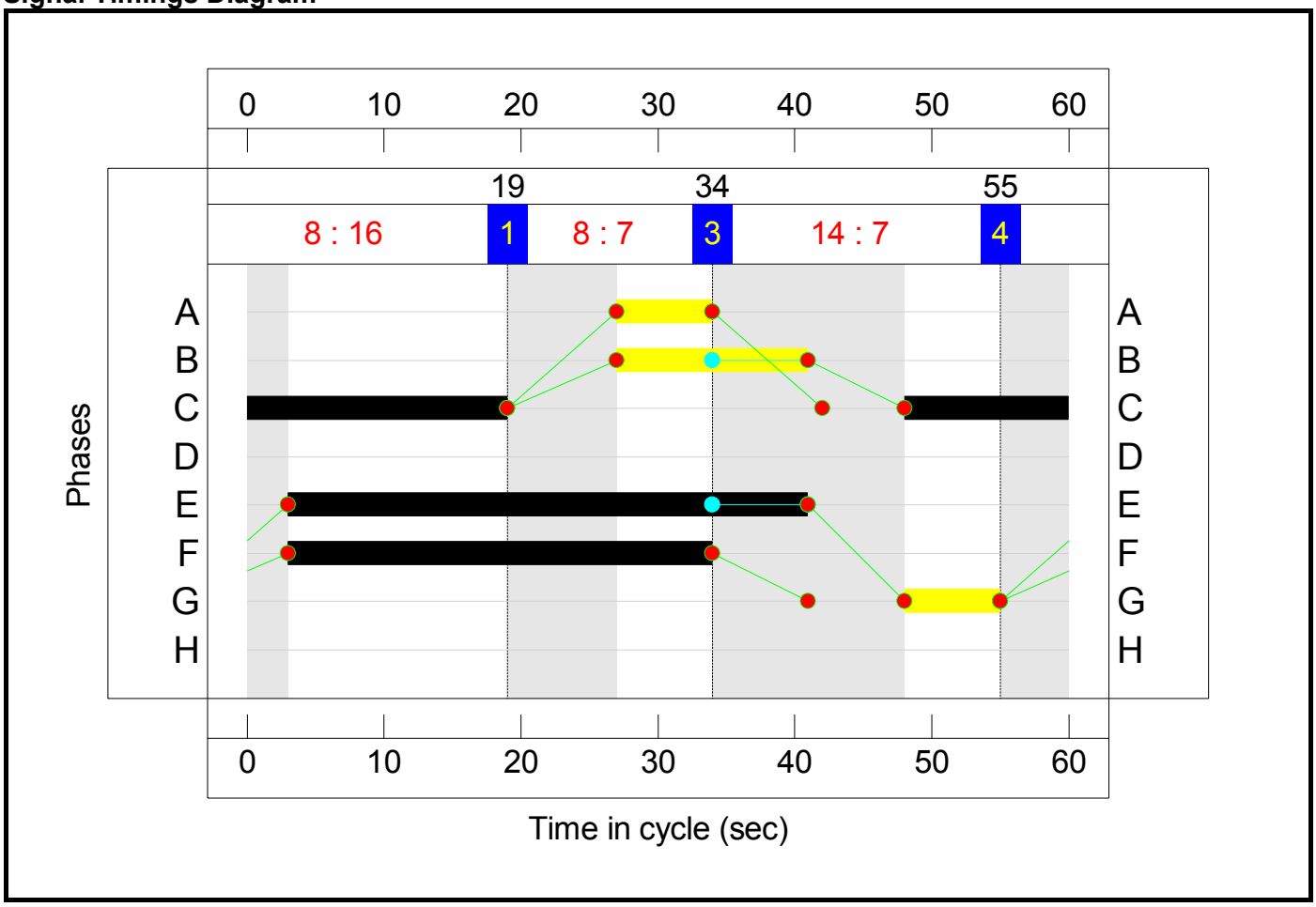
Stage Sequence Diagram



Stage Timings

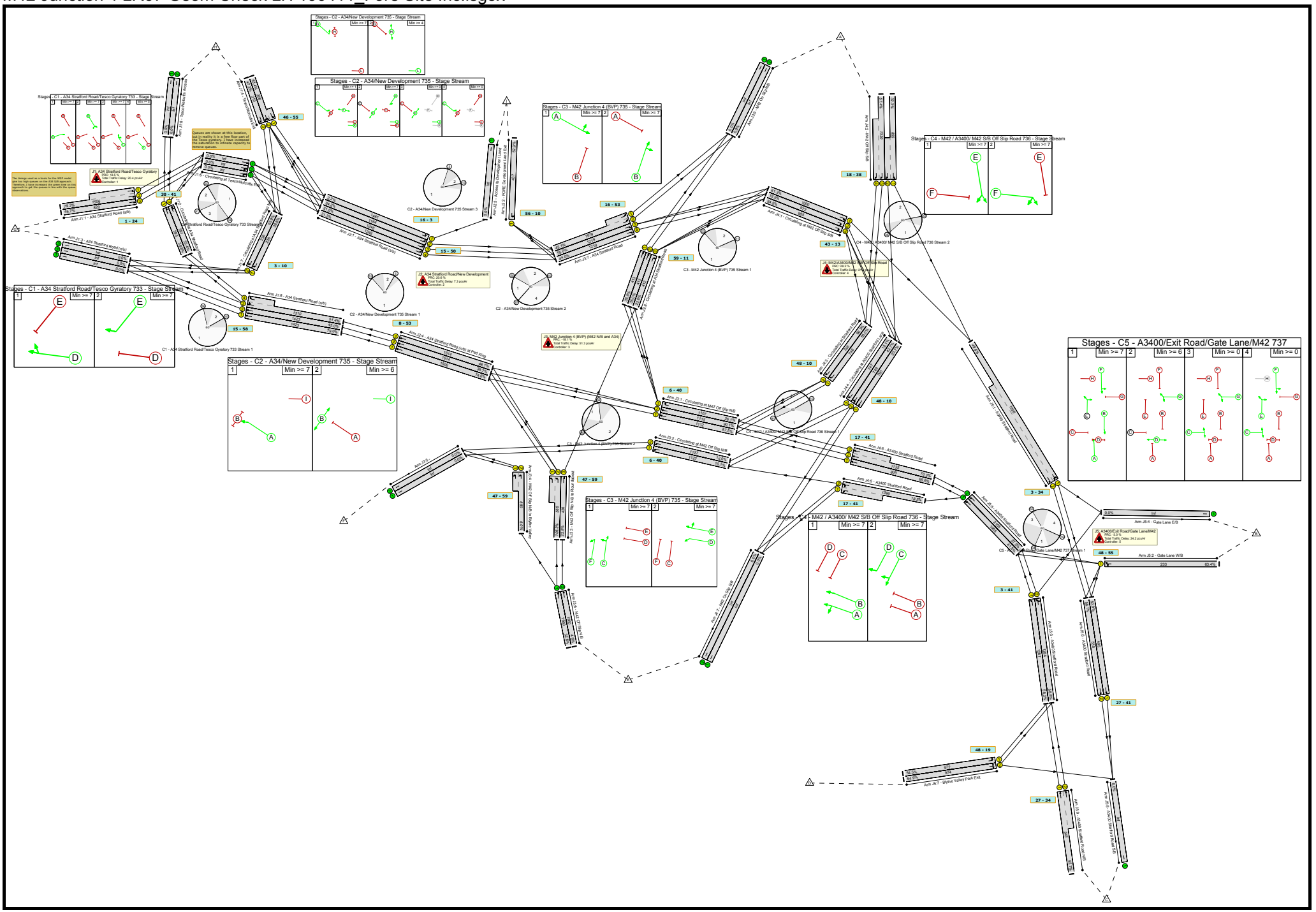
Stage	1	3	4
Duration	7	7	16
Change Point	19	34	55

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x



Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Full Input Data And Results OH Format
M42 Junction 4 LR67 Geom Check LH 190411_Fore Site Inc.lsg3x

Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 4	-	-	-	**106.3%**	-	-
J1: A34 Stratford Road/Tesco Gyratory	-	-	-	**79.3%**	-	-
1/2+1/1	A34 Stratford Road (s/b) Ahead	1194	2050:1915	79.3%	21.2	10.5
1/3	A34 Stratford Road (s/b) Ahead	375	2050	45.7%	17.3	5.0
2/1	Circulating at A34 Stratford Road Ahead	154	1973	38.8%	33.8	2.7
2/2	Circulating at A34 Stratford Road Right Ahead	135	1954	33.4%	22.6	2.1
4/2+4/1	Tesco/Notcutts Exit Ahead Left	195	1915:1965	63.4%	39.0	3.9
4/3	Tesco/Notcutts Exit Ahead	151	1915	47.3%	33.3	2.7
7/1	Circulating at A34 Stratford Road N/B Right	87	1773	36.8%	44.6	1.7
7/2	Circulating at A34 Stratford Road N/B Right	151	1773	63.9%	28.5	3.4
8/1	A34 Stratford Road (n/b) Ahead	1134	1940	79.0%	7.2	7.0
8/2	A34 Stratford Road (n/b) Ahead	662	1940	45.0%	3.0	5.3
8/3+8/4	A34 Stratford Road (n/b) Right Ahead	783	1940:1940	51.4%	3.5	7.5
J2: A34 Stratford Road/New Development	-	-	-	**74.6%**	-	-
1/1	A34 Stratford Road (s/b) Left	33	1826	2.2%	1.3	0.0
1/2	A34 Stratford Road (s/b) Ahead	631	1940	54.2%	4.7	2.4
1/3	A34 Stratford Road (s/b) Ahead	636	2080	51.0%	4.7	3.0
1/4	A34 Stratford Road (s/b) Ahead	390	2080	31.3%	2.6	0.6
2/1	FORE Development Land Exit Left	231	1747	52.9%	28.2	3.8
4/1	A34 Stratford Road (n/b) at Ped Xing Ahead	1134	1965	74.6%	6.8	5.9
4/2	A34 Stratford Road (n/b) at Ped Xing Ahead	662	2105	39.7%	3.7	5.2
4/3	A34 Stratford Road (n/b) at Ped Xing Ahead	783	2105	48.1%	3.4	2.4
J3: M42 Junction 4 (BVP) (M42 N/B and A34)	-	-	-	**106.3%**	-	-
1/1	Circulating at M42 Off Slip N/B Ahead	973	1907	87.5%	26.0	15.6
1/2	Circulating at M42 Off Slip N/B Ahead	1004	1907	90.1%	28.5	18.0
1/3	Circulating at M42 Off Slip N/B Right	290	1898	26.1%	11.7	2.5

2/1	Circulating at M42 Off Slip N/B Ahead	114	1932	10.1%	5.7	1.0
2/2	Circulating at M42 Off Slip N/B Ahead	135	1932	12.0%	2.7	0.5
3/2+3/1	M42 Off Slip N/B to Roundabout Left	602	1915:1915	106.3%	170.0	31.9
3/3	M42 Off Slip N/B to Roundabout Ahead	97	1965	22.8%	24.9	1.5
4/2+4/1	M42 Off Slip N/B to Blythe Valley Left	41	1881:1881	6.0%	21.6	0.3
6/1	M42 Off Slip N/B Ahead Ahead2	643	1960	32.8%	1.4	0.2
6/2	M42 Off Slip N/B Ahead	97	1960	4.9%	1.0	0.0
7/2+7/1	A34 Stratford Road Ahead	680	1914:1914	43.1%	3.1	0.9
7/3	A34 Stratford Road Ahead	671	1925	55.0%	4.4	1.6
7/4	A34 Stratford Road Ahead	537	1925	44.0%	5.3	3.0
8/1	Circulating at A34 Stratford Road Ahead	145	1905	35.0%	38.0	2.7
8/2	Circulating at A34 Stratford Road Ahead	145	1905	35.0%	38.0	2.7
8/3	Circulating at A34 Stratford Road Right	97	1900	23.6%	8.2	1.3
J4: M42/A3400/M42 S/B Off Slip Road	-	-	-	**70.2%**	-	-
1/1	Circulating at M42 Off Slip S/B Ahead	613	1936	61.3%	9.1	7.3
1/2	Circulating at M42 Off Slip S/B Right	155	1881	15.9%	5.1	1.0
1/3	Circulating at M42 Off Slip S/B Right Right2	537	1906	54.5%	10.5	8.0
2/1+2/2	M42 Off Slip S/B Ahead Ahead2	276	1867:1914	32.3%	17.1	2.8
2/3+2/4	M42 Off Slip S/B Ahead	757	1885:1885	57.4%	19.1	6.3
3/1	Circulating at Stratford Road Right	410	1945	55.0%	19.7	7.4
3/2	Circulating at Stratford Road Right	494	1945	66.3%	18.0	8.7
4/1	Circulating at A3400 Stratford Lane Ahead	155	1957	20.7%	10.1	0.7
4/2	Circulating at A3400 Stratford Lane Right Ahead	320	1955	42.7%	14.7	2.6
4/3	Circulating at A3400 Stratford Lane Right	135	1949	18.1%	11.4	0.7
5/2+5/1	A3400 Stratford Road Ahead Left	259	1934:1922	18.5%	9.3	1.2
6/1	A3400 Stratford Road Ahead	563	1941	69.6%	14.5	4.9
6/2+6/3	A3400 Stratford Road Ahead	800	1941:1932	70.2%	12.3	4.0
J5: A3400/Exit Road/Gate Lane/M42	-	-	-	**92.7%**	-	-
1/1+1/2	A3400 Stratford Road Left Ahead	824	1854:1975	48.6%	7.9	30.5

Full Input Data And Results OH Format
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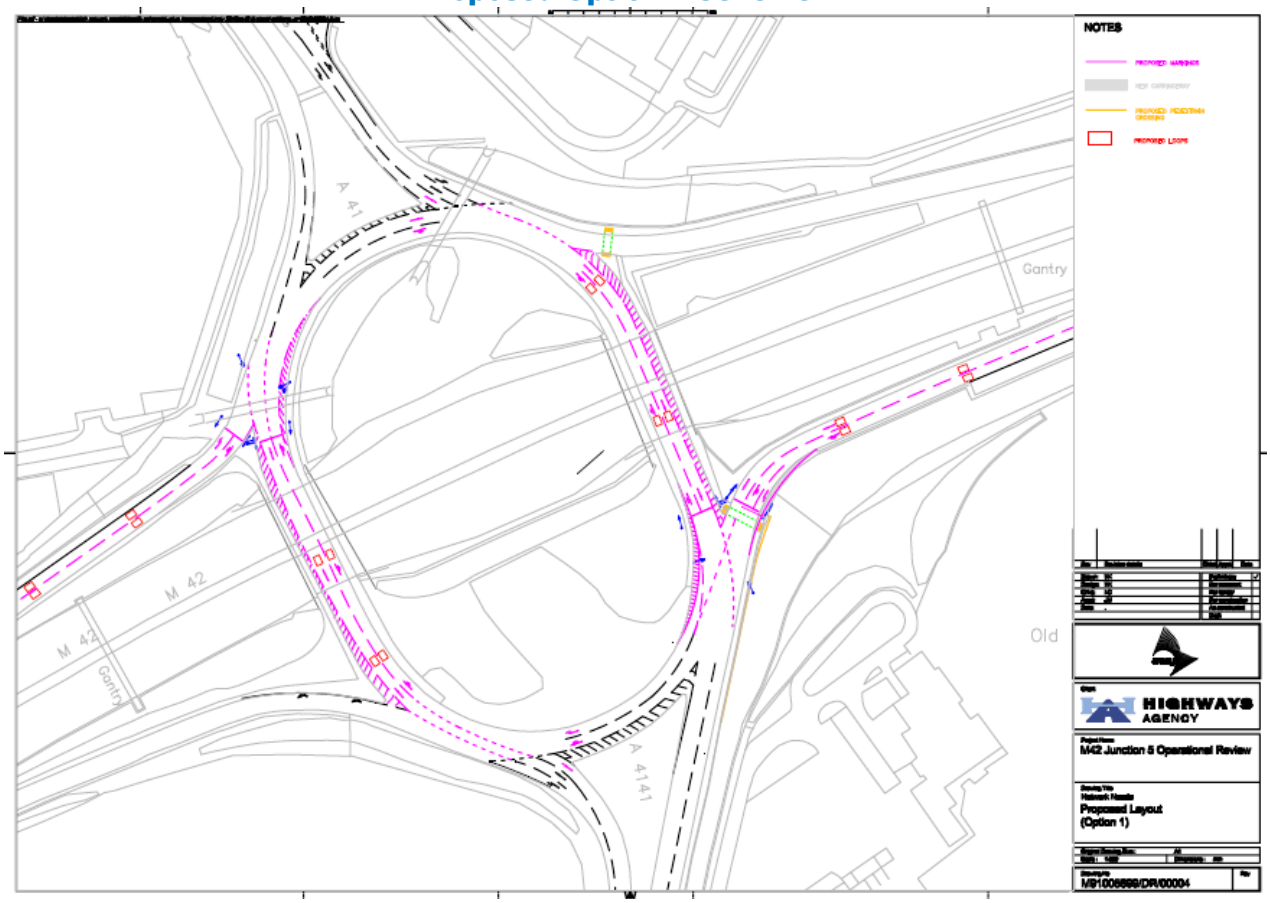
2/1	Gate Lane W/B Right Left	148	1750	63.4%	45.3	3.2
3/1	A3400 Stratford Road Ahead	749	1980	58.2%	9.1	9.1
3/2	A3400 Stratford Road Right Ahead	759	1976	58.8%	9.9	9.1
5/1	A3400 Stratford Road Ahead Ahead2	822	1965	41.8%	1.6	3.1
5/2	A3400 Stratford Road Ahead	800	2105	37.9%	1.4	0.3
6/1	A3400 Stratford Road Ahead	252	1980	50.9%	16.4	4.0
6/2	A3400 Stratford Road Ahead	308	2120	58.1%	16.3	4.6
7/1	Blythe Valley Park Exit Left	530	1823	54.5%	13.3	6.3
7/2	Blythe Valley Park Exit Left Right	632	1827	64.9%	15.2	8.3
9/1+9/2	A3400 Stratford Road N/B Ahead	503	1965:2105	92.7%	62.5	9.8

C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 1 PRC for Signalled Lanes (%):	13.9	Total Delay for Signalled Lanes (pcuHr):	5.83			
C1 - A34 Stratford Road/Tesco Gyratory 733	Stream: 2 PRC for Signalled Lanes (%):	13.5	Total Delay for Signalled Lanes (pcuHr):	14.57			
C2 - A34/New Development 735	Stream: 1 PRC for Signalled Lanes (%):	20.6	Total Delay for Signalled Lanes (pcuHr):	3.54			
C2 - A34/New Development 735	Stream: 2 PRC for Signalled Lanes (%):	66.0	Total Delay for Signalled Lanes (pcuHr):	3.75			
C2 - A34/New Development 735	Stream: 3 PRC for Signalled Lanes (%):	3930.2	Total Delay for Signalled Lanes (pcuHr):	0.01			
C3 - M42 Junction 4 (BVP) 735	Stream: 1 PRC for Signalled Lanes (%):	63.5	Total Delay for Signalled Lanes (pcuHr):	5.46			
C3 - M42 Junction 4 (BVP) 735	Stream: 2 PRC for Signalled Lanes (%):	-18.1	Total Delay for Signalled Lanes (pcuHr):	45.55			
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 1 PRC for Signalled Lanes (%):	28.2	Total Delay for Signalled Lanes (pcuHr):	12.55			
C4 - M42 / A3400/ M42 S/B Off Slip Road 736	Stream: 2 PRC for Signalled Lanes (%):	46.9	Total Delay for Signalled Lanes (pcuHr):	8.66			
C5 - A3400/Exit Road/Gate Lane/M42 737	PRC for Signalled Lanes (%):	-3.0	Total Delay for Signalled Lanes (pcuHr):	23.53			
	PRC Over All Lanes (%):	-18.1	Total Delay Over All Lanes(pcuHr):	124.38	Cycle Time (s):	60	

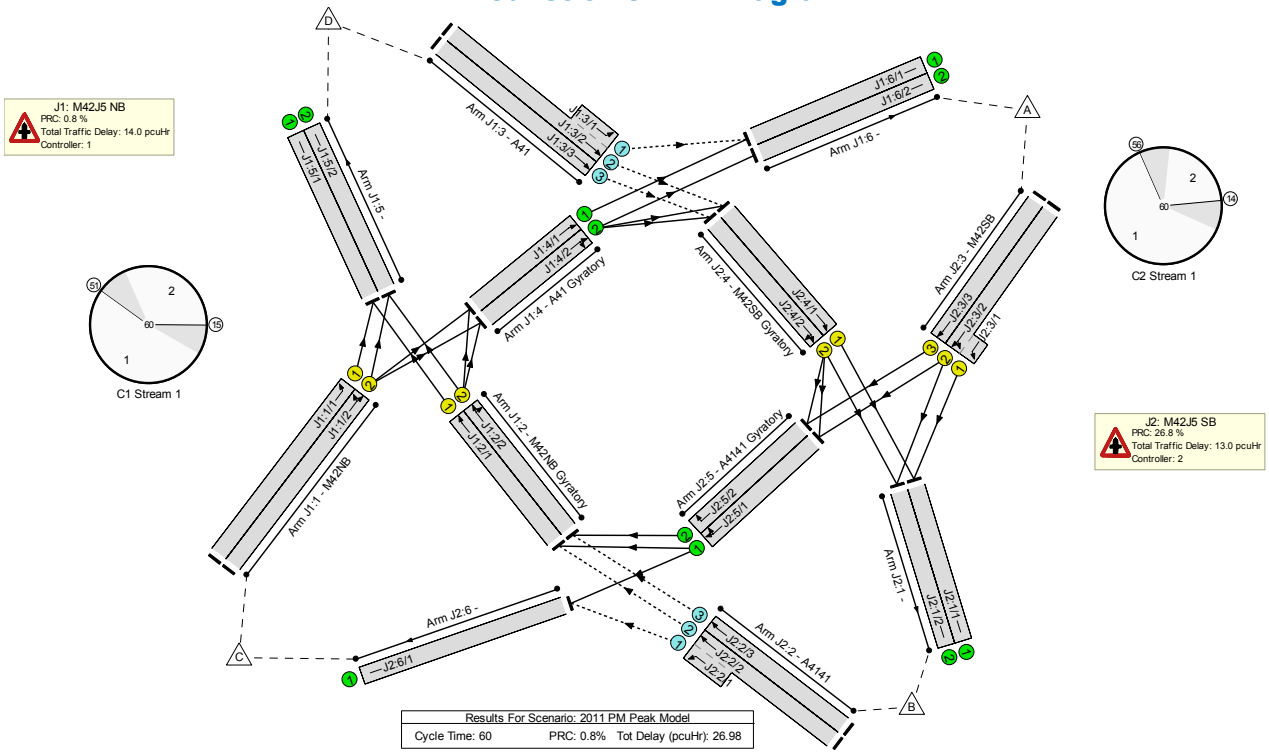
Appendix B. M42 Junction 5

B.1. Proposed Option 1 Scheme



Source: Highways Agency

B.2. M42 Junction 5 Link Diagram



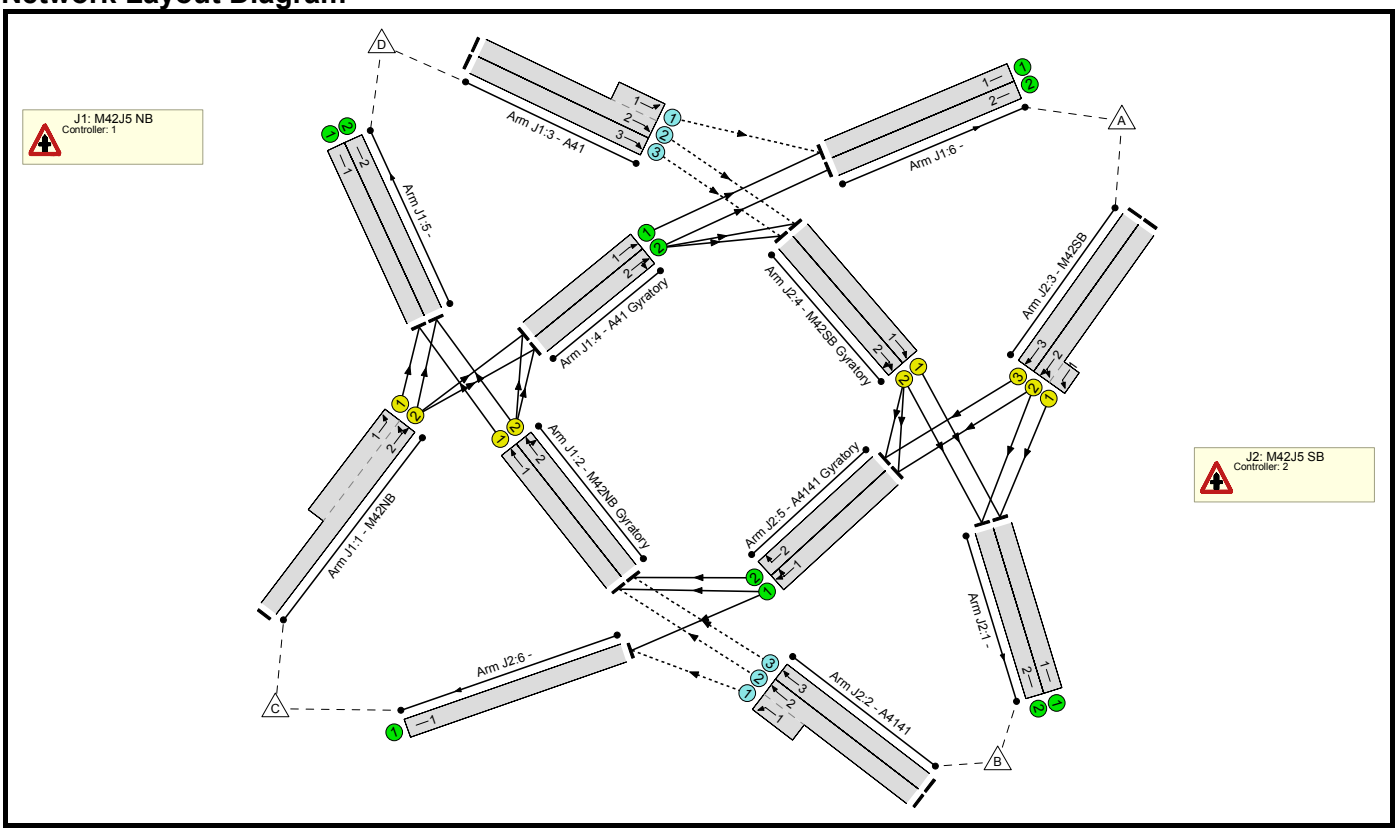
Source: Amey / Mott MacDonald

Full Input Data And Results OH Format

User and Project Details

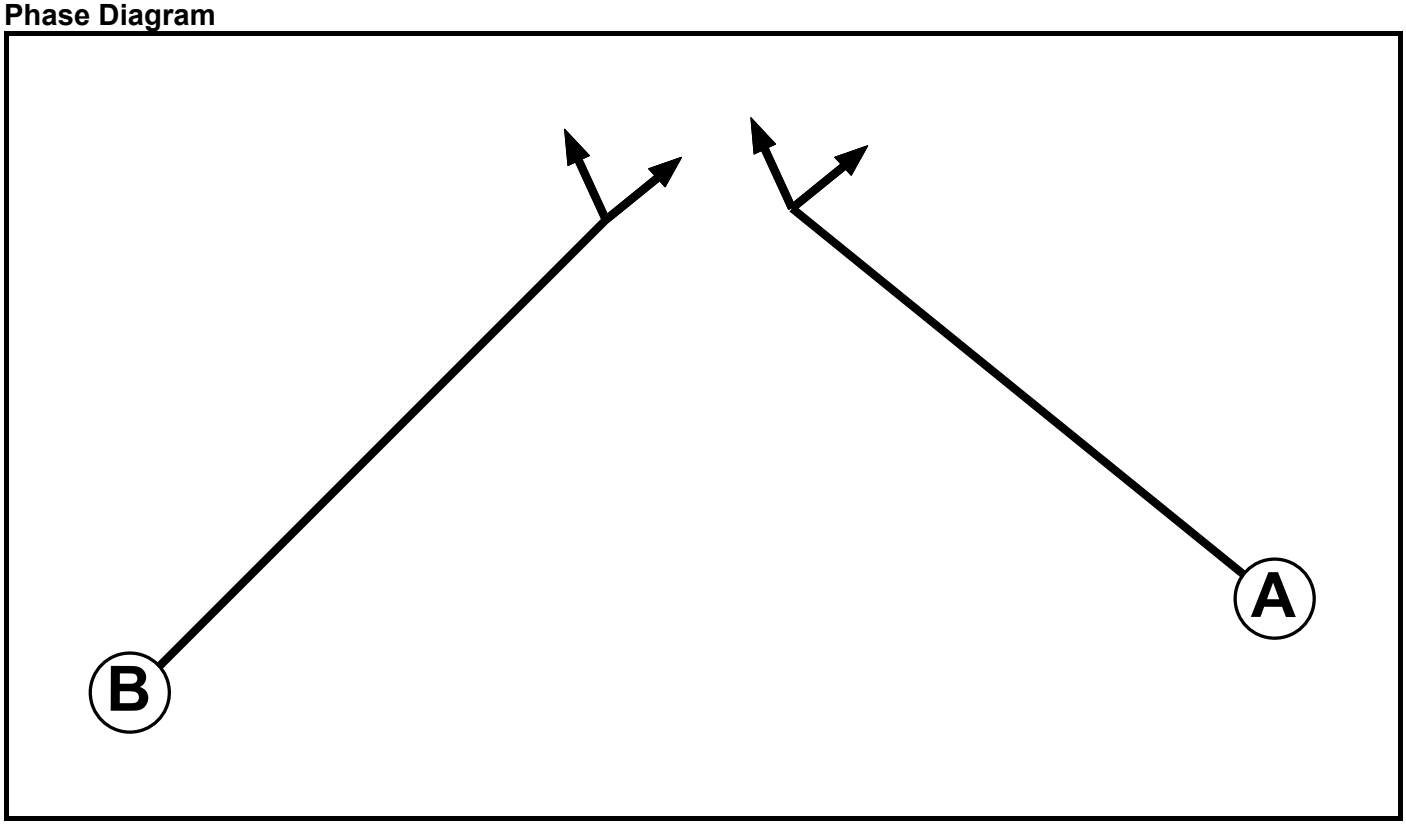
Project:	**Solihull Core Strategy Transport and Infrastructure Assessment**
Title:	**M42 Junction 5**
Location:	Solihull
File name:	M42 Junction 5 LR67 Geom Check LH 140411.lsg3x
Author:	OWH
Company:	Mott MacDonald
Address:	85 Canterbury House, Birmingham, B3 1LZ
Notes:	Based on model produced by Amey on behalf of the Highways Agency. The geometry has been updated, as have traffic flows.

Network Layout Diagram



C1

Phase Diagram



Phase Input Data

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

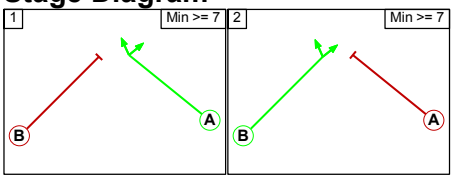
Phase Intergreens Matrix

	Starting Phase		
Terminating Phase		A	B
	A		5
	B	5	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B

Stage Diagram



Phase Delays

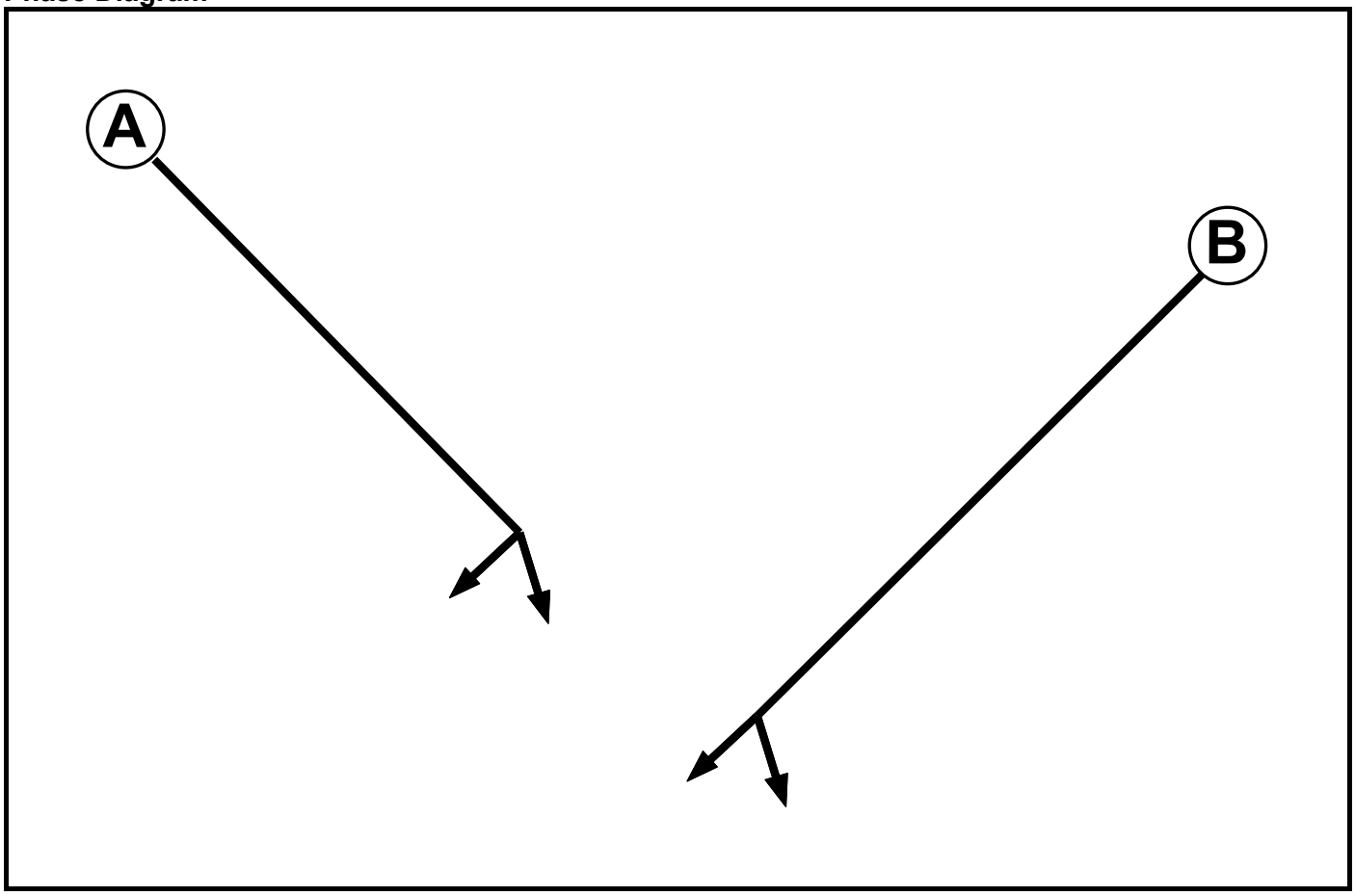
Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage \ To Stage	1	2
1		5
2	5	

C2

Phase Diagram



Phase Input Data

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

Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

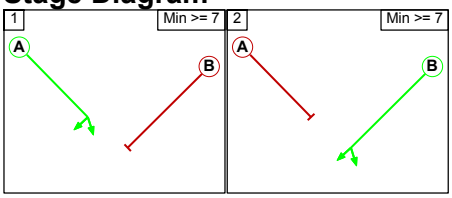
Phase Intergreens Matrix

	Starting Phase		
Terminating Phase		A	B
	A		5
	B	5	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B

Stage Diagram



Phase Delays

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

Prohibited Stage Change

	To Stage		
		1	2
From Stage	1		5
	2	5	

Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

Give-Way Lane Input Data

Junction: J1: M42J5 NB

Lane	Movement	Max 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)
J1:3/1 (A41)	J1:6/1 (Left)	1000	J1:4/1	0.33	J1:4/1	-	-	-	-	-
J1:3/2 (A41)	J2:4/1 (Ahead)	1000	J1:4/1	0.33	J1:4/1	-	-	-	-	-
			J1:4/2	0.33	J1:4/2					
J1:3/3 (A41)	J2:4/2 (Ahead)	1000	J1:4/1	0.33	J1:4/1	-	-	-	-	-
			J1:4/2	0.33	J1:4/2					

Junction: J2: M42J5 SB

Lane	Movement	Max 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 (A4141)	J2:6/1 (Left)	1000	J2:5/1	0.33	J2:5/1	-	-	-	-	-
J2:2/2 (A4141)	J1:2/1 (Ahead)	1050	J2:5/1	0.33	J2:5/1	-	-	-	-	-
			J2:5/2	0.33	J2:5/2					
J2:2/3 (A4141)	J1:2/2 (Ahead)	1050	J2:5/1	0.33	J2:5/1	-	-	-	-	-
			J2:5/2	0.33	J2:5/2					

Lane Input Data

Junction: J1: M42J5 NB

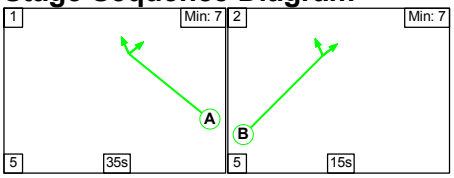
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J1:1/1 (M42NB)	U	B	2	3	10.0	Geom	-	3.40	1.00	Y	Arm J1:5 Left	39.00
J1:1/2 (M42NB)	U	B	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J1:4 Ahead	57.00
											Arm J1:5 Left	39.00
J1:2/1 (M42NB Gyratory)	U	A	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J1:5 Ahead	65.00
J1:2/2 (M42NB Gyratory)	U	A	2	3	60.0	Geom	-	3.70	0.00	Y	Arm J1:4 Right	56.00
											Arm J1:5 Ahead	65.00
J1:3/1 (A41)	O		2	3	4.0	Geom	-	3.30	0.00	Y	Arm J1:6 Left	38.00
J1:3/2 (A41)	O		2	3	60.0	Geom	-	3.20	0.00	Y	Arm J2:4 Ahead	96.00
J1:3/3 (A41)	O		2	3	60.0	Geom	-	3.25	0.00	Y	Arm J2:4 Ahead	96.00
J1:4/1 (A41 Gyratory)	U		2	3	60.0	Geom	-	3.50	0.00	Y	Arm J1:6 Ahead	58.00
J1:4/2 (A41 Gyratory)	U		2	3	60.0	Geom	-	3.50	0.00	Y	Arm J1:6 Ahead	68.00
											Arm J2:4 Right	47.00
J1:5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J2: M42J5 SB

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	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:1/2	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:2/1 (A4141)	O		2	3	4.0	Geom	-	3.30	0.00	Y	Arm J2:6 Left	41.00
J2:2/2 (A4141)	O		2	3	60.0	Geom	-	3.40	0.00	Y	Arm J1:2 Ahead	40.00
J2:2/3 (A4141)	O		2	3	60.0	Geom	-	3.30	0.00	Y	Arm J1:2 Ahead	40.00
J2:3/1 (M42SB)	U	B	2	3	2.0	Geom	-	3.25	0.00	Y	Arm J2:1 Left	44.00
J2:3/2 (M42SB)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:1 Left Arm J2:5 Ahead	44.00 28.00
J2:3/3 (M42SB)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:5 Ahead	28.00
J2:4/1 (M42SB Gyratory)	U	A	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J2:1 Ahead	85.00
J2:4/2 (M42SB Gyratory)	U	A	2	3	60.0	Geom	-	3.70	0.00	Y	Arm J2:1 Ahead Arm J2:5 Right	85.00 61.00
J2:5/1 (A4141 Gyratory)	U		2	3	60.0	Geom	-	3.60	0.00	Y	Arm J1:2 Right Arm J2:6 Ahead	50.00 136.00
J2:5/2 (A4141 Gyratory)	U		2	3	60.0	Geom	-	3.60	0.00	Y	Arm J1:2 Right	50.00
J2:6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Scenario 1: '2011 AM Peak Model' (FG3: '2011 AM Peak', Plan 1: 'Network Control Plan 1')
C1

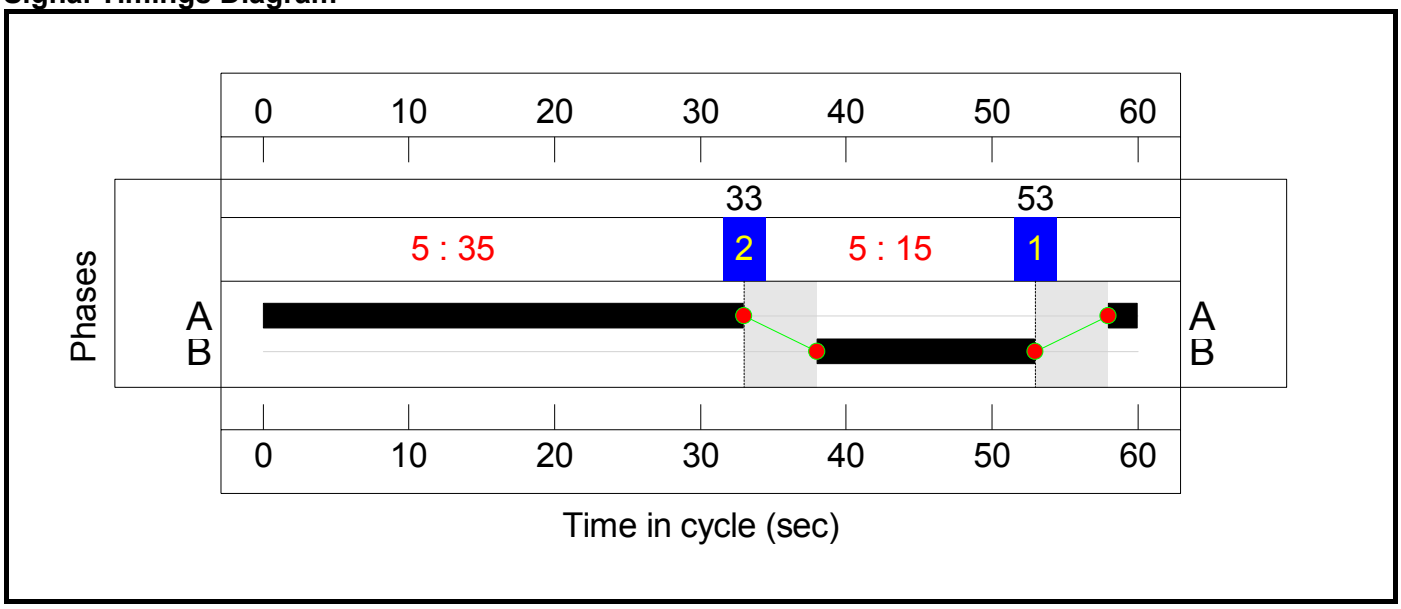
Stage Sequence Diagram



Stage Timings

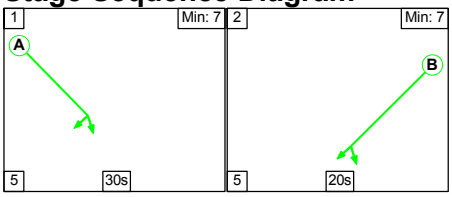
Stage	1	2
Duration	35	15
Change Point	53	33

Signal Timings Diagram



C2

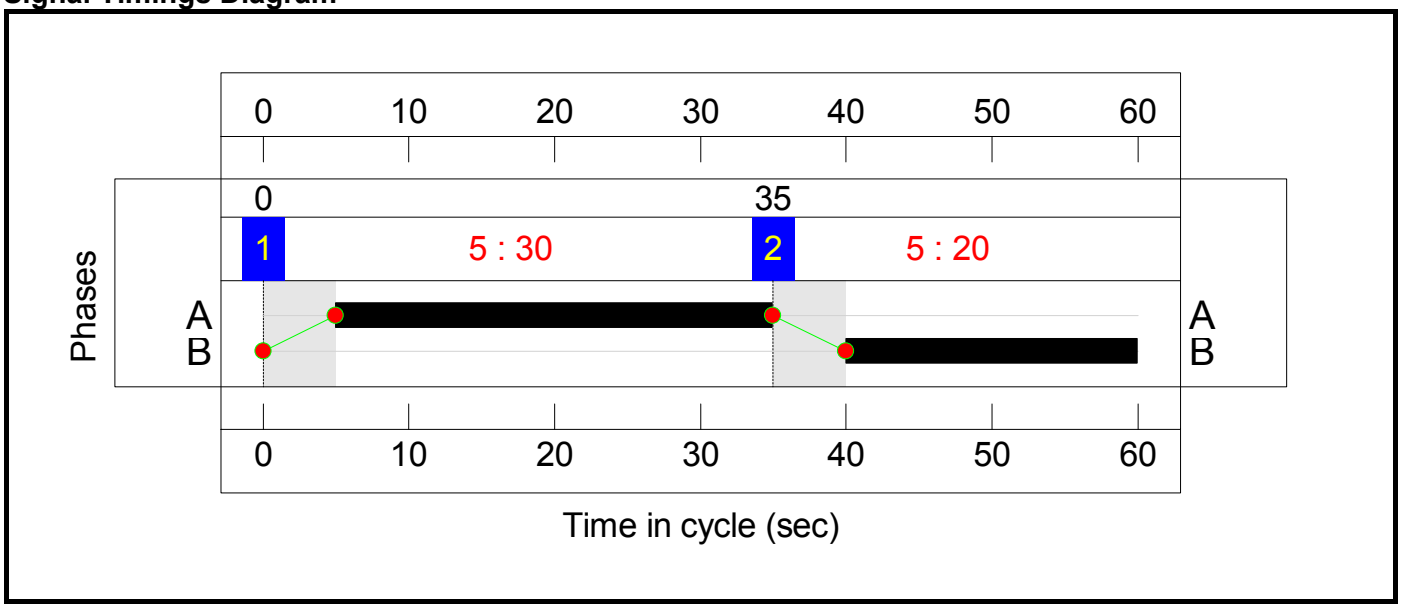
Stage Sequence Diagram



Stage Timings

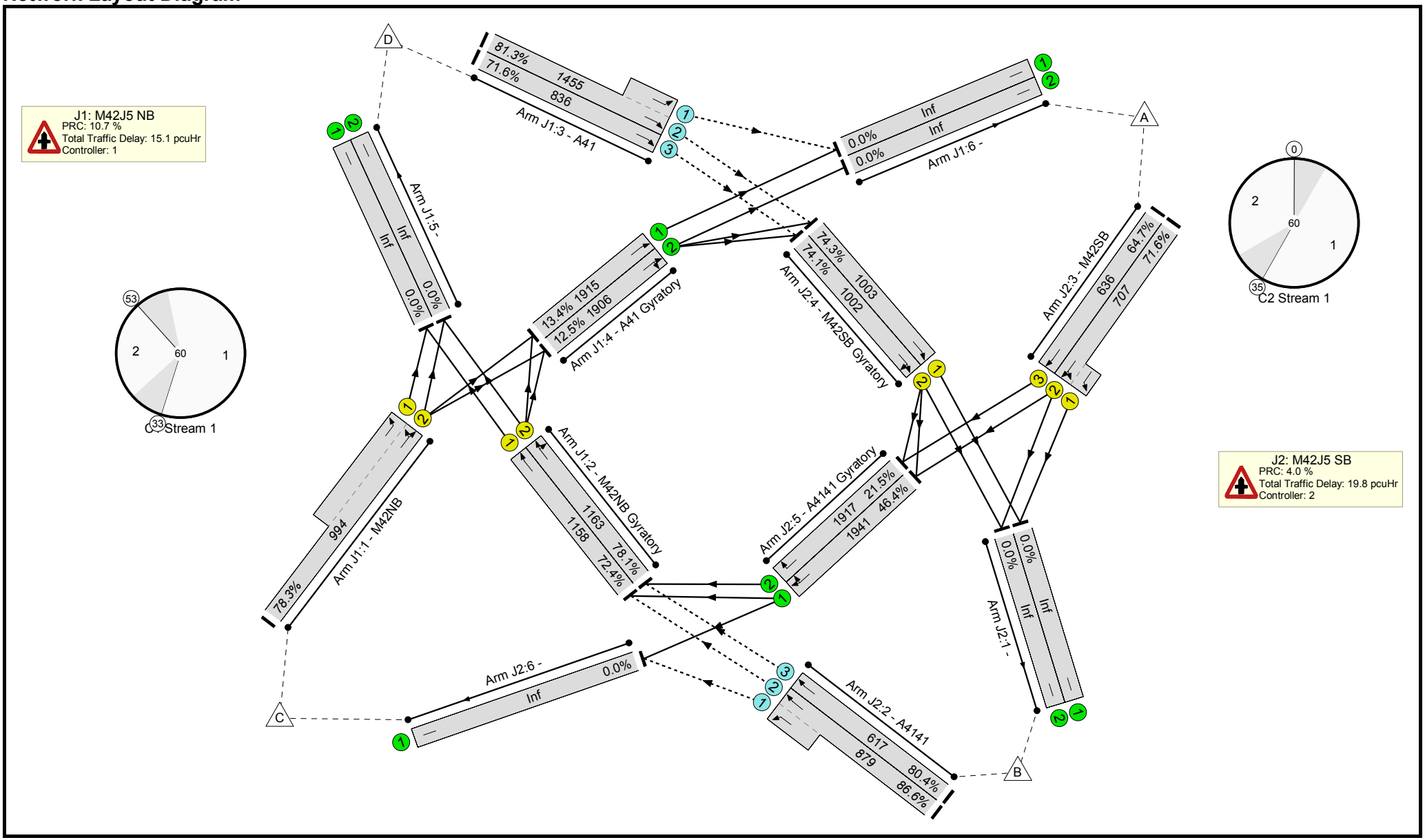
Stage	1	2
Duration	30	20
Change Point	0	35

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

Network Layout Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

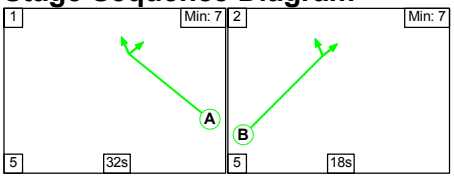
Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	-	-	**86.6%**	-	-
J1: M42J5 NB	-	-	-	**81.3%**	-	-
1/2+1/1	M42NB Ahead Left	778	1885:1842	78.3%	28.6	7.8
2/1	M42NB Gyratory Ahead	838	1930	72.4%	11.0	9.4
2/2	M42NB Gyratory Right Ahead	908	1938	78.1%	11.2	10.9
3/2+3/1	A41 Left Ahead	1183	1905:1871	81.3%	6.5	2.5
3/3	A41 Ahead	599	1910	71.6%	7.5	1.2
4/1	A41 Gyratory Ahead	257	1915	13.4%	1.1	0.1
4/2	A41 Gyratory Ahead Right	238	1906	12.5%	1.1	0.1
J2: M42J5 SB	-	-	-	**86.6%**	-	-
2/2+2/1	A4141 Ahead Left	761	1884:1876	86.6%	16.1	9.0
2/3	A4141 Ahead	496	1875	80.4%	16.1	5.4
3/2+3/1	M42SB Left Ahead	506	1820:1876	71.6%	24.8	7.2
3/3	M42SB Ahead	412	1818	64.7%	24.4	6.6
4/1	M42SB Gyratory Ahead	745	1941	74.3%	17.9	11.4
4/2	M42SB Gyratory Ahead Right	743	1940	74.1%	17.5	11.8
5/1	A4141 Gyratory Right Ahead	900	1941	46.4%	1.7	0.4
5/2	A4141 Gyratory Right	412	1917	21.5%	1.2	0.1

C1	PRC for Signalled Lanes (%):	15.0	Total Delay for Signalled Lanes (pcuHr):	11.56		
C2	PRC for Signalled Lanes (%):	21.1	Total Delay for Signalled Lanes (pcuHr):	13.60		
	PRC Over All Lanes (%):	4.0	Total Delay Over All Lanes(pcuHr):	34.87	Cycle Time (s):	60

Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x
Scenario 2: '2011 PM Peak Model' (FG4: '2011 PM Peak', Plan 1: 'Network Control Plan 1')
C1

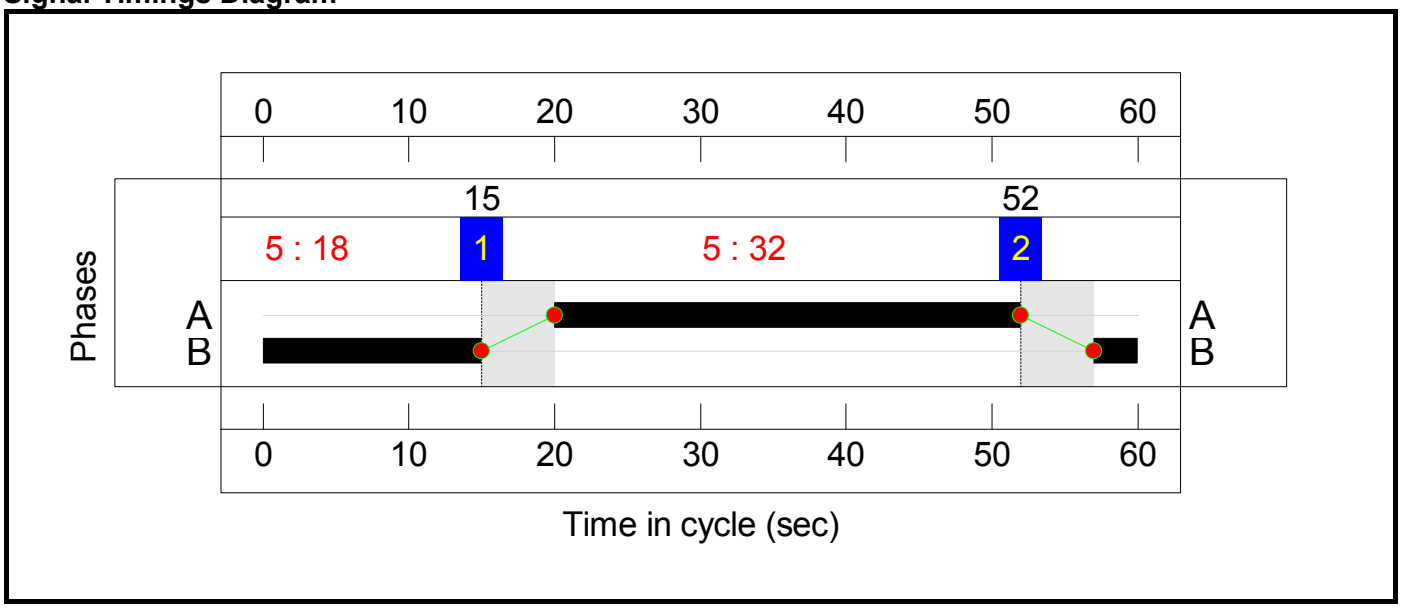
Stage Sequence Diagram



Stage Timings

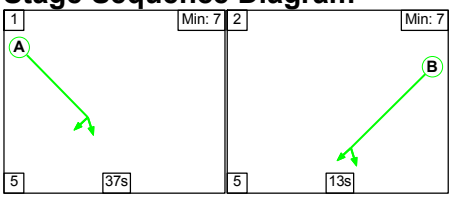
Stage	1	2
Duration	32	18
Change Point	15	52

Signal Timings Diagram



C2

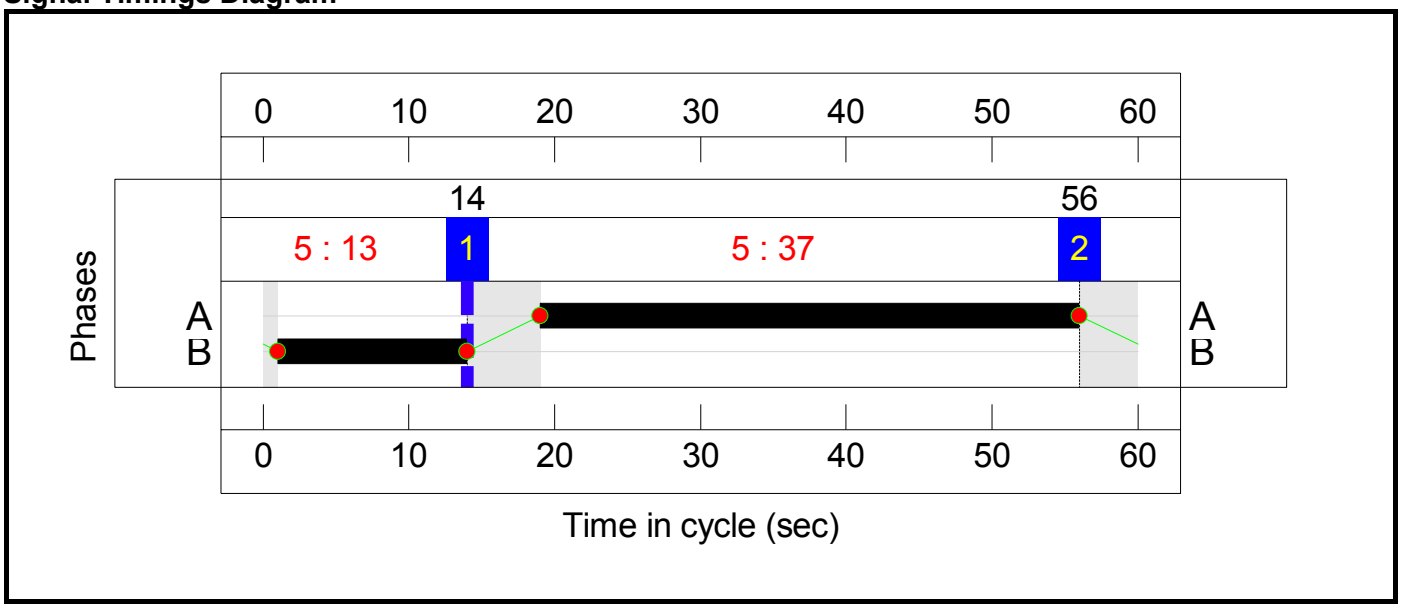
Stage Sequence Diagram



Stage Timings

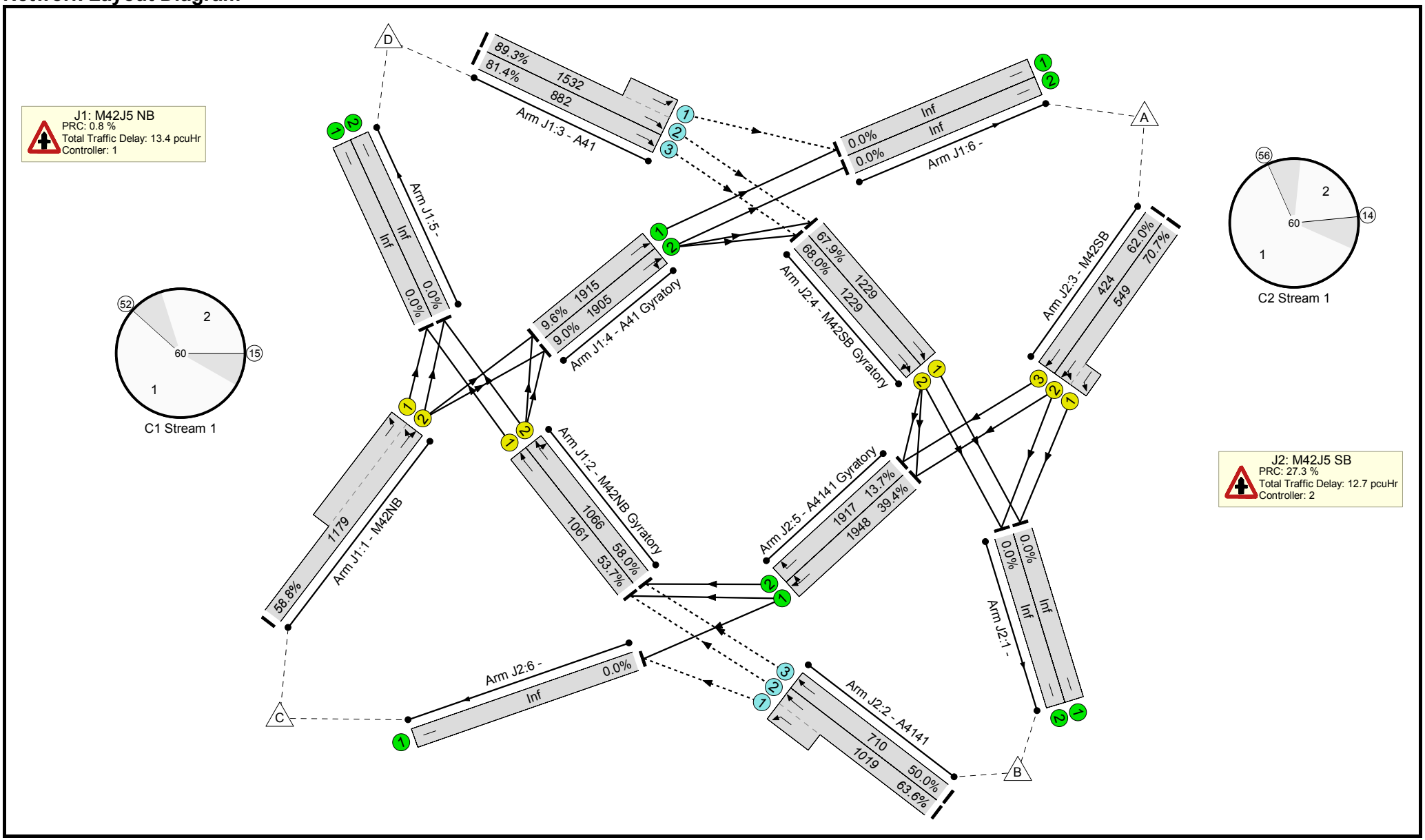
Stage	1	2
Duration	37	13
Change Point	14	56

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

Network Layout Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

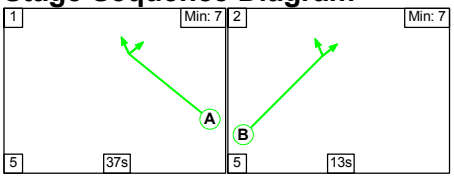
Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	-	-	**89.3%**	-	-
J1: M42J5 NB	-	-	-	**89.3%**	-	-
1/2+1/1	M42NB Ahead Left	693	1883:1842	58.8%	20.9	5.6
2/1	M42NB Gyratory Ahead	570	1930	53.7%	10.2	6.0
2/2	M42NB Gyratory Right Ahead	618	1938	58.0%	8.6	6.1
3/2+3/1	A41 Left Ahead	1368	1905:1871	89.3%	10.5	6.2
3/3	A41 Ahead	718	1910	81.4%	10.7	2.3
4/1	A41 Gyratory Ahead	184	1915	9.6%	1.0	0.1
4/2	A41 Gyratory Ahead Right	172	1905	9.0%	1.0	0.0
J2: M42J5 SB	-	-	-	**70.7%**	-	-
2/2+2/1	A4141 Ahead Left	648	1884:1876	63.6%	4.9	2.0
2/3	A4141 Ahead	355	1875	50.0%	5.1	1.1
3/2+3/1	M42SB Left Ahead	388	1831:1876	70.7%	31.0	4.9
3/3	M42SB Ahead	263	1818	62.0%	31.7	4.7
4/1	M42SB Gyratory Ahead	835	1941	67.9%	11.4	10.3
4/2	M42SB Gyratory Ahead Right	835	1940	68.0%	11.1	10.8
5/1	A4141 Gyratory Right Ahead	768	1948	39.4%	1.5	0.3
5/2	A4141 Gyratory Right	263	1917	13.7%	1.1	0.1

C1	PRC for Signalled Lanes (%):	53.1	Total Delay for Signalled Lanes (pcuHr):	7.12		
C2	PRC for Signalled Lanes (%):	27.3	Total Delay for Signalled Lanes (pcuHr):	10.88		
	PRC Over All Lanes (%):	0.8	Total Delay Over All Lanes(pcuHr):	26.02	Cycle Time (s):	60

Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x
Scenario 3: '2016 AM Peak Model' (FG5: '2016 AM Peak', Plan 1: 'Network Control Plan 1')
C1

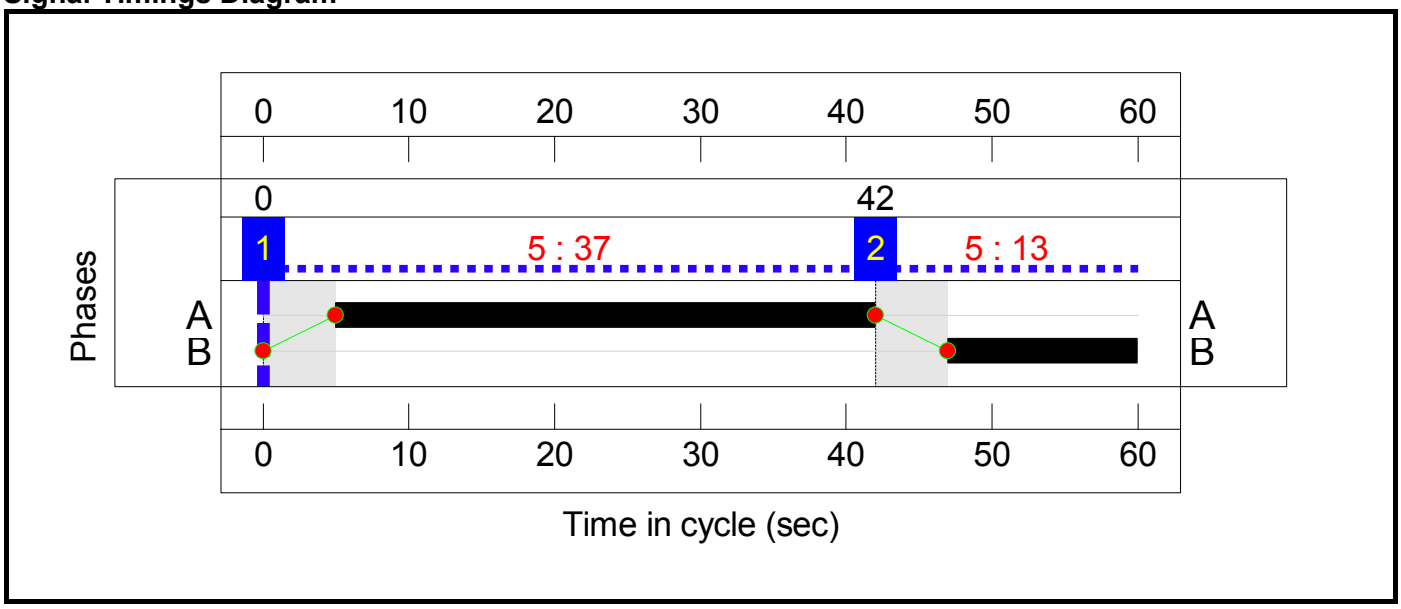
Stage Sequence Diagram



Stage Timings

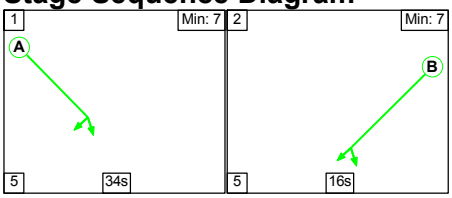
Stage	1	2
Duration	37	13
Change Point	0	42

Signal Timings Diagram



C2

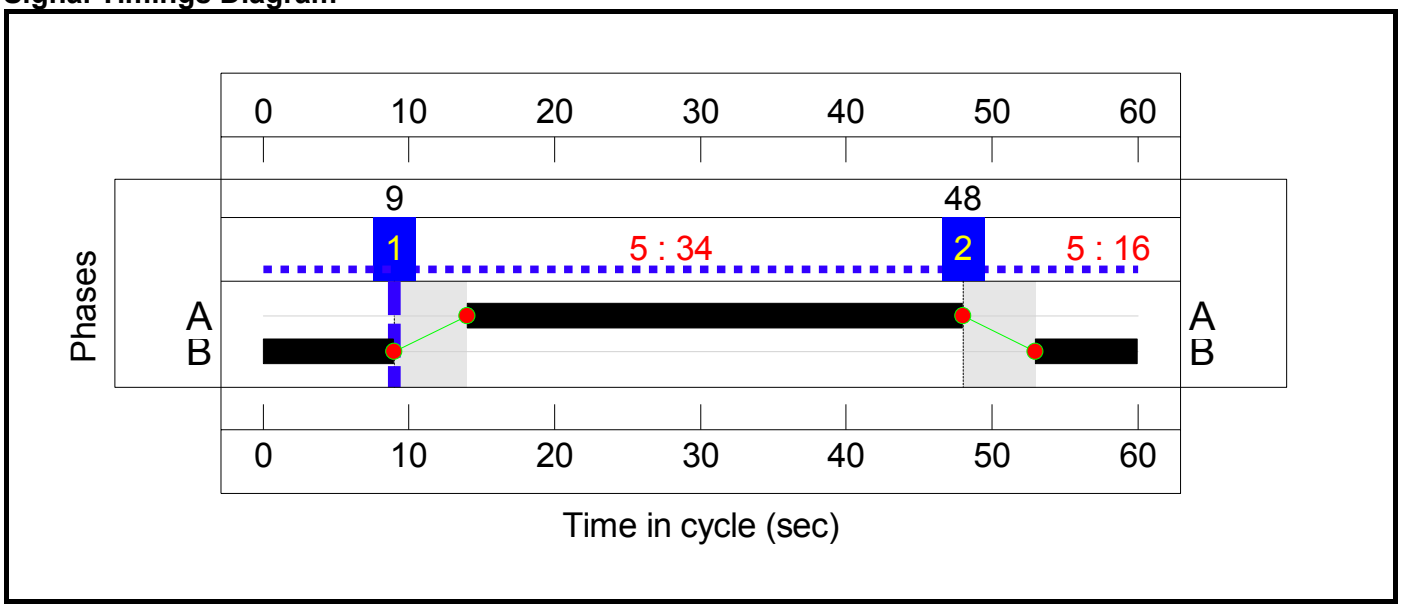
Stage Sequence Diagram



Stage Timings

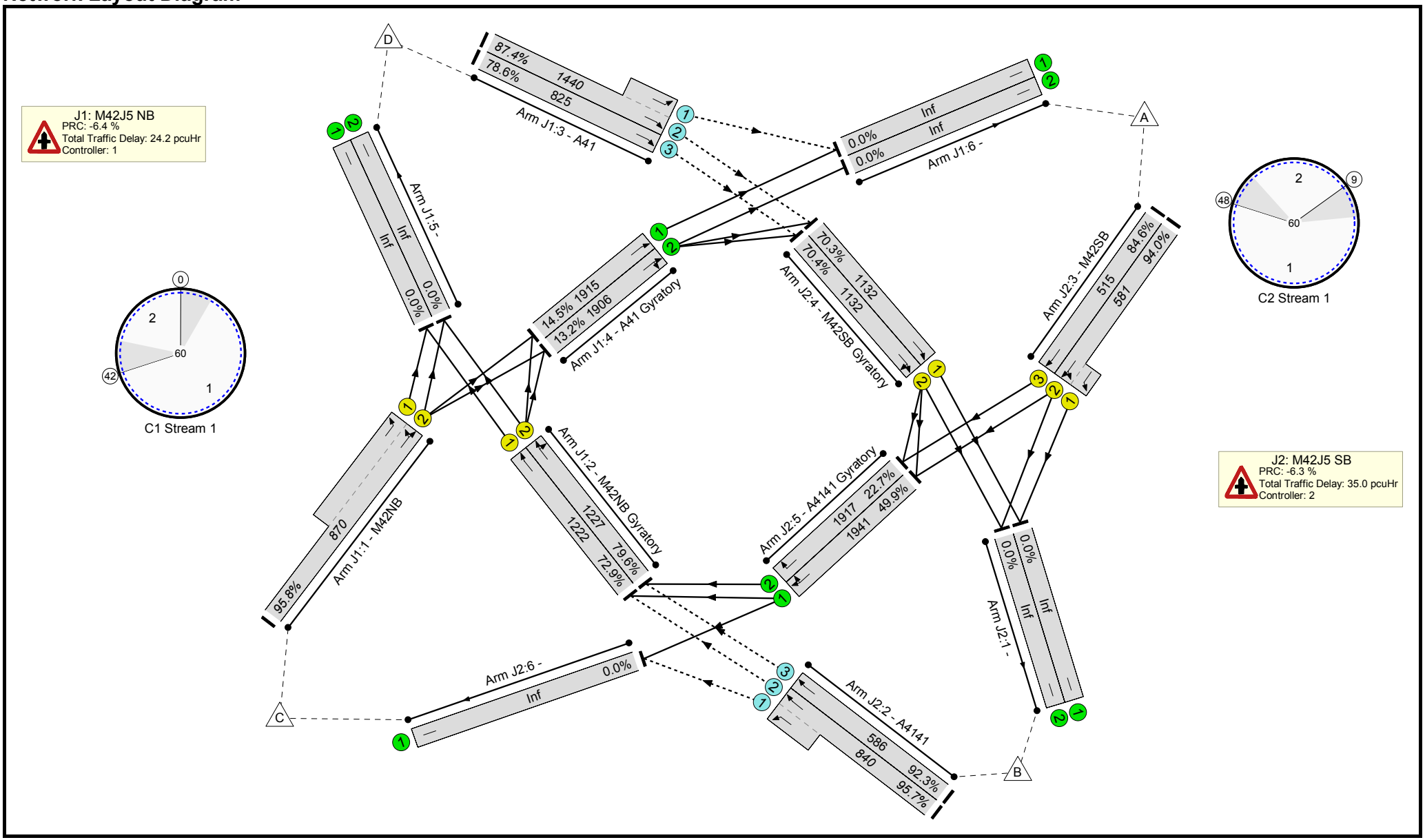
Stage	1	2
Duration	34	16
Change Point	9	48

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

Network Layout Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

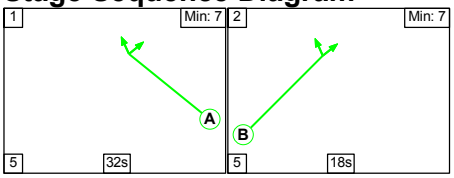
Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	-	-	**95.8%**	-	-
J1: M42J5 NB	-	-	-	**95.8%**	-	-
1/2+1/1	M42NB Ahead Left	833	1885:1842	95.8%	57.0	14.8
2/1	M42NB Gyratory Ahead	891	1930	72.9%	10.3	9.0
2/2	M42NB Gyratory Right Ahead	977	1938	79.6%	11.5	9.0
3/2+3/1	A41 Left Ahead	1259	1905:1871	87.4%	9.6	5.8
3/3	A41 Ahead	648	1910	78.6%	10.0	1.8
4/1	A41 Gyratory Ahead	278	1915	14.5%	1.1	0.1
4/2	A41 Gyratory Ahead Right	252	1906	13.2%	1.1	0.1
J2: M42J5 SB	-	-	-	**95.7%**	-	-
2/2+2/1	A4141 Ahead Left	804	1884:1876	95.7%	38.4	16.3
2/3	A4141 Ahead	541	1875	92.3%	37.3	12.6
3/2+3/1	M42SB Left Ahead	546	1820:1876	94.0%	58.8	13.6
3/3	M42SB Ahead	436	1818	84.6%	41.6	9.4
4/1	M42SB Gyratory Ahead	796	1941	70.3%	14.0	11.0
4/2	M42SB Gyratory Ahead Right	797	1940	70.4%	14.0	11.5
5/1	A4141 Gyratory Right Ahead	968	1941	49.9%	1.8	0.5
5/2	A4141 Gyratory Right	436	1917	22.7%	1.2	0.1

C1	PRC for Signalled Lanes (%):	-6.4	Total Delay for Signalled Lanes (pcuHr):	18.87			
C2	PRC for Signalled Lanes (%):	-4.4	Total Delay for Signalled Lanes (pcuHr):	20.15			
	PRC Over All Lanes (%):	-6.4	Total Delay Over All Lanes(pcuHr):	59.19	Cycle Time (s):	60	

Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x
Scenario 4: '2016 PM Peak Model' (FG6: '2016 PM Peak', Plan 1: 'Network Control Plan 1')
C1

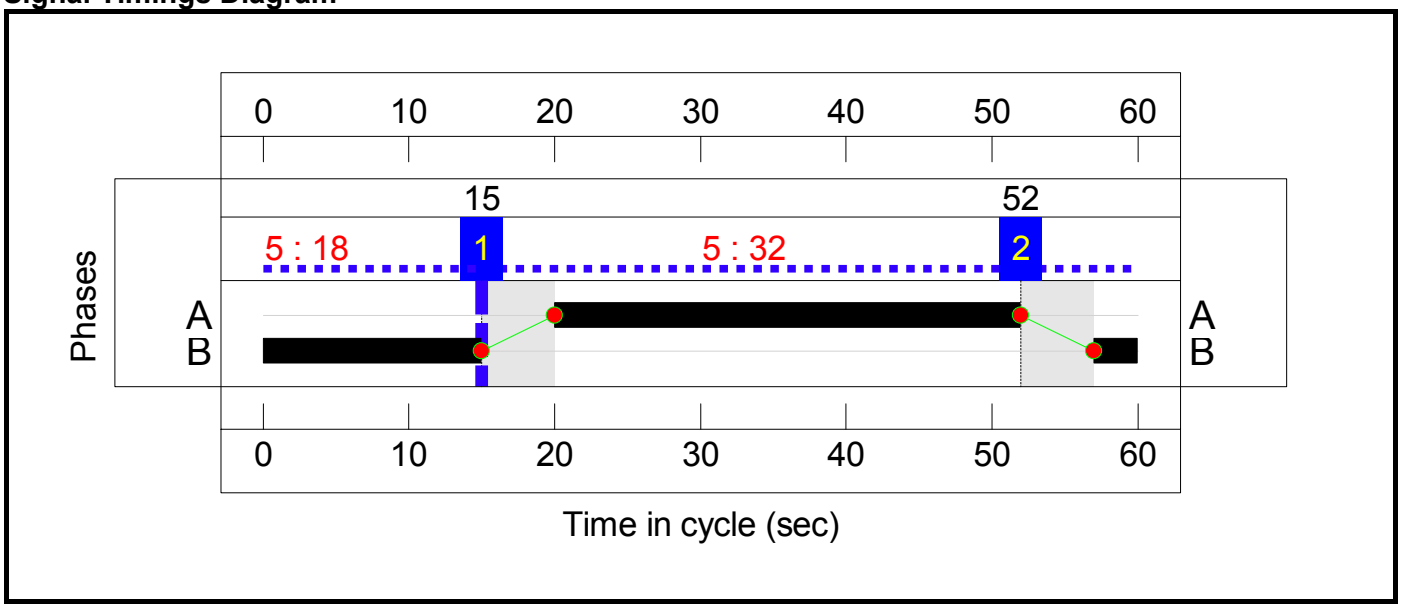
Stage Sequence Diagram



Stage Timings

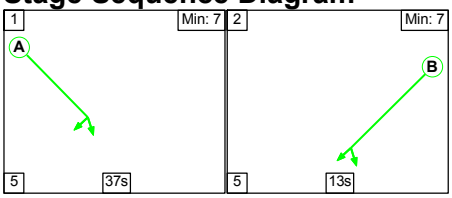
Stage	1	2
Duration	32	18
Change Point	15	52

Signal Timings Diagram



C2

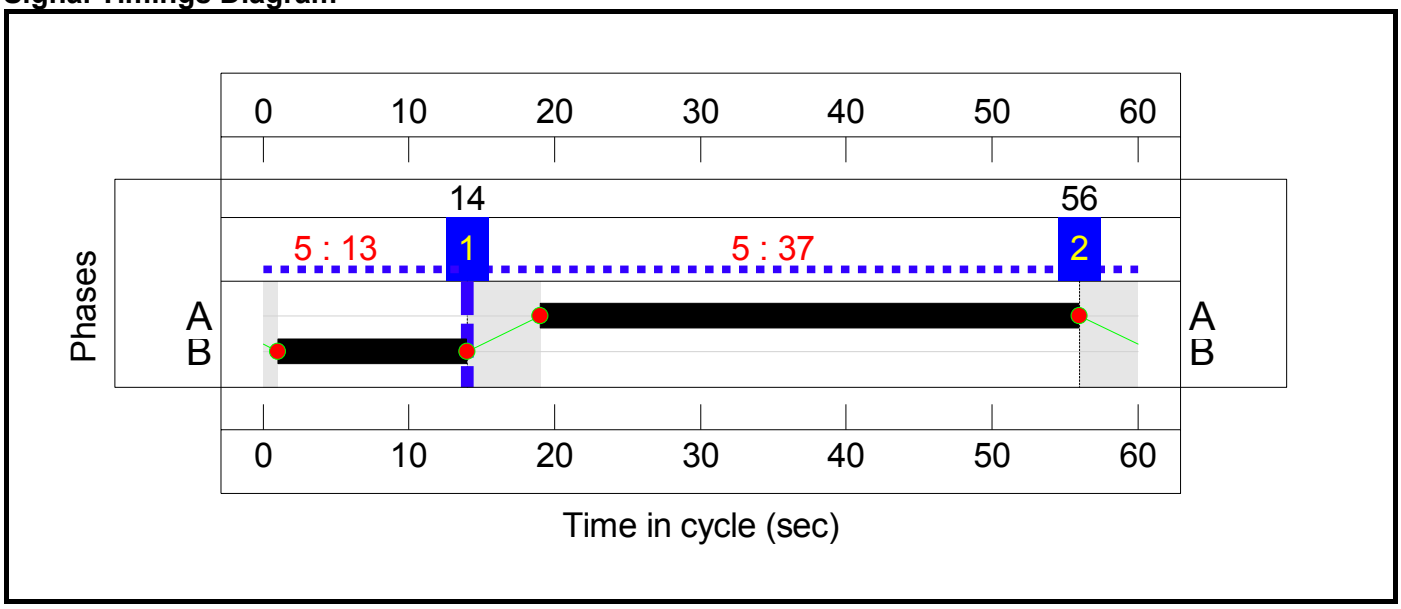
Stage Sequence Diagram



Stage Timings

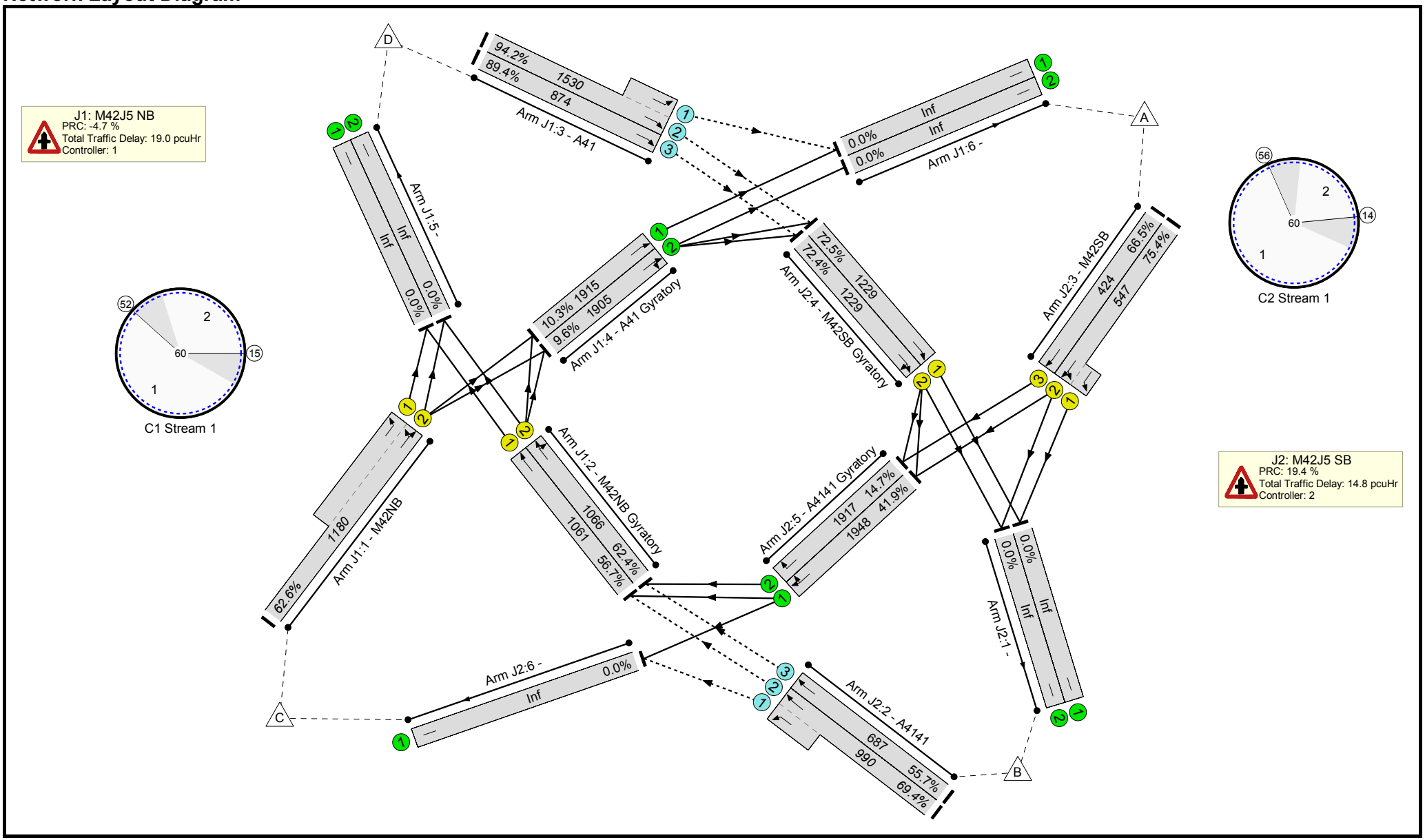
Stage	1	2
Duration	37	13
Change Point	14	56

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

Network Layout Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

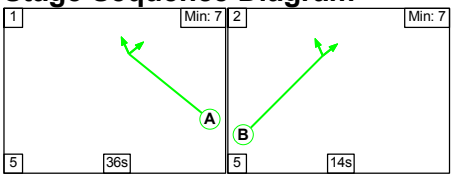
Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	-	-	**94.2%**	-	-
J1: M42J5 NB	-	-	-	**94.2%**	-	-
1/2+1/1	M42NB Ahead Left	739	1883:1842	62.6%	21.5	6.1
2/1	M42NB Gyratory Ahead	602	1930	56.7%	10.6	6.6
2/2	M42NB Gyratory Right Ahead	665	1938	62.4%	9.3	7.4
3/2+3/1	A41 Left Ahead	1442	1905:1871	94.2%	17.7	10.9
3/3	A41 Ahead	782	1910	89.4%	18.0	6.3
4/1	A41 Gyratory Ahead	197	1915	10.3%	1.0	0.1
4/2	A41 Gyratory Ahead Right	183	1905	9.6%	1.0	0.1
J2: M42J5 SB	-	-	-	**75.4%**	-	-
2/2+2/1	A4141 Ahead Left	687	1884:1876	69.4%	6.0	2.6
2/3	A4141 Ahead	383	1875	55.7%	6.0	1.4
3/2+3/1	M42SB Left Ahead	412	1831:1876	75.4%	33.3	5.7
3/3	M42SB Ahead	282	1818	66.5%	33.4	5.2
4/1	M42SB Gyratory Ahead	891	1941	72.5%	12.5	11.7
4/2	M42SB Gyratory Ahead Right	890	1940	72.4%	12.3	12.1
5/1	A4141 Gyratory Right Ahead	817	1948	41.9%	1.6	0.4
5/2	A4141 Gyratory Right	282	1917	14.7%	1.1	0.1

C1	PRC for Signalled Lanes (%):	43.7	Total Delay for Signalled Lanes (pcuHr):	7.92			
C2	PRC for Signalled Lanes (%):	19.4	Total Delay for Signalled Lanes (pcuHr):	12.55			
	PRC Over All Lanes (%):	-4.7	Total Delay Over All Lanes(pcuHr):	33.83	Cycle Time (s):	60	

Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x
Scenario 5: '2026 AM Peak Model' (FG7: '2026 AM Peak', Plan 1: 'Network Control Plan 1')
C1

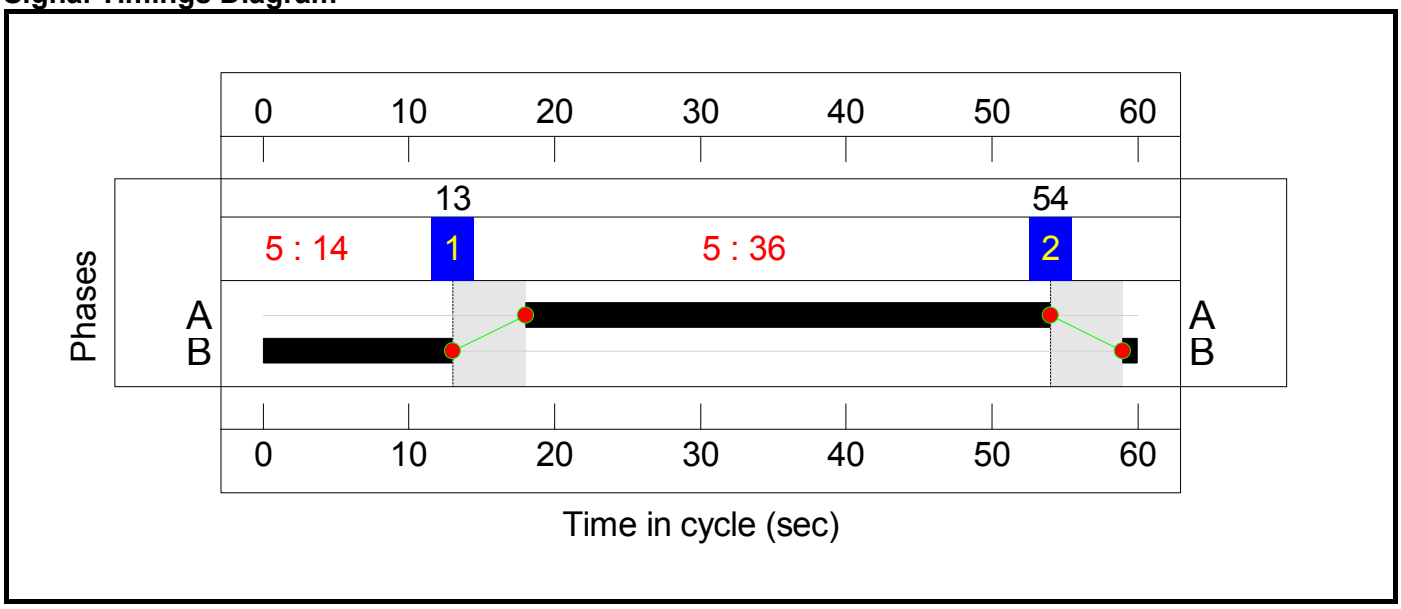
Stage Sequence Diagram



Stage Timings

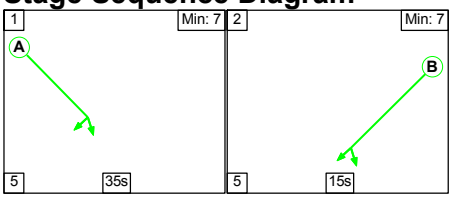
Stage	1	2
Duration	36	14
Change Point	13	54

Signal Timings Diagram



C2

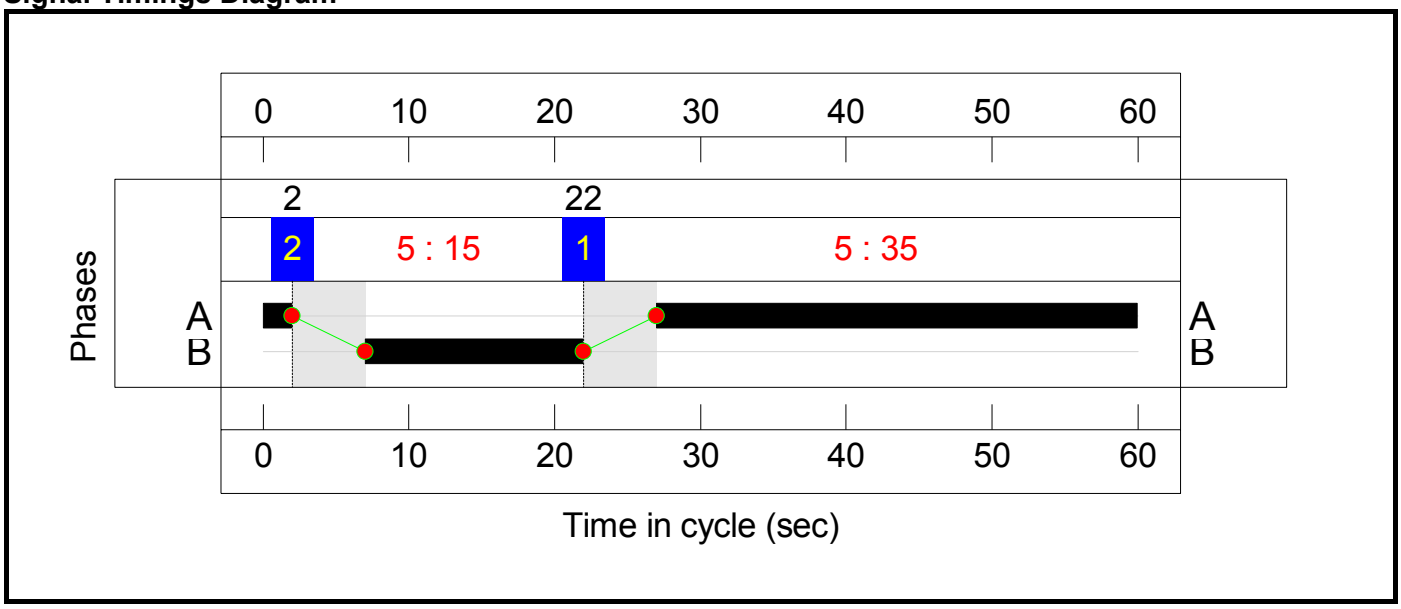
Stage Sequence Diagram



Stage Timings

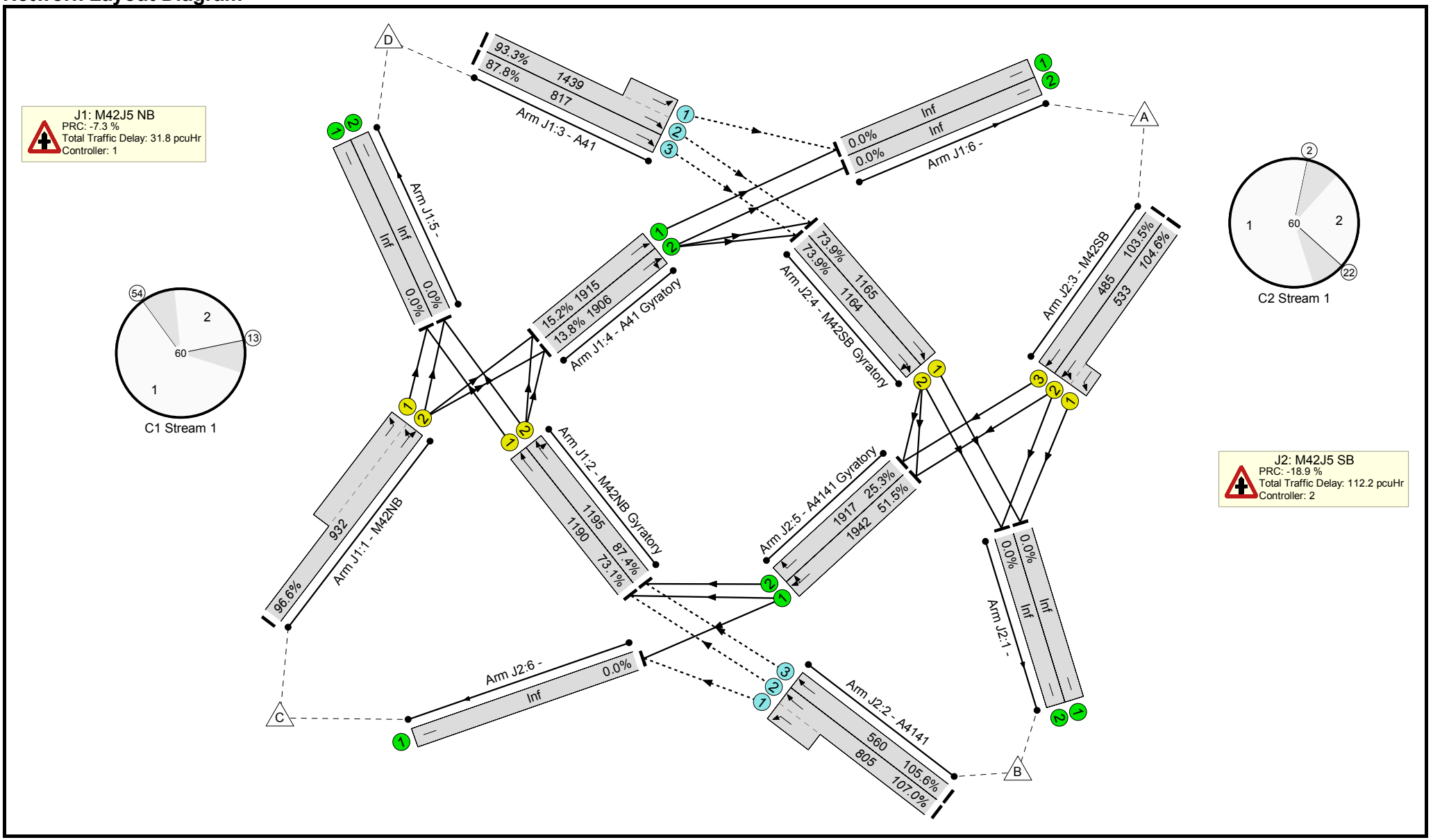
Stage	1	2
Duration	35	15
Change Point	22	2

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

Network Layout Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

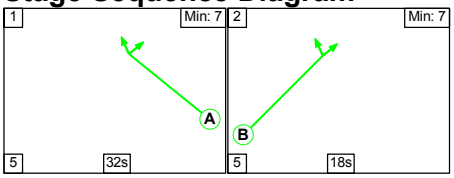
Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	-	-	**107.0%**	-	-
J1: M42J5 NB	-	-	-	**96.6%**	-	-
1/2+1/1	M42NB Ahead Left	900	1885:1842	96.6%	58.4	16.5
2/1	M42NB Gyratory Ahead	924	1930	73.1%	10.9	9.4
2/2	M42NB Gyratory Right Ahead	1093	1938	87.4%	16.2	13.0
3/2+3/1	A41 Left Ahead	1343	1905:1871	93.3%	16.8	14.4
3/3	A41 Ahead	717	1910	87.8%	17.0	6.0
4/1	A41 Gyratory Ahead	308	1915	15.2%	1.1	0.1
4/2	A41 Gyratory Ahead Right	264	1906	13.8%	1.1	0.1
J2: M42J5 SB	-	-	-	**107.0%**	-	-
2/2+2/1	A4141 Ahead Left	861	1884:1876	107.0%	153.9	61.0
2/3	A4141 Ahead	591	1875	105.6%	148.4	48.5
3/2+3/1	M42SB Left Ahead	558	1824:1876	104.6%	151.7	28.7
3/3	M42SB Ahead	502	1818	103.5%	142.4	25.0
4/1	M42SB Gyratory Ahead	861	1941	73.9%	14.6	12.3
4/2	M42SB Gyratory Ahead Right	860	1940	73.9%	14.5	12.5
5/1	A4141 Gyratory Right Ahead	1014	1942	51.5%	1.9	0.5
5/2	A4141 Gyratory Right	502	1917	25.3%	1.3	0.2

C1	PRC for Signalled Lanes (%):	-7.3	Total Delay for Signalled Lanes (pcuHr):	21.94	
C2	PRC for Signalled Lanes (%):	-16.2	Total Delay for Signalled Lanes (pcuHr):	50.33	
	PRC Over All Lanes (%):	-18.9	Total Delay Over All Lanes(pcuHr):	143.98	Cycle Time (s): 60

Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x
Scenario 6: '2026 PM Peak Model' (FG8: '2026 PM Peak', Plan 1: 'Network Control Plan 1')
C1

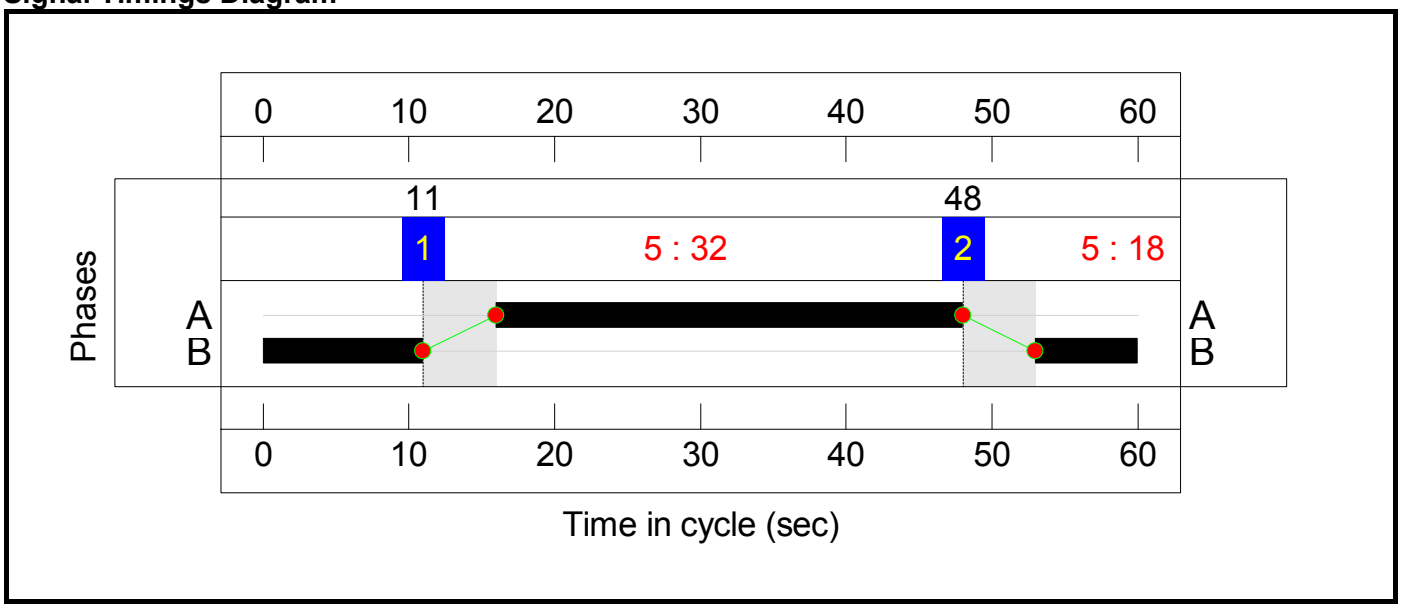
Stage Sequence Diagram



Stage Timings

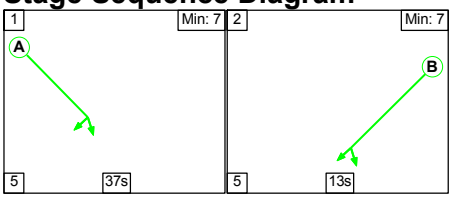
Stage	1	2
Duration	32	18
Change Point	11	48

Signal Timings Diagram



C2

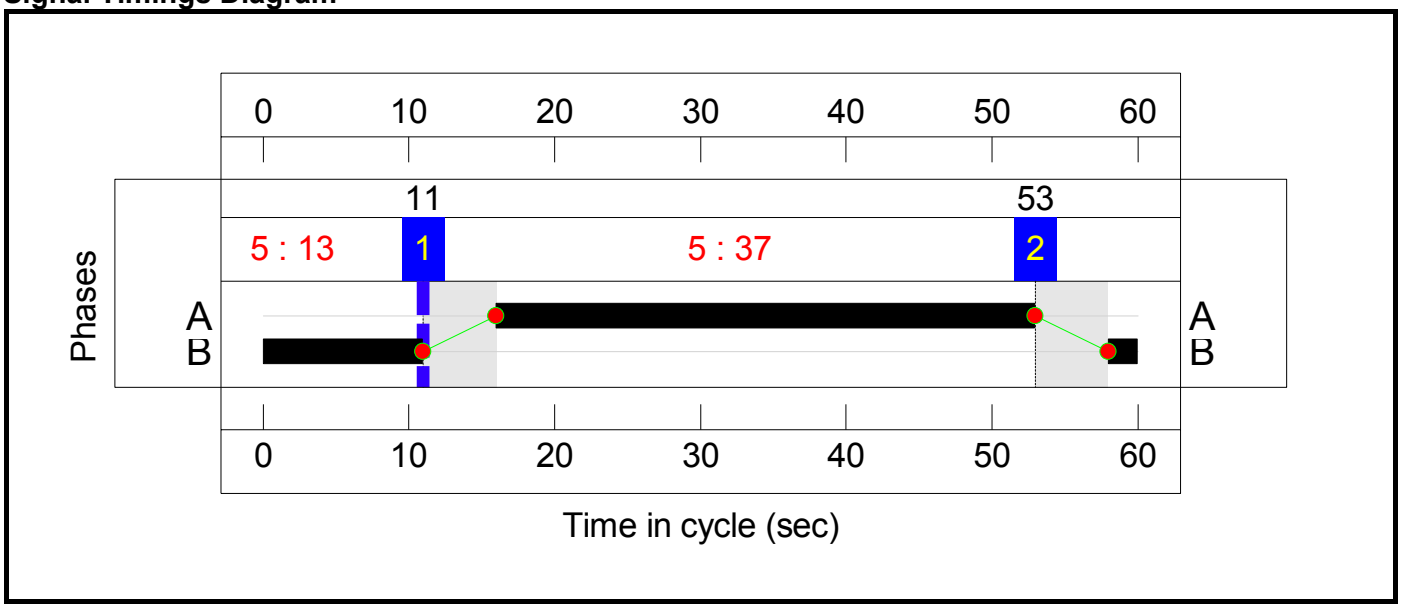
Stage Sequence Diagram



Stage Timings

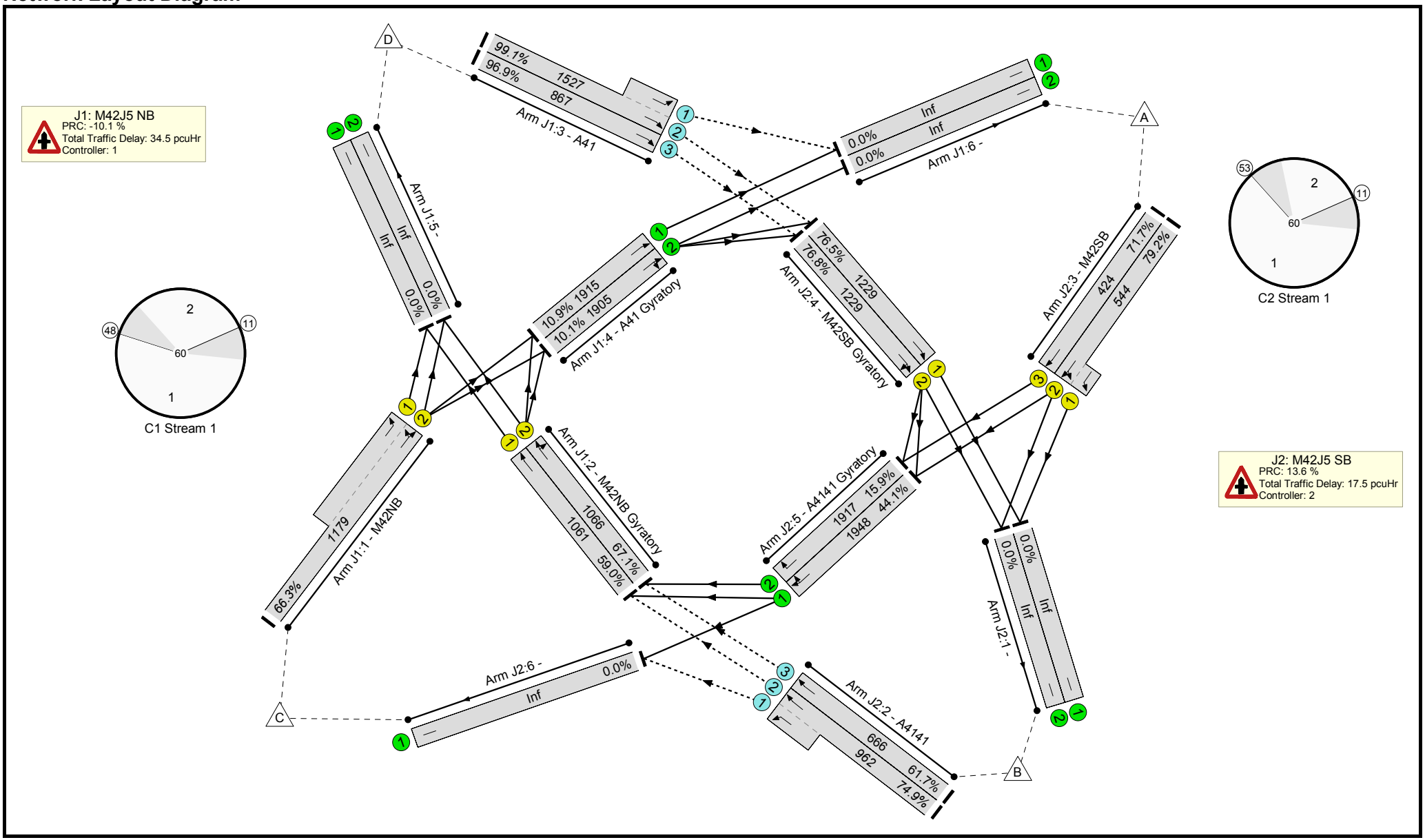
Stage	1	2
Duration	37	13
Change Point	11	53

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

Network Layout Diagram



Full Input Data And Results OH Format
M42 Junction 5 LR67 Geom Check LH 140411.lsg3x

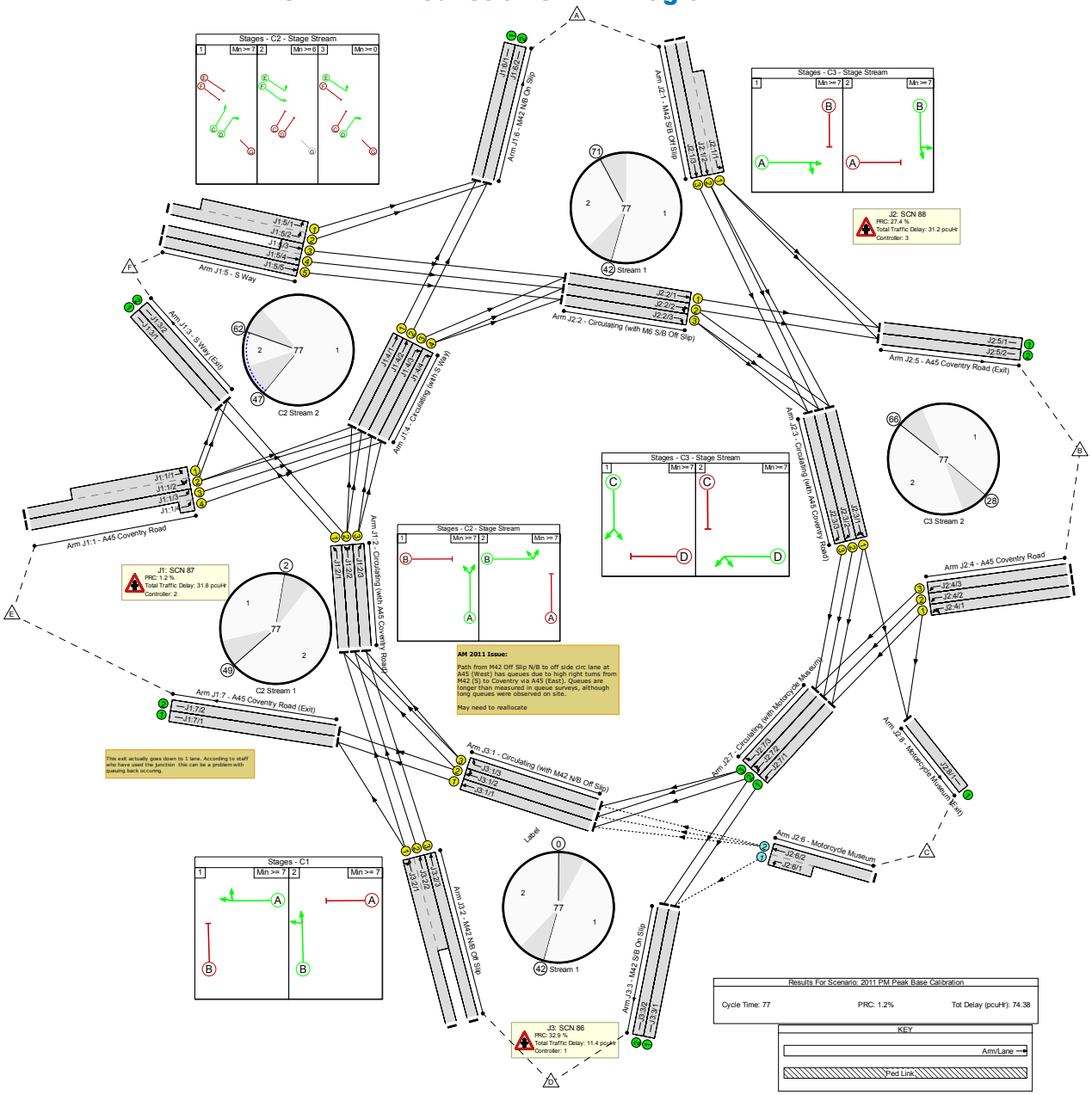
Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 5	-	-	-	**99.1%**	-	-
J1: M42J5 NB	-	-	-	**99.1%**	-	-
1/2+1/1	M42NB Ahead Left	782	1883:1842	66.3%	22.2	6.6
2/1	M42NB Gyratory Ahead	626	1930	59.0%	11.0	6.7
2/2	M42NB Gyratory Right Ahead	715	1938	67.1%	9.9	8.0
3/2+3/1	A41 Left Ahead	1513	1905:1871	99.1%	39.0	29.1
3/3	A41 Ahead	840	1910	96.9%	39.9	18.8
4/1	A41 Gyratory Ahead	209	1915	10.9%	1.1	0.1
4/2	A41 Gyratory Ahead Right	193	1905	10.1%	1.1	0.1
J2: M42J5 SB	-	-	-	**79.2%**	-	-
2/2+2/1	A4141 Ahead Left	721	1884:1876	74.9%	7.6	3.3
2/3	A4141 Ahead	411	1875	61.7%	7.1	1.8
3/2+3/1	M42SB Left Ahead	431	1832:1876	79.2%	35.9	6.5
3/3	M42SB Ahead	304	1818	71.7%	35.9	5.9
4/1	M42SB Gyratory Ahead	940	1941	76.5%	14.2	13.5
4/2	M42SB Gyratory Ahead Right	944	1940	76.8%	13.9	13.6
5/1	A4141 Gyratory Right Ahead	859	1948	44.1%	1.7	0.4
5/2	A4141 Gyratory Right	304	1917	15.9%	1.1	0.1

C1	PRC for Signalled Lanes (%):	34.2	Total Delay for Signalled Lanes (pcuHr):	8.71	
C2	PRC for Signalled Lanes (%):	13.6	Total Delay for Signalled Lanes (pcuHr):	14.67	
	PRC Over All Lanes (%):	-10.1	Total Delay Over All Lanes(pcuHr):	52.04	Cycle Time (s): 60

Appendix C. M42 Junction 6

C.1. M42 Junction 5 Link Diagram



Source: Amey / Mott MacDonald

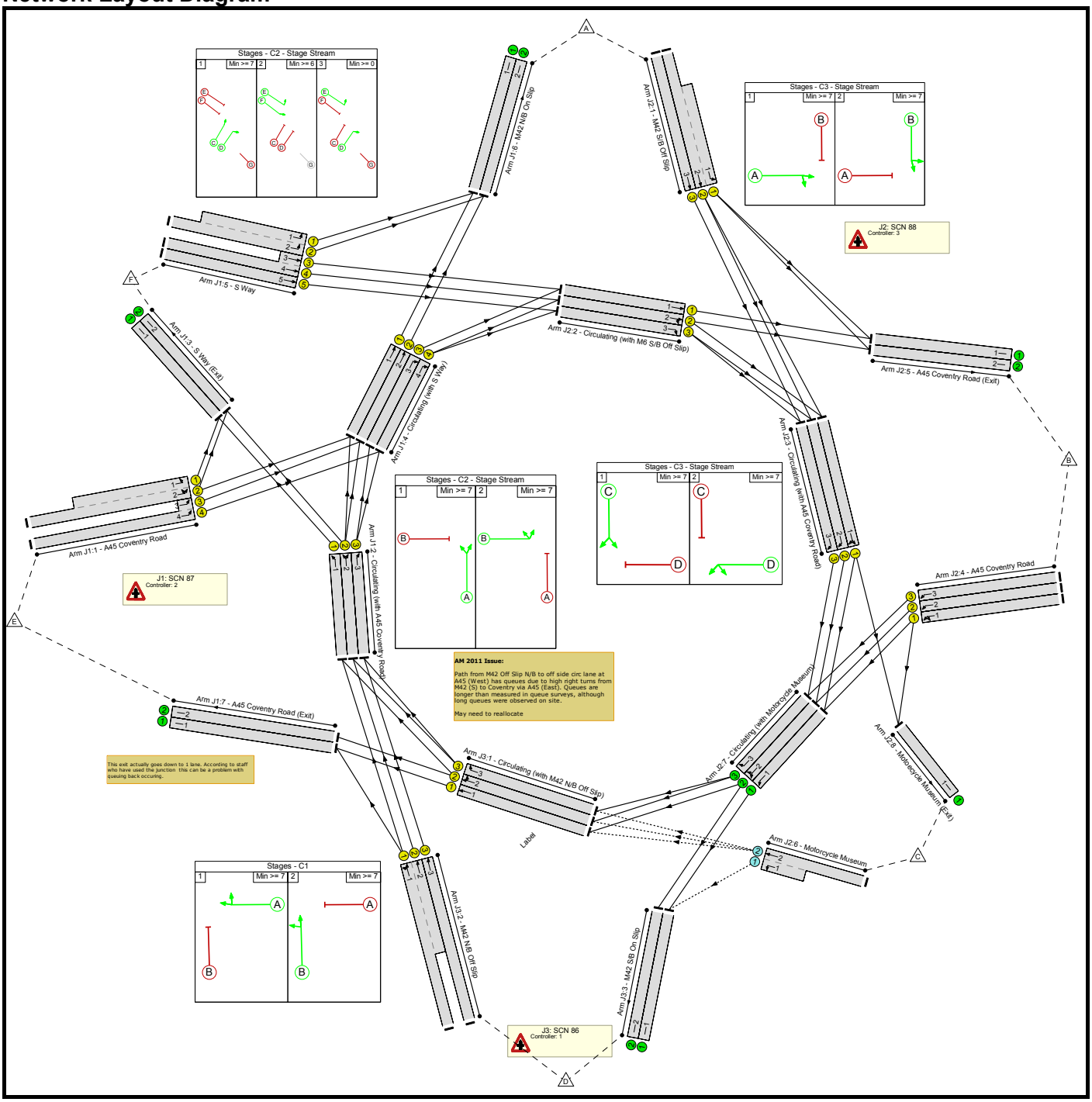
Full Input Data And Results OH Format

User and Project Details

Project:	**Solihull Core Strategy Transport and Infrastructure Assessment**
Title:	**M42 Junction 6**
Location:	Birmingham
File name:	M42 Junction 6 LR67 Geom Check LH 180411.lsg3x
Author:	OWH
Company:	Mott MacDonald
Address:	85 Canterbury House, Birmingham, B3 1LZ
Notes:	Modl developed by Mott MacDonald. Traffic and queue data provided by Arup.

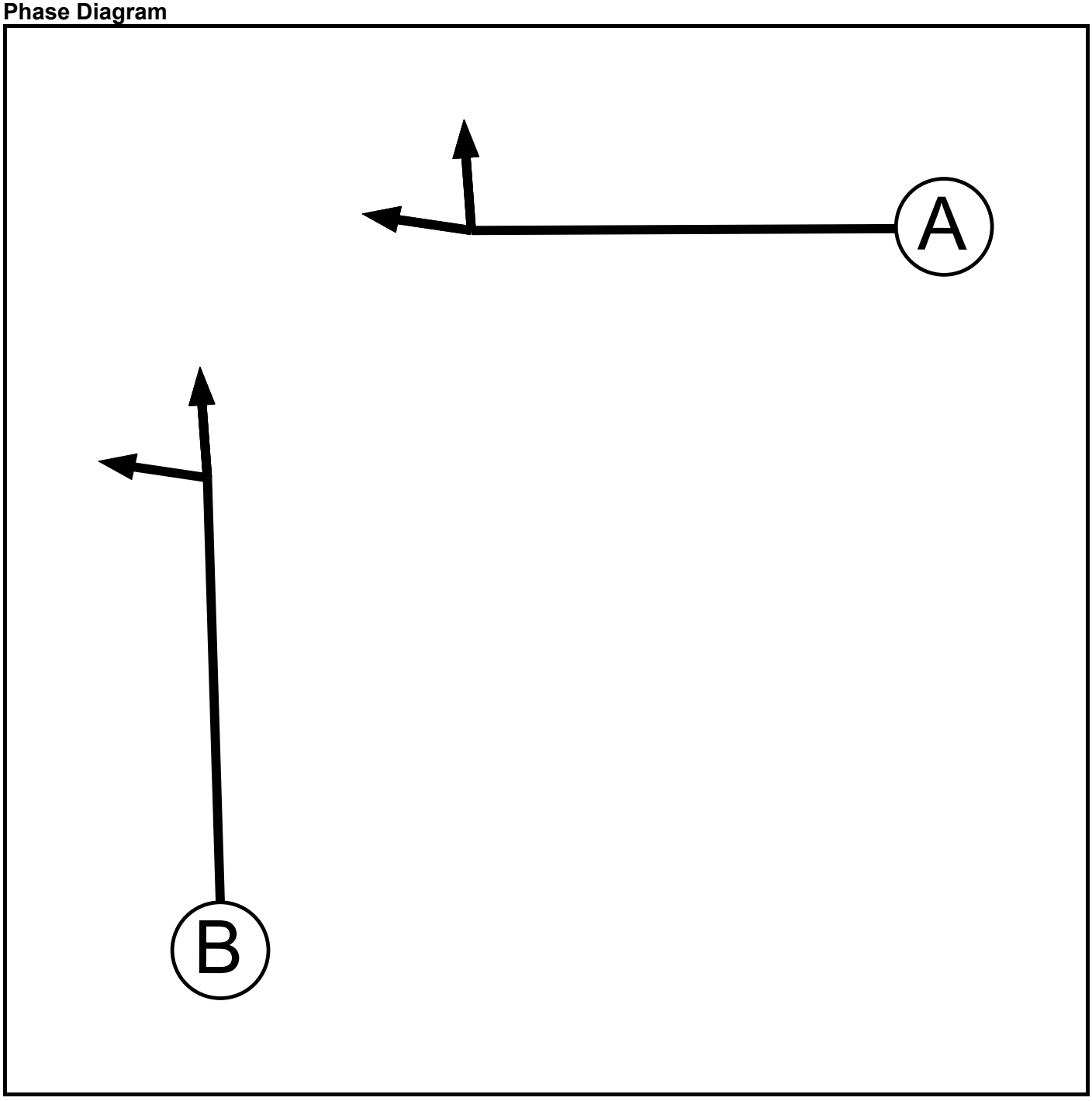
Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Network Layout Diagram



C1

Phase Diagram



Phase Input Data

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

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

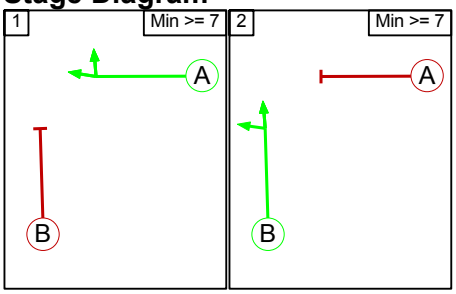
Phase Intergreens Matrix

	Starting Phase		
Terminating Phase		A	B
	A		6
	B	6	

Phases in Stage

Stage No.	Phases in Stage
1	A
2	B

Stage Diagram



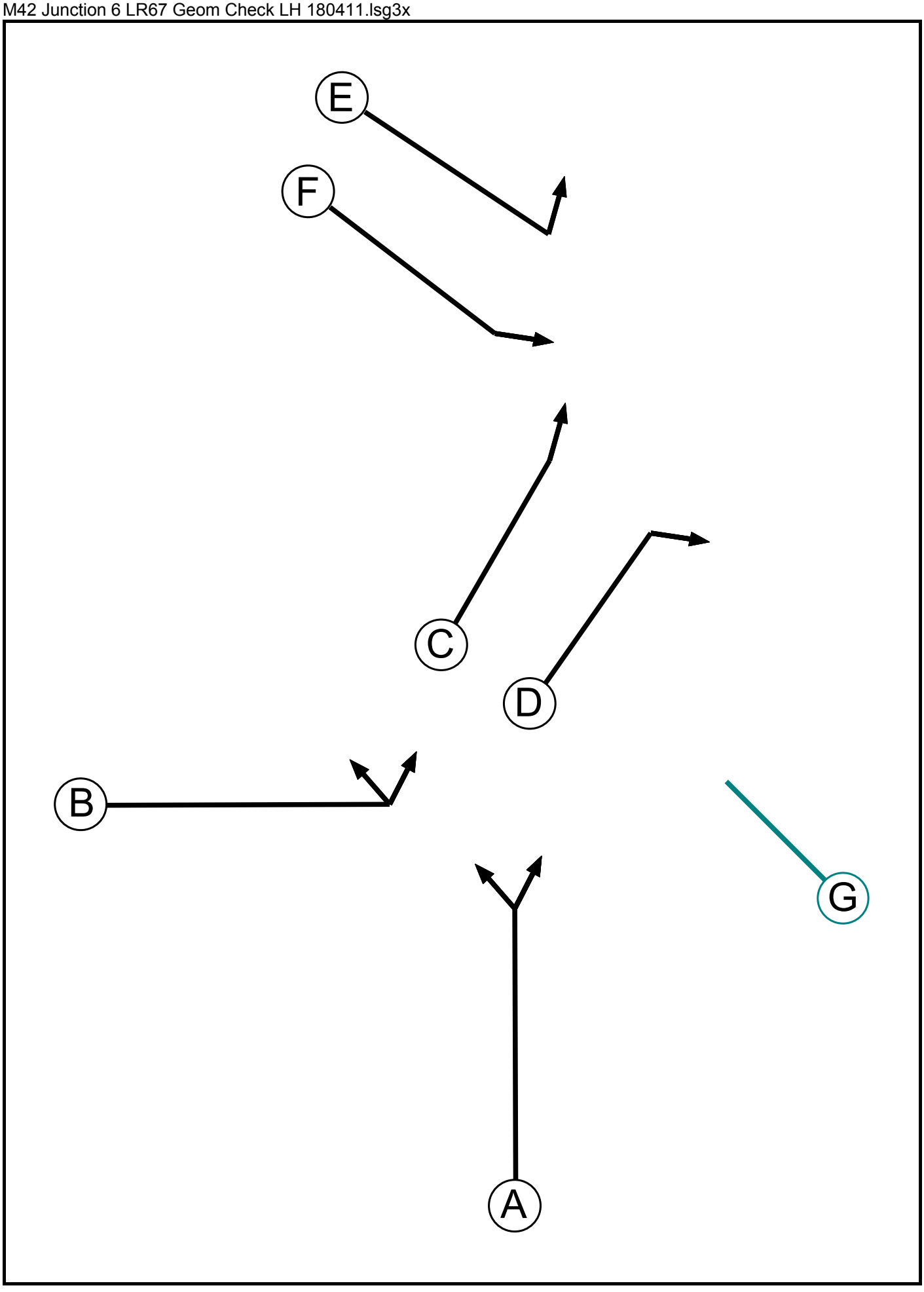
Phase Delays

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

Prohibited Stage Change

	To Stage		
From Stage		1	2
	1		6
	2	6	

C2
Phase Diagram


E
F
C
D
B
G
A

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	2		7	7
F	Traffic	2		7	7
G	Dummy	2		15	15

Phase Intergreens Matrix

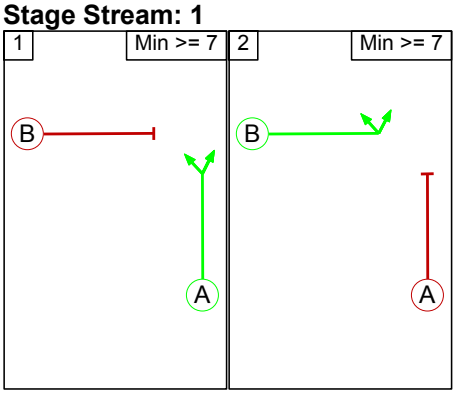
		Starting Phase						
		A	B	C	D	E	F	G
Terminating Phase	A		6	-	-	-	-	-
	B	6		-	-	-	-	-
	C	-	-		-	7	6	6
	D	-	-	-		-	6	6
	E	-	-	6	-		-	-
	F	-	-	6	6	-		-
	G	-	-	-	-	-	-	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C D
2	2	E F
2	3	D E

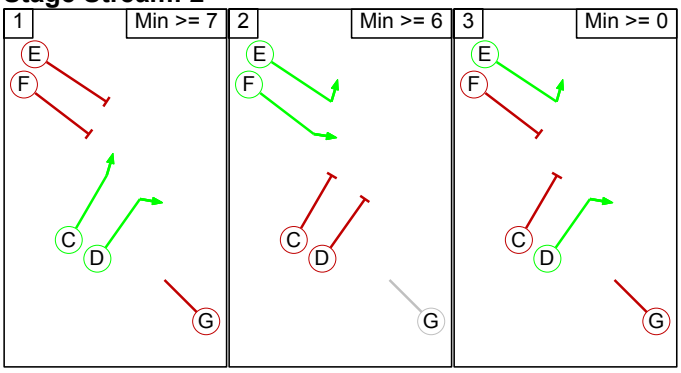
Stage Diagram

Stage Stream: 1



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

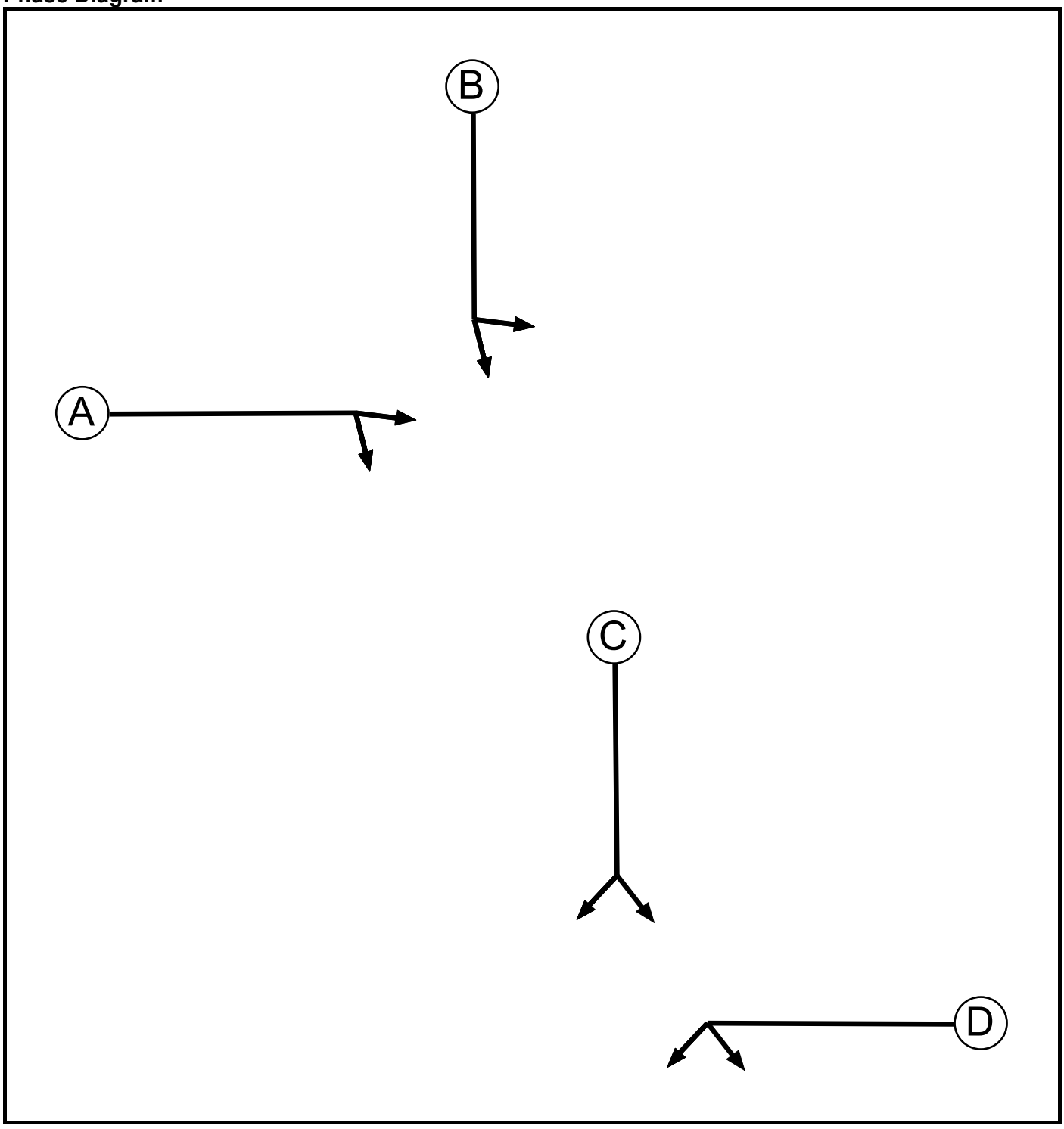
	To Stage		
		1	2
From Stage	1		6
	2	6	

Stage Stream: 2

	To Stage			
		1	2	3
From Stage	1		7	7
	2	6		6
	3	6	6	

C3

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	7
C	Traffic	2		7	7
D	Traffic	2		7	7

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Phase Intergreens Matrix

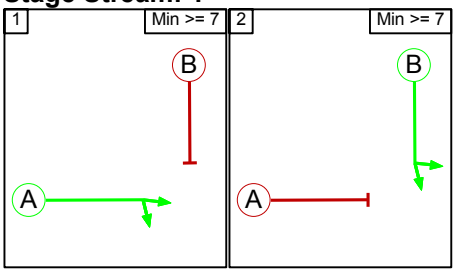
	Starting Phase			
Terminating Phase	A	B	C	D
A		6	-	-
B	6		-	-
C	-	-		6
D	-	-	6	

Phases in Stage

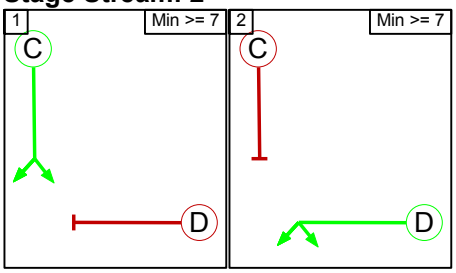
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Prohibited Stage Change

Stage Stream: 1

From Stage \ To Stage		1	2
	1		6
	2	6	

Stage Stream: 2

From Stage \ To Stage		1	2
	1		6
	2	6	

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Give-Way Lane Input Data

Junction: J1: SCN 87

There are no Opposed Lanes in this Junction

Junction: J2: SCN 88

Lane	Movement	Max 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)
J2:6/1 (Motorcycle Museum)	J3:3/1 (Left)	1000	J2:7/1	0.33	J2:7/1	-	-	-	-	-
J2:6/2 (Motorcycle Museum)	J3:1/1 (Ahead)	1400	J2:7/1	1.10	J2:7/1	-	-	-	-	-
			J2:7/2	1.10	J2:7/2					
			J2:7/3	1.10	J2:7/3					
	J3:1/2 (Ahead)	1400	J2:7/1	1.10	J2:7/1					
			J2:7/2	1.10	J2:7/2					
			J2:7/3	1.10	J2:7/3					
	J3:1/3 (Ahead)	1400	J2:7/1	1.10	J2:7/1					
			J2:7/2	1.10	J2:7/2					
			J2:7/3	1.10	J2:7/3					

Junction: J3: SCN 86

There are no Opposed Lanes in this Junction

Lane Input Data

Junction: J1: SCN 87

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 (A45 Coventry Road)	U	B	2	3	16.0	Geom	-	3.40	0.00	Y	Arm J1:3 Left	50.00
J1:1/2 (A45 Coventry Road)	U	B	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J1:3 Left Arm J1:4 Left	50.00 90.00
J1:1/3 (A45 Coventry Road)	U	B	2	3	2.0	Geom	-	3.40	0.00	Y	Arm J1:4 Left	90.00
J1:1/4 (A45 Coventry Road)	U	B	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J1:4 Left	90.00
J1:2/1 (Circulating (with A45 Coventry Road))	U	A	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J1:3 Ahead	236.00
J1:2/2 (Circulating (with A45 Coventry Road))	U	A	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J1:3 Ahead Arm J1:4 Ahead	236.00 79.00
J1:2/3 (Circulating (with A45 Coventry Road))	U	A	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J1:4 Ahead	79.00
J1:3/1 (S Way (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:3/2 (S Way (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:4/1 (Circulating (with S Way))	U	C	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:6 Ahead	1000.00
J1:4/2 (Circulating (with S Way))	U	C	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:6 Ahead	1000.00
J1:4/3 (Circulating (with S Way))	U	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:2 Right	161.00
J1:4/4 (Circulating (with S Way))	U	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J2:2 Right	161.00
J1:5/1 (S Way)	U	E	2	3	16.0	Geom	-	3.20	0.00	Y	Arm J1:6 Left	31.00

J1:5/2 (S Way)	U	E	2	3	60.0	Geom	-	3.20	0.00	Y	Arm J1:6 Left	27.00
J1:5/3 (S Way)	U	F	2	3	3.0	Geom	-	3.10	0.00	Y	Arm J2:2 Ahead	30.00
J1:5/4 (S Way)	U	F	2	3	60.0	Geom	-	3.10	0.00	Y	Arm J2:2 Ahead	30.00
J1:5/5 (S Way)	U	F	2	3	60.0	Geom	-	3.10	0.00	Y	Arm J2:2 Ahead	37.00
J1:6/1 (M42 N/B On Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:6/2 (M42 N/B On Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/1 (A45 Coventry Road (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/2 (A45 Coventry Road (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J2: SCN 88

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 (M42 S/B Off Slip)	U	B	2	3	14.0	Geom	-	3.50	0.00	Y	Arm J2:5 Left	63.00
J2:1/2 (M42 S/B Off Slip)	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:3 Ahead	125.00
J2:1/3 (M42 S/B Off Slip)	U	B	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:3 Ahead	125.00
J2:2/1 (Circulating (with M6 S/B Off Slip))	U	A	2	3	60.0	Geom	-	3.10	0.00	Y	Arm J2:5 Ahead	144.00
J2:2/2 (Circulating (with M6 S/B Off Slip))	U	A	2	3	60.0	Geom	-	3.10	0.00	Y	Arm J2:3 Right Arm J2:5 Ahead	95.00 144.00
J2:2/3 (Circulating (with M6 S/B Off Slip))	U	A	2	3	60.0	Geom	-	3.10	0.00	Y	Arm J2:3 Right	95.00
J2:3/1 (Circulating (with A45 Coventry Road))	U	C	2	3	60.0	Geom	-	3.20	0.00	Y	Arm J2:7 Right Arm J2:8 Ahead	137.00 120.00
J2:3/2 (Circulating (with A45 Coventry Road))	U	C	2	3	60.0	Geom	-	3.20	0.00	Y	Arm J2:7 Right	137.00
J2:3/3 (Circulating (with A45 Coventry Road))	U	C	2	3	60.0	Geom	-	3.20	0.00	Y	Arm J2:7 Right	137.00
J2:4/1 (A45 Coventry Road)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:7 Ahead Arm J2:8 Left	69.00 69.00
J2:4/2 (A45 Coventry Road)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:7 Ahead	87.00
J2:4/3 (A45 Coventry Road)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:7 Ahead	87.00

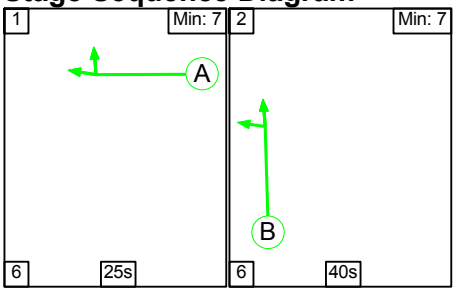
J2:5/1 (A45 Coventry Road (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/2 (A45 Coventry Road (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1 (Motorcycle Museum)	O		2	3	6.0	Geom	-	3.80	0.00	Y	Arm J3:3 Left	44.00
J2:6/2 (Motorcycle Museum)	O		2	3	60.0	Geom	-	3.80	0.00	Y	Arm J3:1 Ahead	58.00
J2:7/1 (Circulating (with Motorcycle Museum))	U		2	3	60.0	Geom	-	3.00	0.00	Y	Arm J3:3 Ahead	105.00
J2:7/2 (Circulating (with Motorcycle Museum))	U		2	3	60.0	Geom	-	3.00	0.00	Y	Arm J3:1 Right	150.00
											Arm J3:3 Ahead	105.00
J2:7/3 (Circulating (with Motorcycle Museum))	U		2	3	60.0	Geom	-	3.00	0.00	Y	Arm J3:1 Right	150.00
J2:8/1 (Motoecycle Museum (Exit))	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J3: SCN 86

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)
J3:1/1 (Circulating (with M42 N/B Off Slip))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:7 Ahead	107.00
J3:1/2 (Circulating (with M42 N/B Off Slip))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:2 Right Arm J1:7 Ahead	98.00 107.00
J3:1/3 (Circulating (with M42 N/B Off Slip))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:2 Right	98.00
J3:2/1 (M42 N/B Off Slip)	U	B	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J1:2 Ahead Arm J1:7 Left	57.00 57.00
J3:2/2 (M42 N/B Off Slip)	U	B	2	3	13.0	Geom	-	3.60	0.00	Y	Arm J1:2 Ahead	83.00
J3:2/3 (M42 N/B Off Slip)	U	B	2	3	60.0	Geom	-	3.60	0.00	Y	Arm J1:2 Ahead	83.00
J3:3/1 (M42 S/B On Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:3/2 (M42 S/B On Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-

Scenario 1: '2011 AM Peak Base Calibration' (FG1: '2011 AM Peak', Plan 1: 'Network Control Plan 1')
C1

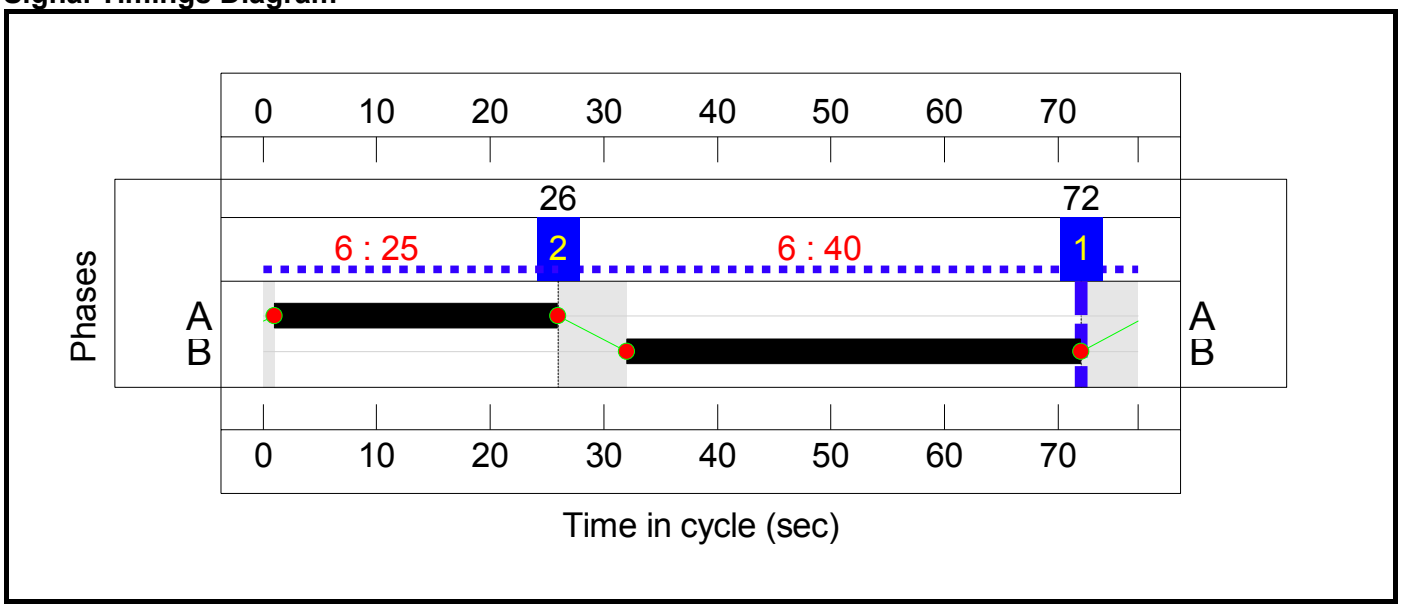
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	25	40
Change Point	72	26

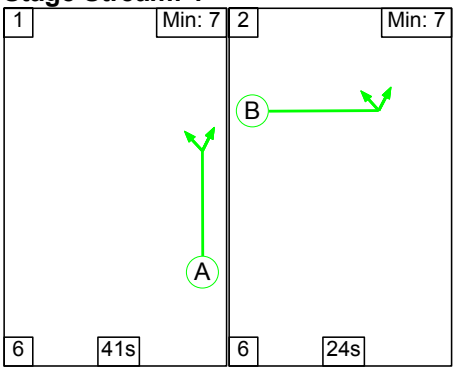
Signal Timings Diagram



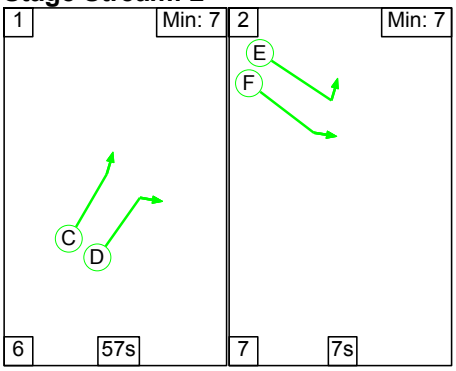
C2

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

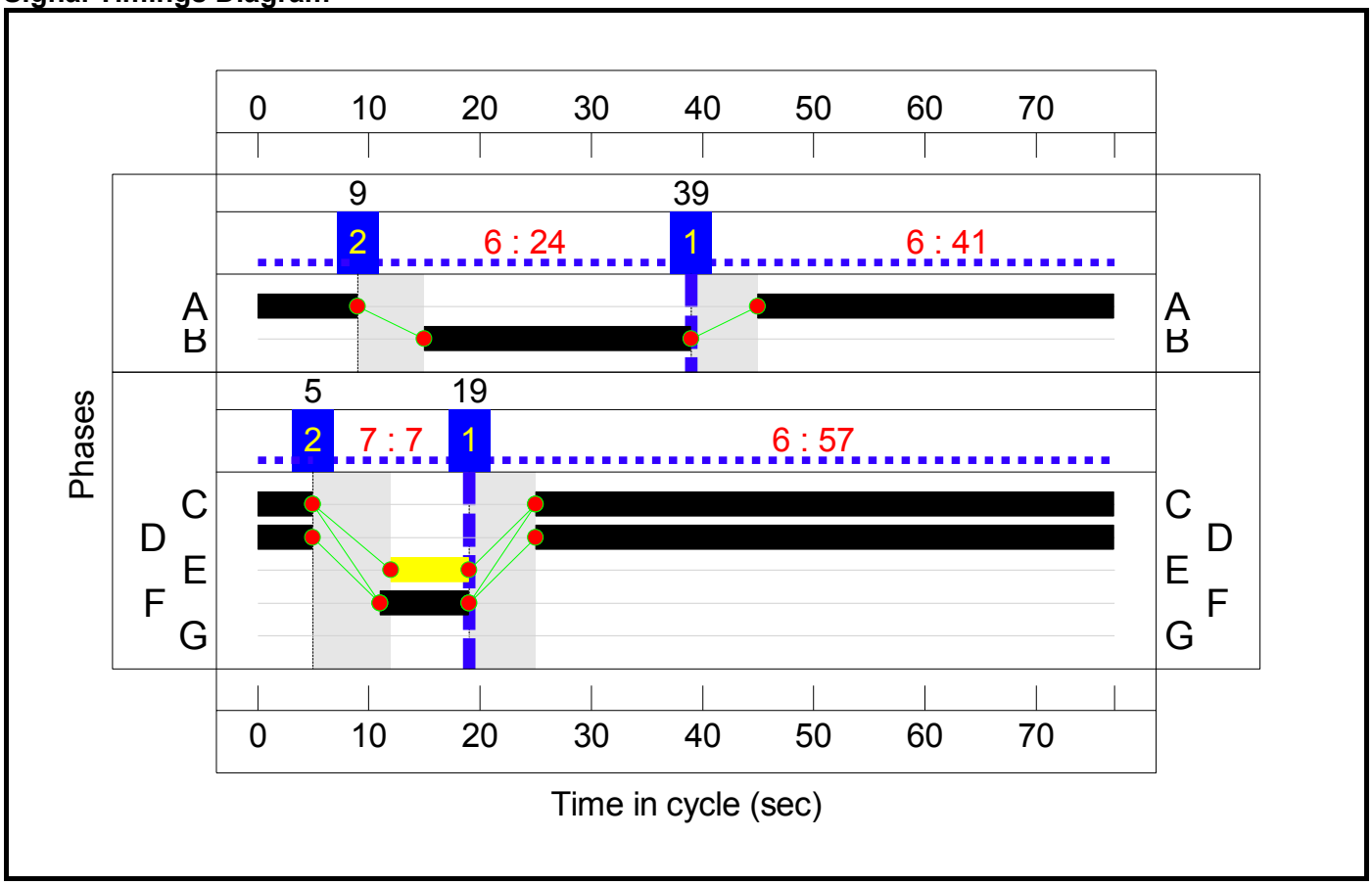
Stage	1	2
Duration	41	24
Change Point	39	9

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Stage Stream: 2

Stage	1	2
Duration	57	7
Change Point	19	5

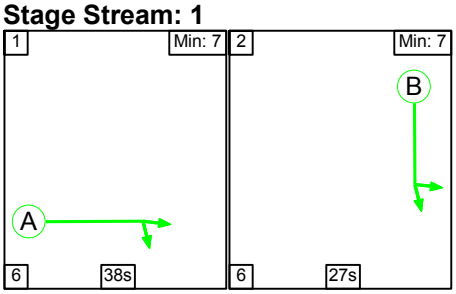
Signal Timings Diagram



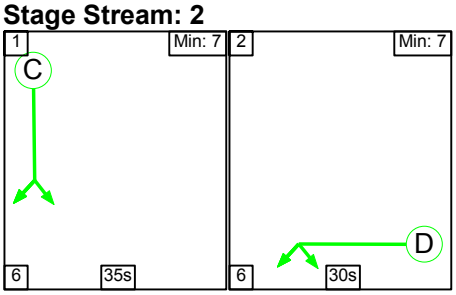
C3

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Stage Timings

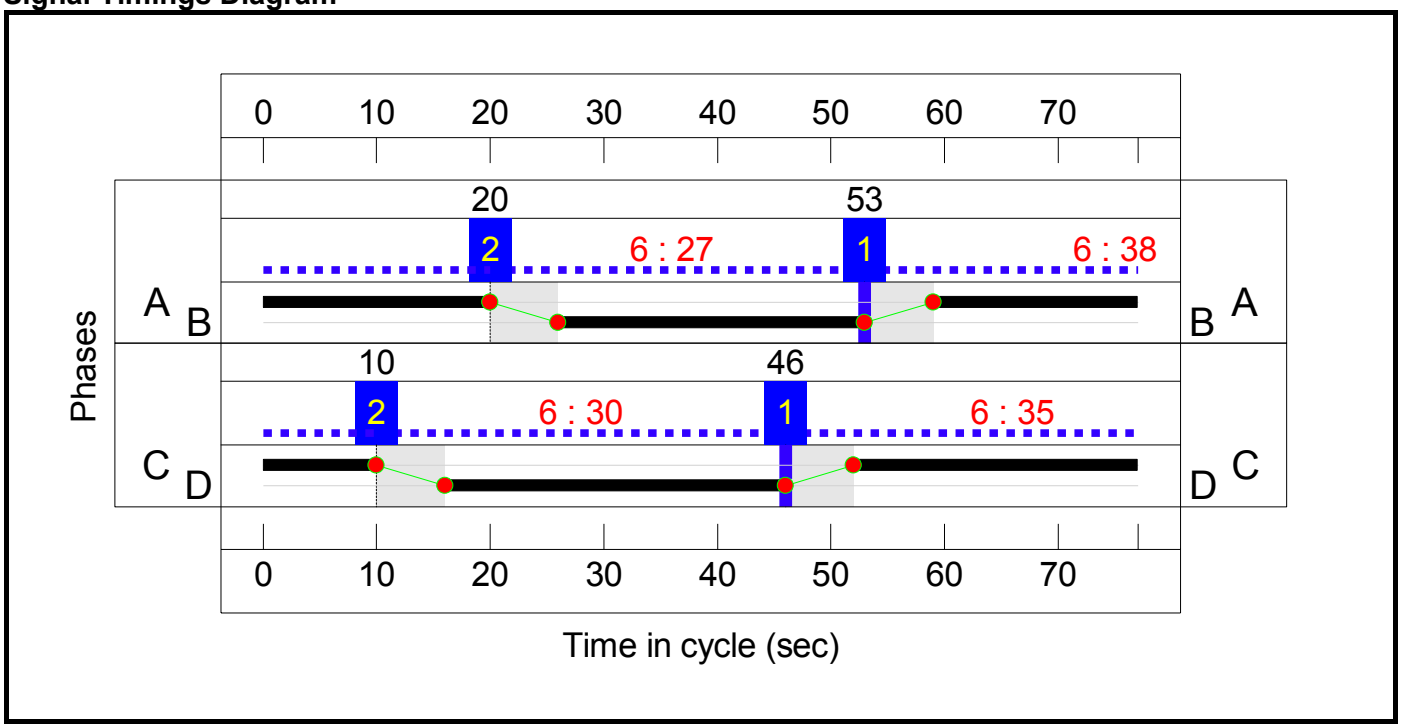
Stage Stream: 1

Stage	1	2
Duration	38	27
Change Point	53	20

Stage Stream: 2

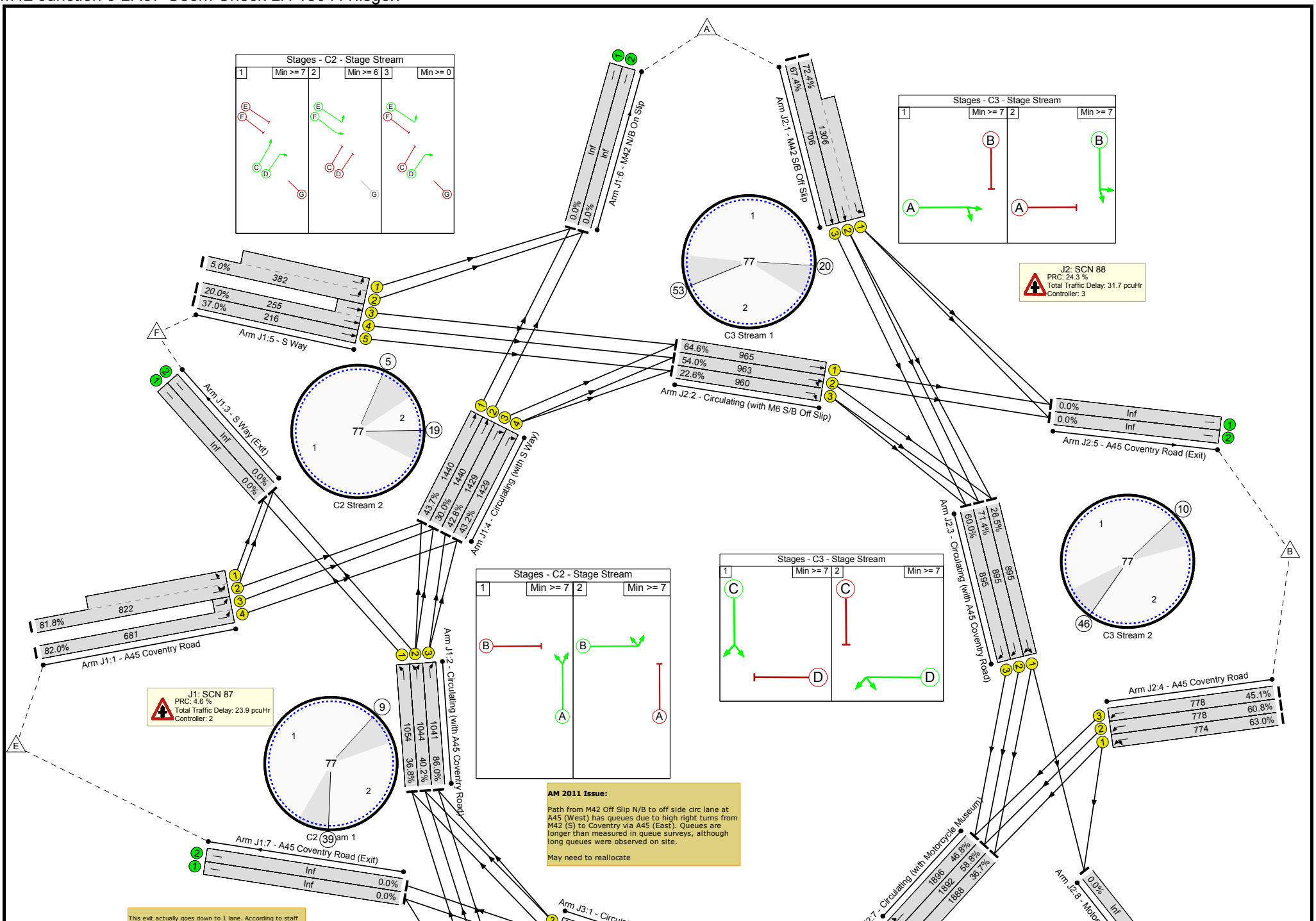
Stage	1	2
Duration	35	30
Change Point	46	10

Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Network Results

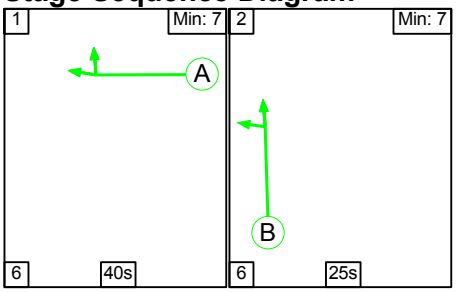
Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 6	-	-	-	**87.8%**	-	-
J1: SCN 87	-	-	-	**86.0%**	-	-
1/2+1/1	A45 Coventry Road Left Left2	673	1923:1898	81.8%	34.5	12.1
1/4+1/3	A45 Coventry Road Left	559	1923:1923	82.0%	37.0	11.7
2/1	Circulating (with A45 Coventry Road) Ahead	388	1933	36.8%	10.0	5.7
2/2	Circulating (with A45 Coventry Road) Ahead Ahead2	420	1914	40.2%	27.4	8.7
2/3	Circulating (with A45 Coventry Road) Ahead	896	1909	86.0%	12.9	10.9
4/1	Circulating (with S Way) Ahead	629	1912	43.7%	2.8	9.6
4/2	Circulating (with S Way) Ahead	432	1912	30.0%	2.0	1.3
4/3	Circulating (with S Way) Right	611	1897	42.8%	5.8	3.3
4/4	Circulating (with S Way) Right	618	1897	43.2%	4.5	5.8
5/2+5/1	S Way Left	19	1833:1846	5.0%	36.3	0.2
5/4+5/3	S Way Ahead	51	1833:1833	20.0%	39.5	0.9
5/5	S Way Ahead	80	1850	37.0%	44.5	1.9
J2: SCN 88	-	-	-	**72.4%**	-	-
1/2+1/1	M42 S/B Off Slip Ahead Left	946	1942:1919	72.4%	25.6	10.2
1/3	M42 S/B Off Slip Ahead	476	1942	67.4%	28.4	9.5
2/1	Circulating (with M6 S/B Off Slip) Ahead	623	1905	64.6%	12.8	5.2
2/2	Circulating (with M6 S/B Off Slip) Right Ahead	520	1901	54.0%	16.1	7.8
2/3	Circulating (with M6 S/B Off Slip) Right	217	1895	22.6%	21.3	4.6
3/1	Circulating (with A45 Coventry Road) Right Ahead	237	1914	26.5%	8.8	1.1
3/2	Circulating (with A45 Coventry Road) Right	639	1914	71.4%	15.3	11.7
3/3	Circulating (with A45 Coventry Road) Right	537	1914	60.0%	13.5	10.7
4/1	A45 Coventry Road Ahead Left	488	1923	63.0%	24.7	9.1
4/2	A45 Coventry Road Ahead	473	1932	60.8%	24.1	8.7
4/3	A45 Coventry Road Ahead	351	1932	45.1%	21.0	5.9

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

6/2+6/1	Motorcycle Museum Ahead Left	7	1945:1995	7.4%	35.7	0.1
7/1	Circulating (with Motorcycle Museum) Ahead	692	1888	36.7%	1.5	0.3
7/2	Circulating (with Motorcycle Museum) Right Ahead	1112	1892	58.8%	2.3	3.4
7/3	Circulating (with Motorcycle Museum) Right	888	1896	46.8%	1.8	2.0
J3: SCN 86	**-**	**-**	**-**	**87.8%**	**-**	**-**
1/1	Circulating (with M42 N/B Off Slip) Ahead	497	1889	77.9%	16.2	4.5
1/2	Circulating (with M42 N/B Off Slip) Right Ahead	560	1888	87.8%	29.6	13.9
1/3	Circulating (with M42 N/B Off Slip) Right	334	1886	52.4%	35.1	7.5
2/1+2/2	M42 N/B Off Slip Ahead Left	386	1924:1940	31.8%	11.9	3.7
2/3	M42 N/B Off Slip Ahead	894	1940	86.5%	28.0	19.5

C1	PRC for Signalled Lanes (%):	2.5	Total Delay for Signalled Lanes (pcuHr):	18.34			
C2	Stream: 1 PRC for Signalled Lanes (%):	4.6	Total Delay for Signalled Lanes (pcuHr):	19.70			
C2	Stream: 2 PRC for Signalled Lanes (%):	106.1	Total Delay for Signalled Lanes (pcuHr):	4.22			
C3	Stream: 1 PRC for Signalled Lanes (%):	24.3	Total Delay for Signalled Lanes (pcuHr):	16.31			
C3	Stream: 2 PRC for Signalled Lanes (%):	26.0	Total Delay for Signalled Lanes (pcuHr):	13.86			
	PRC Over All Lanes (%):	2.5	Total Delay Over All Lanes(pcuHr):	73.95	Cycle Time (s):	77	

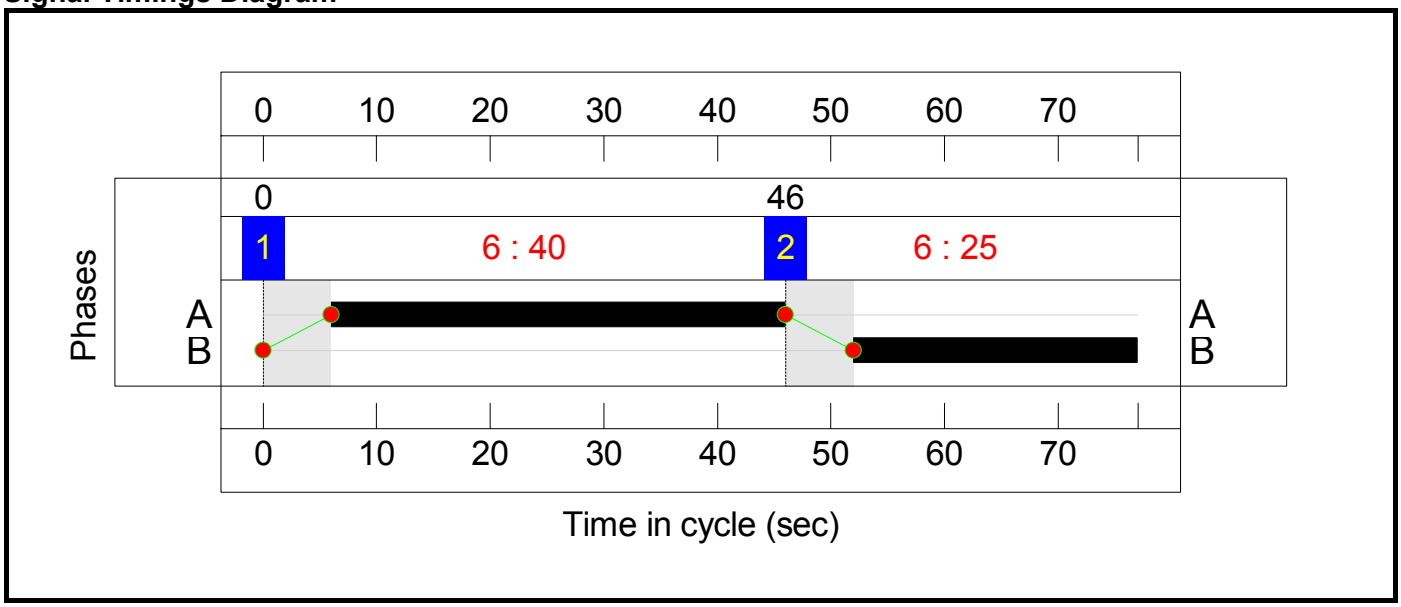
Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x
Scenario 2: '2011 PM Peak Base Calibration' (FG2: '2011 PM Peak', Plan 1: 'Network Control Plan 1')
C1
Stage Sequence Diagram



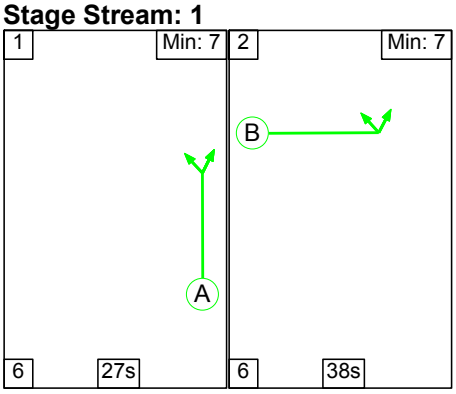
Stage Timings

Stage	1	2
Duration	40	25
Change Point	0	46

Signal Timings Diagram

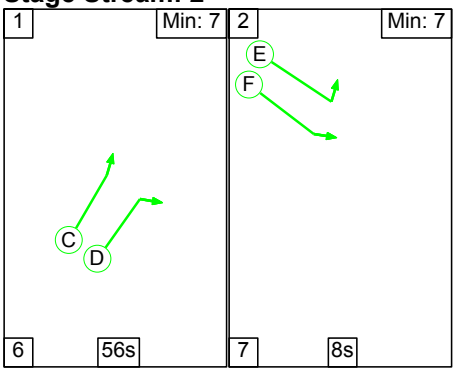


C2
Stage Sequence Diagram
Stage Stream: 1



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Stage Stream: 2



Stage Timings

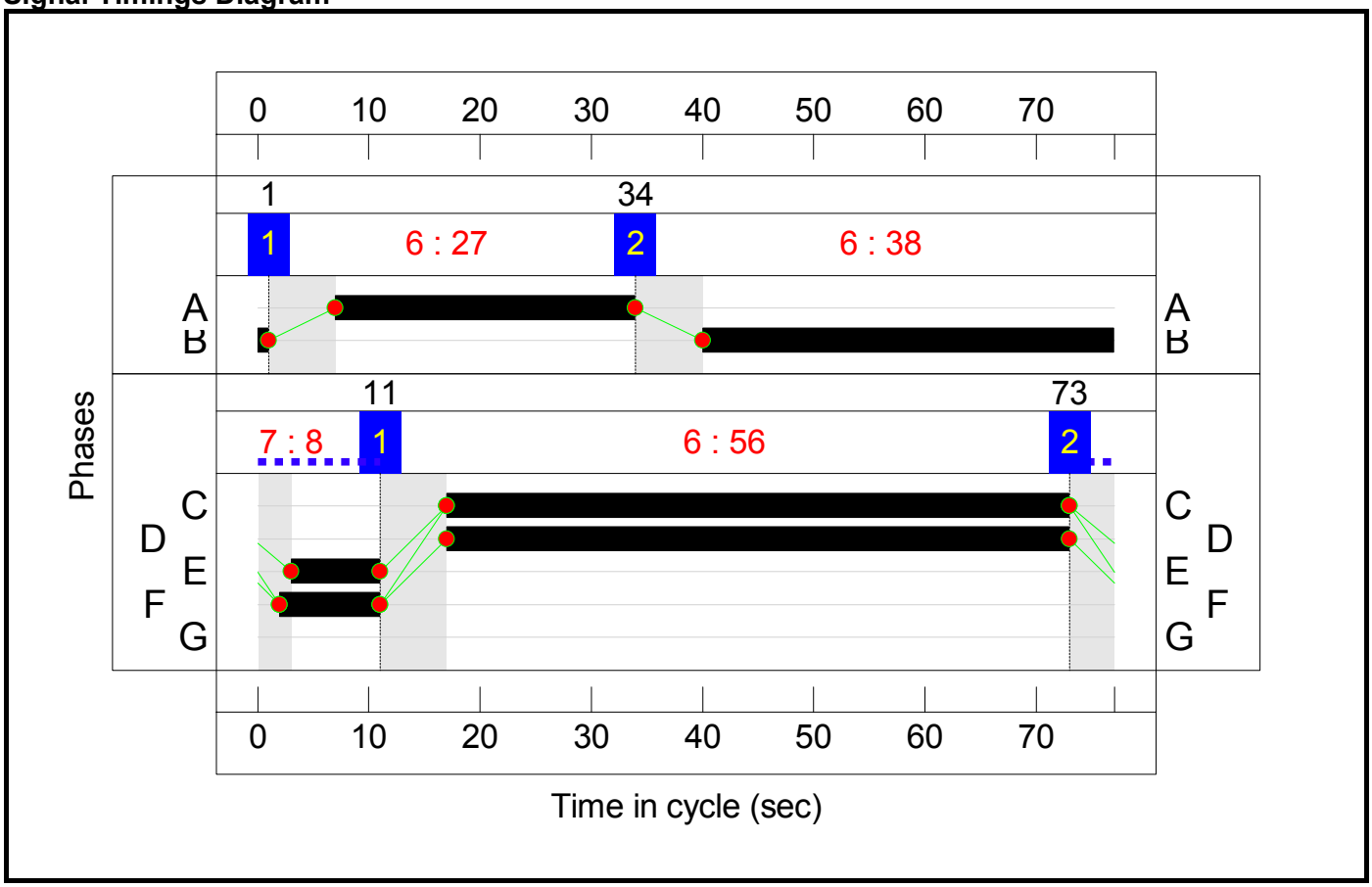
Stage Stream: 1

Stage	1	2
Duration	27	38
Change Point	1	34

Stage Stream: 2

Stage	1	2
Duration	56	8
Change Point	11	73

Signal Timings Diagram

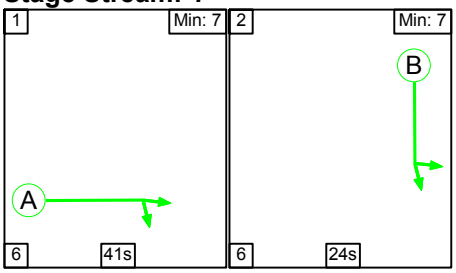


Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

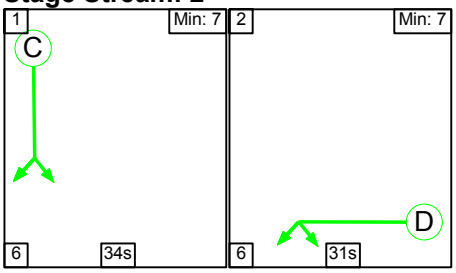
C3

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

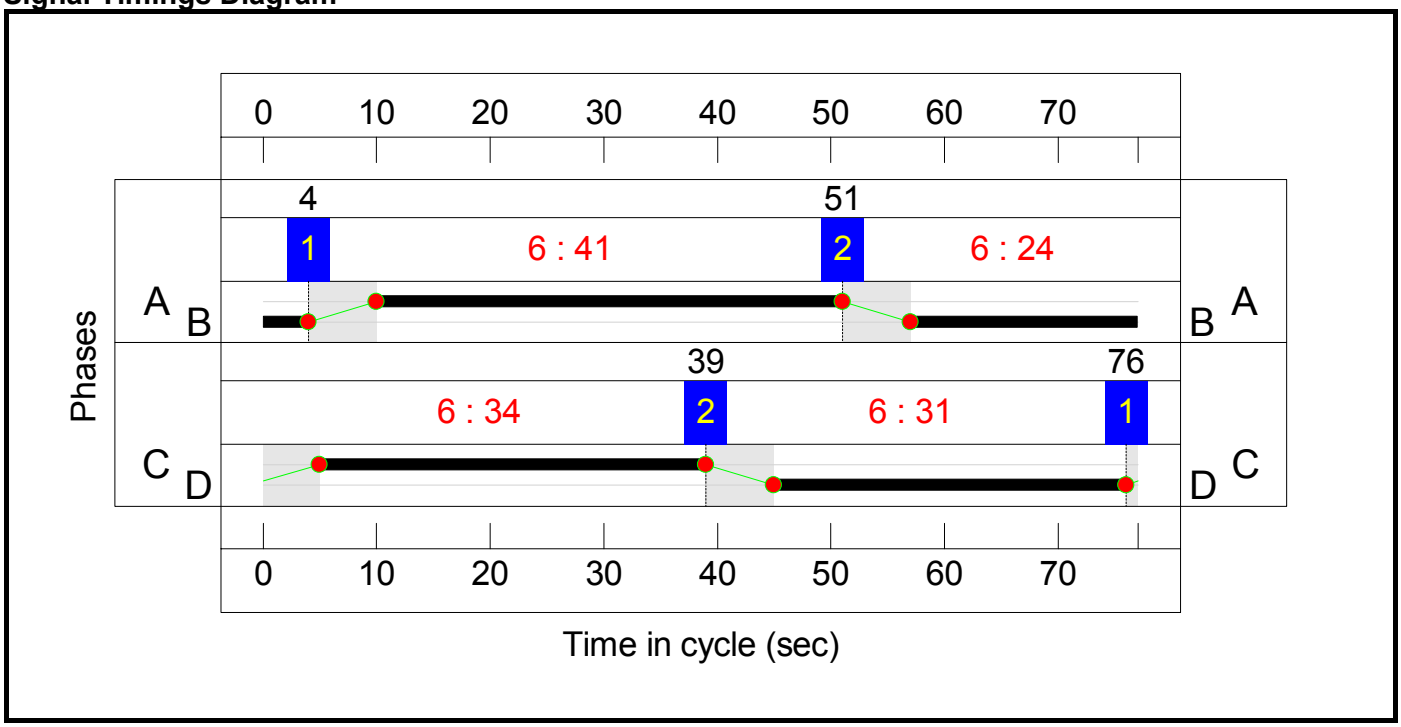
Stage Stream: 1

Stage	1	2
Duration	41	24
Change Point	4	51

Stage Stream: 2

Stage	1	2
Duration	34	31
Change Point	76	39

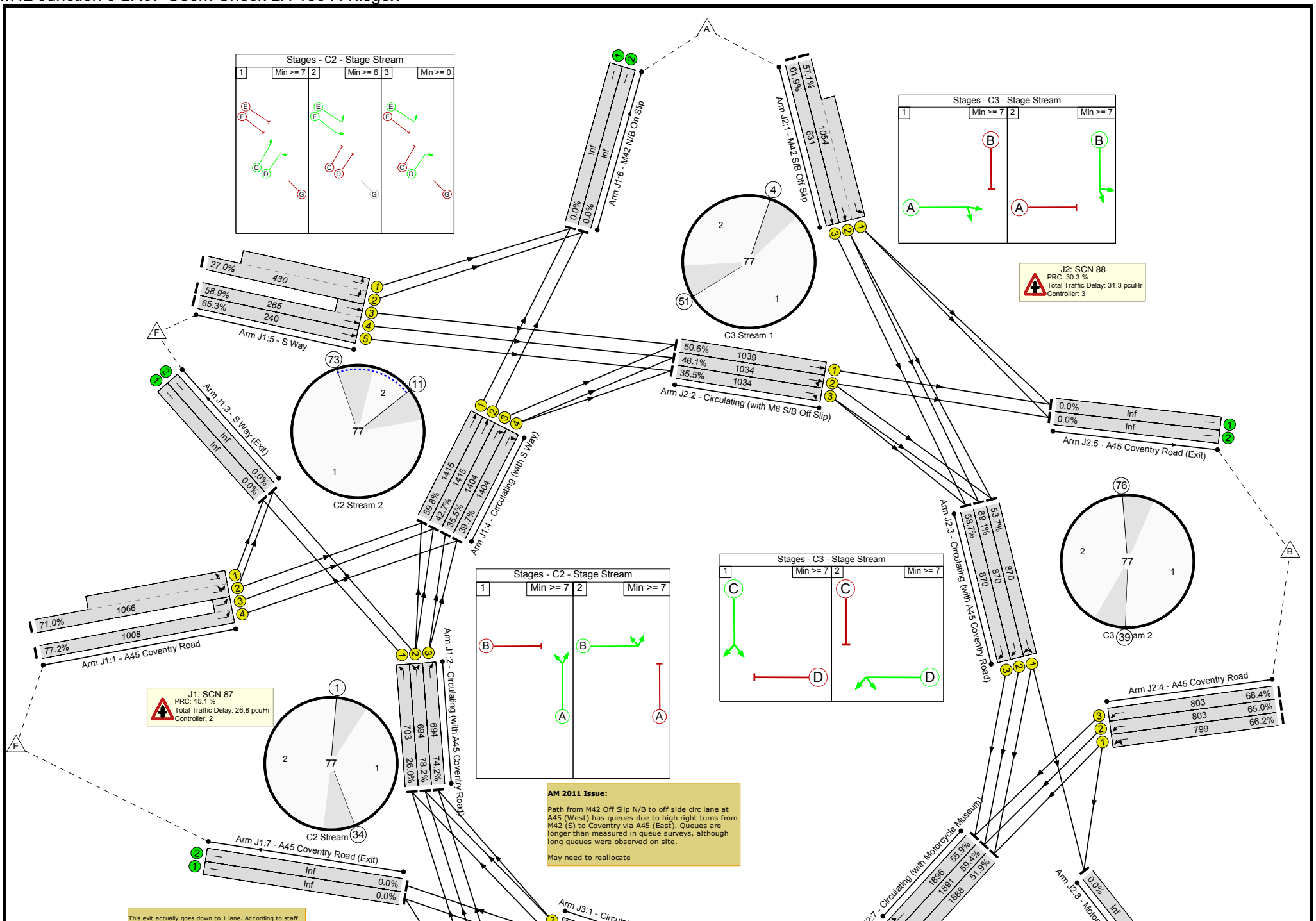
Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Network Results

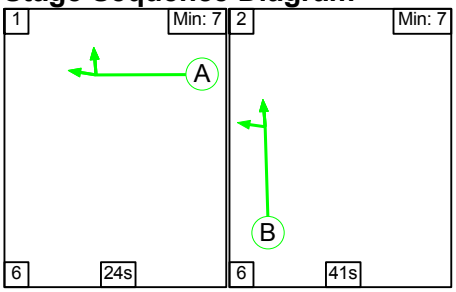
Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 6	-	-	-	**78.2%**	-	-
J1: SCN 87	-	-	-	**78.2%**	-	-
1/2+1/1	A45 Coventry Road Left Left2	757	1923:1898	71.0%	19.7	12.1
1/4+1/3	A45 Coventry Road Left	778	1923:1923	77.2%	22.4	14.0
2/1	Circulating (with A45 Coventry Road) Ahead	183	1933	26.0%	18.7	3.6
2/2	Circulating (with A45 Coventry Road) Ahead Ahead2	543	1909	78.2%	28.6	6.0
2/3	Circulating (with A45 Coventry Road) Ahead	515	1909	74.2%	27.0	12.4
4/1	Circulating (with S Way) Ahead	847	1912	59.8%	5.8	4.7
4/2	Circulating (with S Way) Ahead	605	1912	42.7%	3.7	3.7
4/3	Circulating (with S Way) Right	499	1897	35.5%	2.5	9.8
4/4	Circulating (with S Way) Right	558	1897	39.7%	5.1	2.7
5/2+5/1	S Way Left	116	1833:1846	27.0%	36.8	1.3
5/4+5/3	S Way Ahead	156	1833:1833	58.9%	47.4	3.3
5/5	S Way Ahead	157	1850	65.3%	53.0	4.1
J2: SCN 88	-	-	-	**69.1%**	-	-
1/2+1/1	M42 S/B Off Slip Ahead Left	602	1942:1919	57.1%	24.9	7.0
1/3	M42 S/B Off Slip Ahead	390	1942	61.9%	29.4	7.8
2/1	Circulating (with M6 S/B Off Slip) Ahead	526	1905	50.6%	8.7	2.4
2/2	Circulating (with M6 S/B Off Slip) Right Ahead	477	1895	46.1%	12.2	8.1
2/3	Circulating (with M6 S/B Off Slip) Right	367	1895	35.5%	8.6	4.0
3/1	Circulating (with A45 Coventry Road) Right Ahead	467	1914	53.7%	15.7	3.8
3/2	Circulating (with A45 Coventry Road) Right	601	1914	69.1%	16.4	9.9
3/3	Circulating (with A45 Coventry Road) Right	511	1914	58.7%	15.9	9.8
4/1	A45 Coventry Road Ahead Left	529	1923	66.2%	24.8	10.1
4/2	A45 Coventry Road Ahead	522	1932	65.0%	24.4	9.8
4/3	A45 Coventry Road Ahead	549	1932	68.4%	25.4	10.5

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

6/2+6/1	Motorcycle Museum Ahead Left	19	1945:1929	22.5%	39.6	0.3
7/1	Circulating (with Motorcycle Museum) Ahead	980	1888	51.9%	2.0	3.2
7/2	Circulating (with Motorcycle Museum) Right Ahead	1123	1891	59.4%	2.3	2.9
7/3	Circulating (with Motorcycle Museum) Right	1060	1896	55.9%	2.2	3.8
J3: SCN 86	**-**	**-**	**-**	**78.2%**	**-**	**-**
1/1	Circulating (with M42 N/B Off Slip) Ahead	403	1889	40.1%	11.9	3.0
1/2	Circulating (with M42 N/B Off Slip) Right Ahead	521	1888	51.8%	14.2	4.6
1/3	Circulating (with M42 N/B Off Slip) Right	546	1886	54.4%	13.0	11.7
2/1+2/2	M42 N/B Off Slip Ahead Left	157	1924:1975	24.2%	22.1	2.6
2/3	M42 N/B Off Slip Ahead	512	1940	78.2%	35.2	11.6

C1	PRC for Signalled Lanes (%):	15.1	Total Delay for Signalled Lanes (pcuHr):	11.33			
C2	Stream: 1 PRC for Signalled Lanes (%):	15.1	Total Delay for Signalled Lanes (pcuHr):	18.12			
C2	Stream: 2 PRC for Signalled Lanes (%):	37.7	Total Delay for Signalled Lanes (pcuHr):	8.66			
C3	Stream: 1 PRC for Signalled Lanes (%):	45.5	Total Delay for Signalled Lanes (pcuHr):	11.11			
C3	Stream: 2 PRC for Signalled Lanes (%):	30.3	Total Delay for Signalled Lanes (pcuHr):	18.08			
	PRC Over All Lanes (%):	15.1	Total Delay Over All Lanes(pcuHr):	69.41	Cycle Time (s):	77	

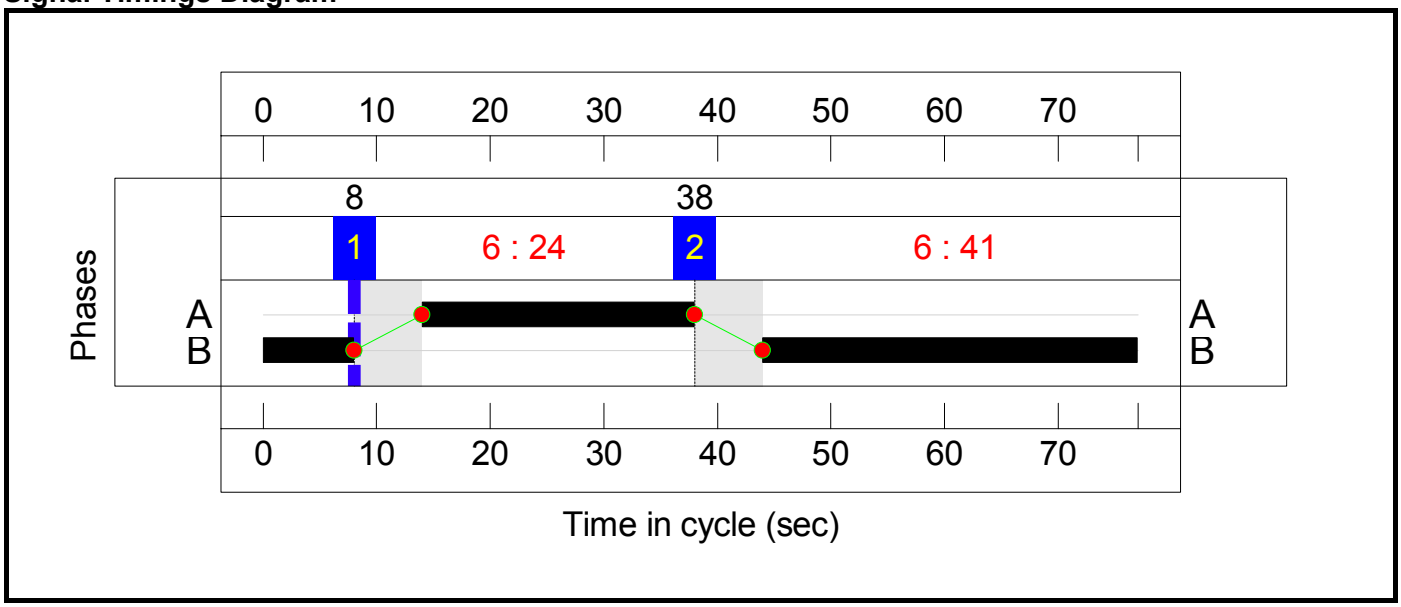
Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x
Scenario 3: '2016 AM Peak Base Calibration' (FG3: '2016 AM Peak', Plan 1: 'Network Control Plan 1')
C1
Stage Sequence Diagram



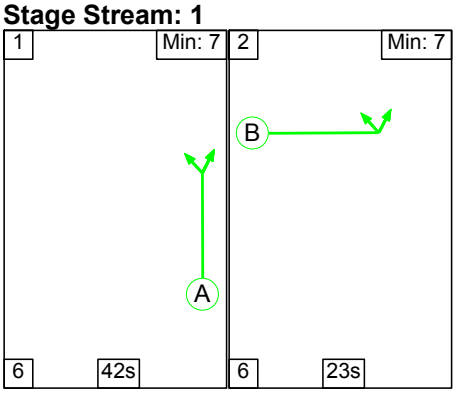
Stage Timings

Stage	1	2
Duration	24	41
Change Point	8	38

Signal Timings Diagram

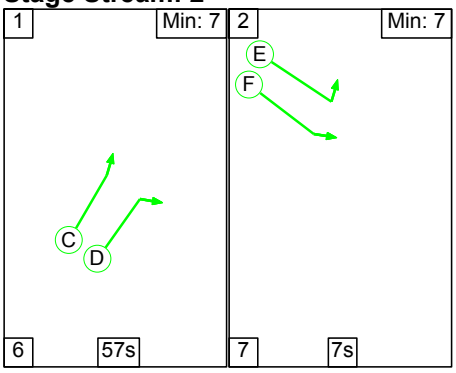


C2
Stage Sequence Diagram
Stage Stream: 1



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Stage Stream: 2



Stage Timings

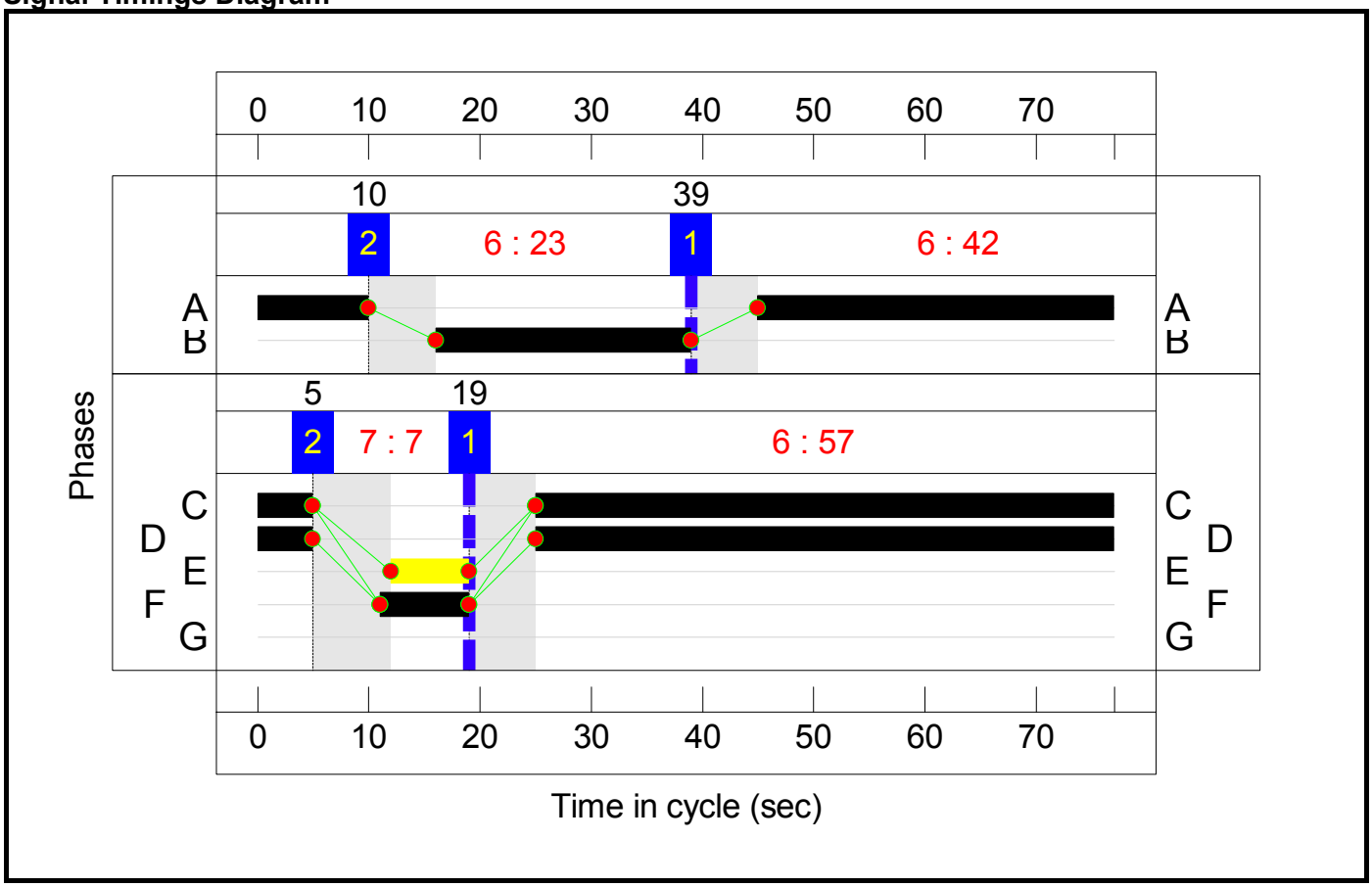
Stage Stream: 1

Stage	1	2
Duration	42	23
Change Point	39	10

Stage Stream: 2

Stage	1	2
Duration	57	7
Change Point	19	5

Signal Timings Diagram

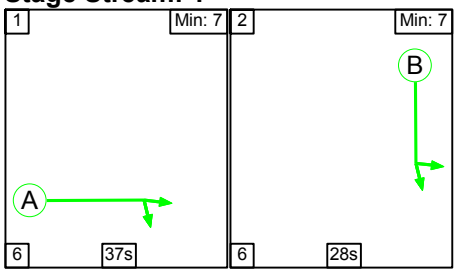


Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

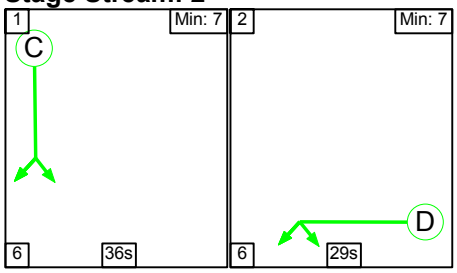
C3

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

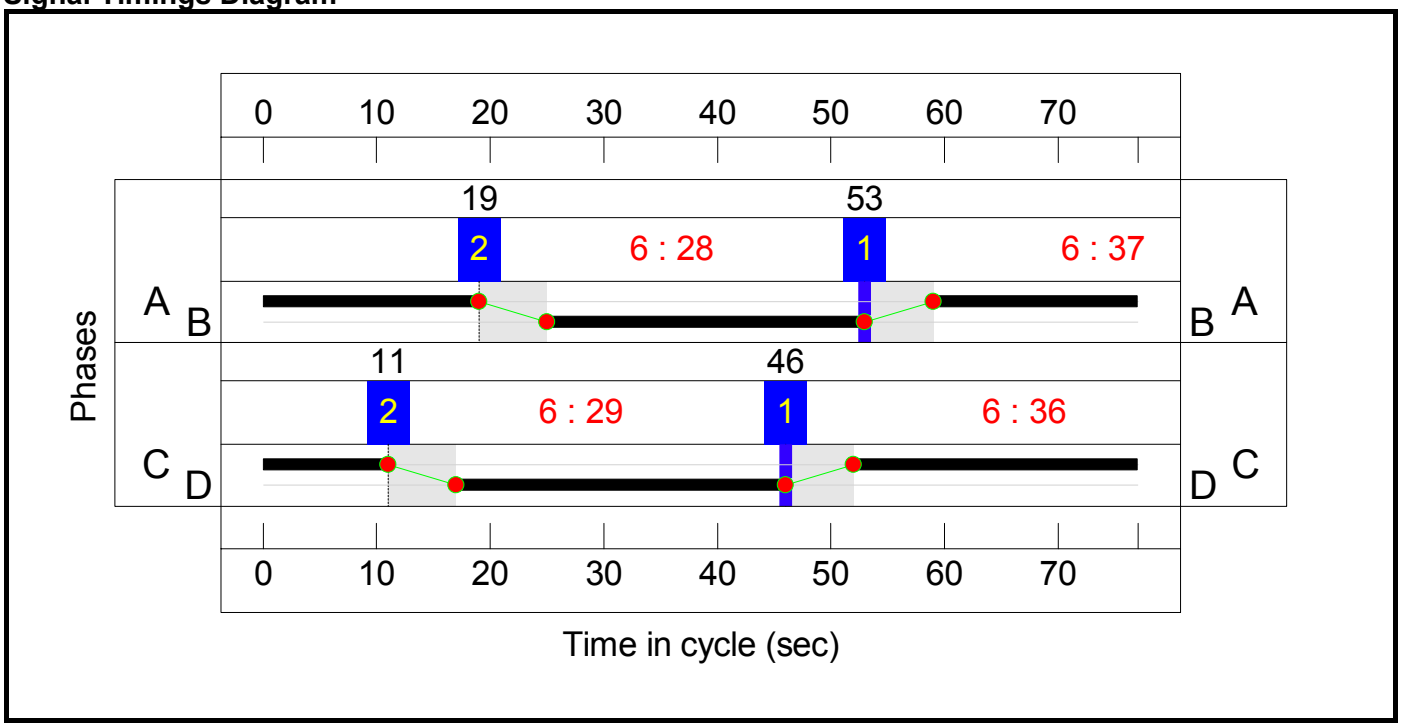
Stage Stream: 1

Stage	1	2
Duration	37	28
Change Point	53	19

Stage Stream: 2

Stage	1	2
Duration	36	29
Change Point	46	11

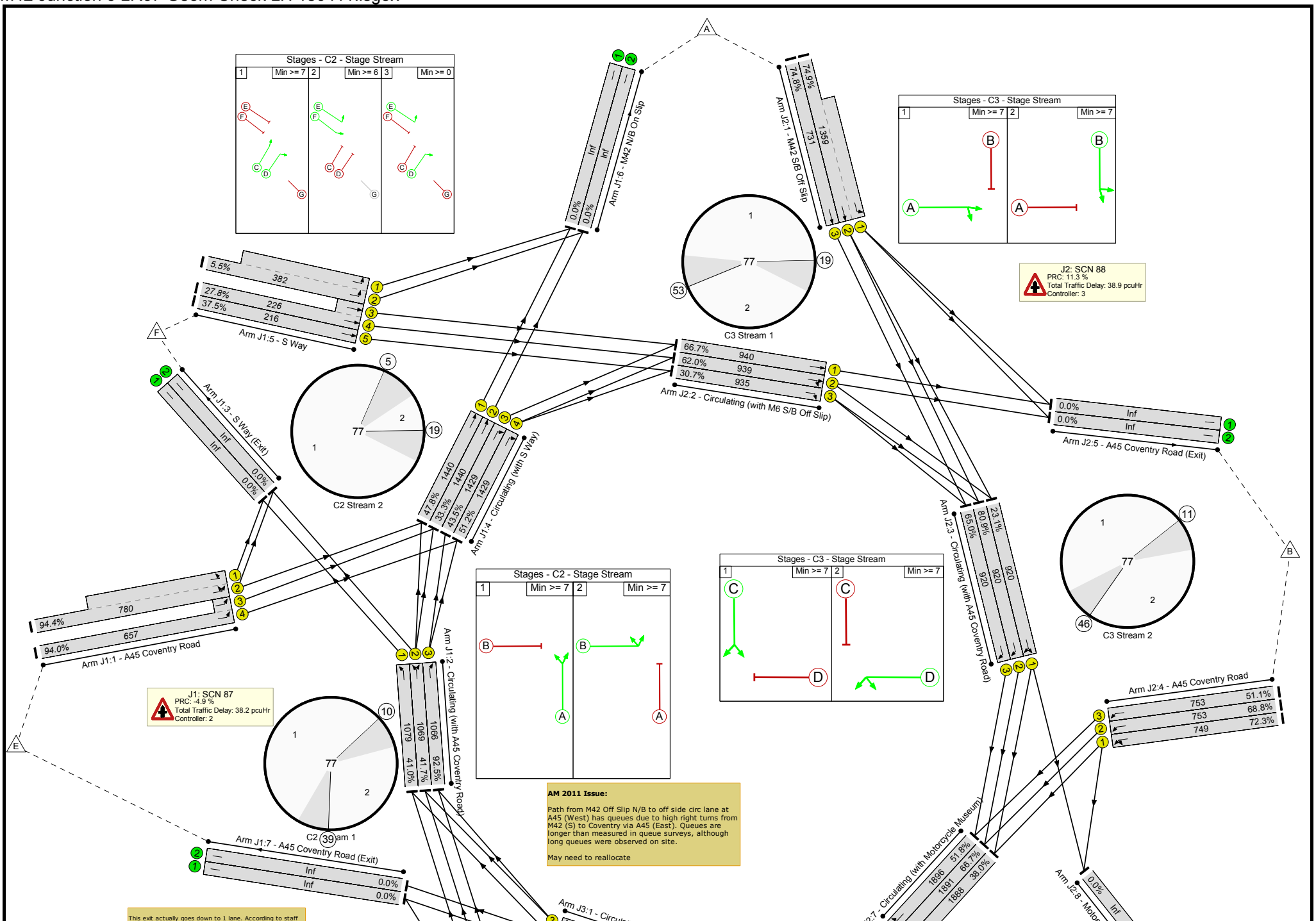
Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Network Results

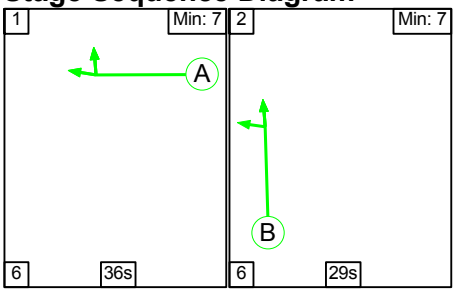
Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 6	-	-	-	**94.4%**	-	-
J1: SCN 87	-	-	-	**94.4%**	-	-
1/2+1/1	A45 Coventry Road Left Left2	737	1923:1898	94.4%	56.4	18.3
1/4+1/3	A45 Coventry Road Left	618	1923:1923	94.0%	59.8	17.3
2/1	Circulating (with A45 Coventry Road) Ahead	443	1933	41.0%	7.8	2.3
2/2	Circulating (with A45 Coventry Road) Ahead Ahead2	446	1914	41.7%	18.8	9.9
2/3	Circulating (with A45 Coventry Road) Ahead	986	1909	92.5%	28.3	14.0
4/1	Circulating (with S Way) Ahead	688	1912	47.8%	2.5	1.6
4/2	Circulating (with S Way) Ahead	479	1912	33.3%	2.0	1.0
4/3	Circulating (with S Way) Right	621	1897	43.5%	8.0	5.2
4/4	Circulating (with S Way) Right	731	1897	51.2%	6.4	9.0
5/2+5/1	S Way Left	21	1833:1846	5.5%	36.3	0.2
5/4+5/3	S Way Ahead	63	1833:1833	27.8%	42.0	1.3
5/5	S Way Ahead	81	1850	37.5%	44.7	1.9
J2: SCN 88	-	-	-	**80.9%**	-	-
1/2+1/1	M42 S/B Off Slip Ahead Left	1018	1942:1919	74.9%	25.6	10.9
1/3	M42 S/B Off Slip Ahead	547	1942	74.8%	30.4	11.5
2/1	Circulating (with M6 S/B Off Slip) Ahead	627	1905	66.7%	16.0	7.6
2/2	Circulating (with M6 S/B Off Slip) Right Ahead	582	1902	62.0%	19.1	9.9
2/3	Circulating (with M6 S/B Off Slip) Right	287	1895	30.7%	19.0	6.2
3/1	Circulating (with A45 Coventry Road) Right Ahead	212	1914	23.1%	10.2	1.2
3/2	Circulating (with A45 Coventry Road) Right	744	1914	80.9%	18.9	13.4
3/3	Circulating (with A45 Coventry Road) Right	598	1914	65.0%	15.4	12.8
4/1	A45 Coventry Road Ahead Left	542	1923	72.3%	28.6	11.1
4/2	A45 Coventry Road Ahead	518	1932	68.8%	27.2	10.3
4/3	A45 Coventry Road Ahead	385	1932	51.1%	22.8	6.7

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

6/2+6/1	Motorcycle Museum Ahead Left	7	1945:1995	8.6%	39.7	0.1
7/1	Circulating (with Motorcycle Museum) Ahead	718	1888	38.0%	1.5	1.9
7/2	Circulating (with Motorcycle Museum) Right Ahead	1262	1891	66.7%	2.9	4.7
7/3	Circulating (with Motorcycle Museum) Right	983	1896	51.8%	2.0	4.2
J3: SCN 86	**-**	**-**	**-**	**93.0%**	**-**	**-**
1/1	Circulating (with M42 N/B Off Slip) Ahead	540	1889	88.0%	33.1	14.8
1/2	Circulating (with M42 N/B Off Slip) Right Ahead	541	1888	88.3%	33.6	14.8
1/3	Circulating (with M42 N/B Off Slip) Right	448	1886	73.2%	50.7	10.8
2/1+2/2	M42 N/B Off Slip Ahead Left	425	1924:1975	40.5%	13.1	5.5
2/3	M42 N/B Off Slip Ahead	984	1940	93.0%	37.2	25.1

C1	PRC for Signalled Lanes (%):	-3.3	Total Delay for Signalled Lanes (pcuHr):	28.04			
C2	Stream: 1 PRC for Signalled Lanes (%):	-4.9	Total Delay for Signalled Lanes (pcuHr):	32.87			
C2	Stream: 2 PRC for Signalled Lanes (%):	75.9	Total Delay for Signalled Lanes (pcuHr):	5.37			
C3	Stream: 1 PRC for Signalled Lanes (%):	20.2	Total Delay for Signalled Lanes (pcuHr):	19.24			
C3	Stream: 2 PRC for Signalled Lanes (%):	11.3	Total Delay for Signalled Lanes (pcuHr):	17.72			
	PRC Over All Lanes (%):	-4.9	Total Delay Over All Lanes(pcuHr):	105.17	Cycle Time (s):	77	

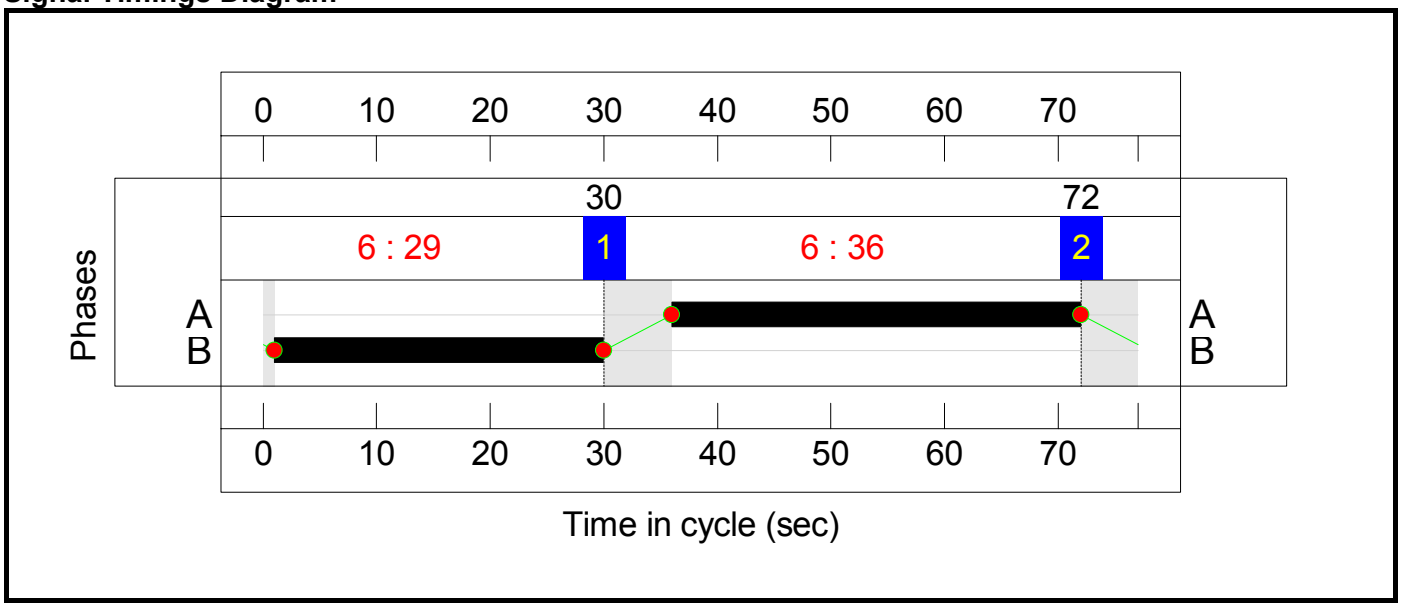
Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x
Scenario 4: '2016 PM Peak Base Calibration' (FG4: '2016 PM Peak', Plan 1: 'Network Control Plan 1')
C1
Stage Sequence Diagram



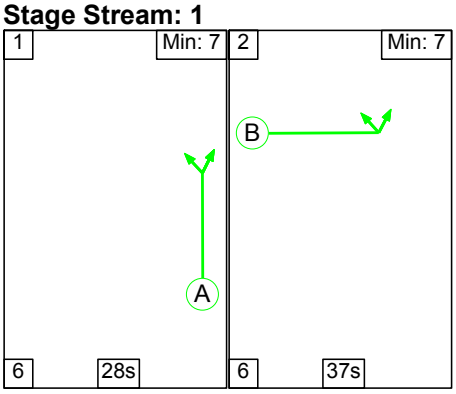
Stage Timings

Stage	1	2
Duration	36	29
Change Point	30	72

Signal Timings Diagram

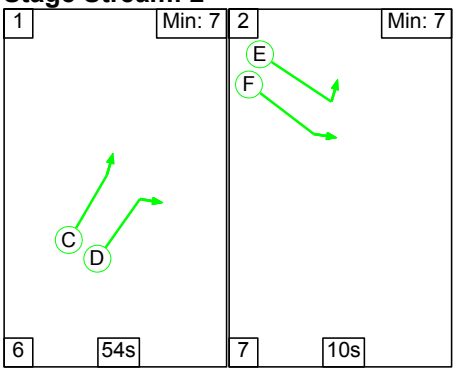


C2
Stage Sequence Diagram
Stage Stream: 1



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Stage Stream: 2



Stage Timings

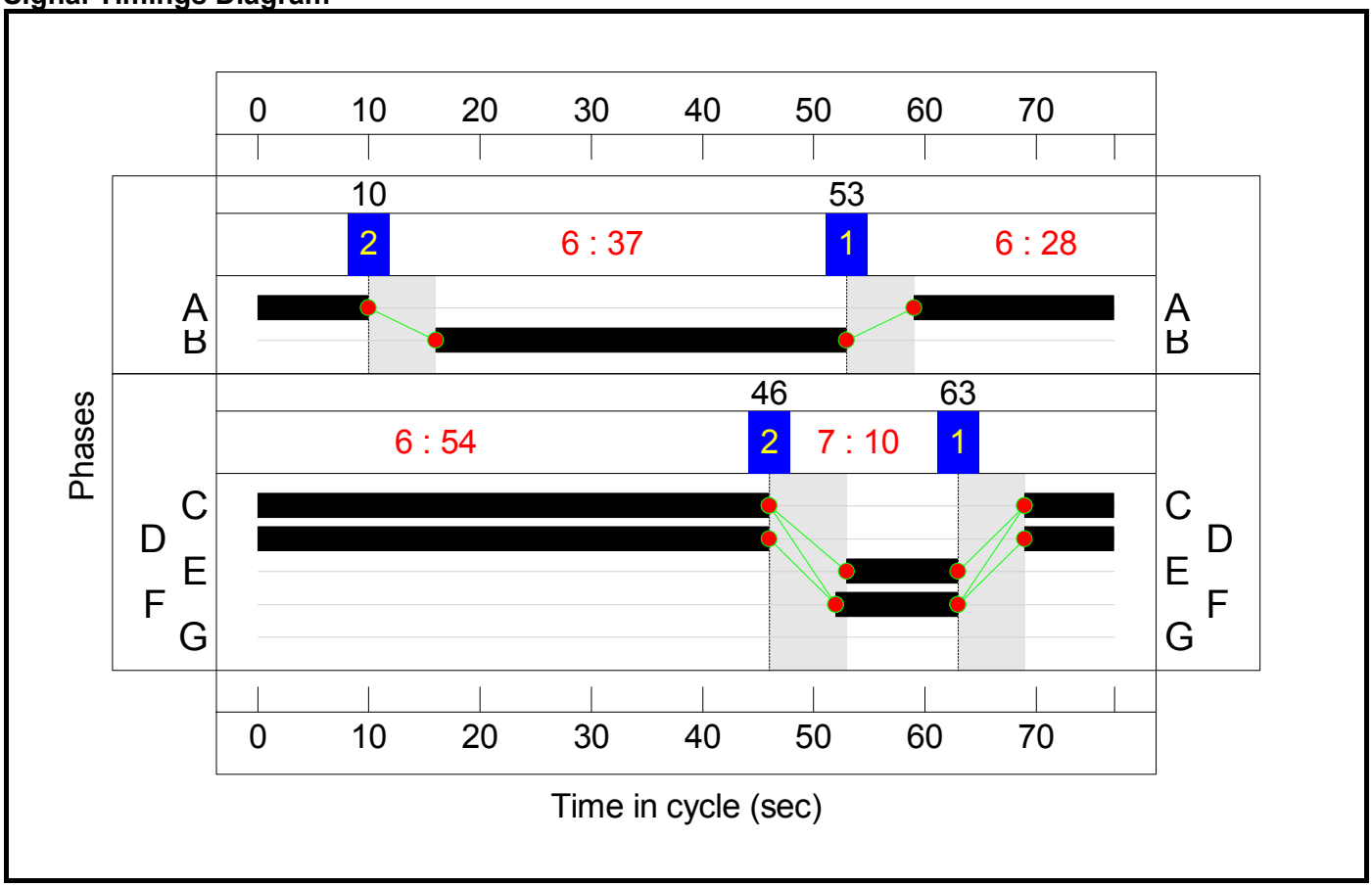
Stage Stream: 1

Stage	1	2
Duration	28	37
Change Point	53	10

Stage Stream: 2

Stage	1	2
Duration	54	10
Change Point	63	46

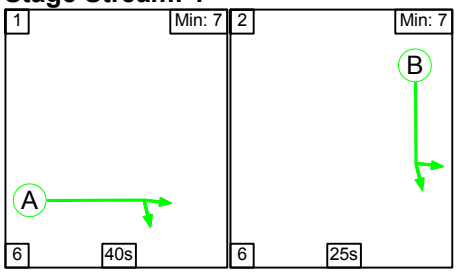
Signal Timings Diagram



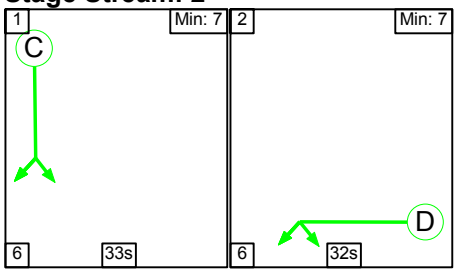
C3

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

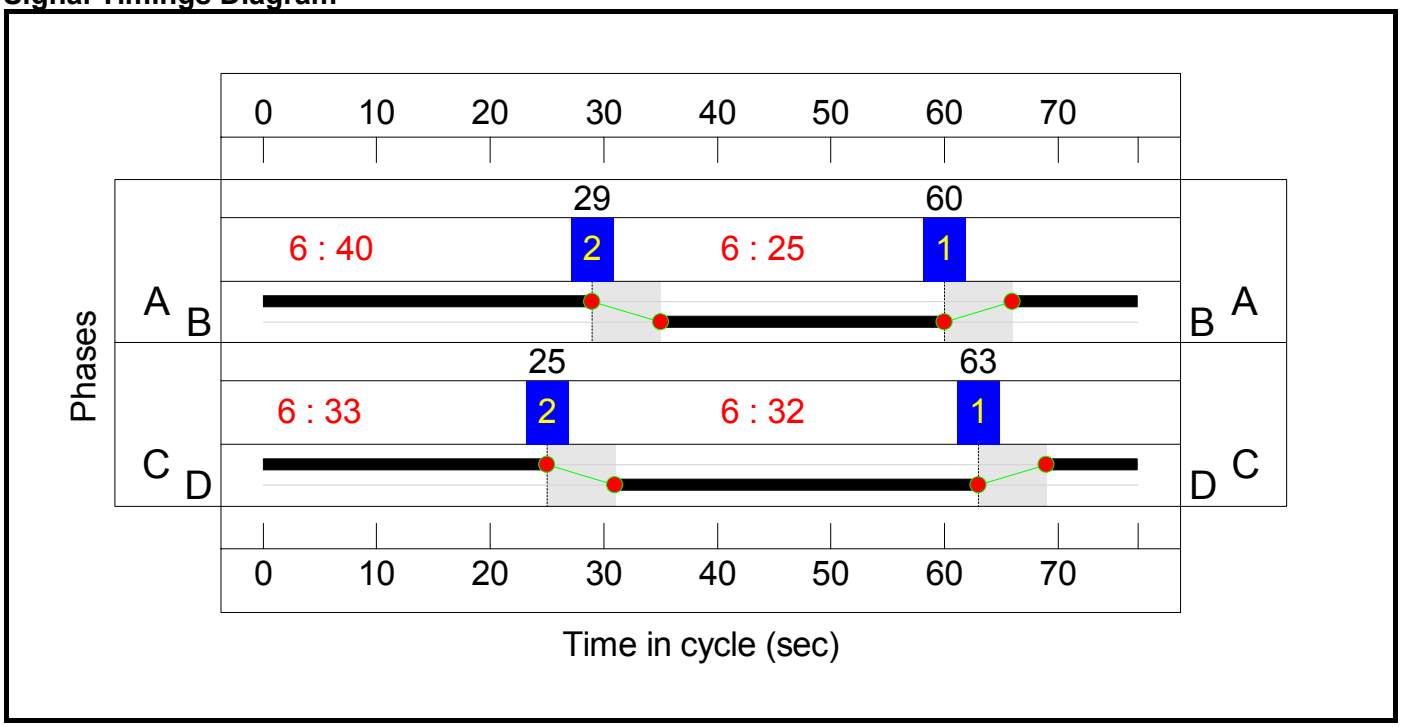
Stage Stream: 1

Stage	1	2
Duration	40	25
Change Point	60	29

Stage Stream: 2

Stage	1	2
Duration	33	32
Change Point	63	25

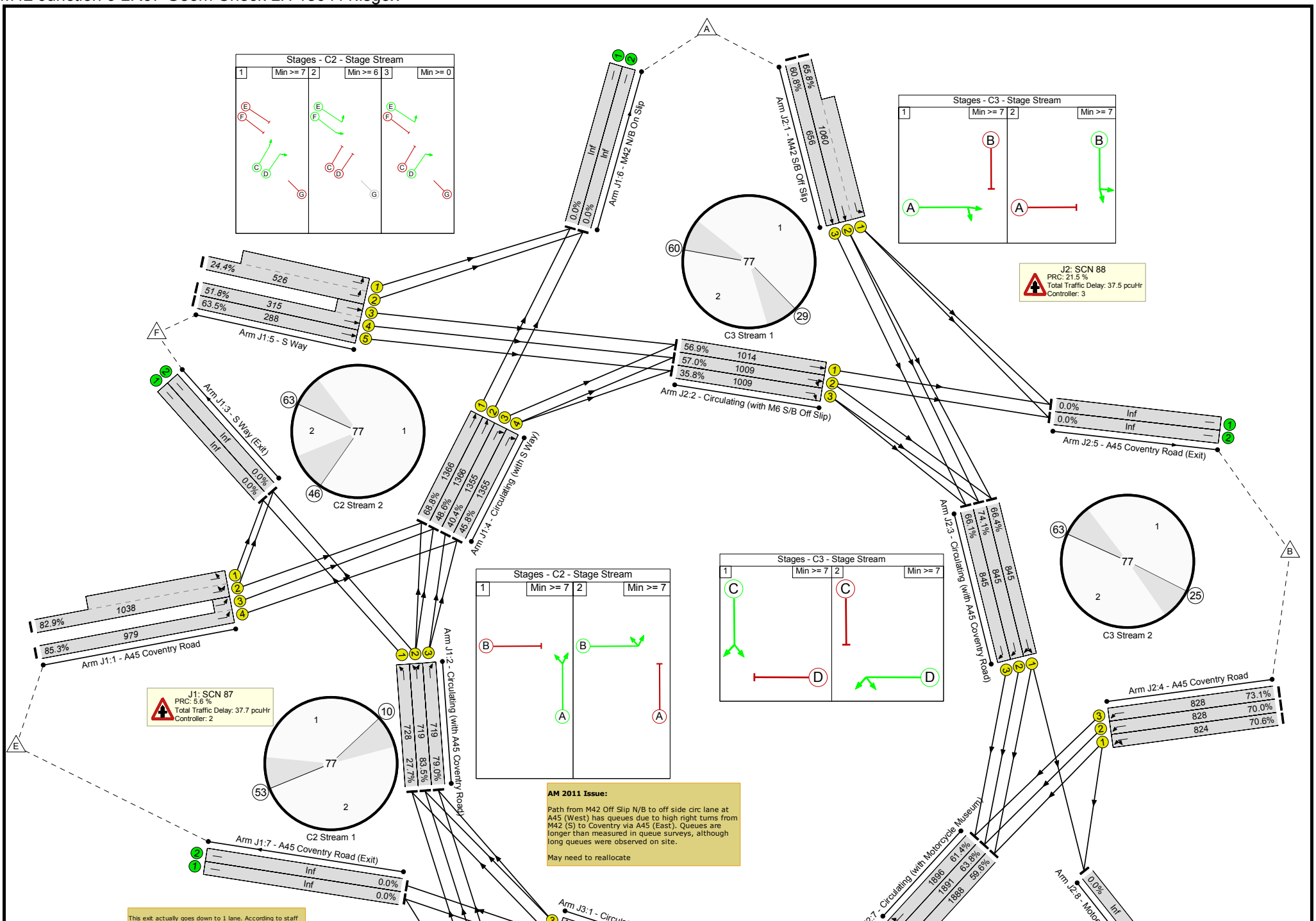
Signal Timings Diagram



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x
Network Layout Diagram

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x



Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

Network Results

Item	Lane Description	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Deg Sat (%)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M42 Junction 6	-	-	-	**85.3%**	-	-
J1: SCN 87	-	-	-	**85.3%**	-	-
1/2+1/1	A45 Coventry Road Left Left2	861	1923:1898	82.9%	25.7	16.0
1/4+1/3	A45 Coventry Road Left	835	1923:1923	85.3%	28.4	17.3
2/1	Circulating (with A45 Coventry Road) Ahead	202	1933	27.7%	37.7	4.3
2/2	Circulating (with A45 Coventry Road) Ahead Ahead2	600	1909	83.5%	21.3	9.6
2/3	Circulating (with A45 Coventry Road) Ahead	568	1909	79.0%	54.3	14.0
4/1	Circulating (with S Way) Ahead	940	1912	68.8%	9.6	8.0
4/2	Circulating (with S Way) Ahead	664	1912	48.6%	5.1	6.5
4/3	Circulating (with S Way) Right	547	1897	40.4%	2.6	9.3
4/4	Circulating (with S Way) Right	620	1897	45.8%	8.3	4.7
5/2+5/1	S Way Left	128	1833:1846	24.4%	33.9	1.4
5/4+5/3	S Way Ahead	163	1833:1833	51.8%	41.1	3.1
5/5	S Way Ahead	183	1850	63.5%	47.3	4.5
J2: SCN 88	-	-	-	**74.1%**	-	-
1/2+1/1	M42 S/B Off Slip Ahead Left	698	1942:1919	65.8%	25.9	8.7
1/3	M42 S/B Off Slip Ahead	399	1942	60.8%	28.2	7.9
2/1	Circulating (with M6 S/B Off Slip) Ahead	577	1905	56.9%	8.3	2.5
2/2	Circulating (with M6 S/B Off Slip) Right Ahead	575	1895	57.0%	15.7	9.6
2/3	Circulating (with M6 S/B Off Slip) Right	361	1895	35.8%	9.1	5.8
3/1	Circulating (with A45 Coventry Road) Right Ahead	561	1914	66.4%	14.0	3.4
3/2	Circulating (with A45 Coventry Road) Right	626	1914	74.1%	24.3	14.0
3/3	Circulating (with A45 Coventry Road) Right	559	1914	66.1%	19.4	10.2
4/1	A45 Coventry Road Ahead Left	582	1923	70.6%	25.4	11.4
4/2	A45 Coventry Road Ahead	580	1932	70.0%	25.2	11.1
4/3	A45 Coventry Road Ahead	605	1932	73.1%	26.3	12.1

Full Input Data And Results OH Format
M42 Junction 6 LR67 Geom Check LH 180411.lsg3x

6/2+6/1	Motorcycle Museum Ahead Left	21	1945:1929	21.7%	35.4	0.3
7/1	Circulating (with Motorcycle Museum) Ahead	1125	1888	59.6%	2.4	4.4
7/2	Circulating (with Motorcycle Museum) Right Ahead	1206	1891	63.8%	2.6	6.2
7/3	Circulating (with Motorcycle Museum) Right	1164	1896	61.4%	2.5	5.1
J3: SCN 86	**-**	**-**	**-**	**74.8%**	**-**	**-**
1/1	Circulating (with M42 N/B Off Slip) Ahead	453	1889	49.9%	18.4	9.9
1/2	Circulating (with M42 N/B Off Slip) Right Ahead	568	1888	62.6%	20.6	12.7
1/3	Circulating (with M42 N/B Off Slip) Right	603	1886	66.5%	21.6	6.6
2/1+2/2	M42 N/B Off Slip Ahead Left	173	1924:1975	23.1%	18.9	2.6
2/3	M42 N/B Off Slip Ahead	565	1940	74.8%	29.5	11.8

C1	PRC for Signalled Lanes (%):	20.4	Total Delay for Signalled Lanes (pcuHr):	14.71			
C2	Stream: 1 PRC for Signalled Lanes (%):	5.6	Total Delay for Signalled Lanes (pcuHr):	26.96			
C2	Stream: 2 PRC for Signalled Lanes (%):	30.8	Total Delay for Signalled Lanes (pcuHr):	10.76			
C3	Stream: 1 PRC for Signalled Lanes (%):	36.7	Total Delay for Signalled Lanes (pcuHr):	12.90			
C3	Stream: 2 PRC for Signalled Lanes (%):	21.5	Total Delay for Signalled Lanes (pcuHr):	21.99			
	PRC Over All Lanes (%):	5.6	Total Delay Over All Lanes(pcuHr):	89.95	Cycle Time (s):	77	